

THE UNIVERSITY OF MANITOBA

THE MOOSE BAY BURIAL MOUND

by

MARGARET GAIL HANNA

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF ARTS

DEPARTMENT OF ANTHROPOLOGY

WINNIPEG, MANITOBA

February, 1973



ABSTRACT

The Moose Bay Burial Mound is a relatively large conical mound located on the north shore of Crooked Lake in east-central Saskatchewan. The mound was excavated in 1968 by a crew from the Saskatchewan Museum of Natural History, Regina. Excavations revealed six burial units, comprising approximately eleven individuals, constituting the original burials within the mound. These burials, together with artifacts consisting of projectile points, birch bark containers, pottery sherds, bone tools, and other miscellaneous artifacts, had been placed on the original surface of the plain. A low, tipi-like log structure was erected over the burials and earth piled on top. At some later date, another burial was interred in the mound near its apex.

The artifacts associated with the burials include Prairie Side-Notched projectile points, unifaces, one biface, several bone awls, a bone knife (?), an antler hide scraper, pipestone tubular pipes, a clay pipe, one complete and one fragmentary miniature vessel, birch bark containers, and numerous miscellaneous artifacts.

The osteological analysis indicated a high proportion of juveniles, as seven of the twelve individuals were fourteen years or under. Only two individuals were definitely of adult age. On the basis of craniometric analysis and discontinuous morphological traits, the population of the mound was compared with other prehistoric populations, principally the Manitoba

and Melita Foci of Manitoba, in an attempt to establish a physiological relationship. However, the population sample of the Moose Bay Mound was too small to make valid conclusions regarding physical stock.

Because the mound is a descreet example of patterned action by a group of people, it was examined to ascertain, if possible, something of the social organization of the group that built it. Although no grandiose reconstruction of the society was possible, the deposition and treatment of the burials and associated artifacts presented some possible elements of social organization. In addition, the mound is an example of how people responded to the crises of death within the society, by developing rituals, prescriptions, and proscriptions about the treatment of the dead, the mourning, the interment, and the distribution of possessions.

The classification of burial mounds into cultural units has been very problematical, due primarily to the relative lack of artifactual material, and its usually specialized nature. Consequently, it is usually difficult to associate mound "cultures" with cultural units derived from habitation sites. A number of foci have been established, however, some with reference to habitation sites, others solely on the basis of burial mound characteristics.

One of the prevalent theories regarding mound origins is that Siouan groups (primarily the Assiniboine) were the builders of the mounds. This is derived largely from coincidence of the historically-known Assiniboine territory and the geographical distirbution of mounds, together with sometimes nebulous reports from historic sources. This theory has many

weak points.

No definite correlation could be made between the Moose Bay Mound and existing cultural units. Some of the artifacts and motifs suggested a possible affiliation with the Melita-Devil's Lake Focus; however, there were sufficient significant differences in the burial mode to make this association highly questionable.

ACKNOWLEDGEMENTS

I would like to thank the many people whose assistance and cooperation made the completion of this thesis a reality. First and foremost, the generosity of Mr. Murv Baker, Director of the Saskatchewan Museum of Natural History, Regina, and Mr. Gil Watson, archaeologist at the same institution, in permitting me to use the material from the Moose Bay Mound, must be acknowledged. Mr. Lorne Smith, a fellow student in the Department of Anthropology, and Mr. Bob Turner, Saskatchewan Museum of Natural History, photographed the artifacts and the osteological material. I also wish to thank the members of my committee, Mr. Leo Pettipas, Dr. Ernest Burch, Jr., and Mr. Leigh Syms, for the assistance and encouragement they gave me. Ms. Judy Droessler, now at the Department of Anthropology, Indiana University, provided invaluable assistance in the analysis of the osteological data. Finally a note of thanks to the many people to whom I wrote for additional information about various aspects of mounds, osteology, and artifacts.

TABLE OF CONTENTS

Introduction		1
Chapter		
1	Citings of Mounds in the Northeastern Plains Periphery and Adjacent Areas	4
	Early Investigations	4
	Investigations in the Twentieth Century.	9
2	Excavation of the Moose Bay Mound	12
3	Artifacts	21
	Lithics	21
	Bone	28
	Shell	30
	Pipes	30
	Ceramics	32
	Birch Bark Containers	39
4	Osteology	
	Individuals	44
	Dentition	50
	Cranimetric Analysis	53
	Discontinuous Morphological Traits ..	57
	Cranial Anomalies	57
	Infra-Cranial Anomalies	58
	Pathologies	60
5	Sociocultural Implications of the Moose Bay Mound	62
6	Burial Mounds in the Northeastern Plains Periphery: A Discussion	75
	Problems of Classification	75
	Cultural Classification of Mounds ..	77
	Current Theories Regarding Mounds: A Discussion	83
7	The Moose Bay Mound: A Discussion	92
	Bibliography	105
	Appendix: Burial Practices on the Northern Plains: An Historical Review	118

LIST OF FIGURES

Figure 1	Northeastern Periphery (heavy broken line) of Great Plains Area	3
Figure 2	Southern Saskatchewan, indicating location of Moose Bay Mound (x) on Crooked Lake in Qu'Appelle River Valley	13
Figure 3	Pattern For Birch Bark Containers, Moose Bay Mound	40
Figure 4a	Construction Detail of Container End, Exterior View	40
4b	Construction Detail of Container No. 49, Showing Rounded Inner Flap, Interior View	40
Figure 5	Schematic Generalized Representation of the Funeral and Mourning Rituals	70

LIST OF PLATES
After Appendix

- Plate 1 Topographic map of Crooked Lake Area, Showing Mound Location
- Plate 2 Aerial view of Moose Bay Mound
- Plate 3 Contour Map, Moose Bay Mound
- Plate 4 Burial 1, Moose Bay Mound
- Plate 5 Birch Bark Containers, Ceramic Pipe, and Sandstone Polishing Stone, Burial 1, Moose Bay Mound
- Plate 6 Complete Effigy Vessel, Burial 1, Moose Bay Mound
- Plate 7 Plan view of Burial 1, Moose Bay Mound
- Plate 8 Burials 2A and 2B, Moose Bay Mound
- Plate 9 Burial Chamber, with Burials 2A and 2B, Moose Bay Mound
- Plate 10 Central Support Post of Burial Chamber, Moose Bay Mound
- Plate 11 Burials 3, 4, and 6, Moose Bay Mound
- Plate 12 Plan View of Burial Chamber, Moose Bay Mound
- Plate 13 Cross-section of Moose Bay Mound
- Plate 14 Projectile Points, Moose Bay Mound
- Plate 15 Scrapers, Moose Bay Mound
- Plate 16 Ovoid Biface, Moose Bay Mound
- Plate 17 Ovoid Biface, Showing Two Sections
- Plate 18 Notches in Oblique End of Biface
- Plate 19 Quartzite Cobble, Moose Bay Mound
- Plate 20 Sandstone Polishing Tool and Three Pebbles, Moose Bay Mound

- Plate 21 Ochre-rubbed Quartzite Pebbles, Moose Bay Mound
- Plate 22 Clay Concretions, Moose Bay Mound
- Plate 23 Bone Tools, Moose Bay Mound
- Plate 24 Turtle Carapace and Plastron Fragments, Moose Bay Mound
- Plate 25 Turtle Plastron Ornament (?), Moose Bay Mound
- Plate 26 Pipes, Moose Bay Mound
- Plate 27 Complete Vessel, Three-Quarter View, Moose Bay Mound
- Plate 28 Complete Vessel, Top View
- Plate 29 Detail of Turtle on Complete Vessel
- Plate 30 Punctate on Vessel Shoulder
- Plate 31 Applique on Vessel Shoulder
- Plate 32 Pottery Fragments, Vessels 2 and 3, Moose Bay Mound
- Plate 33 Birch Bark Containers, Burial 1, Moose Bay Mound
- Plate 34 Birch Bark Containers, Burials 2A and 2B, Moose Bay
Mound
- Plate 35 Birch Bark Containers, Burials 3 and 5, Moose Bay Mound
- Plate 36 Detail of Stitching on Container, Catalogue No. 57.
- Plate 37 Left Mastoid Process, Pathological, Individual 1, Moose
Bay Mound
- Plate 38 Cranium, Individual 2, Frontal View
- Plate 39 Cranium, Individual 2, Left Lateral View
- Plate 40 Cranium, Individual 2, Right Lateral View
- Plate 41 Cranium, Individual 2, Basal View
- Plate 42 Cranium, Individual 2, Superior View
- Plate 43 Pathological Manubrium, Individual 2, Moose Bay
Mound

- Plate 44 Pathological Ribs, Anterior Ends, Individual 2, Moose
 Bay Mound
- Plate 45 Pathological Throacic (4th) Vertebra, Individual 3, Moose
 Bay Mound
- Plate 46 Pathological Ribs, Individual 3, Moose Bay Mound
- Plate 47 Pathological Auditory Meatus, Individual 7, Moose Bay
 Mound
- Plate 48 Anomalous Cervical Vertebrae, Individuals 1, 2, and 3,
 Moose Bay Mound
- Plate 49 Arthritic Lipping On Sacral Vertebrae, Individual 2,
 Moose Bay Mound

LIST OF TABLES

Table 1	Catalogue of Burials and Artifacts, Moose Bay Mound	18
Table 2	Projectile Point Dimensions and Attributes, Moose Bay Mound	24
Table 3	Index Values for Projectile Points, Moose Bay Mound	24
Table 4	Attributes and Dimensions of Scrapers, Moose Bay Mound	25
Table 5	Dimensions of Pipes, Moose Bay Mound	33
Table 6	Classification of Pipestone Tubular Pipes, Moose Bay Mound	33
Table 7	Dimensions of Pottery Vessels, Moose Bay Mound	41
Table 8	Dimensions of Bark Containers, Moose Bay Mound	41
Table 9	Cranial Measurements and Indices of Individual 2, Moose Bay Mound	46
Table 10	Comparison of Melita and Mantioba Foci Male Crania (means and standard deviations) with Measurements and Indices of Individual 2, Moose Bay Mound	54
Table 11	Comparison of North American Physical Stocks with Individual 2, Moose Bay Mound, on Basis of Selected Cranial Indices	56
Table 12	Incidence in Sides of Cranial Anomalies of Individuals 1 to 5, Moose Bay Mound, Compared with Manitoba and Melita Foci Populations	59

INTRODUCTION

The discovery and excavation of the Moose Bay Mound was important for two reasons. First, it was completely undisturbed by vandals, due in part to its rather inaccessible location. Also, the land owner, Mr. Lupinsky, had never given permission to anyone to dig in the mound. His role in the preservation of the mound must be noted and commended.

The second, and perhaps more important, aspect of the mound is that it lies well outside the general distribution of mounds. Its location in the eastern sector of the Qu-Appelle River valley is approximately one hundred miles north of the Glen Ewen mound in southeastern Saskatchewan. An intensive aerial survey in 1970 by the Saskatchewan Museum of Natural History failed to discover other mounds constructed along the banks of the Qu'Appelle River.

Therefore, in order to add more information about Saskatchewan prehistory and to learn about the mound itself, the Saskatchewan Museum of Natural History, Regina, undertook the excavation of the mound in the late summer of 1968. This report will bring to a close the investigation of this particular mound.

In order to provide a background for the Moose Bay Mound, a survey of the history of mound investigations will first be presented. The mounds under consideration are located in the northeastern periph-

ery of the Great Plains (Fig. 1). This area is delineated on the southwest by the Missouri River, and eventually merges into the aspen parkland which borders it on the northeast. Within this area are included the Missouri Coteau and Plateau (grassland and prairie), and several rivers, among which are the James, Vermillion, Big Sioux, Sheyenne, Red, Assiniboine, and Qu'Appelle (Wedel 1961:210).

With this general survey as a basis, the Moose Bay Mound will be examined, a discussion of the current theories and classifications presented, hypotheses concerning socio-cultural implications of the mound stated, and postulates about the cultural affiliations of the mound put forth.

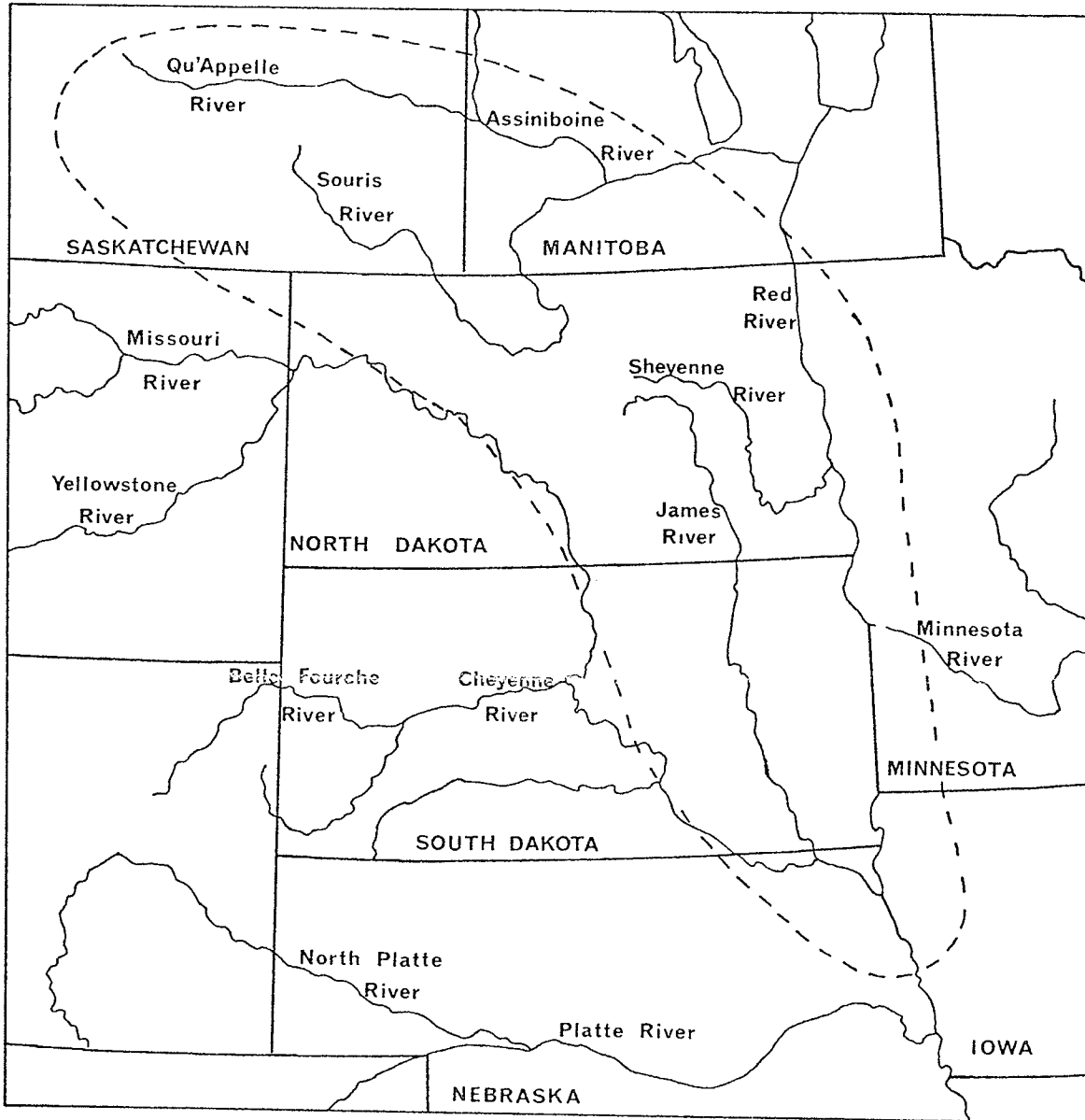


Fig. 1
 Northeastern Periphery (heavy broken line)
 of Great Plains Area

CHAPTER I

Citings of Mounds in the Northeastern Plains Periphery and Adjacent Areas

Early Investigations:

Some of the first investigations and reports of mounds were made by explorers travelling through the Canadian and American West. Part of the famous expedition of Lewis and Clark traversed the mound territory near the conjunction of the Platte River with the Missouri. They described the mounds as follows:

On going ashore he found in the level plain several artificial mounds or graves and on the adjoining hills others of larger size. This appearance indicates sufficiently the former population of this country, and the mounds certainly being intended as tombs; the Indians of the Missouri still preserving the custom of interring the dead on high ground...

At ten and a half miles from our encampment we saw and examined a curious collection of graves or mounds, on the south side of the river. Not far from a low piece of land and a pond is a tract of land about two hundred acres in circumference, which is covered with mounds of different heights, shapes, and sizes; some of sand and some of both earth and sand, the largest being near the river.

(Lewis and Clark 1917:26,27)

Another scientific expedition to study the West was under the direction of Major Long in the years 1819-1820. They noted:

Tumuli and other remains...are remarkably numerous around St. Louis... The common form is an oblong square, and they all stand on the second bank of the river.

It seems probable that these piles of earth were raised as cemeteries...

(James 1905:112)

During 1832-1834, Maximillian, Prince of Wied, and his party travelled through the Plains area. While in the vicinity of St. Louis, he made extensive descriptions of the mounds thereabouts.

As soon as we had passed the skirts of the forest on the Mississippi, a long row of very flat ancient Indian barrows came in sight, extending parallel with the river, and a second row, forming an angle with the first, in which some of the barrows are higher than others. Right in front of the angle formed by the two rows is the most considerable barrow of all, which does not appear at first sight, though it is at least sixty feet high...

The Indian hills, ... have a very striking appearance; they stand in a row, generally isolated, but sometimes two are side by side. Some of them still retain their conical form, while others are very much flattened...

(Maximillian 1906:126-128)

When Paul Kane travelled west in 1855 to portray the Canadian Indians he described briefly a mound he passed in the Rainy River area:

It is the site of a former battleground between the Ojibbeways... and the Mohawks. Of this, the mounds erected over the slain afford abundant evidence in the protrusion of the bones through the surface of the ground.

(Kane 1925:2)

In 1856, while passing through the Rainy River area on their journey westward, the Hind expedition stopped to examine two mounds. Hind described them as follows:

The mound ascended was about forty feet high and one hundred broad at the base. It was composed of a rich black sandy loam containing a large quantity of vegetable matter. On digging a foot deep no change in the character of the soil was observable.

(Hind 1969:89-90)

By the 1880's, the interest shown in mounds was more than casual. It was sufficiently high that men from universities and museums in both

Canada and the United States were making extensive surveys of mounds. Although the techniques of excavation and the comprehensiveness of the notes left much to be desired, many of the artifacts and burials recovered from the mounds were being deposited in universities and museums. The contents were not irrevocably lost, although often the context, and sometimes even the provenience, of the artifacts and skeletal material were.

Henry Montgomery was one of the most active people in the north-eastern Plains area. In 1884 he was appointed professor at the University of North Dakota, and it was during this appointment that he began his investigations, which lasted for some twenty years. His excavations covered a large territory: Utah, North and South Dakota, Manitoba, Saskatchewan, and Ontario (Montgomery 1906, 1908, 1910). His most oft employed technique of opening mounds was with a team and scraper; occasionally, he made some field notes and sketches or took some photographs. There is some record, albeit very sketchy, remaining to us of the work which he undertook.

In the late nineteenth century Theodore H. Lewis, working in conjunction with Alfred J. Hill, surveyed and mapped many of the mounds in Minnesota (Winchell 1911). This survey preserved the location of many mounds for later archaeologists, when agricultural practises and erosion had all but obliterated many of the mounds.

Dr. George Bryce, a professor at Manitoba College and president

of the Winnipeg Historical Society, opened many mounds in Ontario and Manitoba from the 1880's to the early years of the twentieth century. The artifacts and skeletal material removed often became the basis of lectures and pamphlets (Bryce 1885, 1904). He too, made sketchy notes concerning the excavation and recovery of material, but rarely were the specifics of context and association considered.

In 1880, the Bureau of Ethnology of the Smithsonian Institution commissioned Mr. Wills de Haas to investigate the mounds of the United States and adjoining parts of Canada. Five thousand dollars were set aside to meet expenses. In 1881, Mr. de Haas resigned and was replaced by Dr. Cyril Thomas, who carried the project to its completion and submitted the final report. During the course of the investigation, over 2000 mounds (including cairns, house site, and effigy mounds, as well as burial mounds) were explored in twenty-one states.

The investigation was designed primarily to test the various theories concerning the origin of the mounds. Two opposing schools of thought were prevalent. The more popular one stated that the mounds were built by a now-vanished race (called the "Mound-Builders"), one which, during its existence, had been far superior to the Indians known by the whites. It was assumed that only horticultural groups, who are relatively sedentary, would have had the knowledge, ability, and talent both to construct the mounds and to produce the artifacts found within the mounds. The known nomadic Indian bands were considered too un-

civilized to have knowledge of the techniques of metal working and pottery manufacturing. The supporters of this theory (e. g., Bryce, Bell, Montgomery) were agreed only as to who did not build the mounds. The lost "Mound-Builders" were variously identified as either ancestors or descendents of the Aztecs, Toltecs, Mayans, Chichimecs, or Pueblos. The cause of their disappearance was

...the wandering tribes, which, with their well-known thirst for blood, destroyed the very arts and useful habits which might have bettered their condition.

(Bryce 1885:19)

The alternate theory, which was only gradually becoming more widely accepted, stated that the builders of the mounds were none other than the ancestors of the Indians encountered on the Plains. The conclusions resulting from the Bureau of Ethnography's investigations upheld this view. Some of their more significant statements were:

1. Nothing found in the mounds justifies the opinion that they are uniformly of great antiquity.
2. The mound builders comprised a number of tribes bearing about the same relations and having about the same culture-status as the Indian tribes inhabiting the corresponding area when it was first visited by Europeans.
6. The contents of the mounds examined reveal in the builders a people who had attained about the same status in warfare, domestic conditions, and arts, as the Indians of the same neighbourhood when first visited by White men.
7. The construction of similar mounds over the dead has been practiced extensively in many localities since the coming of the Europeans...
8. The explorations of the Bureau exhibit the fact that the mounds of the eastern portion of the United States cannot

be distinguished from those of the Western portion as belonging to a higher grade of culture.

10. Finally, the links of evidence connecting the Indians and Mound-builders are so numerous and well-established as to justify archaeologists in assuming that they were one and the same people.

(Powell 1894:XLVIII)

Investigations in the Twentieth Century:

In Manitoba, the first relatively systematic excavations of mounds began in 1912 when W. B. Nickerson conducted a survey of the southern part of that province, part of a programme initiated by the National Museums of Canada to study the prehistoric Plains cultures (Capes 1963). In 1913, southwestern Manitoba was selected for more intensive study, with the Souris River region being the main area of concentration. For his time, Nickerson's methods were quite rigorous. Since then, mounds in Manitoba have been investigated rather sporadically. Chris Vickers, who played an important role in amateur archaeology in Manitoba, was instrumental in the preservation and/or excavation of many sites (Vickers 1945, 1947, 1948a, 1948b; Vickers and Bird 1949). MacNeish also contributed to the knowledge of mounds in Manitoba (1954, 1956, 1958).

In Minnesota, little work was done until the 1930's, when excavations began under the direction of Professor A. E. Jenks of the University of Minnesota. Later, Lloyd A. Wilford succeeded Jenks, and he continued the programme until 1951. In these years, over fifty mounds were excavated in Minnesota and adjacent portions of North and South Dakota. Although a

great amount of artifactual and skeletal material was recovered, none was published until recently (Wilford 1970; Wilford, Johnson and Vincinus 1969). Wilford used much of the information derived from mounds when constructing a taxonomy of prehistoric cultures in Minnesota (1941, 1945).

In South Dakota many of the investigations during the 1930's and 1940's were sponsored by the University of South Dakota Museum (Meleen 1938, 1948; Over and Meleen 1941). George Will, under the auspices of the North Dakota Historical Society, directed and published much of the work in North Dakota during the decades from 1920 to 1950 (Will 1921, 1924, 1933; Will and Hecker 1944). Beginning in 1946, a programme of federally sponsored salvage archaeology was instituted by the Committee for Recovery of Archaeological Remains. This programme was the Smithsonian River Basin Surveys, which undertook salvage archaeological operations in river basins (including the Missouri River Basin) where reservoirs and irrigation facilities were planned. Some mounds were excavated under this programme in the Dakotas (Cooper 1949; Neuman 1960a, 1960b, 1961, 1964; Wood 1960).

In Saskatchewan, systematic investigations of mounds are conspicuous by their near-absence. In 1964, a crew from the Saskatchewan Museum of Natural History excavated a mound at Glen Ewen; however, this mound had been so thoroughly plundered that only a few fragments of human bone were recovered. Attempts to locate the artifacts and burial previously removed proved to be futile (Gil Watson, personal

communication). The only other excavation was the Moose Bay Mound
in 1968.

CHAPTER II

Excavation of the Moose Bay Mound

The Moose Bay Mound was first recorded by Boyd Wettlaufer; he numbered it site S-74 and described it as

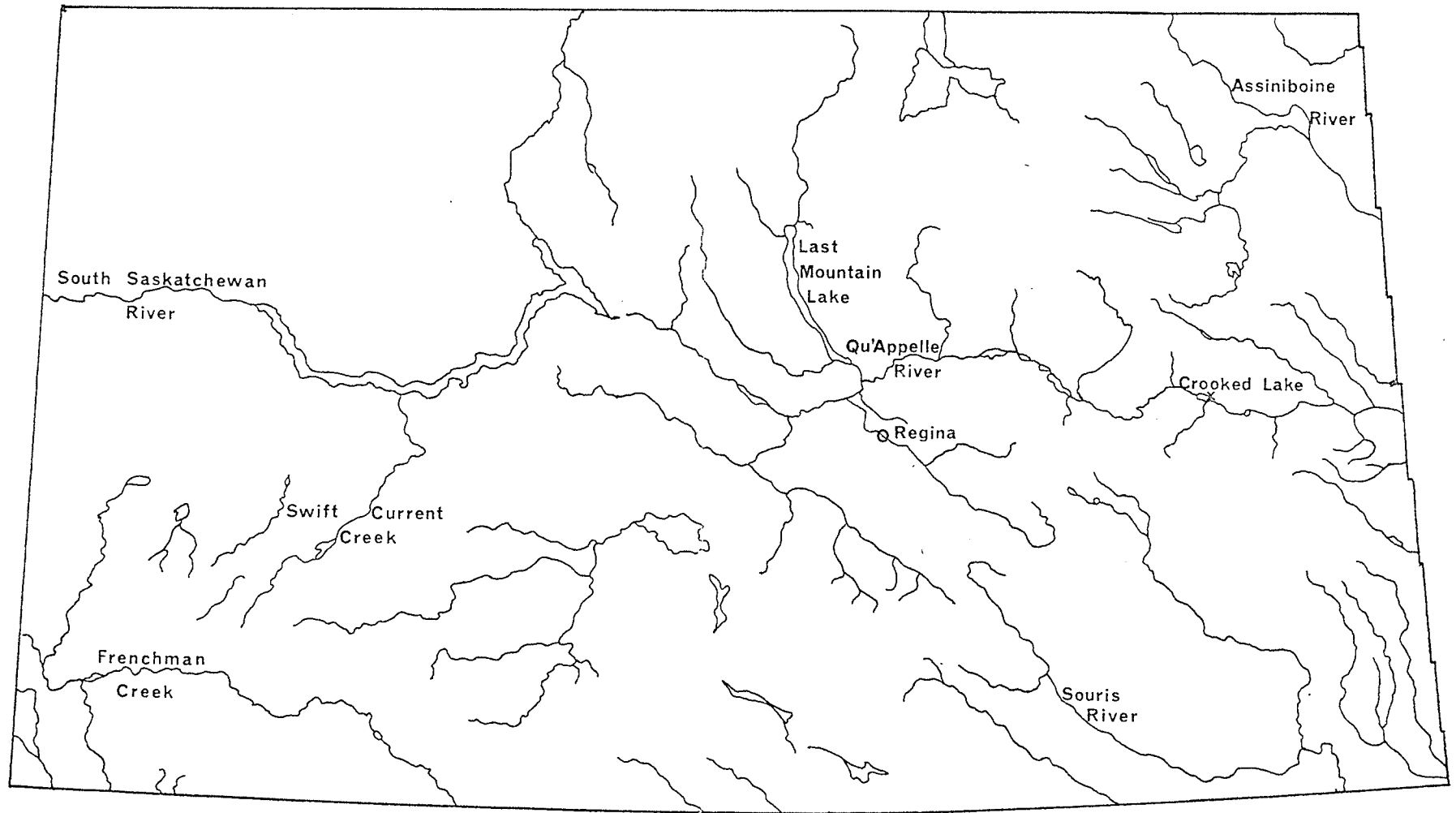
a mound 50 yds in circumference on the north side of the lake. It is on top of the Valley Hills about 3 miles from the east end.

(1951:73)

In 1960 the mound was recorded in the files of the Saskatchewan Museum of Natural History as site EdMq-1, according to the Borden site designation scheme (Borden 1952), as a mound fifty feet in diameter, on the north shore of Crooked Lake in the Qu'Appelle Valley, on a flat surface of a spur of land overlooking the lake (Fig. 2) (Plate 1 & 2). The spur is flanked on the east and west by steep, narrow, wooded gullies, and to the front, the valley wall drops away sharply. The legal description is NE $\frac{1}{4}$ -7-19-5-W2, land which is owned by Mr. Frank Lupinsky of Grayson.

In June, 1967, the site was visited and photographed. A year later, on July 22, a four member crew from the Museum arrived at the site to excavate the mound.

Two lines of five-foot squares, intersecting at right angles at the apex of the mound, were laid out (Plate 3). Each square was identified by the number of the stake at the southeast corner. Stake 9CL, situated on the



Scale 1:2,750,000

Fig. 2

Southern Saskatchewan, indicating location of Moose Bay Mound (x)

on Crooked Lake in Qu'Appelle River Valley.

Adapted from Richards and Fung (1969: 62, 63)

highest point of the mound, was used as datum. Elevation readings were taken at each stake; these formed the basis of the contour map (Plate 3).

Excavation began with removal of the sod from the squares. At 0.45' BD the first burial was located in Sq 8CL (Plate 4). This, a badly decomposed intrusive bundle burial, was designated Burial 1. The bundle was oriented in a northeast-southwest direction, with the long-bones lying across the innominates. The cranium was placed on top. All bones were heavily rubbed with ochre. Associated with this burial were several artifacts, some of which were tightly clustered into four distinct groups. One group consisted of a utilized flake and two scrapers; the second group was composed of two scrapers and a bone awl. The third was a complete pottery vessel, lying on its side, covered by two birch bark containers (Plates 5 & 6). The remaining artifacts were scattered nearby and included a sandstone pebble (probably a polishing tool), two bone awls, a hide scraper made from an elk antler, two complete pipes, one of clay, the other of red pipestone, and a fragment of another pipestone pipe. With the exception of the hide scraper, which was to the north of the bundle, all the artifacts were concentrated in the area directly east of the bundle (Plate 7).

Excavation was continued at the centre of the mound. At 4.0' BD, below stake 8CL, the crew uncovered the ends of six logs which formed the roof of the burial chamber. Squares 7CL, 8CL, and 7R1 were cleared

to just above the logs. Immediately underneath these logs, at 4.05' BD, two bundle burials were discovered. At first, the entire unit was labelled Burial 2, but later, to avoid confusion in associating artifacts with the individuals, the bundles were labelled separately as Burials 2A and 2B (Plates 8 & 9). Both bundles were oriented in a general east-west direction, with the crania placed at the east end of the bundles. Burial 2A was placed almost directly against an upright post which had served as the central support for the other logs, which, it could now be seen, radiated outward from this post. In the fill directly above the burials, three round clay concretions were found together. A birch bark container was found partially under and to the north of Burial 2A. Three pottery sherds were found nearby. One projectile point was recovered from the south end of the burial, as was a second bark container. In this were two projectile points and a broken chalcedony biface. The cranium of Burial 2B was placed on a large quartzite cobble, rubbed with ochre, that had been used as an anvil stone. A birch bark container was located nearby under a log, and upon removal, a curved bone knife was exposed. Five fragments of turtle carapace were recovered from rodent disturbed soil nearby, and upon cleaning the cranium of 2B, five more fragments were found, four of which fit together to form what may be a small gorget. The bones of the burials were heavily rubbed with ochre, as were all the burials in the central chamber. The burials and logs were mapped and photographed, then removed. Portions of some of the logs were kept as C-14 samples.

When Burial 2A was removed, the upright post against which it had been lying was found to be supported by rocks (Plate 10). This post was removed and the lowest portion saved as the primary C-14 sample. The post hole extended to 7.5' BD, and was 0.55' in diameter.

As the area around Burials 2A and 2B was being cleaned, indications of a third bundle burial were found south and east of the other two burials, at a depth of 4.9'. This was labelled Burial 3 (Plate 11). The long bones were oriented in a northwest-southeast direction. When the cranium was removed, a birch bark container was found below it.

Burial 4 was located southwest of the central post at a depth of 5.4'. The bones were badly decomposed and scattered. Two small pottery sherds were found in association with this burial.

Burial 5 was situated northwest of the centre post at a depth of 5.45'. This burial consisted of a right calva only, enclosed in a birch bark container. Nearby, in rodent disturbed soil were found a pottery sherd and an agatized wood scraper.

Burial 6 was located between Burials 3 and 4, south of the centre post. Only a portion of the calva and numerous skull fragments were present. Associated with these fragments was a tubular red pipestone pipe.

Burial 7 was represented by numerous skull and long bone fragments, all in a very poor state of preservation. No artifacts were associated with it.

After removal of all burials and wood, the floor of the burial

chamber was cleaned to its original depth. The recorded depth for the interior of the mound was 5.65' BD.

Upon completion of the excavation, the squares were back-filled and resodded. The material was taken to the Museum for cleaning, restoration, and cataloguing. A temporary display of the artifacts, field drawings, and photographs was installed in the Museum's "Hall of Man". The section of the pole collected as the primary carbon-14 sample was sent to the Dept. of Chemistry, University of Saskatchewan, Saskatoon, for dating analysis. The resulting date was 910 ± 70 BP (S-543).

It would appear that, in the construction of the mound, the burial chamber had been prepared by removing the top-soil to a depth of approximately half a foot. The burials had been placed on the soil and a low circular teepee-like structure of poles built over the burials (Plate 12). The structure and the burials had then been covered with dirt. A bark or brush covering may have been placed over the poles prior to mounding the dirt over the structure; however, no evidence to suggest the presence of such a covering was found during excavation. However, the situation was such that at some time, either during or after construction, the poles were able to fall, occasionally breaking some of the bones or falling on top of artifacts. At some later date, a pit (not reaching as far as the central burial chamber) was dug into the top of the mound, and a bundle burial deposited there (Plate 13).

Table 1
 Catalogue of Burials and Artifacts,
 Moose Bay Mound

Burial No.	Type	Position	Individual No.	Age	Sex	Associated Artifacts	Catalogue No.
1	Secondary Bundle	Intrusive	1	13 - 14	F	Bone awl or spatula	EdMq-1/ 3
						Bird Bone awl	4
						Utilized flake	5
						End scraper	6
						Pipestone tubular pipe fragment	7
						Ochre-rubbed white quartzite pebbles	8
						Three pebbles	9
						Clay pipe	10
						Pipestone tubular pipe	11
						Bone awl	12
						Utilized flake	13
						Scraper	14
						Scraper	15
						Elk antler hide scraper	17
						Sandstone pebble	18
						2 birch bark containers	19
						Pottery vessel	20
						Bone awl	21
						Bone awl	22
						Shell fragments	23
						Utilized flake	77
						Cut bone fragment	77

Burial No.	Type	Position	Individual No.	Age	Sex	Associated Artifacts	Catalogue No.
2A	Secondary bundle	Inclusive	2	80+	M	Birch bark container	EdMq-1/25
						Pottery sherds	29
						Projectile point	31
						Three clay concretions	35
						Projectile point	54
						Projectile point	55
						Biface	56
						Birch bark container	57
2B	Secondary bundle	Inclusive	3	45	M	Western Painted Turtle shell and carapace fragments	32, 58
						Anvil stone	40
						Birch bark container	41
						Bone knife	42
3	Secondary bundle	Inclusive	4	6-12	F?	Birch bark container	45
4	Secondary scattered	Inclusive	5	12-18	?		
4	Secondary scattered	Inclusive	6	12	?	Two pottery sherds	47
4	Secondary scattered	Inclusive	7	6	?		

Burial No.	Type	Position	Individual No.	Age	Sex	Associated Artifacts	Catalogue No.
5	Secondary scattered	Inclusive	8	?	?	Birch bark container Side scraper Pottery sherd	EdMq-1/49 51 81
6	Secondary scattered	Inclusive	9	6	?	Tubular pipe	53
7	Secondary scattered	Inclusive	10	Infant or foetal	?	-	

CHAPTER III

Artifacts

Although the total amount of artifactual material recovered from the mound was not great, the variety is considerable, with many different kinds of tools, ornaments, and other objects made from stone, bone, and clay. In this section, for the purposes of description and analysis, the artifacts from the intrusive burial will be considered together with the artifacts from the central burial chamber.

LITHICS:

Projectile Points:

Three projectile points were recovered from the central burial chamber. They are bifacially worked flakes. The dimensions are given in Table 2.

Point No. 31 (Plate 14a), made of quartzite, has a square base and slightly rounded notches. The flaking is irregular, but this is probably due to the poor quality of the material as much as to lack of craftsmanship. The inner margins of the notches and the basal edge show evidence of grinding and polishing prior to hafting.

Point No. 54 (Plate 14b) is made from fused shale. The body of the point is slightly tapered and the lower margins of the notches slope toward the base. One notch has been worked bifacially, whereas the

other is only unifacially formed. As with the previous point, the inner margins of the notches and the basal edge show evidence of grinding prior to hafting.

Point No. 55 (Plate 14c) is made from a whitish quartzite flake, which, in the basal area, becomes very porous. This point is also side-notched, the notches being slightly rounded and the base square.

Visually, these three points appear to be of the Prairie Side-Notched type (Kehoe 1966). Since three points hardly merit a statistical analysis to verify this typing, the indices as established by Forbis (1960) for late prehistoric side-notched points were used. These indices express relationships between discreet nominal characteristics of points. A change in the index therefore represents a change in the relationship.

Forbis devised two indices, the basal height-notch width index and the basal width-body width (or base-body) index. He also established the category "acute" for all those notches whose depth was greater than the width (1960: 93). This relationship is also amenable to indexing, and such an index was devised to measure this relationship.

The basal height-notch width index is obtained by dividing the height of the basal edge by the width of the notch. A value of less than 100 indicates that the notch width is greater than the basal height; greater than 100 indicates that the notch width is less than the basal height. To obtain the base-body index, the body width is divided by the basal width. A value below 100 indicates the base is wider than the body; a value above 100 that the base is narrower than the body. The notch index is obtained

by dividing the depth of the notch by the width of the notch. A value of less than 100 indicates that the notch is wider than it is deep; a value greater than 100, that the notch is deeper than it is wide. The indices for the three points are presented in Table 3.

With the late side-notched points found in the northern Plains, the trend through time is for the notches to become narrower and deeper (less than 100 for Prairie Side-Notched to greater than 100 for Plains Side-Notched), the basal edge higher (less than 100 for Prairie, greater than 100 for Plains), and the basal width greater than the body width (greater than 100 for Prairie, less than 100 for Plains). The indices for point No. 31 indicate that this is a Prairie Side-Notched point, with wide, shallow notches, the notches close to the basal edge, and a base wider than the body. With the exception of the base-body index, which is quite close to the threshold, point No. 54 may also be classified as a Prairie Side-Notched point. The indices for point No. 55 indicate a Plains Side-Notched type. This occurrence of two different types of points together may not be so unlikely since the chronology of the varieties of Prairie and Plains points is not well known.

Unifacial Tools:

Four tools, commonly called scrapers, were retouched unifacially, three on the transverse margin and one along the lateral margins. There were also three utilized flakes. The attributes and dimensions are given in Table 4.

TABLE 2: Projectile Point Dimensions and Attributes,
Moose Bay Mound

Dimensions or Attribute	No. 31	No. 54	No. 55
Length	30.5 mm.	19.5 mm.	29.5 mm.
Basal Width	13.5	14.5	15.5
Thickness	4.0	3.5	4.0
Neck Width	9.0	8.5	10.0
Notch Width	3.5	3.5	3.5
Basal Height	4.0	2.5	4.5
Basal Thinning	yes	yes	yes
Basal Grinding	yes	yes	no

TABLE 3: Index Values for Projectile Points,
Moose Bay Mound

Index	No. 31	No. 54	No. 55
Base-Body	107	97	97
Basal height- Notch width	86	60	128
Notch	86	80	79

TABLE 4: Attributes and Dimensions of Scrapers
Moose Bay Mound

Attribute and Dimensions	No. 6	No. 14	No. 15	No. 51	No. 5	No. 13	No. 77
Material	agate	chalcedony	agate	agatized wood	chalcedony	jasper	quartzite
Flake/blade	flake	flake	blade (frag.)	blade	flake	flake	flake
Shape	triangular	triangular	semi- circular	rectangular	irregular	triangular	triangular
Length	15.5 mm.	16.0 mm.	15.0 mm.	34.5 mm.	19.0 mm.	22.5 mm.	32.5 mm.
Width	13.5	18.5	20.5	18.0	18.0	17.0	28.0
Thickness	4.5	5.5	5.5	2.5	4.0	7.0	13.0

Scraper No. 6 (Plate 15f) is made from a triangular agate flake. The working edge is on the transverse margin, and the ventral surface has been completely retouched. The bulb of percussion of the dorsal surface has been removed. Secondary retouching is evident on the working edge.

Scraper No. 14 (Plate 15e) is triangular and made of chalcedony. The dorsal surface has been completely retouched to produce the characteristic plano-convex shape. The bulb of percussion has been removed from the ventral surface. There is fine secondary retouch along the working edge.

Uniface No. 15 (Plate 15e) is made of agate. It is semi-circular in shape, and appears to be the proximal end of a blade which was snapped. This, the remaining portion, was subsequently retouched on the margins to form the working edges. There is no modification of either the dorsal or ventral surfaces.

Uniface No. 51 (Plate 15b) is made from a lamellar blade of agatized wood. The working edges are on the long margins of the blade, but formed on opposite surfaces. The main working edge is on the ventral surface of the concave margin. On the dorsal surface, the convex margin has been sheared for twelve mm. at the proximal end of the blade. The flake scar caused by snapping the blade is present on the proximal end of the dorsal surface.

The three utilized flakes (Plate 15a, b, c) are waste material which have not been intentionally retouched prior to usage. On all these tools,

only one margin shows evidence of usage.

Bifacial Tool:

This bifacially retouched ovoid artifact (Plate 16) is 65.0 mm. long, 36.5 mm. wide, and 9.0 mm. thick. There are a variety of working edges on the artifact.

The blade fractured at mid-section into two parts (Plate 17) prior to completion. Along one margin, the flake scars are discontinuous where the two pieces join, as if the manufacturer had continued modifying one part of the blade after it had broken.

The proximal portion (with bulb of percussion) has been shaped and thinned; most of the secondary retouch is present on the distal portion of the blade. The end of the blade has two notches in it, one 3.0 mm. deep, the other 1.5 mm. deep. Both are worked unifacially from the ventral surface (Plate 18). The margins show bifacial primary retouch, but secondary retouch is present unifacially only. On the left margin the secondary retouch is present on the ventral surface, producing a rather steep working edge. The pattern is reversed for the right margin, forming a parallelogramic cross-section.

Miscellaneous Stone Artifacts:

A large, ochre-rubbed quartzite cobble (180 mm. long, 145 mm. wide, 102 mm. thick, 386 gm. in weight) had been used as an anvil stone. The lateral margins and one end are pitted and battered (Plate 19).

A flat limestone pebble (71.0 mm. long, 29.0 mm. wide, 7.0 mm.

thick) had been flaked on one long margin (Plate 20). The opposite margin and the ends are rounded and polished smooth, indicating that the pebble was possibly used as a polishing stone.

Three rounded pebbles (Plate 20) were found in a group beside the sandstone pebble. Two are sub-spheroid in shape, 15 to 20 mm. in diameter. The third is ovoid, 28 mm. long and 15 mm. in diameter.

Forty-two small, white, ochre-rubbed quartzite pebbles were found in a cluster (Plate 21). They vary in size from 2 to 4 mm. in diameter.

One of three clay balls recovered was broken to determine the composition; they were found to be clay concretions. The two remaining ones (Plate 22) are 11.0 mm. and 12.5 mm. in diameter.

BONE

Five bone tools and three pieces of worked bone were recovered. There were also ten fragments of carapace and plastron of a Western Painted Turtle.

Three of the identifiable tools are awls. One is made from a rib, possibly deer (Plate 23c). The proximal end has been ground into a smooth round shaft, and thins to a point no greater than 2 mm. The opposite end is fractured irregularly.

The second awl (Plate 23d) is possibly made from a section of a long bone. The tip of the awl is broken. The opposite end is rounded to form a spatula. All margins of the tool are well-ground and smoothed.

The third awl is made from the humerus of a large wading bird (Plate 23e). The bone has been cut diagonally across the shaft to form a V-shaped gouge. The margins are polished and the interior of the shaft has been scraped clean of all cancellous material.

The hide scraper (Plate 23a) is made from a section of elk antler. The handle of the tool is formed by the shaft of the antler; the tine has been cut diagonally to produce either a cutting edge or a haft for a stone scraper. This portion of the scraper is too badly deteriorated to determine if it was used with or without a stone scraper hafted to the tine.

A knife (?) (Plate 23h) is made from the blade of a scapula, (possibly deer). It is crescentic in outline, comprising both handle and blade in one piece. The blade is longer and narrower than the handle, and is ground on the convex margin to form the cutting edge. The plane of the blade is at a slight angle to the plane of the handle.

Of the unidentifiable worked bone, one piece (Plate 23f) has a crescentic shape which is similar to the knife just described. However, this piece is broken, and also is in a poor state of preservation. This makes it difficult to determine if this fragment is another knife.

A rib fragment (Plate 23b) has been cut squarely at one end, with no additional modification in evidence. The other end is fractured irregularly. The long edges of the rib have been rounded and smoothed.

An irregularly shaped fragment of bone (Plate 23a) has been cut on three contiguous edges. The rest of the fragment is completely un-

modified.

Six fragments of carapace and four of plastron of a Western Painted Turtle (Chrysemus picta belli) were recovered (Plate 24). One of the carapace fragments recovered from the skull of Burial 2B fits with another carapace fragment found in rodent disturbed soil (Plate 24a). The four plastron fragments joined together, forming what may be an ornament (Plates 24d, 25). In the centre top of the object, a hole has been drilled through the plastron, and has broken through the edge. Below and to the left of the hole, an attempt was made to drill another. This one does not pass completely through the plastron. Below and to the left of this hole are two short (7.0mm.) incised lines, not quite parallel to each other. Along three margins of the object are incised lines, where the plastron had been partially cut to facilitate breaking. The natural edge of the plastron is unmodified.

SHELL

A number of fresh water mussel (Family Unionidea) shell fragments were found throughout the area of Burial 1. The fragments were too small to permit identification as to species; however, two genera were identified--Quadrula and Lampsilis. None of the fragments showed evidence of intentional modification for use as tools or ornaments.

PIPES

Three complete pipes and one pipe fragment were recovered. One complete pipe is made of clay; the other two pipes and the fragment

are of red pipestone. Dimensions are given below in Table 5.

The clay pipe (Plate 26a, catalogue No. 10) is made of a very fine-grained clay. The untempered paste is slightly lamellar and this has resulted in exfoliation of the interior near the rim. The interior is also cracked. Approximately one-third of the rim is broken. Both exterior and interior surfaces are black in colour, and the interior near the bottom has a carbon deposit. The exterior surface has been polished to within 9 to 11 mm. of the base. Below this point, the base has been thinned by scraping or grinding, leaving a very rough finish.

The pipestone fragment (Plate 26c, catalogue No. 7) still shows the striations resulting from drilling the bowl. These are quite prominent on the interior; on the exterior, the surface has been polished, all but obliterating these striations. The tube appears to have been ringed and snapped at the upper end of the fragment. On the interior near the base, there are carbon deposits.

One complete pipestone tube (Plate 26b, catalogue No. 11) is constricted in the mid-section of the pipe, thereby forming a flaring rim and base. The base has been cut to form a V-shaped lower end, which has not been polished. The colouration of the pipe is not uniform; a vertical streak covering about one-quarter of the circumference has a slight yellowish tinge.

The second complete pipestone tube (Plate 26d, catalogue No. 53) is slightly squared on the exterior; the bore of the tube is round. The lower 4 to 5 mm. of the tube project slightly outward; this base is further

demarcated by a shallow groove encircling the tube just above the projection. This base is highly polished. The remainder of the tube is marked with shallow vertical striations, all of which stop just short of the rim.

Sigstad (1968, 1970, personal communication 1972) has been studying the problem of distinguishing among varieties of red pipestone from various sources by using neutron activation to detect and identify trace elements in the pipestones. Out of this study, he has devised a simple streak test, using a streak plate and the Munsell Soil Color Chart, to distinguish between catlinite, which he defines as "that red pipestone occurring in a matrix of Sioux quartzite" (1970:377) and non-catlinite. The streak for catlinite falls within the 5R hue only of the Munsell Color Chart. All other non-catlinite pipestone streaks fall outside this hue, varying from 7.5R to 10YR. This test was conducted on the pipestone tubular pipes. The results are presented in Table 6. Information concerning classification are taken from Sigstad (1970, Table 1).

This test indicates that the Moose Bay mound pipes are not made of true catlinite, which is found only in Pipestone Co., Minnesota and Minnehaha Co., South Dakota. This agrees with Sigstad's findings that non-catlinite pipestones were utilized by the Amerinds in prehistoric times, and that catlinite came into extensive usage only in historic times.

CERAMICS

Ceramics of the Moose Bay Mound are represented by one complete

Table 5

Dimensions of Pipes
Moose Bay Mound

Dimension	No. 7	No. 10	No. 11	No. 53
Height	29.0 mm.	32.5 mm.	44.0 mm.	24.5 mm.
Diameter				
Max.	-	27.0	14.5	15.0
Min.	-	14.5	11.0	11.5
Thickness				
Max.	2.5	4.0	3.5	2.5
Min.	1.0	1.0	1.0	1.5

Table 6

Classification of Pipestone Tubular Pipes
Moose Bay Mound

Pipe Catalogue Number	Streak	Classification
No. 7	7.5R5/8 red	non-catlinite
No. 11	10R6/8 light red	non-catlinite
No. 53	7.5R5.5/8 light red to red	non-catlinite

vessel, a partial vessel, and two small sherds which appear to be part of a third vessel. The dimensions for the two main vessels are given in Table 7.

The complete vessel has a vertical rim, flaring shoulders, and a sub-spheroid body (Plate 27).

Paste: This was very hard to determine, for the completeness of the vessel made it impossible to examine a cross-section. The interior of the vessel had exfoliated around some cracks; these provided the only information. The clay is very fine-grained, and sparsely tempered with a mixture of micaceous material and finely crushed quartzite. The average size of the tempering aplastics is 1 mm.; the occasional grain is as large as 2 mm.

Method of Manufacture: The vessel appears to have been made from a lump of clay which was modelled and paddled into shape. Upon completion, the interior and exterior were scraped and the exterior brushed with grass, leaving some fine, randomly placed striations on the body. The shoulders of the vessel were smoothed with the thumb, leaving at one place on the shoulder a large, smeared thumbprint. The decoration was applied while the clay was still damp. After the vessel had dried to the leather-hard stage, it was roughly polished.

The firing was done at a moderate temperature. A portion of the body exterior is buff in colour, but the majority of both interior and exterior is black. This uneven colouration is probably a result of smudging or touching other pots.

Decoration: The lip, rim, and neck area are smooth and undecorated. The decoration is confined solely to the shoulder area. Four turtles, with heads pointing towards the rim, are arranged symmetrically around the shoulder. The tails extend onto the body of the vessel (Plates 27, 28).

The turtles are stylized (Plate 29). The head is triangular in shape. Along the front of the carapace are six to seven short incisions, one of which forms the neck. The carapace is a square with slightly curved margins. It is filled with four horizontal and four vertical lines. The posterior margin of the carapace has six to seven short vertical incisions, one of which extends downward to form the tail. The legs extend from the corners of the carapace; they are slightly curved, and a V-shaped incision at the end of each leg denotes the foot.

The turtles are separated in three instances by vertically elongated punctates (Plate 30), in the fourth instance by an applique of clay (Plate 31). The punctates have rough, slightly raised edges, and the surrounding area is rough (Plate 30). The upper end of the applique is also very rough (Plate 31). It is postulated that these are intentionally roughened areas where small coils of clay were applied as handles or lugs. They were probably applied when the clay of the vessel was too dry for the clay strips to adhere properly. Consequently, they fell away either before or during firing.

There is both ethnographic and archaeological evidence in support of this hypothesis. Winchell (1911:439) reports that Catawba women would punch holes in the necks of vessels and insert clay strips for handles. Will and Hecker (1944:28, 29) found vessels in Nebraska sites which had similar

punctates. They also found many of the handles which had fallen away during the firing process. At the Scalp Creek site in southern South Dakota, Hurt (1952: 78) found similar node-type handles, some of which were attached to vessels, others which were loose.

A small hole, about 10 mm. in diameter, in the body of the vessel probably represents the custom of "killing" mortuary offerings. Most of the cracks in the vessel radiate from this hole. There are also traces of red pigment, probably red ochre, on the interior of the vessel.

The second vessel is represented by seven rim sherds, two sherds from the shoulder, and possibly two body sherds (Plate 32 a-f). The body sherds were not found in association with the rim and shoulder sherds; however, the similarity in thickness, colouration, and tempering material suggests that they are fragments of this vessel.

Although only a small portion of a rim and shoulder remains, the extant portion suggests a vessel similar in shape to, but slightly larger than, the complete vessel. The neck is either vertical or slightly out-flaring and the shoulders flare out from the rim. The lip is rounded.

Paste: The clay used in the vessel is fine-textured and slightly lammellar. The tempering aplastics are quartz sand and coarsely crushed feldspar, ranging in size from 1.0 to 2.5 mm., most of which are 2.0 to 2.5 mm. in size.

Method of Manufacture: This vessel appears to have been constructed by the coiling technique, as the breaks in the vessel are in horizontal, parallel lines. The completed vessel was paddled to shape it and to compact the

and weld the coils. The exterior surface of the body sherds suggests that the paddle was wrapped with net or fabric; however, the scraping and polishing which followed the paddling have all but obliterated the texture. The decoration was applied to the rim and shoulder, and after the vessel had dried, the body was scraped and polished.

The firing temperature was fairly high, for the core as well as the exterior and interior surfaces are red-buff colour. The even colouration of the extant sherds indicates that the vessel was evenly fired. After firing, a red haematite slip was applied to the exterior of the vessel and to the interior of the rim.

Decoration: The decoration is confined to the neck and shoulder area, and consists of alternating horizontal and oblique trailed lines. On the neck, there are oblique trailings slanting from right to left. A horizontal line encircles the vessel at the juncture of neck and shoulder. Approximately 10 mm. below is a row of short (2 mm.) oblique trailed lines again slanting from right to left. Immediately below this is a horizontal trailing which borders a third row of long (20 mm.) oblique trailings. Below this is a third horizontal line.

Technical Analysis: A rim sherd was sent to Mr. John Hudson of the Saskatchewan Research Council, University of Saskatchewan, Saskatoon, for optical, X-ray diffraction, and differential thermal analyses. The results he obtained are as follows (Hudson, personal communication 1972).

The sherd submitted for analysis contained 30% by volume of temper (grog), including well rounded quartz sand and angular hunks of feldspar.

These angular feldspars would presumably come from glacial stones of Precambrian origin, broken by heat. Rounded quartz sand would have had to come from a river or lake shore.

Differential thermal analysis showed a relatively small combustion exotherm. The loss on ignition was 3.9% by weight, but this must be, for the greater part, sorbed water. Judging by the combustion exotherm there was not over 1% carbon in the ware, corresponding to 5% by volume cellulose in the green body. The clay was not so bentonitic as Saskatchewan glacial clays; consequently, not so much bison dung would be needed to permit slow drying.

The X-ray diffraction diagrammes showed quartz and plagioclase feldspar, but no orthoclase feldspar. There was also a trace of mica, probably a residue left after decomposition of most of the mica at 900° - 930° C. The ware could not have been fired much over this temperature, else this trace would also have disappeared.

An X-ray diffractogram was run on the material heated to 1045° C. during the course of the D. T. A. The only additional phase was hematite (α -Fe₂O₃) produced by recrystallization and oxidation from the amorphous mixtures of oxides left when clay decomposes. This is further confirmation that the potters fired the clay somewhere in the 900° - 930° C. range, under reducing conditions.

Nothing can be determined about the source of the clay, for the clay has been almost totally decomposed by heat.

The two miscellaneous sherds (Plate 32g) seem, from their curvature,

to come from the neck and shoulder area of a third vessel. The sherds are 4.5 mm. thick.

The paste is fine; the tempering aplastics are crushed quartzite, the particles being 2.0 - 2.5 mm. in diameter. The breaks of the sherds (parallel sides) suggest the vessel was made by coiling. The interior has been smoothed and the exterior polished. The surfaces of the sherds are buff, and the core is black. A thin red haematite slip was applied to the exterior surface.

BIRCH BARK CONTAINERS

Seven complete containers and two fragments were recovered (Plates 33, 34, 35). All containers were constructed in the same manner. They were made from a single piece of bark, cut as indicated in Figure 3. The inner end flaps were folded up first, then the sides and outer flaps were folded up. The end flaps were stitched together with spruce root (see Figure 4a). The edges were whip-stitched, forming a decorative binding. The containers vary in size and shape, as indicated by the dimensions given in Table 8. The dimensions are approximate because of the warped and broken condition of the containers.

The decorative stitching along the edges shows three distinct patterns. One pattern is merely a random placement of holes (Plates 33b, 34b). The second consists of holes arranged obliquely in groups of three, slanting downwards from right to left (Plates 33a, 34a, 35a, 36). The third pattern is a double row of stitching, the holes of the upper row usually directly above the holes of the lower row (Plates 34c, 35b).

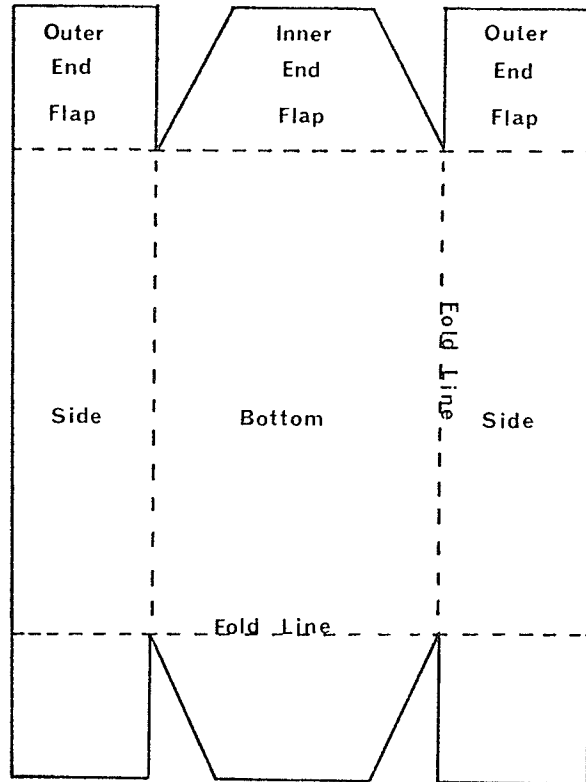


Fig. 3
 Pattern for Birch Bark Containers,
 Moose Bay Mound

Fig. 4:

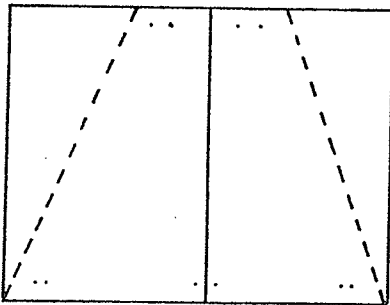


Fig. 4a
 Construction Detail of
 Container End, Exterior View
 (Dotted Lines Indicate Inner Flap)

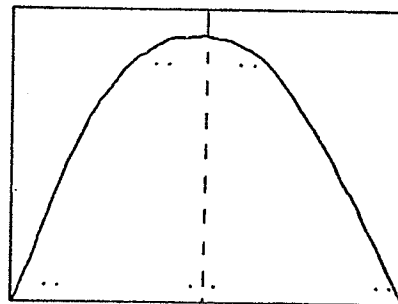


Fig. 4b
 Construction Detail of
 Container No. 49 End, Showing
 Rounded Inner Flap
 (Interior View)

Table 7

Dimensions of Pottery Vessels,
Moose Bay Mound

Dimension	Complete Vessel	Partial Vessel
Mouth Diameter	79-81 mm.	87 mm. (estimated)
Shoulder Diameter	108	118 (estimated)
Height	79	-
Rim Thickness	4-5	6-7
Shoulder Thickness	3.5-6	4.5-5
Body Thickness	5-7	3-4.5
Base Thickness	8	-

Table 8

Dimensions of Bark Containers,
Moose Bay Mound

Dimension	No. 19a	No. 19b	No. 27	No. 41	No. 45	No. 49	No. 57
Length	84 mm.	68 mm.	88mm.	85 mm.	120 mm.	74 mm.	120 mm.
Width	71 mm.	54 mm.	64 mm.	74 mm.	107 mm.	73 mm.	120 mm.
Depth	48 mm.	40 mm.	44 mm.	60 mm.	47 mm.	48 mm.	75 mm.

The decorative stitching on one basket (Plate 34a) served to fasten a thin twig to the edges of the container. The decorative stitching was not confined to the edges of this container. On the sides, beginning about 10 mm. below the edge, are two rows of holes, grouped in two's; each group is spaced from 10 to 20 mm. apart.

The end flaps of three containers (Plates 34a, 35a, b) were fastened together more securely than were the ends of the other containers. A row of stitching runs near the fold line and the lateral margins of the inner flap, and on the corresponding portions of the outer end flaps. The inner end flap of one container (Plate 35b) was rounded at the top (see Figure 4b).

The bottom of one container (Plate 35a) has been mended along a slit (130 mm.) that runs the length of the container. Crossing this slit at right angles is another one, 25 mm. long. Along each side of these slits is a single row of double holes, generally opposed to each other.

CHAPTER IV

Osteology

The skeletal material of the Moose Bay Mound had been catalogued and stored according to burial units. Upon closer examination, it was discovered that some burials contained miscellaneous pieces, and that one burial unit was composed of three individuals. In some instances, the miscellaneous pieces could be assigned to other individuals, or could be grouped as separate individuals. In other instances, pairings were merely presumptive or quite impossible. Since there were ultimately more individuals than burial units, new numbers were assigned to each individual. For reference purposes, both the original burial unit number and the new individual number will be given when describing the individuals below.

Cranial measurements (after Neumann n. d.) were possible on only one individual, the other crania being incomplete or warped. Determination of sex was based principally upon the sexual characteristics of the pelvis and cranium. Most individuals, however, were immature or poorly represented, which made accurate sex determination difficult or impossible. Skeletal age was estimated from dental eruption and wear, epiphyseal union, and suture fusion. In only two instances was the pelvis complete enough to allow use of the pubic symphysis as an age indicator (McKern and Stewart 1957).

One must exercise caution in using these age indicators. Certain criteria (e. g. , endocranial suture fusion and dental attrition) are not as reliable as others (e. g. , dental eruption and degenerative changes in the faces of the pubic symphysis), since the former are more subject to individual variation and, in the case of dental attrition, the diet. Also, not all age indicators are equally useful for all age groups. For subadolescents (i. e. , up to twelve years) the pattern of dental eruption and the ossification of bony elements are most useful for determining age. Epiphyseal union is a useful criterion for the adolescent age group (twelve to nineteen years). When dealing with adults, a number of criteria can be utilized. The eruption of the third molar (up to age twenty-two), epiphyseal union (up to age twenty-eight), dental attrition, and endocranial suture fusion can be utilized with greater or lesser degrees of accuracy. The most reliable criterion for this age group appears to be degenerative changes in the pubic symphyseal faces (Krogman 1962; Todd and Lyon 1925). In the osteological population in the Moose Bay Mound, multiple criteria were used for aging the individuals, as skeletal completeness allowed.

Individual 1 (Burial 1) is a female, thirteen to fourteen years, and is represented by the calvarium, a broken mandible, and most of the post-cranial skeleton. The bones are very poorly preserved. Supernumerary sutures in the cranial vault include an ossicle at lambda and a small lambdoid wormian. The trochlear notch is divided transversely by a small crest of bone. Small squatting facets are present on the tibiae. The incisors exhibit a slight tendency to shoveling. The left mastoid process and the

adjoining portion of the occiput are pathological: the bone is very porous and pitted, most probably the consequence of mastoiditis (Plate 37).

Individual 2 (Burial 2A) is a male. Most of the skeleton is present; absent are the mandible, the atlas and three cervical vertebrae, foot and hand bones, right patella, and left scapula. Complete closure of all cranial sutures suggests an age in excess of eighty years. The general texture of the bone, dental attrition, and pubic symphysis degeneration support such an advanced age (Droessler, 1972, personal communication).

The cranium was the only one from the mound which was not warped (Plates 38-42); therefore, the majority of standard observations and measurements could be taken. These are presented in Table 9. The cranium is large and robust; the right side is slightly more developed than the left. Accessory bones include an ossicle at lambda, and lamboid and coronal wormians. The second left maxillary molar is taurodont.

Pathologies include bilateral osteomyelitis on the manubrium at the first costal notches (Plate 43). The infection has been absorbed by the first left and right ribs, and by at least three other ribs, causing ossification of the costal cartilages (Plate 44). The left clavicle shows partial absorption of the infection. There is arthritic lipping (not severe) present on the femora, the auricular surfaces of the innominates, the lumbar vertebrae, and the sacrum.

Table 9

Cranial Measurements and Indices of Individual 2
Moose Bay Mound

Measurements (in mm.)		Index	
Length	199	Module	156.7
Breadth	140	Cranial	70.5
Min. Frontal breadth	91	Length-Height	66.0
Basion-Bregma height	131	Breadth-Height	93.5
Upper Facial height	78	Upper Facial	53.5
Orbital breadth	46	Nasal	45.8
Orbital height	37	Orbital	81.4
Nasal height	59	Maxilla-Alveolar	112.0
Nasal breadth	27		
Maxilla-Alveolar length	57		
Maxilla-Alveolar breadth	64		

Individual 3 (Burial 2B) is a male, approximately 45 years old.

The cranium, which is warped and broken, and most of the postcranial skeleton are present. There is a right lamboid wormian present on the cranium. The second right maxillary molar abscessed, and the infection spread through the palate and into the right maxillary area of the face. The mandibular second molars were lost ante-mortem. The third molars are unerupted.

The olecranon process is divided from the coronoid process by a small crest of bone. The tibiae are platycnemic (index 57.5). The natural curvature of the left ulna is greatly exaggerated, giving a twisted appearance. The right ulna is absent.

This individual appears to have been victim to some disease which affected the ends of the long bones and the nasal area. The bone in these areas is extremely weak and friable. There is evidence of osteomyelitis on the lower face of the body of T4 and on the articulating facets of ribs 5 to 7 (Plates 45, 46). Evidence of both osteoporosis and osteomyelitis is present on the interior of the cranium, the latter located by arterial surfaces.

Individual 4 (Burial 3) is a subadolescent, possibly female, between the ages of six and twelve. This individual is represented by the calva and other cranial fragments, and portions of the infra-cranial skeleton. Septal apertures (perforated olecranon fossae) are present bilaterally. A right lamboid wormian is the only accessory bone. There is no evidence of any pathologies.

Leaf blank to correct numbering.

Individual 5 (Burial 4) is of undetermined sex, and on the basis of molar eruption, calculated to be between twelve and eighteen years of age. This is a poorly represented individual. Present are portions of the right calva (the right temporal had been buried with Individual 3), maxilla, mandible, and a few fragments, mainly long bones, of the infra-cranial skeleton. A lamboid wormian is present on the extant portion of the calva.

Individual 6 (Burial 4) is calculated to be less than twelve years of age. It also is very poorly represented, consisting merely of cranial fragments (part of the occiput was included with the bones of Individual 2) and fragments of the infra-cranial skeleton. A lamboid wormian is present on the existing portion of the calva.

Individual 7 (Burial 4) is a very poorly preserved child of less than six years, as indicated by dental eruption and the partially closed metopic suture. The right auditory meatus is pathological: the canal is obstructed by an extensive bony growth (Plate 47).

Individual 8 (Burial 5) is represented by only the right half of the calva. The size and thickness of the calva indicate that the individual was an adult.

Individual 9 (Burial 6) is a subadolescent of less than six years as indicated by an incompletely fused metopic suture. This individual is represented by the calva and numerous skull fragments.

Individual 10 (Burial 7) is an infant, either foetal or newlyborn, for the fontenellae are still open. The infant is represented by fragments

of the calva and infra-cranial skeleton.

Individuals 11 and 12 are represented by numerous bones and bone fragments found among the bones of Individuals 2 and 3. The bones under consideration here are right scapula, a mandible, and shafts of long bones included with, but not belonging to, Individual 2, and a left scapula included with Individual 3.

The two scapulae are designated as Individual 11. They are smaller and thinner than the scapulae belonging to Individuals 2 and 3. These two scapulae are approximately the same dimensions along the lateral and medial margins, and the glenoid fossae are approximately the same width and length. Moreover, there is a vertical notch on the posterior side of both glenoid fossae. It is possible that the scapulae may belong with one of the other individuals in the mound; however, there is no way of confirming such an association.

Individual 12 comprises the mandible and long bone shafts. These bones are very distinctive for two reasons. Firstly, they are the only bones included in the mound which were not rubbed with ochre, and secondly, they are partially mineralized. The third molars are not erupted, indicating an age between twelve and eighteen years.

Dentition

The teeth, mandibles, and maxillae (or portions thereof) from eight individuals were available for examination. The completeness of the dental evidence varied considerably among individuals.

Individual 1: None of the teeth were embedded in the sockets, and the roots of nine of the teeth were broken at, or just below, the neck. Teeth present included four incisors, one canine, six premolars, and eight molars. The extant portions of mandible and maxilla indicate that all teeth had been lost post-mortem. The incisors show a slight tendency to shovelling and two, possibly three, molars are taurodont. The wear on the teeth is very slight. There is a small cavity on one molar, and no evidence of abscesses.

Individual 2: Only the maxillary teeth were present, all embedded in the alveolar processes. The third molars were lost ante-mortem; resorption of the alveolar processes has occurred. Despite the extensive amount of wear on the teeth, there are no caries nor abscesses.

Individual 3: The dentition includes in the maxilla the right first premolar and the right first molar, and in the mandible the right and left canines, and the right first molar. The third molars, both mandibular and maxillary, are unerupted. The second right and left mandibular molars were lost ante-mortem; the alveolar processes are completely resorbed. All other teeth were lost post-mortem. There are no caries, but a large abscess has developed at the right second maxillary molar.

Individual 4: The dentition includes the left first maxillary molar, an unidentified molar, and a molar bud. No caries are indicated.

Individual 5: Most of the teeth are present; absent are the mandibular central incisors, the left and right first premolars, the max-

illary central incisors, the left lateral incisor, the left canine, the left and right first premolar, and the left second premolar. All third molars are unerupted. Many of the teeth exhibit partial or total loss of crown enamel, yet the remaining crown enamel shows very little wear. The mandible and maxilla have edge to edge bit. There are caries on the buccal aspect of the mandibular right first and second molars. There is a small abscess at the base of the maxillary right second premolar.

Individual 7: The maxilla is represented by two fragments and the mandible by three. The maxillary fragments contain the right first premolar and the left first and second premolar. The mandibular fragments contain the left first molar, the medial incisors, and the right first premolar. Disarticulated are the mandibular canines, the lateral incisors, and the left maxillary canine. All teeth, with the exception of the molar, are deciduous. The mandibular medial and lateral incisors exhibit an unusual feature: in the midpoint of the crown is a small, sharp, pointed projection.

Individual 12: Only the mandibular dentition is present; this includes the left lateral incisor, right canine, right first premolar, left first and second premolars, and the left first and second molars. The left third molar is unerupted. The mandible is broken at the process for the right second molar, precluding observation of the presence or absence of the right third molar. The incisor projects above the plane of the other teeth and is very badly worn. The other teeth are only slightly worn.

Caries are present on the buccal aspect of the left first molar and on the crown of the left second molar. There is also a small abscess at the medial incisor.

Craniometric Analysis

Individual 2 is not assumed to be "typical" of whatever group he was a member. His cranial measurements and indices (Table 8) surely cannot be considered representative of the individuals included in the mound, for these are mainly subadolescents and adolescents. Only one other adult male is represented in the mound; however, this individual seems less robust in both the cranium and the infra-cranial skeleton than is Individual 2. In the examination which follows, the measurements and indices of Individual 2 are used to indicate possible relationships or similarities. Given the range of morphological variation within a deme, one can hardly draw valid and final conclusions on the basis of one individual.

Cameron (1962) studied an osteological population of southwest Manitoba; the individuals represented both the Manitoba and Melita Foci. Since the Moose Bay Mound may be of approximately the same time period as these foci, a comparison of the measurement and indices of Individual 2 was made with those of the Manitoba and Melita Foci. The results are presented in Table 10. Data for the Manitoba and Melita Foci are from Cameron (1962: Table 5).

As expected, the results are inconclusive. On the basis of these data, one may not say that Individual 2 is more like the individuals of

Table 10

Comparison of Melita and Manitoba Foci Male Crania
 (Means and Standard Deviations)
 with Measurements and Indices of Individual 2, Moose Bay Mound

Measurements (in mm.) or Index	Melita Foci	Manitoba Foci	Individual 2
Length	184 [±] 9.05	189 [±] 3.61	199
Breadth	137 [±] 7.77*	140 [±] 1.58*	140
Basion-Bregma Ht.	137 [±] 7.46*	135 [±] 1.00*	131
Min. Frontal Br.	99 [±] 1.29	93 [±] 1.82	91
Upper Facial Ht.	75 [±] 5.15*	70 [±] 4.15	78
Nasal Ht.	54 [±] 2.00	53 [±] 1.73	59
Orbital Ht.	36 [±] 2.50*	37 [±] 0.707*	37
Module	152.0 [±] 8.18*	154.0	156.7
Cranial	74.3 [±] 0.690	75.2 [±] 0.212	70.5
Length-Height	74.3 [±] 0.955	68.1 [±] 3.33*	66.0
Breadth-Height	100.0 [±] 1.19	95.0	93.5
Upper Facial	52.5 [±] 3.75*	49.0 [±] 0.424	53.5
Nasal	47.1 [±] 2.06*	50.7 [±] 1.43	45.8
Orbital	84.3 [±] 3.15	84.4 [±] 3.00	80.5
Maxilla-Alveolar	121.0 [±] 4.36	128.0 [±] 2.55	112.0

*measurement or index of Individual 2 falls within range of variation

either the Melita or the Manitoba Foci.

Cameron also compared certain indices of these foci with other physical stocks in North America (1962:115ff.). This was done specifically to test Neumann's hybrid hypothesis for the origin of the distinctive cranial type of the Dakota Sioux. This type, called Dakotid, is characteristically mesocranic and low-vaulted. According to Neumann, the Dakotid variety is the offspring of two different varieties: Lenid, which is dolichocranic and high-vaulted (similar to some Hopewell), and Deneid, which is brachycranial and extremely low-vaulted (Neumann 1952:30). The populations representing the transition from the two parental physical stocks to the Dakotid stock were called proto-Siouan, and were considered to be the builders of the mounds in the northeastern Plains (Cameron 1962:115; Neumann 1952:31). Cameron's assumption was that, if the populations of the Melita and Manitoba Foci were indeed of proto-Siouan stock, they should show characteristics intermediate between the parental stocks and the Dakotid (1962:115).

Individual 2 was compared with Cameron's results. Data for the comparative North American physical stocks are taken from Cameron (1962:117, 119, 121). The results are given in Table 11.

Only for the cranial index does Individual 2 correspond more closely to Lenid than to Deneid or Dakotid. For the other three indices, Individual 2 is more similar to the Dakotid (Siouan) cranial variety than to either of the parental stocks. This suggests that Individual 2 is of proto-Siouan stock, but is more Dakotid in physical appearance than either Deneid or Lenid.

Table 11

Comparison of North American Physical Stocks with Individual 2,
Moose Bay Mound
on Basis of Cranial Index, Breadth-Height Index, Length-Height Index,
and Upper Facial Index

Group	Cranial Index	Group	Breadth-Height Index
Individual 2	70.5	Hopewell	103
Hopewell (Lenid), Melita Focus	74.0	Melita Focus	100
Manitoba and Dakota Mounds, Manitoba Focus	75.0	Manitoba Mounds	99
pre-Aleut	76.0	Dakota Mounds	96
Sioux (Dakotid)	78.0	Manitoba Focus	95
Deneid	81.0	Individual 2	93.5
		pre-Aleut	92
		Sioux (Dakotid)	90
		Deneid	88
Group	Length-Height Index	Group	Upper Facial Index
Hopewell	78	Hopewell	56
Deneid;Melita Focus	74	Individual 2	53.5
Manitoba Mounds	72	Sioux (Dakotid); pre-Aleut	53
Dakota Mounds	71.5	Melita Focus; Deneid; Dakota Mounds	52
Sioux (Dakotid); pre-Aleut	70	Manitoba Mounds	51
Manitoba Focus	68	Manitoba Focus	49
Individual 2	66		

Discontinuous Morphological Traits

Discontinuous traits (anomalies) have the advantage over craniometry and other metric analyses in that the observation of anomalies is not precluded by deformation or fragmentation. Because of this, anomalies can be used to trace genetic relatedness of populations in many instances where the use of metric analysis is limited or precluded.

On the basis of studies by geneticists, it is becoming more apparent that anomalies are genetically inherited, thereby justifying their use as determinants of relatedness, (for example, see Berry 1968). However, there are factors other than inheritance that influence the development of anomalies. The role of environment in the aetiology of anomalies is not yet understood. It seems that such factors as intra-uterine environment, diet, and physical stress play important roles in realizing the presence of anomalous traits. There also appear to be variations in the presence or absence of traits according to age, sex, and side. However, these latter factors seem to be minor enough that pooling data for all individuals of a population sample will not significantly skew the distribution of anomalies (Ossenburg 1970).

Anomalies are of two varieties. Hypostotic traits (e.g., metopism, tympanic dehiscence) indicate incomplete or arrested ossification, representing the retention of a foetal or infantile state. The other class--hyperostotic--represents an excess of ossification. Examples are auditory exostoses and mylo-hyoid bridging.

Cranial Anomalies:

Twenty-eight discontinuous traits were recorded for the crania of

Individuals 1 to 7 and 9. Of these, the crania for Individuals 1 to 3 were almost complete. The crania of Individuals 4 and 5 were fragmentary, but approximately one-third of the necessary observations could be made. The crania of 6, 7, and 9 were extremely fragmentary, but were included in the original observations. Subsequently, these last three individuals were omitted because of their young age and because they did not contribute significantly to the results. The final analysis was based on five individuals. The results are presented in Table 12, together with the incidence of these traits in the Manitoba and Melita Foci populations, kindly supplied by Dr. N. Ossenburg.

As with the craniometric data, there is insufficient basis here for drawing conclusions as to the physical relatedness of the Moose Bay Mound individuals with other populations.

Infra-Cranial Anomalies:

A few anomalous traits were recorded in the post-cranial skeleton. In three individuals, the transverse foramina in the cervical vertebrae exhibit anomalous formations. In Individual 1, C5 has a tiny accessory foramen posterior to the right transverse foramen (Plate 48a). The left transverse foramen of C7, Individual 3, is divided into two foramina by a bridge of bone. The right foramen of the same vertebra has two opposing spurs, forming an incipient bridging (Plate 48b). In Individual 3, the left transverse foramen of C3 is severely constricted (Plate 48c). Septal apertures (perforated olecranon fossae) are present bilaterally in the

Table 12

Incidence in Sides of Cranial Anomalies of Individuals 1-5,
Moose Bay Mound
Compared with Similar Data for Manitoba and Melita Foci Populations

Anomalous Trait	Moose Bay Mound	Manitoba Focus	Melita Focus
Ossicle at lambda	2/4 (50%)	-	1/31 (3.2%)
Lambdoid wormian	6/10 (60%)	22/57 (38.6%)	17/47 (36.2%)
Occipito-mastoid wormian	0/8 (0%)	4/41 (9.8%)	6/39 (15.4%)
Asterionic bone	0/6 (0%)	-	-
Parietal notch bone	0/8 (0%)	10/81 (12.4%)	5/51 (9.8%)
Epipteric bone	0/4 (0%)	7/44 (15.9%)	4/35 (11.4%)
Coronal wormian	1/5 (20%)	-	-
Os Japonicum	0/2 (0%)	12/72 (16.7%)	5/43 (11.6%)
Infraorbital suture	0/2 (0%)	28/69 (40.6%)	23/53 (43.4%)
Metopism	0/5 (0%)	2/56 (3.6%)	1/31 (3.2%)
Trochlear spur	0/4 (0%)	5/73 (6.3%)	2/54 (3.7%)
Superorbital foramen	0/4 (0%)	57/103 (55.3%)	15/66 (22.8%)
Supratrochlear foramen	0/4 (0%)	18/103 (17.5%)	4/66 (6.1%)
Frontal grooves	0/10 (0%)	27/84 (32.2%)	17/59 (28.9%)
Tympanic dehiscence	2/8 (25%)	29/94 (30.9%)	22/64 (34.4%)
Foramen spinosum communicates with spheno-petrous fissure	0/2 (0%)	12/83 (14.5%)	13/56 (23.2%)
Hypoglossal canal bridging	0/2 (0%)	14/72 (19.5%)	15/60 (25.0%)
Intermediate condylar canal	0/6 (0%)	20/39 (51.2%)	12/29 (41.4%)
Paracondylar process	0/6 (0%)	8/52 (15.4%)	4/55 (7.3%)
Auditory exostoses	0/6 (0%)	0/85 (0%)	0/59 (0%)
Marginal foramen of tympanic plate	0/8 (0%)	23/85 (27.1%)	24/59 (40.7%)
Pterygo-spinous bridge	1/2 (50%)	4/77 (5.2%)	3/55 (5.5%)
Pterygo-basal bridge	0/2 (0%)	4/81 (5.9%)	3/55 (5.5%)
Clinoid bridging	0/2 (0%)	18/55 (32.8%)	8/41 (17.1%)
Mylo-hyoid bridging	0/4 (0%)	30/69 (43.5%)	14/33 (42.4%)
Post condylar canal	0/6 (0%)	10/69 (14.3%)	4/56 (7.2%)
Parietal foramen	0/10 (0%)	38/78 (48.7%)	34/55 (61.8%)
Foramen of Versalius	0/2 (0%)	29/79 (36.7%)	17/54 (31.5%)

humeri of Individual 4. This anomaly may be a function of the young age of the individual. On Individual 1, small, narrow squatting facets are present bilaterally on the tibiae.

Pathologies

Osteoarthritic lipping is present in Individuals 2 and 3. Arthritic lipping is present on the bodies of the sacral vertebrae (Plate 49), the edges of the auricular surfaces of the illia and the pubic symphysis, the superior margin of the patella, and the heads of the femora of Individual 2. None of this is very severe. Individual 3 has extensive arthritic lipping on the rib tubercles and the auricular surfaces of the illia.

Individual 2 suffered from a severe infectious disease in the manubrium and sternum. The first costal notches of the manubrium (Plate 43), and the costal cartilages on the first right and left ribs, and on at least three other ribs (Plate 44) have become ossified, producing long hollow tubes on the manubrium and the anterior ends of the ribs. The infection has been partially absorbed by the articular area of the left clavicle.

Individual 3 also suffered from osteomyelitis, which infected the nasal region of the face and the articulating surfaces of the tibiae, fibulae, and femora. The bone in these areas has degenerated, such that it is extremely friable. The inferior face of the body of the fourth thoracic vertebra is deformed due to some infection (Plate 45). The heads of the fifth, sixth, and seventh ribs exhibit similar deformation, indicating that T5 and T6 were similarly diseased (Plate 46).

Individual 1 suffered from, and possibly died of, mastoiditis, as evidenced by the extensively pitted surface of the left mastoid process (Plate 37).

The right auditory meatus of Individual 7 has been blocked by an extensive bony growth (Plate 47) which may be cancerous.

The curvature of the left ulna of Individual 3 is greatly accentuated, giving a twisted appearance. There is no evidence of trauma. The radii do not exhibit any deformation similar to that of the ulna. The right ulna is not available for observation.

CHAPTER V

Sociocultural Implications of the Moose Bay Mound

Within recent years, some archaeologists have turned their attentions to intra-site examinations of materials recovered during excavation (e.g., Deetz 1965, Longacre 1968, Hill 1968). These studies have been attempts to go beyond the usual preoccupation with chronologies and typologies, in that they attempt to learn something of the social organization which was in operation at the time the site was occupied. These elements of social organization may vary from differential work areas to family and clan groupings. Even though there may be faults in their basic assumptions (Allen and Richardson 1971), they are presenting us with a challenging new approach to New World archaeology.

Given the limited and specialized nature of the Moose Bay Mound, we may not be able to make any sweeping statements about the social organization of the group which constructed it. However, since it is the result of patterned action by a group of people, any patterns discovered in the mound should reflect patterns in the actions (i. e., in the social structure) of the group.

Let us first consider the central burial chamber. The arrangement of the burial units and artifacts within the chamber (Plate 12) is

such as to suggest that the principles of status and prestige were involved in the deposition of the burial units. At the very centre of the chamber were two burials; almost all the artifacts recovered from the chamber were associated with these two individuals. The remaining individuals were situated at the periphery of the chamber, and had very little artifactual material associated with them. The two individuals placed at the centre were adult males; the individuals at the periphery were (with one exception--a young adult of undetermined sex) adolescents or subadolescents. Assuming that the centre of the burial chamber was the most prestigious position, we can formulate the hypothesis that age and sex were the basic criteria for assigning status to individuals, and the corollary that adult males were accorded higher status than other individuals. If status were assigned on some basis other than age and sex, or none were assigned at all, we might expect to find a different arrangement of the burial units. However, the correlation between age-sex, number of associated artifacts, and position in the burial chamber is sufficiently strong to support our original hypothesis.

A second hypothesis is that the mound was constructed especially for these two adult males. The evidence in support of this is the relative degree of preservation of the individuals and the skewed representation of ages and sexes. The two adult males are the most completely represented of any of the individuals; the remaining individuals are poorly represented and the skeletal material is generally in a poor state of preservation. This would suggest that the two males had been dead for a much shorter period

of time than had the latter, prior to construction of the mound. If the mound had been constructed for no one in particular, but rather intended to be only a burying place for all the dead, one would expect a more even distribution of individuals in terms of ages and sexes. Although the high infant mortality rate as indicated by the mound is not surprising, the absence of young adult males and young and old adult females is rather enigmatic, unless one thinks of the Moose Bay Mound in terms of its being erected in honour of the two adult males. The other individuals placed in the chamber may be related to these two males, but that is only speculation.

A third hypothesis is that the manner of preparation of the individuals for burial was not a function of any status or prestige the individual may have enjoyed. Three of the six burial units were bundles; the remaining three burial units were merely placed (but not scattered) directly on the floor of the chamber. Two of the bundled burials were the adult males; the third individual was a child (possibly female) between six and twelve years of age. This would negate any hypothesis that bundling was a function of one's status. Rather, the criterion for bundling seems to be the degree of completeness of the individuals. It has been stated above that the adult males are very well preserved. Although the child is not as well preserved as are the males, it is certainly far more complete, especially with respect to presence of long bones, than are any of the other juvenile individuals. The decision of whether or not to bundle the individuals seems to be based merely on practicality--those individuals with sufficient bones to warrant bundling were so treated. Those

individuals represented by only a few bones were placed on the ground without any prior treatment other than rubbing the bones with ochre.

Turning to the intrusive burial--a young adolescent female--we seem to have a different situation than in the central chamber. In terms of the age-sex criteria for status which were apparent in the central burial chamber, this intrusive burial is anomalous. Unlike the young adolescents in the central chamber, she was buried with a large number of grave goods (at least one-half the total artifact recovery from the mound). The inclusion of such a large number of goods would imply that, to some segment of her group, she had a certain amount of status.

There are at least two alternate hypotheses to explain this situation. One hypothesis is that this burial represents a different group of people with different criteria for assigning status. At present there is no way of ascertaining for certain whether or not the intrusive burial is of the same prehistoric group as that represented by the individuals in the central burial chamber. The only artifacts in common between the two burial groups are pottery and tubular pipes. The method of manufacture, surface treatment, and decoration of the pottery vessels and the shape of the tubular pipes are not similar. This may be evidence in support of two different groups utilizing the same mound; however, artifact styles say nothing about the criteria by which status is determined.

The second hypothesis is that the intrusive burial represents a

family endeavour, in contrast to the construction of the central chamber, which would require a larger group effort. Under such circumstances, the status of the young girl need be considered only in terms of her status within her family sphere, rather than within the larger social unit, whatever size that may have been. Moreover, since she was buried alone, there was no need to consider the relative statuses of the individuals interred, as happened in the central burial chamber. At present, there is insufficient evidence to support one hypothesis in favour of the other.

Finally, let us consider the construction of the mound itself. This structure represents a tremendous input of energy and time, in cutting and trimming the logs, building the tipi structure, and finally piling the earth over the burials. Such an undertaking would require division of labour and a certain amount of organization. No hypothesis will be proposed concerning the level of sociocultural integration necessary to have such a degree of organization. However, a chieftain level of organization, as suggested by some (e.g., O'Brien 1971), is not necessary to produce a mound of these dimensions. Nor are the supposed criteria for status and prestige specific for chieftain levels of organization. Band level societies are equally capable of organizing people and units into efficient action groups (e.g., the antelope hunt as described by Hoebel 1965). The presence of projectile points and scrapers, and the absence of tools related to horticulture, would indicate a primarily hunting-gathering oriented society, which generally is at a band level of socio-cultural integration. It is therefore proposed that a band society is quite capable of construct-

ing a mound the dimensions of the Moose Bay Mound, and quite conceivably such a society was responsible for the building of this mound.

In addition to supplying some insights into the social structure of the society which built it, the Moose Bay Mound is an example of how the people involved responded to one of the crises of life, that is, how to face death. Death was a crucial issue--it meant the loss of an individual who was, or was to be, a provider and a link in a network of kinship and alliance. In order to cope with death, prescriptions and proscriptions were developed, which served to honour the dead, to ensure his future life, and to maintain the survivors in their time of grief. The rituals, which included preparation of the dead, mourning, and the interment, have three aspects: the structure of the ritual itself, the organization of social responsibilities, and the function of the ritual within the society.

Structure:

It would appear that the burial rituals practiced by the tribes of the Plains were essentially the same.¹ The minor variations which occurred do not appear to be structurally different.

The first step was the preparation of the body before death, if possible. The person was painted and dressed in his finest clothes. Quite often these clothes would have been prepared several years previously for this occasion. If, by the time death was imminent, the clothes were old and shabby, attire was asked of relatives or friends. Such a request was considered an honour and could not be refused.

1. The data, on which this analysis is based, are presented in the appendix.

The most intense period of mourning were the days immediately following death and preceding burial. The relatives, especially the women, would wail continually, and if the person had had a high position in the band, other members of the band would join the mourning. During this time the body was further prepared for burial: it was washed, painted, and dressed again. The body was finally wrapped in buffalo hides, or, if such were available, yards and yards of cloth. Burial usually took place on the fourth day after death, although some--the Ojibway, Blackfoot, and Hidatsa--buried the person as soon as possible. The body was carried to the cemetery, either on a hide stretcher or by horseback. It was then placed on a scaffold; personal articles were put on the scaffold beside the body (if they had not already been included in the wrappings) to provide the spirit with the necessary items for the future life. The warriors of the band counted coup on the uprights of the scaffold, to give the spirit sufficient strength to complete the journey to the spirit world. The climax came when the wife or wives and the other relatives of the deceased cut off their hair and scarified themselves. Also at this time, those items which had not been buried with the dead were given away, as well as all the personal possessions of the surviving relatives. Among the Cree and Assiniboine, a feast was given after the burial at which the pipe was smoked, meat was offered to the dead, and those who had helped in the funeral arrangements were thanked and paid, probably by giving them the belongings of either the deceased or the survivors. At this point, life for the rest of the band returned to normal, but for the wives and near relatives, the period of

mourning continued for about a year. During this time they wore old dirty clothes, and smeared themselves with mud.

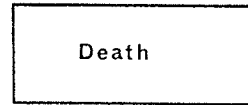
Scaffolds are not permanent structures, however; neither do the hides or cloth protect the body from the elements and scavengers, such as crows and wolves. Therefore, as soon as it was noticed that the bones were loose upon the ground, they were gathered up and reburied, this time in the earth. Mourning and a feast would accompany the reburial, but there was no mutilation this time. In succeeding years, feasts were given in honour of the dead person, and whenever the graves were passed, the wives or relatives would visit them, mourning and/or talking to the spirit of the person buried there.

The only tribe which did not follow this pattern was the Arikara, who did not place their dead on scaffolds, but buried them immediately in the ground. The Sioux practiced primary burial (i. e., burial in the ground directly after death) as well as scaffold burial, although the latter was more common. Figure 5 illustrates the general structure of the ritual.

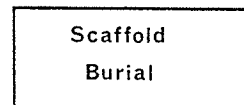
Such variation as did occur among tribes was merely an individualistic tribal cultural embellishment. However, within a tribe, variations in the ritual were contingent upon who died and how he died. What has been described above was the rule of thumb for the average man of a band. If a man of great distinction died, the same procedure was followed, but all members of the band were involved, the degree of property destruction and distribution was greater, the mourning more intense and for the wives more severe, and the ceremonies more elaborate. For a woman, only the

Funeral Ritual:

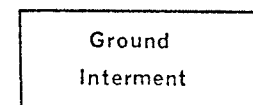
Preparation
of Person



Preparation
of Body



Preparation
of Bones



Mourning Ritual:

Intense
Mourning

Self-
mutilation

Feast

Memorial
Feasts

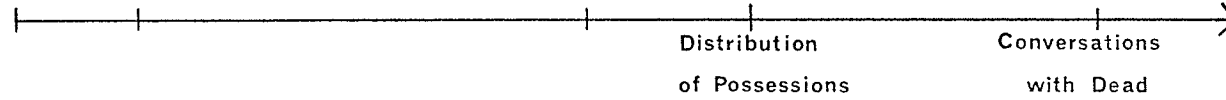


Fig. 5

Schematic Generalized Representation of the Funeral and Mourning Rituals

immediate family mourned; there is no information though as to the distribution of the property, i. e., whether only the woman's possessions were distributed, or those of the entire family. With respect to children, the death of a son was mourned far more than was that of a daughter. As Hans has described it for the Sioux, it was a severe blow for the father, not just because of the loss of the son, but for what it implied about the effectiveness of the father's medicine (Hans 1964:69). Daughters and young children were mourned only by the mother, it seems; these were often placed on the scaffold beside a close relative or, if the child were very young, it was buried at the edge of the lodge (Bowers 1965:171). Those who contravened the mores of the band were not buried at all or else were not buried in the customary way. These included murderers, suicides, and those who had been scalped.

Social Responsibilities:

The historic sources may be good for descriptions of what the authors saw. However, rarely were they acquainted with elements of social organization, in particular kinship. Thus, their descriptions of who did what in the funeral arrangements is limited to two gross categories: friends and relatives. It would be very interesting to learn the patterns of social responsibility which operated during the ritual, and how reciprocity and distribution were utilized to pay for such assistance.

What information was found about this came from the ethnographic sources, and even these provided little. Among the Gros Ventres, the friends, not the relatives, were responsible for washing and dressing the

corpse (Flannery 1953). Upon the death of an Hidatsa or Mandan, it was the father's clan that handled the funeral arrangements. Both these latter tribes have a matrilineal clan organization, so that here we have an example of where the socially defined affines, not the consanguines, hold the responsibilities. Furthermore, among the Mandans, if one died away from home, it was the father's sister who was responsible for making the arrangements to have the skull brought home, where it became part of the skull circle (Bowers 1950). Extrapolations are hazardous; however, these data would suggest that affinal relatives were responsible for preparing the body for the burial. These were then paid for their services by the consanguineal relatives at the feast that followed interment. Participation by the entire band was only incidental to the procedure, in that they were not bound to involve themselves on the basis of simply being members of the same band. It appears to have been blood and marriage relationships which decided who was to participate, and what one was to do.

Function:

The burial rituals had several purposes, the least of which was to dispose of the dead body. Perhaps first and foremost, the rituals were a socially acceptable way of displaying one's emotions over the loss of a relative. It may seem at first glance that they were overindulging, especially when one considers the extremes to which they went. However, each person played a vital role in the welfare of the bands, and this was particularly true of the men who were both providers and protectors.

The loss of an individual has repercussions outside the sphere of the nuclear family; it affected the person's clan, and even at times the entire band. The death of a person was no small loss, therefore.

The feast and the distribution of personal possessions served to pay for the services given in the funeral preparations. The deceased's goods were consequently distributed outside his clan, as were those of the surviving relatives. One explanation of this was given by a band of the Plains Cree--keeping the possessions of a dead person would remind the relatives of their loss, thereby protracting the mourning period (Mandelbaum 1940:250). However, it seems that there was another motive involved in distributing such articles.

The Plains Indians seem to have had an intense fear of spirits and ghosts, particularly of spirits of people who had just died. That seems to be the reason why the Ojibway, Blackfeet, and Hidatsa buried the corpse as soon as possible. Among the Hidatsa, if the body had to remain in the lodge overnight, hot coals were put in a pair of mocassins and these were placed in the entrance of the lodge to prevent spirits from entering (Bowers 1965). The Cree had a custom for the oldest man to watch over the grave for three nights so that the spirit of the dead would not return to take away anyone else. Sometimes for these three nights fish nets were hung on poles around the wigwam to form a barrier to the spirit (Skinner 1911:80). The Assiniboine feared that neglected spirits would return and drive away the game, or give a hunter bad luck, or even cause the death of a child (Henry, quoted in Bushnell 1927:43). The belief seems to have been that the spirits would be lonely for their living relatives; therefore, they would return to

earth to visit them. Giving away and/or destroying the possessions, sometimes even the lodge, was thought to destroy any incentive for the return of the spirit. So also the rationale behind providing the deceased with all the necessary articles for use in the afterlife. The memorial feasts may have been an insurance against the possibility of the spirits' visiting the earth, by ritually providing them with food and tobacco, and by reassuring them of continued respect and service.

CHAPTER VI

Burial Mounds in the Northeastern Plains Periphery: A Discussion

Problems of Classification

The classification of mounds has been beset with problems and difficulties from the beginning. These problems are present at all levels of study, from the accumulation of data to the interpretation of same. The main basis of the problem is the relative lack of data obtainable from the majority of mounds. However, as will be pointed out below, there are also flaws and discrepancies in the hypotheses concerning mound origins and affiliations, and these have in no way helped to clarify the situation.

The nature of the contents of the mounds is one of the first problems an archaeologist must face. The amount of artifactual material recovered from undisturbed mounds can vary from nothing to relatively great amounts. More important, however, is the specialized nature of the artifacts included in mounds. The artifact inventory includes projectile points, scrapers, knives, shell and bone tools and ornaments, pipes, and ceramics. With the exception of projectile points, ceramics, and pipes, none of the artifacts has been used in non-mound contexts to define cultural identities or to establish time limits. Therefore, if the chronologically and culturally definitive artifacts are lacking, the archaeologists are presented with a difficult task of assigning a mound to a cultural complex.

Even with projectile points and ceramics there are problems. Many of the later types of points have a wide geographical and temporal distribution; therefore, it is difficult to infer a specific cultural connection. In the case of ceramics, many of the vessels found in mounds differ in size, shape, surface treatment, and decoration from those found in habitation sites. The problem of "mortuary" vessels will be discussed below.

The acquisition of data is further hampered by the extensive plundering of mounds, which has been carried on for decades. Untrained people have dug into mounds with the sole objective of obtaining artifacts for their own personal enjoyment. As a result, they do irreparable damage. Artifacts of significance for establishing cultural relationships are no longer present. Removal of skeletal material makes it impossible to determine the original mode of burial. Since many times it is on the basis of the type and arrangement of burials alone that mounds may be assigned to some cultural unit, such disturbance can be disastrous when attempting a classification.

Lack of artifactual data has not been the only stumbling block in the study of mounds. The lack of absolute dating has been equally problematic. The majority of mounds were excavated prior to knowledge of carbon-14 dating techniques. In order to obtain some time depth, attempts were made to correlate mounds with habitation sites, usually on the basis of projectile points and ceramic styles. Many mounds which contained no artifactual material could be only tentatively correlated with known cultural

units, or were assigned to a "catch-all" category (e. g., the Malmo Focus). Other foci (e. g., Devil's Lake and Melita) were defined solely on the basis of mounds, with no attempt to correlate the mounds with habitation sites. The lack of dating also led to a tendency to lump mounds together according to geographical location, the assumption being that all mounds in proximity were constructed at the same time by the same people. The advent of the carbon-14 dating has altered the perspective, in that mounds are now accorded a greater time depth (690 B. C. to A. D. 1600 in Minnesota, A. D. 620 to 1560 in Manitoba) than before. However, it is generally only the recently excavated mounds which are dated. With the vast majority of mounds excavated prior to 1954, it is impossible to date them.

Cultural Classification of Mounds

As with all artifacts and artifact complexes, mounds are classified on the basis of differences and similarities in several aspects of construction and content. The main criteria for classification are the shape of the mound, the type of burial chamber, the type of burial, and the types of artifacts and other materials included.

The shape of the mounds vary, the common forms being circular, elliptical, linear, and effigy. The burial chamber within the mound is usually one, or a combination, of two types. The most common burial chamber is a pit, of varying depth, dug into the soil and usually lined with wood or bark, or occasionally stone. The burials are placed in the pit, the mouth of the pit covered with logs or stones, and dirt piled over this. The

second type of burial chamber is constructed on the original soil surface, although sometimes the topsoil has been removed. The burials are placed on the ground. Logs may be arranged over them and dirt piled over the logs, or the dirt may be piled directly over them. Sometimes rock cairns are included.

The burials placed in the mounds are of three types: primary, usually flexed, but occasionally extended; secondary bundle burials; and secondary burials in which the bones are heaped together on the floor of the burial chamber.

Although the total variety of artifacts found in all mounds is great, not all artifacts are found in all mounds, and each type of artifact exhibits many variations. Ceramics, for example, show a wide range of surface treatments and decorations. Blackduck ware is cord-wrapped paddle impressed with cord-wrapped stick or punctate decoration. There are mortuary vessels with decorations completely unlike any found in habitation sites. In some mounds there is a greater amount of worked shell and bone than in others; or the motifs or types of shell are different.

The first classification of prehistoric cultures in the northeastern periphery was devised by Wilford (1941). This was only a description of Minnesota cultural units; no chronological sequence was given. Later, he elaborated on his original classification, using new data obtained in the intervening years, and giving a chronological order to the cultural units (Wilford 1955). This classification was adopted, with

modifications, for North and South Dakota, and Manitoba (Hurt 1952; Vickers 1948).

The Mille Lacs Aspect (Malmo and Kathio Foci), the earliest of the Minnesota prehistoric cultures, is admitted by Wilford to be

a catchall... distinguished from other aspects not so much by diagnostic Mille Lacs traits as by the more sharply defined traits of the others.

(Wilford 1955:136)

The Malmo Focus, a Middle Woodland manifestation, was established largely on the knowledge that the historic Sioux inhabited this area. The sites, both habitation and mound, indicate a fairly uniform culture. The ceramics of the habitation sites are either smooth-surfaced or cord-wrapped paddle impressed, with pointed bases, accompanied by an infrequent occurrence of shell tempered pottery. In the habitation sites, the cord-wrapped paddle impressed pottery is associated with small triangular points. The smooth-surfaced ceramics are found in mounds, and are usually associated with stemmed or notched points. Only a very small percentage of the points found in mounds are triangular (Wilford 1955:134, 135).

The Kathio Focus is a late Woodland manifestation, with modifications in the ceramics and points found in the mounds. The ceramics have cord-wrapped paddle impressed surfaces, and rounded bases; the stemmed points are replaced by smaller triangular projectile points. However, there appears to be no change in burial customs, in which secondary bundle burials on the original soil surface are characteristic

of both foci. Within the Kathio Focus, there are some variations, such as shallow burial pits, charred and uncharred logs over and/or under the burials, and the inclusion of small stone cairns. None of these is present in the Malmo Focus (Wilford 1955:136, 137).

In the Dakotas, the Howard Lake Focus has been correlated with the Malmo Focus of Minnesota. The pottery has a high proportion of dentate stamping on plain-surfaced bodies; incised lines are also common. Stemmed points predominate (Griffin 1946:70).

The time depth of the Mille Lacs Aspect is very difficult to determine, since the majority of the mounds were excavated prior to the development of C-14 dating. Two dates are available from Minnesota, which would suggest that the Mille Lacs Aspect was in existence prior to A.D. 1000. The Blasky Mounds, Nos. 1 and 2, are tentatively associated with the Malmo Focus and have a date of A.D. 500. The Round Mound, Component 1, which is assigned to the Kathio Focus, is dated at A.D. 900 (Wilford 1970:viii). In South Dakota, the Truman Mound site and the Olson Mound are considered to be related to the Kathio Focus (Wilford 1970:vii) and a date no later than A.D. 1000 has been suggested (Neuman 1960; 1961).

The succeeding focus, the Blackduck Focus of the Headwaters Lakes Aspect, has very distinctive pottery: the decoration is predominantly cord-wrapped stick impressions and large punctates; the bodies are impressed with cord-, net-, or fabric-wrapped paddle. Triangular and corner-notched points are the dominant projectile point type. Bone tools

include unilaterally barbed harpoons, awls, spatula-shaped sections, and antler tip flakers. The burials are typically primary flexed burials accompanied by mortuary vessels. The mortuary vessels differ from ceramics in habitation sites in both surface treatment and decoration (Wilford 1955:136), although no precise description of these vessels has been given.

In Manitoba, the Manitoba Focus has been correlated with the Blackduck Focus. The pottery styles and projectile point types are identical and bone tools and whistles are common to both. The burial complexes are also very similar (MacNeish 1956:4). The Manitoba Focus has been tentatively assigned dates of A. D. 1000-1350 (MacNeish 1956:37).

The burials of the Red River Aspect (Arvilla Focus) are primary burials, either flexed or fully extended. Occasionally secondary burials are included. Evidence of intentional disarticulation is also present, in that sometimes the skull and arms are removed and buried as a bundle; the remainder of the body is placed beside the bundle in either an extended or flexed position. The mounds of the Red River Aspect are characterized by an abundance of bone, antler, tooth, and shell grave goods. The ceramics are distinguished by horizontal cord-wrapped impressions and dentate stamping (Wilford 1955:137).

In North and South Dakota, southwest Manitoba, and Saskatchewan, the characteristics of a number of sites (or isolated surface recoveries) suggest the existence of a separate focus, related somehow to the Arvilla

and Manitoba Foci (Griffin 1946:70; MacNeish 1958:77). These mounds are characterized by mortuary vessels with rather unique decorative motifs, an abundance of shell gorgets and beads, and the cross, fork-eye, and hand-and-eye motifs (Capes 1963:113). It is on the basis of the ceramic style represented by the mortuary vessels that these sites have been designated to a separate focus--Devil's Lake in the Dakotas (Griffin 1946:70), and Melita Focus in Manitoba (MacNeish 1958:77). No carbon-14 dates are available from any site assigned to this focus; therefore, the time depth of the Devil's Lake-Melita Focus has been only crudely estimated as being "later than Arvilla" (Griffin 1946:70).

There are diverse opinions concerning the cultural derivation of the Devil's Lake-Melita Focus. Griffin thinks that the designs on the pottery (other than the spiral-incised design) are suggestive of Oneota pottery. He therefore postulates that the Devil's Lake Focus represents a late movement onto the Plains (Griffin 1946:70). Howard (1953) has suggested that the decorative motifs found on shell and bone artifacts indicate that the Devil's Lake-Melita Focus was subject to influence from the Southern Cult manifestations in southeastern United States. Capes does not agree entirely with Howard. She notes that shell gorgets and columellae pendants are present in mounds elsewhere in Manitoba and suggests that the spiral-incised pottery of the Melita Focus represents a third influence (Capes 1963:113). The Devil's Lake-Melita Focus would appear, then, to be an admixture of traits which have been accepted from external cultures. This indicates either that the culture of the Devil's Lake-Melita Focus was extremely receptive to

external influences, or that the definition of, and assignment of mounds to, the focus is badly in need of re-evaluation.

Current Theories Regarding Mounds: A Discussion

Although the theory of a Mound Builder Culture is no longer accepted, there is still much speculation concerning the origins of the mounds. Because of the geographical distribution of mounds in the northeastern Plains periphery and certain references in historic documents, they have generally been attributed to either the Dakota or Assiniboine.

Brower (Winchell 1911:x) was one of the first to suggest that Siouan groups were responsible for building the mounds. This correlation was based solely on geographical coincidence of the mounds and the traditional home territories of the Dakota. The mounds of northern Minnesota and Manitoba fall within the region inhabited by the Assiniboine in the seventeenth and eighteenth centuries; therefore, these mounds were assumed to have been constructed by the Assiniboines. Hlady (1950), MacNeish (1954), Vickers (1947), and Wilford (1944, 1955) subscribe to these assumptions.

References in historic documents are cited to substantiate these assumptions. Among the earliest of these are references in the Jesuit Relations and Allied Documents (Thwaites 1896) which describe the French meeting with Siouan speaking people in the seventeenth century west of Lake Superior. Later explorers and fur traders described in their journals and books many of the Plains Indians' customs, including burial practices. Among the most frequently quoted are E. T. Denig and Alexander Henry (the Elder). These passages are represented as des-

criptions of Assiniboine burial procedures.

The passage from Henry (the Elder) is part of a section describing various traits of the Plains Indians whom he met in the years 1760-1776. Concerning burial customs, he made the following statement:

...the body is everywhere rested on a scaffold, out of the reach of beasts of prey. The grave is made of circular form, about five feet deep and lined with bark of birch or some other tree, or with skins. A seat is prepared and the body is placed in a sitting position... The body and its accompaniments are covered with bark, the bark with logs, and the logs with earth.

(Henry 1969:310)

Denig's manuscript was written in reply to the Congressional investigation regarding the "History, Present Condition, and Future Prospects of the Indian Tribes" (Denig 1930:377). His description of death and burial is long and quite detailed. A portion of it is quoted below.

The body being placed on a horse travaille cross-wise, it is conveyed to the spot for scaffolding...

This is the most general custom... Yet occasionally some... are interred on the top of a hill... When interred, the hole or grave is excavated to the depth of about 5 feet, and made large enough to contain the impoements, which are all buried with the body, the grave filled up and large rocks rolled upon it.

(Denig 1930:571-572)

That these passages should be quoted as typical of Assiniboine burials in particular is very enigmatic. The chapters from which they are extracted deal with the traits of the Plains Indians in general, and such is stated by the authors at the beginning of their descriptions.

Henry writes:

... I shall venture to set down such particulars as have presented themselves to my immediate view. Though inserted here, they have no exclusive relation to Osinipolles, all the Indians, whom I have seen, having similar customs.

(Henry 1969:306)

In his letter of transmittal to the Governor of Washington, Territory, Denig explicitly states that

The answers refer to the Sioux, Arikara, Mandan, Gros Ventre, Cree, Crows, Assiniboine, and Blackfoot Nations.

(Denig 1930:394)

No distinction is made by either author between Assiniboine burial practices and those of other tribes, if such differences did indeed exist.

There are a number of points which argue against an Assiniboine or Siouan origin for all burial mounds. To begin with, the Assiniboine do not appear to be unique in their manner of interring the dead. A survey of historical sources indicates that scaffold interment, followed by re-burial in the ground, was common to almost all Plains Indians, both nomadic and sedentary. Primary interment in the ground was also used at some time by all groups (see Appendix). Such differences as did exist among burial procedures were manifest in the behavior of the mourners and not in the disposal of the body. Therefore, historical sources alone cannot be used as a basis for making valid conclusions concerning the identity of the mound builders. The only indication is the geographical coincidence of mound distribution with Assiniboine and Dakota territories.

The second point to consider is that mounds have been constructed

for a much longer time than was originally thought. We know from historical sources the extent of Assiniboine and Dakota territories in the seventeenth century. But to assume that these territories had remained unchanged for some one to two thousand years is assuming too much. Migration legends, an integral part of nearly every group's mythology, and known shifts in territories during proto-historic and historic times both would argue against a one thousand year long occupation of a single geographical territory.

In further contradiction to this assumption is the fact that the mounds themselves exhibit great variations in mode of interment, artifactual content, and osteological remains. That one group should be responsible for the three predominant burial modes--primary in a pit, primary on ground level, and secondary on ground level--seems rather difficult to accept. On this point, the author is in agreement with Evans (1961), that the burial mode of any particular group would remain relatively stable throughout time. Under certain environmental or culturally defined circumstances, some variation might occur, but this would not in any way alter the predominant mode of interment.

The osteological evidence also indicates that a number of different populations were responsible for the construction of mounds in the northeastern periphery. The skeletal material of the Manitoba and Melita Foci of Manitoba has been subjected to intensive analysis to identify physical type (Cameron 1962). The conclusion was that the skeletal population as a whole was proto-Siouan, but that there were significant physical differ-

ences (both metrical and non-metrical) between the Melita and Manitoba Foci populations (Syms 1971). This would indicate that the two foci, assumed to be Assiniboine, were actually two distinct population entities, at least physically. The artifactual content of the mounds assigned to these foci also reflects this difference (see Capes 1963, Table 2).

MacNeish has attempted an archaeologically based cross-correlation of historic data with the mound builders. According to him, artifacts recovered from surface collections in the vicinity of Fort la Reine, built by La Verendrye for trade with the Assiniboine, are very similar to those recovered at the Stott Village. The Stott Village site was never dated by carbon-14 methods; however, a single tubular copper bead, found in the dense bone layer, was determined to be probably of European origin (MacNeish 1954:45, 49). On the basis of this, the village site and associated mound were assigned to an early historic period when the Assiniboines were most likely to be the inhabitants of the site.

Unfortunately, the use of surface recovered artifacts as a basis for comparison greatly weakens MacNeish's arguments. There is no temporal control over such artifacts, and therefore one may not make the assumption that they are of the same time period as Fort la Reine. A recent study of these artifacts, done by James Chism, National Historic Sites, indicates that they are late historic materials of the nineteenth century, and thus definitely later than Fort la Reine (Syms 1972, per-

sonal communication). Despite MacNeish's attempts, there is no substantial archaeological evidence relating mounds to Blackduck habitation sites or to the Assiniboine.

Evans (1961) has argued against an Assiniboine affiliation for the Blackduck Focus. He sees a greater affinity between Blackduck and the Rainy River Aspect (not considered to be Siouan) than between Blackduck and Mille Lacs. Geographically, the distribution of Blackduck sites falls within the traditional range of Algonquian groups. Assigning an Algonquian origin to the Blackduck Focus would imply a more stable burial practice, for the Algonquians practised primary interment, typical of Blackduck mounds. Evans argues that if the Assiniboine origin were true, their burial procedure would have shifted from secondary burials (Malmo Focus) to primary burials (Blackduck Focus), and then back to secondary burials (as recorded by explorers and fur traders) after assuming the Plains nomadic lifestyle. Given these factors, Evans concludes that an Algonquian origin of Blackduck mounds is more plausible than is a Siouan origin.

Another source of confusion centres around the so-called "mortuary" vessel. Because of the great dependence by archaeologists on ceramics as a means of identifying cultural units, the "mortuary" vessel has attained quite some significance. In Manitoba, North Dakota, and Minnesota, these vessels have been found solely in mound contexts, and as such have received the appellation "mortuary" vessel. What distinguishes them from the typical Woodland pottery found in habitation sites is their small size, thin walls,

unusually fine construction, and decorative motifs.

The mortuary vessels have been found in mounds classified as Blackduck-Manitoba Focus and Melita-Devil's Lake Focus. The Blackduck vessels are described only as having "a wide range of shape, and differ from the cooking jars in both surface treatment and decorations" (Wilford 1955:136). Those of the Melita-Devil's Lake Focus are characterized by a spiral incision which begins at the base of the vessel and continues around the body to the neck. The lip almost always exhibits a groove, broken by two pairs of opposing nodes (Capes 1963; Montgomery 1906, 1908, 1910). Three other motifs are also found, but none of these appears to have been assigned any specific cultural affiliation. One design is the chevron, incised on the shoulder. The second motif is of the effigy type. The third design consists of a series of parallel oblique lines on the rim and/or shoulder. None of these three designs is very common.

With respect to these vessels, it is proposed that the term "mortuary" may be misleading or even faulty, and does nothing to assist us in our analysis of mounds. The term "mortuary" implies that these small ceramic pots were manufactured specifically for inclusion in burials. While most of the documented vessels of this type have been recovered from graves (and, in particular, mound burials), at least three small vessels, not from burial contexts, have been brought to the attention of the author. Two are of the spirally-incised type, one of which was found in a pit (cache pit?) on the east shore of Last Mountain Lake, Saskatchewan (Swanson 1971, personal communication), the second near a coulee about

two miles east of Kyle, Saskatchewan (Bird 1971, personal communication). Both informants stated most definitely that there was no evidence of a grave or skeletal material in association with these vessels. The third small vessel (represented by a large sherd including portions of lip, rim, neck, shoulder, and body) is decorated with the chevron motif on the shoulder. This came from the south end of Reindeer Lake in northeastern Saskatchewan and again was not in association with a burial (Johnson 1972, personal communication). The last two mentioned vessels were surface recoveries.

Miniature vessels have been found in habitation sites in South Dakota (Hurt 1952, 1953). These vessels, which range in size from two to seven inches in diameter at the shoulder, were found in house pits. They are generally very well made, and decorated with geometric designs, usually a chevron pattern, on the shoulder (Hurt 1952: Fig. 14(9); 1953: Fig. 28(P/15)).

Very thin, hard, sparsely tempered sherds have also been recovered from the extreme southwest corner of Manitoba. They were found in a newly-ploughed pasture, and from the nature of the lithic material in association with the sherds, the site was most probably a habitation site (Syms 1972, personal communication). Although it is impossible to tell whether or not the sherds were parts of miniature vessels, they are very dissimilar to the usually thick, crumbly Woodland pottery found on the Plains. Thin, hard, well-fired sherds have also been recovered from Reindeer Lake (Johnson 1972, personal communication), and from the size

of the curvature of the sherds, they appear to come from relatively large vessels.

What is proposed is that the "mortuary" vessels are not really mortuary vessels, but that they were constructed to serve utilitarian purposes for the maker and/or owner of the vessel. They may have been trade items, or they may have been made locally--so far the data are insufficient to provide a definite answer. That miniature vessels are not found commonly in North Dakota, Manitoba, and Saskatchewan might suggest that they were rare and treasured items, and because of this were included among the grave goods when the owner died. In other words, these miniature vessels were included with burials only as a matter of happenstance, and not because they were made specifically for that purpose. Therefore, it is suggested that the term "mortuary" vessel be dropped in favour of the term "miniature"--a descriptive, rather than a functional, term.

CHAPTER VII

The Moose Bay Mound--A Discussion

In summary, the Moose Bay Mound is a relatively large dome-shaped mound on the plain overlooking Crooked Lake in the Qu'Appelle River valley system. The original secondary burials, three of which were bundles, were placed on the soil, which had been prepared by stripping the sod. Grave goods were placed beside some of the individuals. A low, circular, tipi-like log structure was erected over the burials. Dirt was then piled over this until the mound was five feet or more in height. The date of the mound was determined by carbon-14 assay to be A. D. 1040 \pm 70. At some later (undetermined) date, a secondary bundle burial was interred near the apex of the mound, just under the soil surface. A large number of goods was included with this burial.

In seeking cultural relationships between the Moose Bay Mound and known prehistoric cultures, three variables must be taken into consideration--form, time, and space-- and neither the form-time nor form-space relationship should exhibit any random or radical changes. The variable of "form" can be of any level from artifact attribute to artifact complex to culture type. When seeking either form-time or form-space relationships among sites, we generally are working at the level of artifact complex, which includes both formal and positional attributes of artifacts. It

is on the basis of the continuation (or lack thereof) of the formal and positional artifact attributes through time and/or space, that we determine cultural continuity (or discontinuity). Unfortunately, our knowledge of all three variables--form, time, and space--is still limited, and because of this it is often difficult to demonstrate the relationships necessary to prove (or to disprove) cultural continuity.

If we are to demonstrate a cultural continuity between the Moose Bay Mound and other mound foci, we must utilize these three variables of form, time, and space. The space variable is easily determined for all known mounds. The time variable is well-determined for the central burial chamber of the Moose Bay Mound. Unfortunately, the vast majority of excavated mounds are in a semi-limbo as concerns time. Too few of the mounds have an absolute date determined for them. Mounds are generally grouped together on the basis of artifactual and geographical similarities, assigned to a focus, and assumed to be either "earlier than" or "later than" other foci, which were often "dated" in the same manner. The absolute dates which are available are too few to provide any reasonable chronological framework.

With respect to the form variable, we have three bases for comparison--the osteological material, the artifactual material, and the mode of interment. Because of the extremely small osteological sample represented in the mound, we are unable to use physical varieties as a means of determining relationships. Only one individual could be studied to any degree, and the identification of physical variety of the population repre-

sented in the mound cannot be made on the basis of one individual. This avenue of establishing a continuity is closed to us.

This means that if we are to determine a cultural relationship, we must rely upon the criteria of manner of interment and the artifactual content. While one criterion may be no more important than the other, continuities must exist in both factors in order for any hypothesis concerning cultural identity to be valid.

Comparing the traits of the Moose Bay Mound² with those found in upper Mississippi mound complexes as given by Capes (1963: Table 2), we find that the greatest degree of similarity is with the mounds of the Devil's Lake-Melita Focus and the Manitoba-Blackduck Focus. Eight of a possible thirteen traits are similar. These include conical shape of the mound, burials placed on plains' surface (Manitoba Focus only), multiple, bundle, and scattered burials (the latter type found in Melita-Devil's Lake Focus only), ochre, birch bark containers, mortuary vessels, and stone tubes or pipes. This superficial comparison of trait lists would indicate that the Moose Bay Mound is related to either the Manitoba-Blackduck mounds or those of the Devil's Lake-Melita Focus.

This comparison of gross trait categories is very misleading, however. When particular styles are examined, the similarities between the Moose Bay Mound and these two foci all but disappear.

Let us first examine the methods of interment. Within the Devil's Lake-Melita Focus, burial procedures are radically different from those

² For the moment, we are including traits from the central chamber only, as this represents the original burial. For all we know, the intrusive burial may be totally unrelated to the original burials.

seen in the Moose Bay Mound. The inclusive burials are invariably placed in deep sub-mound pits. No burials are placed on the plains surface, although they may be included in the mound fill. These are generally intrusive burials. Moreover, the predominating form of burial is primary, either flexed or sitting upright. Bundled and scattered secondary burials do occur, but only rarely in the burial pits. They are generally found in the mound fill. This type of burial is very much in the minority as compared to the incidence of primary burials. It may be stated, then, that the Devil's Lake-Melita Focus is characterized by primary burials placed in deep pits underneath the mound. This is quite different from the procedure represented in the Moose Bay Mound.

In the Manitoba-Blackduck Focus mounds, primary burials in sub-mound pits is the mode of interment. Bundled and scattered secondary burials are rare, but occur in both the pits and the mound fill. Once again, this is not similar to the situation at the Moose Bay Mound.

The only possible line of connection is that the pits are occasionally covered with poles before the mound is built. This may be seen as analogous to the tipi structure built over the burials in the Moose Bay Mound. Whether or not it can be considered as supporting cultural relationships is open to debate, especially in the light of the very dissimilar modes of interment.

With respect to the artifacts, the dissimilarities greatly outweigh the similarities. Bone and antler tools and ornaments are present in all

three instances; however, the types and styles of tools and ornaments are not the same. Ornaments, such as beads and collars, decorated with the Southern Cult motifs are found in many of the Devil's Lake-Melita Focus mounds. Beads and whistles are also common in the Manitoba-Blackduck mounds. The only possible ornamentation, a pendant (?), from the Moose Bay Mound is made of turtle plastron. The two sub-parallel lines on the fragment can in no way be compared to the elaborate Southern Cult motifs found in the Melita-Devil's Lake Focus.

The single tool found in the Moose Bay Mound, a crescentic knife, has not been reported for any of the mounds in the Manitoba or Melita-Devil's Lake Foci. The only known occurrence of such knives is in Minnesota, where they are called "gourd knives" and are associated with the much later Oneota Focus (Wartrell 1972: personal communication). The awls, spatulas, flakers, and harpoons which are found in the mounds of the Manitoba and Devil's Lake-Melita Foci are not found in the Moose Bay Mound. Their absence does not imply that these tools were unknown to the builders of the mound; rather, that for some reason, they were not included with the burials. The reason for their exclusion from the mound may or may not be significant.

The Devil's Lake-Melita Focus is notable for the great amounts of shell beads, pendants, and gorgets, of both marine and freshwater shell. Many of the shell pendants are carved with the Southern Cult motifs (Howard 1953). In the Manitoba-Blackduck focus, shell beads and pendants have also been found (Bell 1898; Capes 1963), although apparently they do

not exhibit the Southern Cult motifs. In the central chamber of the Moose Bay Mound, no shell of any description was recovered.

Pipestone tubular pipes are common to both foci and the Moose Bay Mound; however, there are stylistic differences which may or may not be significant. The tubular pipes of the Devil's Lake-Melita Focus are long (up to four and five inches in length) and are generally constricted about one-third the way up from the base (Montgomery 1908). The majority of the pipes from the mounds in the Manitoba Focus are of a similar style (Bell 1898), but some are shorter and not so delicate in appearance (Capes 1963:89). The single tubular pipe from the central chamber of the Moose Bay Mound is different in appearance from those of the Manitoba and Melita-Devil's Lake Foci, but still may be classed as a tubular pipe.

Birchbark containers are common to the Devil's Lake-Melita Focus and the Moose Bay Mound (Montgomery 1908). Although no description of the construction of the containers of the Devil's Lake-Melita Focus is available, on the basis of photographs in Montgomery (1908), they appear to be similar in style and construction. Such containers are not found in the Manitoba mounds (Capes 1963: Table 2).

With respect to projectile points, those found in the Manitoba Focus mounds are generally classified as Plains Triangular and Plains Side-Notched (Capes 1963:94) although a few are either Prairie Side-Notched or stemmed (Capes 1963:95, 130). No reference has been found as to projectile points being found in Devil's Lake-Melita Focus mounds.

A comparison of pottery is most bewildering, since we are dealing almost exclusively with those enigmatic miniature (so-called mortuary) vessels. The geometric trailed design on the neck and shoulder of the incomplete vessel from the Moose Bay Mound has no known exact counterpart in Manitoba or the Dakotas. Some miniature vessels with geometric designs have been found (Vickers 1945); however, the description is not complete enough to permit adequate comparison. In Alberta, however, sherds from two miniature vessels bearing very similar geometric designs have been recovered from the British Block Cairn. Unfortunately, it was impossible to date the Cairn as it contained artifacts ranging from McKean points to modern shotgun casings (Byrne 1972: personal communication). These vessels have been tentatively associated with the Oneota Focus, on the basis of the decoration. Whether or not the small size, the thinness, and the smoothed body surface are sufficient to demonstrate relatedness among the various types of miniature vessels, and thereby cultural relatedness of the mounds, is still debatable.

Suggestions have been made to the author that the miniature vessel indicates a connection of some kind with the Oneota Focus of southern Minnesota, Iowa, and Missouri. This has been suggested because of the similarity of design motifs, especially the geometric patterns (Byrne 1972: personal communication). However, there is one major difference between the miniature vessels of the northeastern Plains periphery and the vessels of the Oneota Focus. The Oneota ceramics are almost invariably shell-

tempered (Henning 1970:32), whereas the miniature vessels in the northeastern Plains are grit-tempered. If these miniature vessels were reflective of Oneota pottery, (i. e. , either made by Oneota-influenced people or acquired from the Oneota people via trade) one would expect a certain percentage of them to be shell-tempered. Such is not the case.

There are other differences which indicate that an Oneota affiliation for the Moose Bay Mound, and possibly for the majority of burial mounds in the northeastern periphery, is not too probable. Of primary consideration is the burial mode. Oneota burials are usually single primary interments in an extended and usually supine position. None of the recorded Oneota burials are flexed; only rarely are bundle burials recorded. Individuals are buried in cemeteries, or are intrusive into Woodland mounds (Wedel 1959:44-45). This is certainly quite different from the Moose Bay Mound, where bundled burials were placed under the mound. It is also different from the style of burials in the Melita-Devil's Lake Focus, and in the Manitoba Focus, where flexed primary burials are the mode. Furthermore, one might ask that if the Oneota people did not construct mounds for their dead at home, why would they construct them elsewhere?

Another very distinctive difference is noticed in the style of pipes. The pipe recovered from the Moose Bay Mound is totally unlike those of the Oneota Focus. The latter are typically elbow and disk pipes (Hamilton 1967; Wedel 1959:54-57); there is no recorded instance of a tubular pipe

in any Oneota site. These pipe styles are also dissimilar to the pipes of the Devil's Lake-Melita Focus, which are long, tubular pipes.

Shell artifacts, in the form of spoon, beads, etc., are present in Oneota burials (Wedel 1959:45). As mentioned above, no shell of any description was recovered from the central chamber of the Moose Bay Mound. Once again, we have a significant difference between the Oneota Focus and the Moose Bay Mound.

Finally, the date for the Moose Bay Mound (A.D. 1040-70) does not coincide with the suggested time range for Oneota. The earliest known Oneota component is the Dixon site in western Iowa, which may have been occupied as early as A.D. 1150 (Henning 1970:164); however, the majority of carbon-14 dates are from ca. A.D. 1300 and later. Oneota sites are often identified with historic tribes (Henning 1970; Wedel 1959) indicating a temporal location later in time than the Moose Bay Mound. Moreover, the origins of Oneota, both temporal, spatial, and cultural are still uncertain, although numerous hypotheses have been proposed (e.g., Griffen 1946; Henning 1970). It would seem that, temporally, the possibility for a Moose Bay Mound-Oneota affiliation is tenuous, and, when considering the disparities in burial mode and artifact styles, such an affiliation seems highly unlikely.

That leaves us with the problem: is there any cultural affiliation for the Moose Bay Mound? Leaving aside burial mode for the moment, the artifact styles indicate a possible affiliation with the Melita-Devil's Lake Focus. This is based on the common presence of tubular pipes,

birch bark containers, and miniature vessels. Although miniature vessels and pipes are found in the Manitoba Focus also, birch bark containers are not. These containers seem to be peculiar to the Melita-Devil's Lake Focus, and for this reason alone, the possible cultural connection is suggested. However, the burial mode of the Moose Bay Mound refutes the affiliation, since it is entirely different from that represented in the Melita-Devil's Lake Focus. The style of burial represented in the mound is unique in the northeastern Plains, at least so far as the author is aware. Does it represent merely an aberrant form of burial, or is it part of an entirely different, hitherto unknown, burial complex? We do not know. At present, there are too many gaps in our knowledge of prehistoric burial traits and their connection with habitation sites, for us to make any conclusion regarding the cultural affiliation of the builders of the Moose Bay Mound.

The intrusive burial presents even more of a problem in that we have no temporal control for it. Intrusive burials are quite common in mounds, and generally these have been considered together with the inclusive burials in the discussions of mounds. The assumption is that the intrusive burials represent later interments by the same group at a slightly later date. The assumption is faulty for two reasons. With no temporal control, it is impossible to tell just how long after the construction of the mound the burial was deposited. Also there is both archaeological and historical evidence that existing mounds were used by different groups to inter their dead. It has been stated above that Oneota burials

can be intrusive into Woodland mounds. Catlin (1903) recorded in his journals that the Dakota Sioux often buried their dead in old mounds. The paucity of artifacts with both intrusive and inclusive burials does not help in any way. For these reasons, the intrusive burial of the Moose Bay Mound has been considered separately.

With no temporal control, we must derive our cultural associations solely on the basis of artifacts. Because of this we are no better off than we were with the inclusive burials. On the basis of artifact style and type, there are indications of an association with the Melita-Devil's Lake Focus. The basis for this is the presence of birch bark containers, tubular pipes, and the miniature vessel. There was also shell scattered in the area of the burial; however, it was so fragmented that, if it had once been ornaments or tools, it was impossible so to determine. The tubular pipes of the intrusive burial are more like those of the Devil's Lake-Melita Focus than was the pipe with the inclusive burials. The complete tubular pipe exhibits the long, slender form, constricted near the middle, found in mounds in southwestern Manitoba and in North Dakota.

A few miniature vessels bearing effigies have been found in Manitoba and Saskatchewan, in both mound and non-mound contexts. A vessel with a turtle design was recovered from Mound E on the North Antler (Capes 1963:14). A second turtle effigy vessel was recovered from the Rock Lake region of southern Manitoba (Vickers 1945). A miniature vessel associated with the Reston burial had thunderbirds

incised on the shoulder (Braddell et al 1970). In southern Saskatchewan, a vessel was recovered from a cairn burial. Thunderbirds are incised on two opposing sides, a broken arrow motif on the remaining two sides, and four appliqued salamanders are interspersed among the incised designs (Pingert 1972, personal communication).

A possible Oneota affiliation for the intrusive burial has been suggested, on the basis of the size, construction, and decoration of the miniature vessel (Syms 1971, personal communication). The attempted handles of the vessel, in particular, are very suggestive of Oneota ceramics. The burial mode supports the possibility of an Oneota affiliation. However, the pipe styles and the presence of birch bark containers are not typical of the Oneota trait inventory, but rather of the Melita-Devil's Lake Focus. Since there are suspicions that this focus may be influenced by Oneota, such a mixture of traits may not be entirely impossible. Given the present confused state of data, it is impossible to say if this burial represents an intrusive Oneota burial, with added Melita traits, or an intrusive Melita-Devil's Lake burial with added Oneota traits, or something entirely different.

There is no conclusive evidence linking the Moose Bay Mound with any of the existing mound groupings, no matter if one is considering the inclusive or intrusive burials. Certain of the artifacts suggest a cultural affiliation with the nearby Melita-Devil's Lake Focus, and this may possibly be where the relationship lies. However, the burial mode represented in the central chamber of the Moose Bay Mound is unique in

this part of the northeastern plains periphery. Given our limited knowledge of mounds in particular, and prehistory in general, we are unable to determine if this is merely a random form of burial, or if it is representative of another burial complex. Hopefully, more data, further investigation, and a complete re-evaluation of mounds in the northeastern Plains periphery will help to clarify this confusing situation.

BIBLIOGRAPHY

Allen, William L., and James B. Richardson III

- 1971 "The reconstruction of kinship from archaeological data: the concepts, the methods, and the feasibility." American Antiquity 36(1): 41-53.

Anderson, James E.,

- 1968 "Skeletal 'anomalies' as genetic indicators." In The Skeletal Biology of Earlier Human Populations, D. R. Brothwell, ed., pp. 135-148. Symposia of the Society for the Study of Human Biology Vol. 8. Pergammon Press.
- 1969 The Human Skeleton: A Manual for Archaeologists. Ottawa: National Museums of Canada.

Anonymous

- 1950 "Notes and news". American Antiquity 16(2): 184.
- 1953a "The Dougherty Mounds". Museum News 14(3): 1-2. Vermillion: W. H. Over Museum.
- 1953b "The Griner Mounds". Museum News 14(4): 3. Vermillion: W. H. Over Museum.
- 1953c "Hartford Beach Mound". Museum News 13(12): 2-5. Vermillion: W. H. Over Museum.
- 1953d "Notes and news". American Antiquity 18(4): 407.
- 1954 "Indian Mounds in Brown County, South Dakota". Museum News 15(10): 3. Vermillion: W. H. Over Museum.
- 1962 "The Wolf Creek Burial Mounds." Museum News 23(10): 2. Vermillion: W. H. Over Museum.
- 1963 "The 1962 excavations of the Sherman Park Mound Site, 39MN8, a newly-radiocarbon dated site in South Dakota". Museum News 24(1): 1-4. Vermillion: W. H. Over Museum.

Bailet, Howard, and Edward E. Hunt, Jr.,

- 1964 "The sexing of children's skeletons from teeth alone, and its genetic implications". American Journal of Physical Anthropology 22(2): 171-173.

- Bass, William M.,
 1964 "The variation in physical types of the prehistoric Plains Indians". Plains Anthropologist 9(24): 65-145.
 1971 Human Osteology: a Laboratory and Field Manual of the Human Skeleton. Missouri Archaeological Society.
- Beaubien, Paul L.,
 1953 "Cultural variation within two Woodland mound groups of northeastern Iowa". American Antiquity 19(1): 56-66.
- Bell, C. N.,
 1898 "Mounds in the Canadian Northwest". The Great West Magazine 13(4): 229-233. Winnipeg.
- Benfer, Robert A., and Thomas W. McKern
 1966 "The correlation of the robusticity with the perforation of the coronoid-olecranon septum in the humerus of man". American Journal of Physical Anthropology 24(2): 247.
- Berry, R. J.,
 1968 "The biology of non-metrical variations in mice and men." In The Skeletal Biology of Earlier Human Populations, D. R. Brothwell, ed., pp. 103-134. Symposia of the Society for the Study of Human Biology Vol. 8. Pergammon Press.
- Borden, Charles E.,
 1952 "A uniform site designation scheme for Canada". Anthropology in British Columbia No. 3: 44-48. Victoria: British Columbia Provincial Museum.
- Bowers, A. W.,
 1950 Mandan Social and Ceremonial Organization. Chicago.
 1963 Hidatsa Social and Ceremonial Organization. Bureau of American Ethnology Bulletin #194. Washington: U. S. Government Printing Office.
- Braddell, D., C. Minty, and M. J. Tamplin
 1970 "A prehistoric burial site near Reston, Manitoba". In Ten Thousand Years: Archaeology in Manitoba, Walter Hlady, ed. Manitoba Archaeological Society.
- Brothwell, D. R., ed.,
 1968 "The skeletal biology of earlier human populations". Symposia of the Society for the Study of Human Biology Vol. 8. New York: Pergammon Press.

- Bryce, George
 1885 "The Mound Builders". Manitoba Historical Society,
 Transaction No. 18.
- 1904 Among the Mound Builders Remains. The Historical and
 Scientific Society of Manitoba Transaction No. 66.
- Bushnell, David I., Jr.
 1927 Burials of the Algonquian, Siouan, and Caddoan Tribes
 West of the Mississippi. Bureau of American Ethnology
 Bulletin #83. Washington: U. S. Government Printing
 Office.
- Cameron, Nancy S.,
 1962 An Osteological Analysis of an Early Manitoba Population
 Unpublished M.A. thesis, University of Toronto.
- Catlin, George
 1903 North American Indians. Edinburgh: John Grant.
- Capes, Katherine H.,
 1963 The W. B. Nickerson Survey and Excavation, 1912-15, of
 the Southern Manitoba Mounds Regions. National Museum
 of Canada Anthropology Paper No. 4. Ottawa.
- Cooper, Lelana,
 1959 Indian Mounds Park Archaeological Site, Rice Lake,
 Wisconsin. Science Bulletin No. 6. St. Paul: The
 Science Museum of the St. Paul Institute.
- Cooper, Paul L.,
 1949 "Recent investigations in Ft. Randall and Oahe Reservoirs,
 South Dakota". American Antiquity 14(4): 300-310.
- Dack, A.,
 1947 "Pilot Mound". Manitoba Calling 11(3): 6-7. Winnipeg.
- Davis, E. Mott.,
 1958 "Notes and news". American Antiquity 23(3): 337.
- 1959 "Notes and news". American Antiquity 24(3): 339.
- 1960 "Notes and news". American Antiquity 25(3): 447.
- Deetz, James
 1965 The Dynamics of Stylistic Change in Arikara Ceramics.
University of Illinois, Series in Anthropology No. 4,
 Urbana.

- Denig, Edwin T.,
 1930 "Indian Tribes of the Upper Missouri". Forty-Sixth Annual Report of the Bureau of American Ethnology. Washington.
- Evans, G. Howard,
 1961 "Prehistoric Blackduck--historic Assiniboine: a reassessment". Plains Anthropologist 6(14): 271-275.
- Fiske, Timothy
 1964 Fidler Mound Excavations under Floodway Archaeological Project. Unpublished manuscript in Laboratory of Anthropology, University of Manitoba.
- Flannery, Regina,
 1953 The Gros Ventres of Montana, Part I: Social Life. Catholic University of America Anthropological Series No. 15. Washington.
- Forbis, Richard G.,
 1962 The Old Woman's Buffalo Jump, Alberta. Contributions to Anthropology Part I, National Museum of Canada, Bulletin No. 180: 56-123. Ottawa.
- Griffen, James B.,
 1946 "Culture change and continuity in Eastern United States archaeology". In Man in Northeastern North America, Fredrick Johnson, ed. Papers of the Robert S. Peabody Foundation for Archaeology, Vol. 3: 37-95. Phillips Academy, Andover.
- Hamilton, Henry W.,
 1967 Tobacco Pipes of the Missouri Indians. Memoir of the Missouri Archaeological Society No. 5. Columbia.
- Hans, Fred M.,
 1964 The Great Sioux Nation. Minneapolis: Ross and Haines, Inc.
- Henning, Dale R.,
 1970 Development and Interrelationships of Oneota Culture in the Lower Missouri River Valley. The Missouri Archaeologist Vol. 32. Columbia.
- Henry, Alexander (the Elder),
 1969 Travels and Adventures in Canada and the Indian Territories, Between the Years 1760 and 1776. Hurtig Ltd.

- Hewes, G.,
 1948 "Early tribal migrations in the Northern Great Plains".
Plains Archaeological Conference Newsletter Vol. 1(4):
 3-13. Lincoln.
- 1949 "Burial Mounds in North Dakota". American Antiquity
 14(4): 322-328.
- Hill, James N.,
 1968 Broken K Pueblo: Patterns of Form and Function. In
New Perspectives in Archaeology. Sally R. Binford and
 and Lewis R. Binford, eds., Chicago: Aldine Publishing
 Co.
- Hind, H. Y.,
 1969 Narrative of the Canadian Red River Exploring Expedition
of 1857, and of the Assiniboine and Saskatchewan Exploring
Expedition of 1858. New York: Greenwood Press.
- Hlady, Walter M.,
 1950 "Mound C, Fordville Mound Group, Walsh County, North
 Dakota: Its excavation and archaeology". North Dakota
History, 17: 253-260.
- Hoebel, E. Adamson
 1960 The Cheyenne: Indians of the Great Plains. New York:
 Holt, Reinhart, and Winston.
- Holzheuter, A. M., J. B. Gregg, and S. Clifford,
 1965 "A search for stapes footplate fixation in an Indian population,
 prehistoric and historic". American Journal of Physical
Anthropology 23(1): 35-40.
- Howard, James
 1953 "The Southern Cult in the northwestern Plains".
American Antiquity 19(2): 130-138.
- 1968 "Archaeological investigations at the Spawn Mound 39LK201,
 Lake County, South Dakota". Plains Anthropologist 13(40):
 132-145.
- Howell, David H.,
 1940 "Pipestone and red shale artifacts". American Antiquity
 6(1): 45-62.

- Hurt, Wesley R., Jr.,
- 1951 Report of the Investigation of the Swanson Site, 39BR16, Brule County, South Dakota. South Dakota Archaeological Commission, Archaeological Studies, Circular No. 3. Pierre.
- 1952 Report of the Investigation of the Scalp Creek Site, 39GR1, and the Ellis Creek Site 39GR2, Gregory County, South Dakota. South Dakota Archaeological Commission, Archaeological Studies, Circular No. 4. Pierre.
- 1953 Report on the Investigations of the Thomas Riggs Site, 39HU1, Hughes County, South Dakota. South Dakota Archaeological Commission, Archaeological Studies Circular No. 5. Pierre.
- Hrdlicka, Ales
- 1931 "Anthropology of the Sioux". American Journal of Physical Anthropology 16: 123-170.
- James, Edwin, Comp.,
- 1905 Account of an Expedition from Pittsburgh to the Rocky Mountains, in the years 1819 1820, compiled from the notes of Major Long, Mr. T. Say, and other gentlemen of the party. In Early Western Travels, R. G. Thwaites, ed., Vol. XIV. Cleveland: The Arthur H. Clark Co.
- Jenks, Albert E.,
- 1932 "The problem of the culture from the Arvilla gravel pit". American Anthropologist 34(3): 455-466.
- Jensen, Peter, and Wilda Anderson
- 1960 "Rooney Burial Mound". Minnesota Journal of Science 4(4): 21-28. St. Paul.
- Kane, Paul,
- 1925 Wanderings of an Artist. Toronto: The Radisson Society of Canada, Ltd.
- Kehoe, Thomas F.,
- 1966 "The small side-notched point systems of the northern Plains". American Antiquity 31(6): 827-841.
- 1967 The Boarding School Bison Drive Site. Plains Anthropologist, Memoir 4.
- Kidd, Kenneth E.,
- 1965 "Birch bark scrolls in archaeological contexts". American Antiquity 30(4): 480-483.

- King, D. R.,
1961 "The Bracken Cairn: a prehistoric burial". The Blue Jay 19(1): 45-53.
- Krogman, W. M.,
1962 The Human Skeleton in Forensic Medicine. Springfield: Charles C. Thomas.
- Leigh, R. W.,
1925 "Dental pathology of Indian tribes of varied environmental conditions". American Journal of Physical Anthropology 8: 179-199.
- Lewis, Meriwether, and George Clark,
1917 History of the Expedition of Captains Lewis and Clark 1804-5-6. Chicago: A. C. McClurg and Co.
- Longacre, William A.,
1968 Some Aspects of Prehistoric Society in East-Central Arizona. In New Perspectives in Archaeology, Sally R. Binford and Lewis R. Binford, eds. Chicago: Aldine Publishing Co.
- MacDonald, George F.,
1968 Debert: A Paleo-Indian Site in Central Nova Scotia. National Museum of Canada, Anthropology Papers No. 16, Ottawa.
- McKern, T. W., and T. D. Stewart,
1957 Skeletal Age Changes in Young American Males. Technical Report EP-45, Q. M. Research and Development Center, Environment Protection Research Division, Mass.
- McKern, W. C.,
1939 "The Midwestern Taxonomic method as an aid to archaeological culture study". American Antiquity 4(4): 301-313.
- MacNeish, Richard S.,
1954 The Stott Mound and Village. Annual Report of the National Museum of Canada 1952-53, Bulletin 132: 20-65.
- 1956 "Summary of archaeological investigations in southeast Manitoba". Annual Report of the National Museum of Canada for the Fiscal Year 1954-55. Bulletin No. 142.
- 1958 An Introduction to the Archaeology of Southeast Manitoba. National Museum of Canada Bulletin No. 157. Ottawa.

- Mandelbaum, David C.,
 1940 "The Plains Cree". Anthropological Papers of the American Museum of Natural History 37(2). New York.
- March, Benjamin,
 1934 Standards of Pottery Description. Occasional Contributions from the Museum of Anthropology of the University of Michigan No. 3. Ann Arbor.
- Maximillian, Prince of Wied,
 1906 Travels in the Interior of North America in the Years 1832, 1833, 1834. In Early Western Travels, R. G. Thwaites, ed., Vol. 22, 23, 24. Cleveland: Arthur H. Clark Publishing Co.
- Meleen, Elmer,
 1948 A Report on an Investigation of the LaRoche Site, Stanley County, South Dakota. Archaeological Studies Circular No. 5. Vermillion.
- Montgomery, Henry,
 1906 "Remains of prehistoric man in the Dakotas". American Anthropologist 8(8): 640-651.
- 1908 "Prehistoric man in Manitoba and Saskatchewan". American Anthropologist 10(8): 33-40.
- 1910 "Calf Mountain Mound". American Anthropologist 12(12): 49-57.
- Morgan, Richard G.,
 1948 "Notes and news". American Antiquity 14(1): 76.
- Mulloy, William
 1958 "A preliminary historical outline for the northwestern Plains". University of Wyoming Publications in Science 22(1): i-232. Laramie: University of Wyoming.
- Nance, J. D.,
 1971 "The methodological basis of archaeological classification". Western Canadian Journal of Anthropology 2(2): 83-91. Edmonton.
- Neuman, Robert W.,
 1960a "Burial patterns revealed in mounds of the Big Bend area, Central South Dakota". Abstract, Proceedings of the Nebraska Academy of Sciences, pg 5. Lincoln.

- 1960b "Indian burial mounds in the Missouri River Basin".
Progress, Interior Missouri River Basin Field Committee,
United States Dept. of the Interior, pp. 35-45. Billings.
- 1960c "The Truman Mound site, Big Bend Reservoir area, South
Dakota". American Antiquity 26: 78-92.
- 1961 "The Olson Mound (39BF223) in Buffalo County, South Dakota".
Plains Anthropologist 6(13): 164-170.
- 1964a "Current research". American Antiquity 29(4): 552-553.
- 1964b "A Woodland camp and burial mound complex in Dewey
County, South Dakota". Abstract, Papers of the 29th Annual
meeting of the Society for American Archaeology pg. 35.
Chapel Hill.
- 1967 "Radiocarbon archaeological remains on the northern and
central Great Plains". American Antiquity 32(4): 471-486.
- 1968 "Current research". American Antiquity 33(4): 546.

Neumann, Georg K. ,

- n. d. Laboratory Manual of Physical Anthropology. Unpublished
manuscript, Dept. of Anthropology, Indiana University,
Bloomington.
- 1952 "Archaeology and race in the American Indian". In Archaeology
of the Eastern United States, James B. Griffen, ed., pp. 13-34.
University of Chicago Press.

O'Brien, Patricia J. ,

- 1971 "Valley Focus mortuary practices". Plains Anthropologist
16(53): 165-182.

Ossenberg, Nancy S. ,

- 1970 "The influence of artificial cranial deformation on discon-
tinuous morphological traits". American Journal of Physical
Anthropology n. s. 33(3): 357-372.

Over, W. H. , and Elmer E. Meleen,

- 1941 A Report on an Investigation of the Brandon Village Site and
Split Rock Creek Mounds. Archaeological Studies Circular
No. 3. Vermillion.

Powell, J. W. ,

- 1894 Twelfth Annual Report of the Bureau of Ethnology to the

Secretary of the Smithsonian Institution 1890-91.
Washington.

- Rand, W. H.,
1941 "The Rosser Mound". Manitoba Calling 5(9): 8-10.
Winnipeg.
- 1945 "The Morden Mound on the Wiebe farm". Spade and Screen
2:1. Saskatchewan Archaeology Society.
- Richards, J. Howard, and K. I. Fung,
1969 Atlas of Saskatchewan. Saskatoon: University of Saskatchewan.
- Ritzenthaler, Robert E.,
1963 "The Effigy Mound Builders in Wisconsin". Lore Leaves
No. 9. Milwaukee.
- Sigstad, John S.,
1968 "The catlinite age and area distribution project: a summary".
Museum Graphic 20(3): 3-6, 11. St. Joseph.
- 1970 "A field test for catlinite". American Antiquity 35(3): 377-382.
- Skinner, Alanson,
1911 "Notes on the Eastern Cree and Northern Saulteaux."
Anthropological Papers of the American Museum of Natural
History, 9(1). New York.
- Stephenson, Robert L.,
1961a "Notes and news". American Antiquity 26(3): 460.
- 1961b "Notes and news". American Antiquity 27(1): 135.
- 1962 "Notes and news". American Antiquity 27(3): 449.
- Stewart, T. D.,
1934 "Sequence of epiphyseal union, third molar eruption, and
suture closure in Eskimos and American Indians".
American Journal of Physical Anthropology 19: 433-453.
- Stewart, T. D. and M. Trotter (eds.)
1954 Basic Readings on the Identification of Human Skeletons:
Estimation of Age. New York: Werner-Gren Foundation
for Anthropological Research.
- Strong, W. D.,
1935 "An Introduction to Nebraska archeology". Smithsonian
Miscellaneous Collections 93(10).

- 1940 "From History to Prehistory in the Northern Great Plains". Smithsonian Miscellaneous Collections Vol: 100: 353-394.
- Syms, Leigh
1971 "A preliminary tabulation of burial mounds of southwestern Manitoba, 1970". Typewritten manuscript.
- Thwaites, Rueben Gold ed.,
1896 The Jesuit Relations and Allied Documents. Cleveland: The Arthur H. Clark Co.
- Todd, T. W., and C. W. Lyon,
1925 "Cranial suture closure". American Journal of Physical Anthropology 8: 23-71.
- Vickers, Chris
1945 "Archaeology in the Rock and Pelican Lake area of South Central Manitoba". American Antiquity 11(2): 88-94.
1947 "Burial traits of the Headwaters Lakes aspect in Manitoba". American Antiquity 13(2): 109-114.
1948a "Archaeological report 1948". The Historical and Scientific Society of Manitoba.
1948b "The historic approach and the Headwaters Lakes Aspect". Plains Archaeology Conference Newsletter 1(3): 8-11.
- Vickers, Chris, and Ralph D. Bird,
1949 "A copper trade object from the Headwaters Lake Aspect in Manitoba". American Antiquity 15(2): 157-160.
- Watson, Gil
1968 "Research reports 1969". Saskatchewan Archaeology Newsletter No. 23: 10-11.
- Wauchope, Robert (ed.),
1956 Seminars in Archaeology: 1955. Memoirs of the Society for American Archaeology No. 11. Salt Lake City.
- Wedel, Mildred Mott,
1959 Oneota Sites on the Upper Iowa River. The Missouri Archaeologist 21(2, 3, 4). Columbia.
- Wedel, Waldo R.,
1949 "Notes and news". American Antiquity 14(3): 247.

- 1961 Prehistoric Man on the Great Plains. Norman: University of Oklahoma Press.
- White, A. M., Lewis R. Binford, and Mark L. Papworth,
 1963 Miscellaneous Studies in Typology and Classification. Museums of Anthropology, University of Michigan Anthropology Papers No. 19. Ann Arbor.
- Wilford, Lloyd A.,
 1941 "A tentative classification of the prehistoric cultures of Minnesota". American Antiquity 6(3): 231-249.
- 1944 "The prehistoric Indians of Minnesota: the Mille Lacs Aspect". Minnesota History 25(4): 153-157. St. Paul.
- 1955 "A revised classification of the prehistoric cultures of Minnesota". American Antiquity 21(2): 130-142.
- 1970 Burial Mounds of the Red River Headwaters. St. Paul: Minnesota Historical Society.
- Wilford, Lloyd A., Elden Johnson, and Joan Vicinus,
 1969 Burial Mounds of Central Minnesota. St. Paul: Minnesota Historical Society.
- Will, George
 1921 "An unusual group of mounds in North Dakota". American Anthropologist 23(2): 175-179.
- 1924 "Archaeology of the Missouri Valley". Anthropological Papers of the American Museum of Natural History 22(6): 285-344. New York: American Museum Press.
- 1933 "A resume of North Dakota archaeology". North Dakota Historical Quarterly 7(2,3): 154-157.
- Will, George F., and Thad C. Hecker,
 1944 "Upper Missouri River Valley aboriginal culture in North Dakota". North Dakota Historical Quarterly 11(1,2). Bismark.
- Will, George F., and H. J. Spinden,
 1906 The Mandans. Papers of the Peabody Museum of American Archaeology and Ethnology, 3(4). Harvard University.

Winchell, Newton H., (ed.),

1911 The Aborigines of Minnesota. Minnesota Historical
Society.

Wittry, Warren L.,

1960 "Notes and news". American Antiquity 25(4): 632.

1963 "Current research". American Antiquity 29(2): 260.

Wood, W. Raymond,

1960 "The Boundary Mound Group (32SI1): An Eastern Woodland
complex in North Dakota". Plains Anthropologist 5: 71-78.

APPENDIX

BURIAL PRACTICES ON THE NORTHERN PLAINS:
AN HISTORICAL REVIEW.

INTRODUCTION

When dealing with burial mounds, the discussion eventually comes to the topic of who built them. In the Northeastern Plains periphery, the general assumption has been that the Assiniboine were responsible for most, if not all, of the mounds. It was decided to review the historical records relating to the northern Plains area to see if the burial practices of the Assiniboine were sufficiently different from those of their neighbours to give supporting evidence to this assumption.

A WORD ABOUT THE SOURCES

The sources used can be divided into two major categories: ethnographies and historical sources. Since aboriginal customs were the ones sought for, ethnographies were of limited use, for the ethnographers did not visit the tribes until the early or mid-twentieth century. By this time, of course, customs had changed considerably due to contact, especially with missionaries. However, the information provided by the older informants was helpful in describing family and clan responsibilities in the funeral arrangements.

The historical sources were journals, diaries, and letters written by explorers, fur traders, and "adventurers". As a rule, explorers' journals are of very limited use. These men came to the Western Plains with the explicit aim of describing the flora, fauna, geography, and geology of the country. As such, their descriptions of resident Indian bands are limited to the incidentals which touched directly on the activities and daily lives of the explorers. Fur traders, of any of the people, had the greatest opportunity to observe the "manners and customs" of the Indians. Yet these sources are of varied usefulness. The Kelsey and La Verendrye papers are typical of most--they are concerned with their involvement in the fur trade and their attempts to secure trade with the various bands. Such descriptions as are given are sporadic and superficial as to detail. However, there are exceptions: Laroque gives a reasonably good description

of the Crow. The existing portions of Denig's manuscript give great detail in territorial descriptions, Indian-white interaction, and character description.

Finally, there are the journals written by travellers and adventurers. The two outstanding journals of this category are those of Catlin and Hans. Catlin, of course, came west with the express purpose of describing the Indians before they met the extinction which he was certain was their doom. Hans, as a major in the U. S. Cavalry, had a great deal of contact (other than military) with the Sioux, and his book could quite easily be classified as an ethnography.

The totality of information provided was predominately general descriptions of burial and mourning rituals. There was the occasional reference to differential rites of burial. However, the only source for differential responsibilities in the funeral preparation was the ethnographic record.

BURIAL PRACTICES AS DESCRIBED
IN ETHNOGRAPHIC AND HISTORICAL SOURCES

ALGONKIAN TRIBES:

Ojibway, Saulteaux:

Geographically the Ojibway have a wide distribution. They extend from the northern Great Lakes region through Manitoba and just into the east central portion of Saskatchewan, (where they are known as Saulteaux) and southward into Minnesota. They were known from the earliest days of the fur trade in the area, and since one route between Canada and the territories went through there, explorers, adventurers, and military men also came into contact with them.

The earliest account is that given by Peter Grant of the North West Co., dated 1804:

When life is gone, the body is addressed by some friend of the deceased in a long speech in which he begs of him to take courage and boldly pursue his journey to the great meadow, observing that all his departed friends and relatives are anxiously waiting to receive him and that his surviving friends will soon follow.

The body is then decently dressed and wrapped in a new blanket, with new shoes garnished, and painted with vermilion on the feet. It is kept for one night in the lodge, and is the next day buried in the earth. The nearest relations bear it to the grave, in which it is wrapped up in birch bark instead of in a coffin, carefully laying his medicine bag under his head. Some bury kettles, guns, axes, and various other articles with the body, but this custom is not general. Before the grave is shut, the nearest relation takes a lock of the deceased's hair and carefully wraps it up in a piece of cloth or a blanket; this they continually carry with them from place to place and keep many years as

a remembrance. This pledge of their affection is particularly honoured at their feasts and drinking matches by having the first offerings of their meat and drink.

They either raise a pile of wood over the grave, or enclose it with a fence; at the head of the grave a small post is erected on which they carve the particular mark of the tribe to whom the deceased belonged.

The bodies of some of their most celebrated chiefs are raised upon high scaffolds, with flags flying and the scalps of their enemies, with other trophies of their prowess, suspended from a high pole, but all those monuments are not intended so much to distinguish their great men from the vulgar as to ensure to their departed souls the same respectability in the next world which they enjoyed in this.

During the period of mourning they likewise stab their thighs, legs, and arms in a cruel manner; the women, for the loss of a husband or a favourite child, will cut all their hair, and both sexes wear a black string around their wrists and ankles.

(Grant, quoted in Bushnell 1927: 3-4)

References are made to both grave and scaffold interment by the Ojibway by other authors. Paul Kane passed the village of Saugeen, the site of a former battleground, and saw mounds, with bones protruding through the surface. Farther west, among the Saulteaux, he "passed a grave surmounted with a scalp hung on a pole" (Kane 1925: 48). Later, when he wanted to sketch a Saulteaux woman,

"she refused as she could not dress herself suitably for such an occasion, being in mourning for some friends she had lost, and therefore only wearing her oldest and dirtiest clothes."

(Kane 1925: 69)

Palliser, in 1858, found the remains of an Indian camp in the vicinity of Sturgeon Falls. Nearby there were several coffins on scaffolds five to six feet above the ground. The party opened one and found the skeleton of a young child (Palliser 1968: 74).

Hind described mounds of the Rainy River area when he passed through

in 1857. He did not excavate any, nor did he see any in the process of construction; nevertheless, he speculated as to how they were constructed, and he seems to have based his assumptions upon Huron and Iroquois ossuary types (Hind 1969: Vol. I, 89, 90).

Butler came west in the 1870's to join the Canadian expedition against the first Riel uprising. On his way, accompanied by several Ojibway, they passed by a new grave in which a squaw had been buried only a few days previously (Butler 1924: 177).

Cree:

The home territory of the Cree extended from Manitoba across Saskatchewan, to slightly into Alberta. Their north-south distribution was just as great--from the northern States well into northern Saskatchewan. This wide distribution meant they were distributed throughout several ecological zones. As a result of environmental adaptation, they have been divided into the Plains, Wood, and Swampy Cree. Nevertheless, they seem to have had similar burial rituals.

La Verendrye and his sons seem to be the first to have reported the reaction of the Cree to death. This was in 1739-1740, when the Cree of Lake Winnipeg were dying of smallpox. The relatives were throwing away all the pelts--beaver, lynx, marten, among others--belonging both to the dead and to themselves. No one would touch these pelts. (Burpee 1972: 258).

Alexander McKenzie described the funeral rites in greater detail.

The funeral rites begin, like all other solemn ceremonies,

with smoking, and are concluded by a feast. The body is dressed with the best habiliments possessed by the deceased, or his relations, and is then deposited in a grave, lined with branches; some domestic utensils are placed on it, and a kind of canopy erected over it. During this ceremony great lamentations are made, and if the departed person is very much regretted the near relations cut off their hair, pierce the fleshy parts of their thighs and arms with arrows, knives, etc., and blacken their faces with charcoal. If they have distinguished themselves in war, they are sometimes laid on a sort of scaffolding; and I have been informed that women, as in the East, have been known to sacrifice themselves to the manes of their husbands. The whole of the property belonging to the departed person is destroyed, and the relations take in exchange for the wearing apparel, any rags that will cover their nakedness. The feast bestowed on the occasion, which is, or at least used to be, repeated annually, is accompanied by eulogiums on the deceased, and without any acts of ferocity. On the tomb are carved or painted the symbols of his tribe, which are taken from the different animals of the country.

(McKenzie, quoted in Bushnell 1927: 6-7)

Catlin described the same sort of interment--the medicine bundle was fastened to the chest of the deceased, and the body was wrapped in many skins. The dead man was put into a hole and covered with flat stones. A little dirt was put on top, but the main ceremony and final filling of the grave was not held until the following day (Catlin 1903: Vol. 2, 204).

Kane noted another variation when he was travelling along the North Saskatchewan River. He sketched a Cree man

...to delineate the bag which he carries at his back. These bags are constantly worn, and contain some of the bones or hair of their deceased relatives. These relics they regard with the greatest veneration, and make them their constant companions. They are generally worn for a period of three years.

(Kane 1925: 87)

He also saw and recorded a scaffold graveyard, now fallen into disrepair; this was just west of Edmonton House.

Later, around 1858, Palliser met several Cree at Moose Jaw Creek, who had just lost relatives because of smallpox. These men had thrown away all their goods "to celebrate the event, and as a sort of sacrifice to the Manitou of the prairie" (Palliser 1968: 141). They were dressed in tattered robes and had plastered their heads with mud.

Blackfoot Confederacy:

The Blackfeet were the westernmost of the Plains tribes. Being a large and powerful group, they dominated their territory, now in Alberta, and sent raiding parties far into adjacent territories.

Prince Maximillian first met the Blackfoot in 1833; he described their burial customs as follows:

When a Blackfoot dies, they do not bury him in the ground if they can avoid it, but sew him up in a buffalo robe, dressed in his best clothes, his face painted red, but without his weapons, and lay him in some retired place, in ravines, rocks, forests, or on a high, steep bank, and often cover the body with wood and stones, that the wolves may not get at it. Frequently when they cannot find a solitary spot, the corpse remains above ground in a kind of wooden shed, and they were often obliged to bury it, or to give it to the Whites as a desirable present, which cannot be refused. The relations cut off their long hair, smear it, as well as their faces and clothes, with whitish-grey clay, and, during the time of mourning, wear their worst clothing. Often, too, they cut off a joint of a finger... At the funerals of rich Indians, several horses are often killed on the spot... The relations assemble at the residence of the deceased, and even the men lament and wail. The corpse is generally buried on the first day, and in the case of death during the night, it is removed on the following morning.

(Maximillian, quoted in Bushnell 1927: 10-11).

A description given by Palliser in 1858 gives another account of burial practices; this was in the area of the Bow River.

We came to a wigwam, carefully closed, and having

logs laid up against it for security. Slashing a hole in it with my knife, I found that it contained a corpse, supported in sitting position, just as if alive. The inside of the tent was in great order, and filled with offerings of buffalo robes, and other furs, tobacco, paint, dresses, and other Indian valuables. It was probably the remains of some great Blackfoot chief.

(Palliser 1968: 431)

SIOUAN TRIBES:

Dakota (Sioux):

The territory occupied by the Dakotas at the time of contact lay in what is now Minnesota, North and South Dakota, and parts of Montana. It would appear, however, from the earliest historical sources as well as from Dakota tradition, that their occupation of this territory was relatively recent. They had migrated westward in the later years, at any rate, because of the Ojibway's possession of firearms which made them superior in warfare over their traditional enemies.

In 1849 a Mdewakanton village, Kaposia, situated above the mouth of the St. Croix River, was described by Seymour.

On the high bluffs in the rear of the village, several flags, affixed to long poles, were seen floating in the wind. Beneath these flags, erected on scaffolds about ten feet high, were the bodies of deceased Indians in coffins, covered with white or red cloth. This custom of elevating their dead on scaffolds originated, probably, in the difficulty of burying their dead during the winter. The bodies of those that died during that season of the year were preserved until spring for interment, and were erected on scaffolds to preserve them from the reach of the wolves. It has grown into a custom, so that now the bodies of those that request it are elevated on scaffolds at other seasons of the year. A half-breed Indian informed me that the Indians dread to have the heavy earth press upon their breasts; they prefer to have their bodies elevated in a conspicuous place,

where they have a view of all that is transpiring around them. In a few months the bodies are, in ordinary cases, taken down and buried. Sometimes, however, they are left on the scaffold several years, especially those of persons of distinction in the tribe.

(Seymour, quoted in Bushnell 1927: 19)

A later account by Dr. McChesney, acting assistant surgeon in the United States Army, describes differential treatment of the dead.

In all burials, when the person has died a natural death or had not been murdered, and whether man, woman, or child, the body is placed in the grave with the face up. In cases, however, when a man or woman has been murdered by one of their own tribe, the body was, and is always, placed in the grave with the face down, head to the south, and a piece of fat is placed in the mouth, as these Indians say, to prevent the spirit of the murdered person driving or scaring the game from that section of the country. Those Indians who state that their dead are always buried with the head towards the south say they do so in order that the spirit of the deceased may go south, the land from which these Indians believe they originally came.

(McChesney, quoted in Bushnell 1927: 25)

Major Hans, of the U. S. Cavalry, also described differential burial practices. Upon the death of a chief, his squaws immediately began mourning--they tore off the clothes, cut their hair, slashed their breasts, arms and legs. Burial ended the self-torture, but mourning continued as long as the widows were so disposed (Hans 1964: 68).

Unless he was killed in battle, the death of a son indicated great displeasure on the part of the Great Spirit. The father not only mourned for his son, but also feared for himself--his medicine had failed. Consequently, he hacked off his hair, smeared himself with mud and clay, and even went so far as to isolate himself for periods up to three weeks. If

the son were killed in battle, however, and not scalped, there was no need to mourn: the spirit had gone directly to the Happy Hunting Ground (Hans 1964: 69).

A man who had lost his wife felt the loss, but in no way exhibited an excessive state of mourning such as described above. No displeasure of the Great Spirit was seen in such a death (Hans 1964: 69).

Young girls and children were mourned by the mother, and Catlin describes a Sioux mourning cradle constructed by the bereaved mother:

If an infant dies during the time that is allotted to it to be carried in this cradle, it is buried, and the disconsolate mother fills the cradle with black quills and feathers, in the parts which the child's body had occupied, and in this way carries it around with her wherever she goes for a year or more.

(Catlin 1903: II, 152)

According to Hans, those who had been scalped, and those who had committed suicide were left unburied wherever they had fallen: their souls had been annihilated and there was no cause either for mourning or for burial (Hans 1964: 70).

Assiniboine:

The Assiniboine fissioned from the Dakota sometime in the late pre-history of North America. In the succeeding years they became deadly enemies. The Assiniboine were first mentioned by the Jesuits in the mid-seventeenth century as residing in the Lake of the Woods area. Since that time, they migrated westward, until their home territory included southern Manitoba and Saskatchewan.

Henry Kelsey was the first white man to traverse the prairies;

his guides were Assiniboines, and at one point, one of them took ill and died. Kelsey left the following record:

Last night death ceased and this morning his body was burned according to their way, they making a great feast for him that did it now after that the flesh was burned his Bones were taken and buried with Loggs set up round of about ten foot Long so we pitcht today near 14 Miles and came to they holding it not good to stay by the Dead.

(Doughty and Martin 1929: 12)

A trader called West observed a burial on the Assiniboine River, south of Brandon, in 1821. He described the ceremony as such:

I saw an Indian corpse staged, or put upon a few cross-sticks, about ten feet from the ground, at a short distance from the fort. The property of the dead, which may consist of a kettle, axe, and a few additional articles is generally put into the case, or wrapped in a buffalo skin with the body, under the idea that the deceased will want them, or that the spirit of these articles will accompany the departed spirit in travelling to another world. And whenever they visit the stage or burying-place which they frequently do for years afterwards, they will encircle it, smoke their pipes, weep bitterly, and in their sorrow, cut themselves with knives, or pierce themselves with the points of sharp instruments.

(West, quoted in Bushnell 1927: 43-44)

Father de Smet was a Roman Catholic missionary who worked among the tribes of the Upper Missouri Valley. Consequently, he became quite familiar with their beliefs and customs, including burial rituals. His journals and letters describe these in great detail, including Assiniboine practices:

The Assiniboines esteem greatly a religious custom of assembling once or twice in the year around the tombs of their immediate relatives. These sepulchres are raised on a species of scaffold, about seven or eight feet above the surface of the soil. The Indians call the dead by their names and

offer them meats, carefully dressed, which they place beside them. . . . The ceremony of burying the dead, among the Indians, is terminated by the tears, wailings, howlings, and macerations of all present. They tear the hair, gash their legs, and at last the calumet is lighted, for this is the Alpha and Omega of every rite. They offer it to the shades of the departed, and entreat them not to injure the living.

(de Smet, quoted in Bushnell 1927: 48)

Mandans:

The Mandans were a semi-sedentary, semi-agricultural group. There were only a few villages, and these were located relatively close to each other along the valley of the Missouri River. Catlin spent a considerable amount of time living in the various Mandan villages. His description is perhaps the most inclusive.

Whenever a person dies in the Mandan village and the customary honours and condolence are paid to his remains, and the body dressed in its best attire, painted, oiled, feasted, and supplied with bow and quiver, shield, pipe, and tobacco, knife, flint and steel, and provisions enough to last him a few days on the journey which he is to perform; a fresh buffalo's skin, just taken from the animal's back, is wrapped around the body, and tightly bound and wound with thongs of rawhide from head to foot.

There is then a separate scaffold erected for it, constructed of four upright posts, a little higher than human hands can reach; and on the tops of these are small poles passing around from one post to the others; across which a number of willow-rods just strong enough to support the body, which is laid upon them on its back, with its feet carefully presented towards the rising sun.

There are a great number of these bodies resting exactly in a similar way; excepting in some instances where a chief, or a medicine man, may be seen with a few yards of scarlet or blue cloth spread over his remains, as a mark of public respect and esteem.

Fathers, mothers, wives, and children may be seen lying under these scaffold, prostrated on the ground, with their faces in the dirt, howling forth incessantly the most piteous cries and

lamentations for the misfortunes of their kindred; and doing other penance to appease the spirits of the dead.

(Catlin 1903: I, 102-103)

When the scaffolds finally rotted, the bones were collected and buried in the same vicinity as the scaffolds. The skulls were not placed in the graves; instead they were arranged in a circle about the common grave, each on its own "pillow" of sage. These circles often contained 100 or more skulls. It was to these skull circles that relatives of the deceased would come to converse with the dead and to bring them food. In the centre of the skull circle were placed two bison skulls, one male and one female, and a twenty-foot tall medicine pole, "supporting many curious articles of mystery and superstition" (Catlin 1903: I, 102-103).

Hidatsa:

The Hidatsa, like the Mandans, were village-dwelling agriculturalists. Their villages were on the banks of the Knife River near the Missouri River.

In the 1870's, E.A. Alden, Indian agent at Fort Berthold, gave an account of Hidatsa burial customs. They are referred to as the Gros Ventres in this quotation, and indeed the Hidatsa were often confused with the true Gros Ventres or Atsina.

The Gros Ventre and Mandan never bury in the ground, but always on a scaffold made of four posts about eight feet high, on which the box is placed, or, if no box is used, the body wrapped in red or blue cloth... As soon as one dies he is immediately buried, sometimes within an hour, and the friends begin howling and wailing as the process of interment goes on, and continue mourning day and night around the grave, without food, sometimes three or four days. Those who mourn are always paid for it in some way by the other friends of the deceased... They

also show their grief and affection for the dead by a fearful cutting of their own bodies... Their hair, which is worn in long braids, is also cut off to show their mourning.

(Alden, quoted in Bushnell 1927: 77-78)

Differential burial was recorded by Maximilian in 1833:

As the lord of life is displeased when they quarrel, and kill each other, those who do so are buried in the earth, that they may be no longer seen. In this case a buffalo's head is laid upon the grave, in order that the buffalo herds may not keep away, for, if they were to smell the wicked, they might remove and never return.

(Maximilian, quoted in Bushnell 1927: 75)

CADDOAN TRIBES:

Arikara:

The Arikara were the third of the sedentary groups living on the Upper Missouri Valley. Their earth lodges were on the islands and along the banks of the Missouri.

Maximilian left an interesting observation; the belief expressed may be the result of missionizing among the tribe.

The Arikaras affirm that God said to them they were made of earth, and must return to earth; on which account they bury their dead in the ground. Various things are sometimes cast into the graves of eminent men; the corpse is dressed in the best clothes, the face painted red, and sometimes a good horse is killed on the grave. If the deceased has left a son, he receives his father's medicine apparatus; if not, it is buried with him in the grave.

(Maximilian, quoted in Bushnell 1927: 84)

The Arikara graves were described as mounds which could be either strung out in a long line or clustered in groups. Generally they were about three feet high and five feet by seven feet at ground level, although larger mounds marked the graves of distinguished chiefs.

BIBLIOGRAPHY

- Bowers, A. W.,
1950 Mandan Social and Ceremonial Organization. Chicago.
1963 Hidatsa Social and Ceremonial Organization. Bureau of American Ethnology Bulletin #194. Washington: U. S. Government Printing Office.
- Burpee, L. J., ed.,
1910 Journal of Laroque from the Assiniboine to the Yellowstone, 1805. Publications of the Canadian Archives No. 3. Ottawa.
1927 Journals and Letters of Pierre Gaultier de Varennes de la Verendrye and his Sons, with Correspondence between the Govenors of Canada and the French Court, Touching upon the Search for the Western Sea. Toronto: Champlain Society.
- Bushnell, David I., Jr.
1927 Burials of the Algonquian, Siouan, and Caddoan Tribes West of the Mississippi. Bureau of American Ethnology Bulletin #83. Washington.
- Butler, W. F.,
1875 The Great Lone Land. London.
- Catlin, George,
1903 North American Indians. Edinburgh.
- Denig, Edwin T.,
1930 "Indian tribes of the Upper Missouri". Forty-Sixth Annual Report of the Bureau of American Ethnology. Washington.
1961 Five Indian Tribes of the Upper Missouri: Sioux, Arickara, Assiniboine, Cree, and Crow. Norman: University of Oklahoma Press.
- Doughty, A. G., and C. B. Martin,
1929 The Kelsey Papers. Ottawa.
- Flannery, Regina,
1953 The Gros Ventres of Montana; Part I: Social Life. Catholic University of America Anthropological Series No. 15.
- Hans, Fred M.,
1964 The Great Sioux Nation. Minneapolis: Ross and Haines, Inc.

- Haxo, Henry E.,
1941 The LaVerendrye Journal of 1738. North Dakota Historical Quarterly 8(4), July.
- Hind, H. Y.,
1969 Narrative of the Canadian Red River Exploring Expedition of 1857, and of the Assiniboine and Saskatchewan Exploring Expedition of 1858. New York: Greenwood Press.
- Hlady, W.,
1960 "Indian migrations in Manitoba and the west". Papers of the Manitoba Historical and Scientific Society Series III: 17.
- Kane, Paul,
1925 Wanderings of an Artist. Toronto: The Radisson Society of Canada, Ltd.
- Lowie, R. H.,
1909 "The Assiniboine". American Museum of Natural History, Anthropological Papers Vol. 4, part 1.
- Mandelbaum, David G.,
1940 "The Plains Cree." Anthropological Papers of the American Museum of Natural History, Vol. 37, pt. II. New York.
- Palliser, J.,
1968 Exploration of British North America. Toronto: Champlain Society Publications
- Schoolcraft, H. R.,
1969 Information Respecting the History, Conditions, and Prospects of the Indian Tribes of the United States. New York: Paladin Press.
- Skinner, Alanson,
1911 "Notes on the Eastern Cree and Northern Saulteaux". Anthropological Papers of the American Museum of Natural History Vol. 9, pt. 1. New York.
- Vickers, C.,
1953 "The Assiniboines of Manitoba". Historical and Scientific Society of Manitoba Series III: 8. Winnipeg.

1366

Plate 1

Topographic Map of Crooked Lake Area,
Showing Mound Location

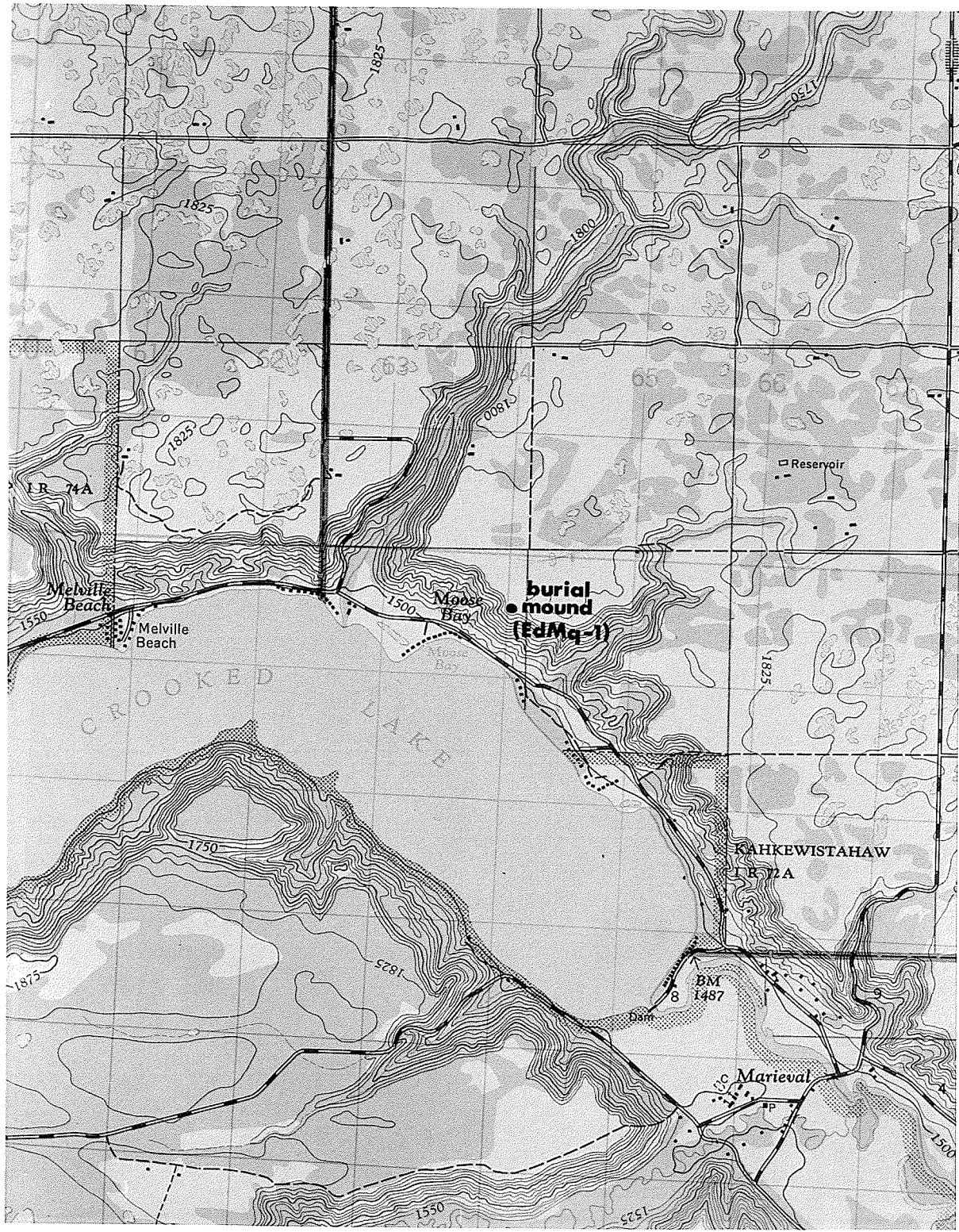


Plate 2

Aerial View of Moose Bay Mound

Plate 3

Contour Map, Moose Bay Mound

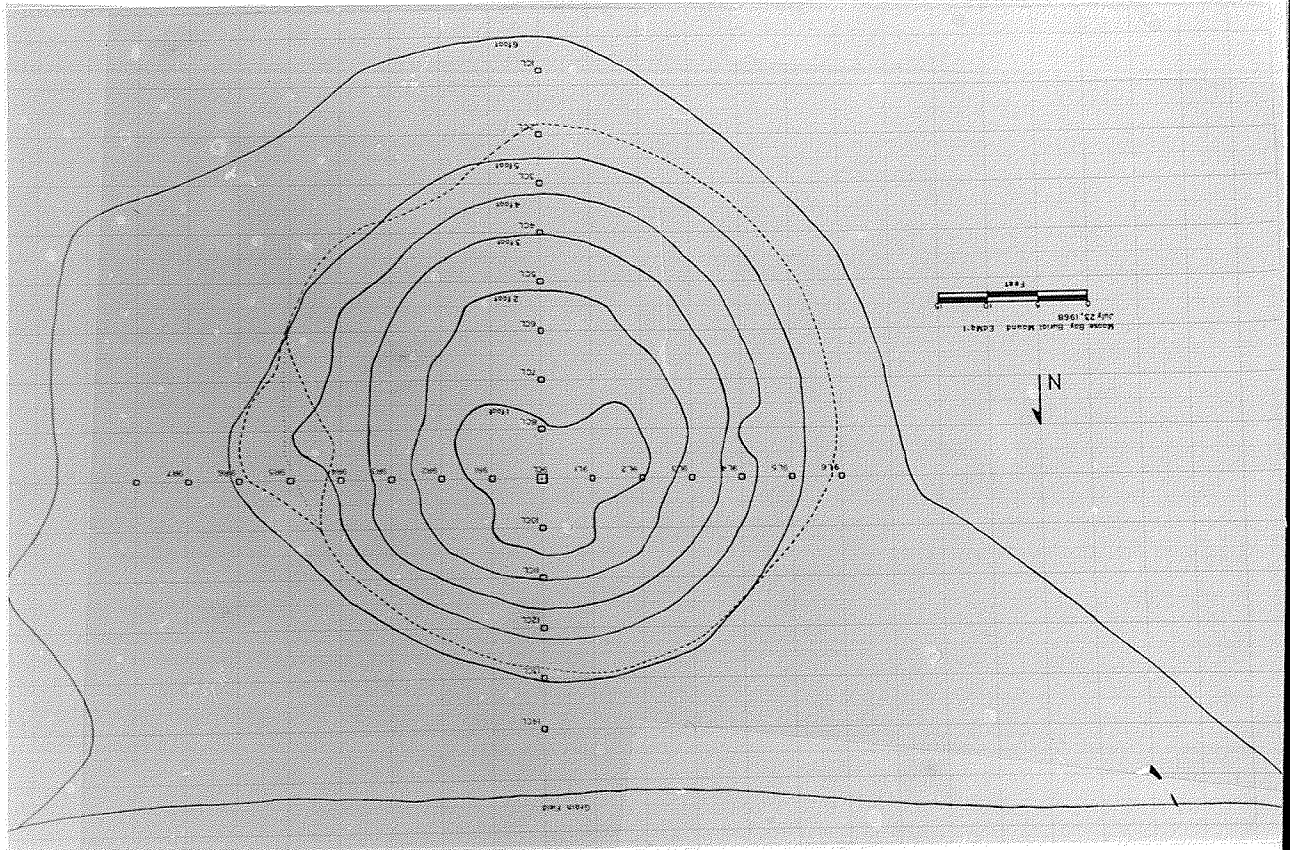


Plate 4

Burial 1, Moose Bay Mound

Plate 5

Birch Bark Containers, Ceramic Pipe, and Sandstone,
Polishing Stone, Burial 1, Moose Bay Mound

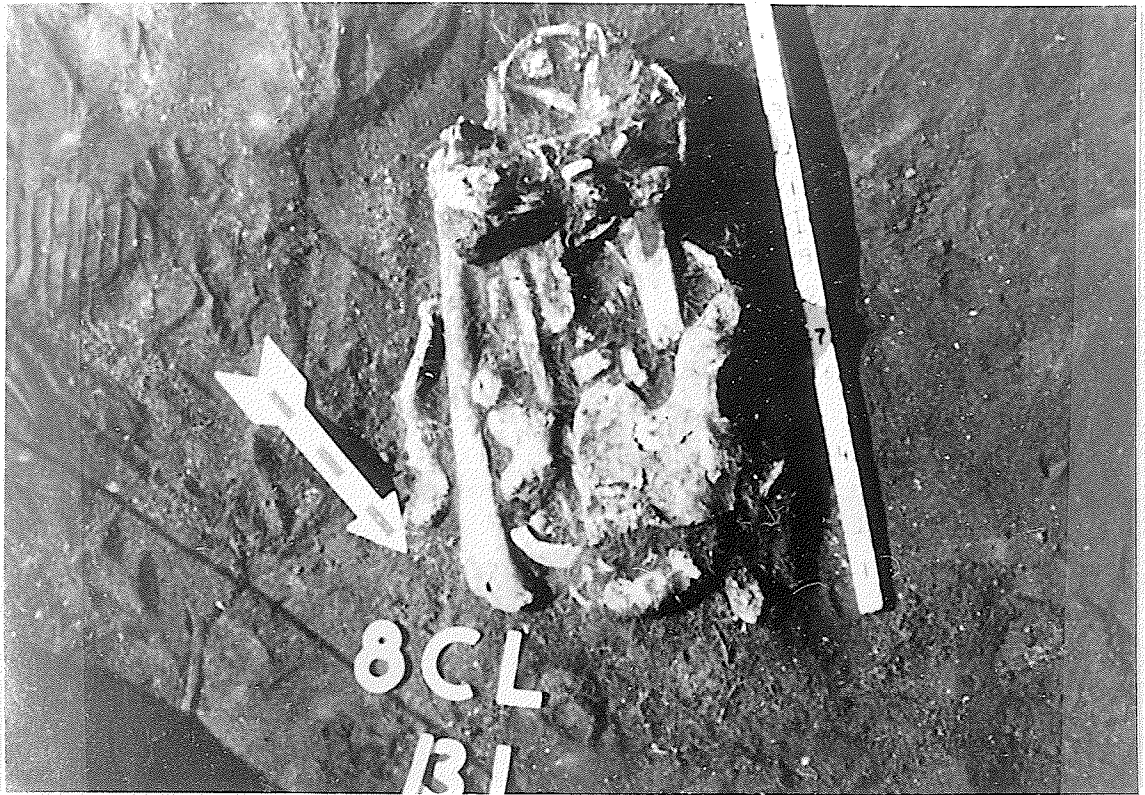


Plate 6

Complete Effigy Vessel, Burial 1,
Moose Bay Mound

Plate 7

Planview of Burial 1,
Moose Bay Mound

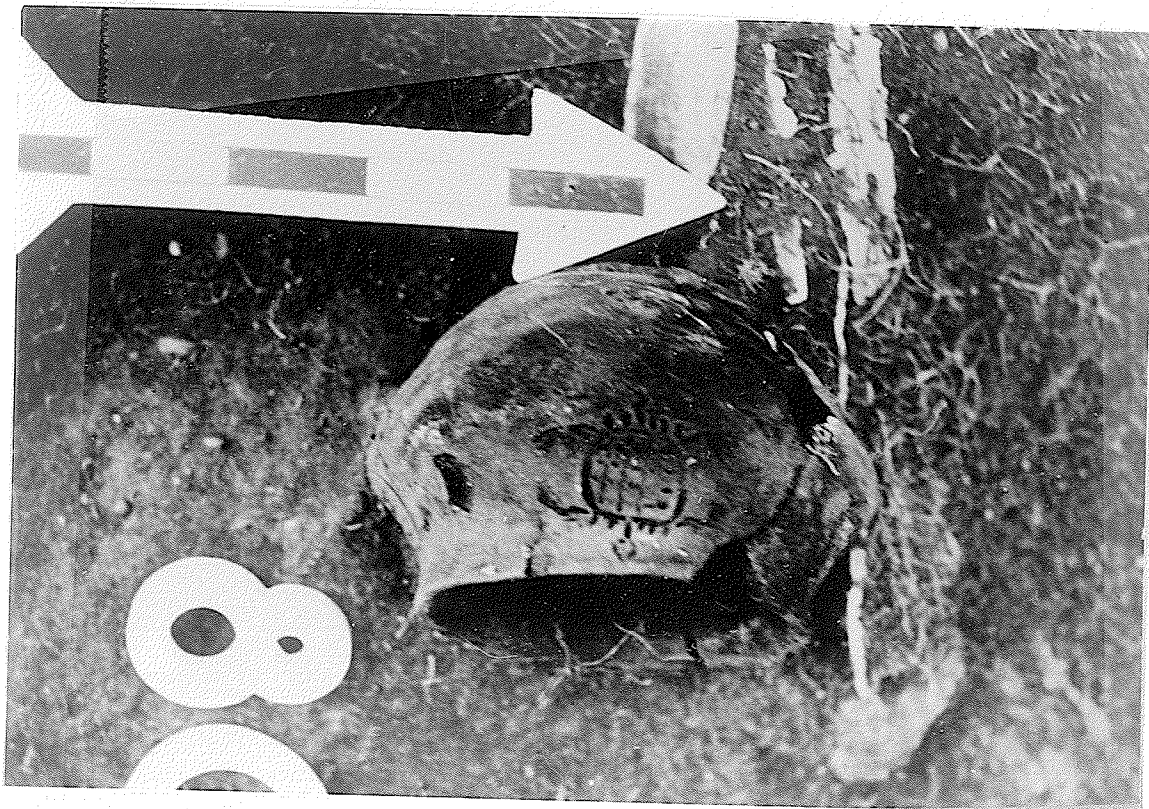
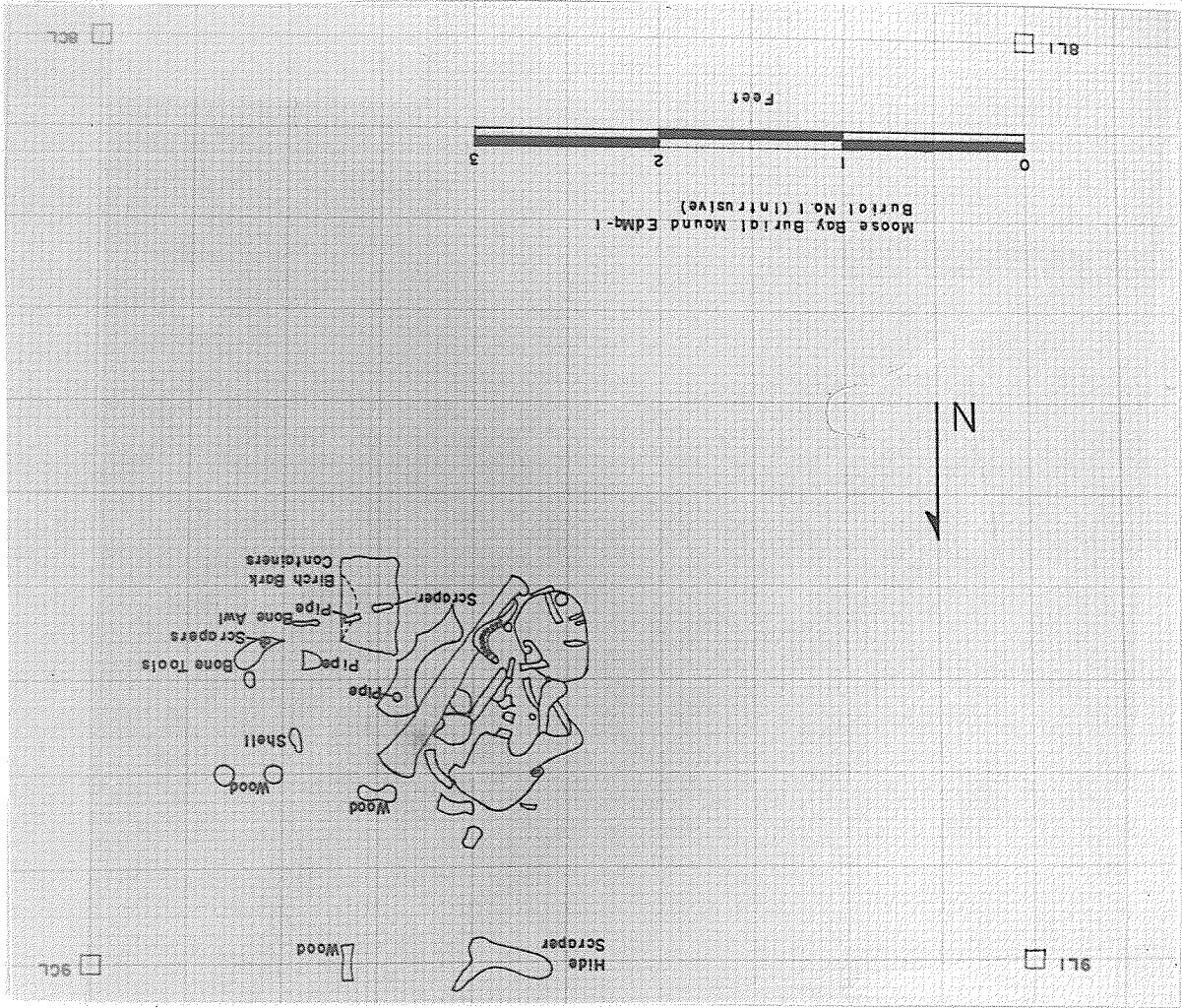


Plate 8

Burials 2A & 2B, Moose Bay Mound

Plate 9

Burial Chamber, with Burials 2A & 2B,
Moose Bay Mound

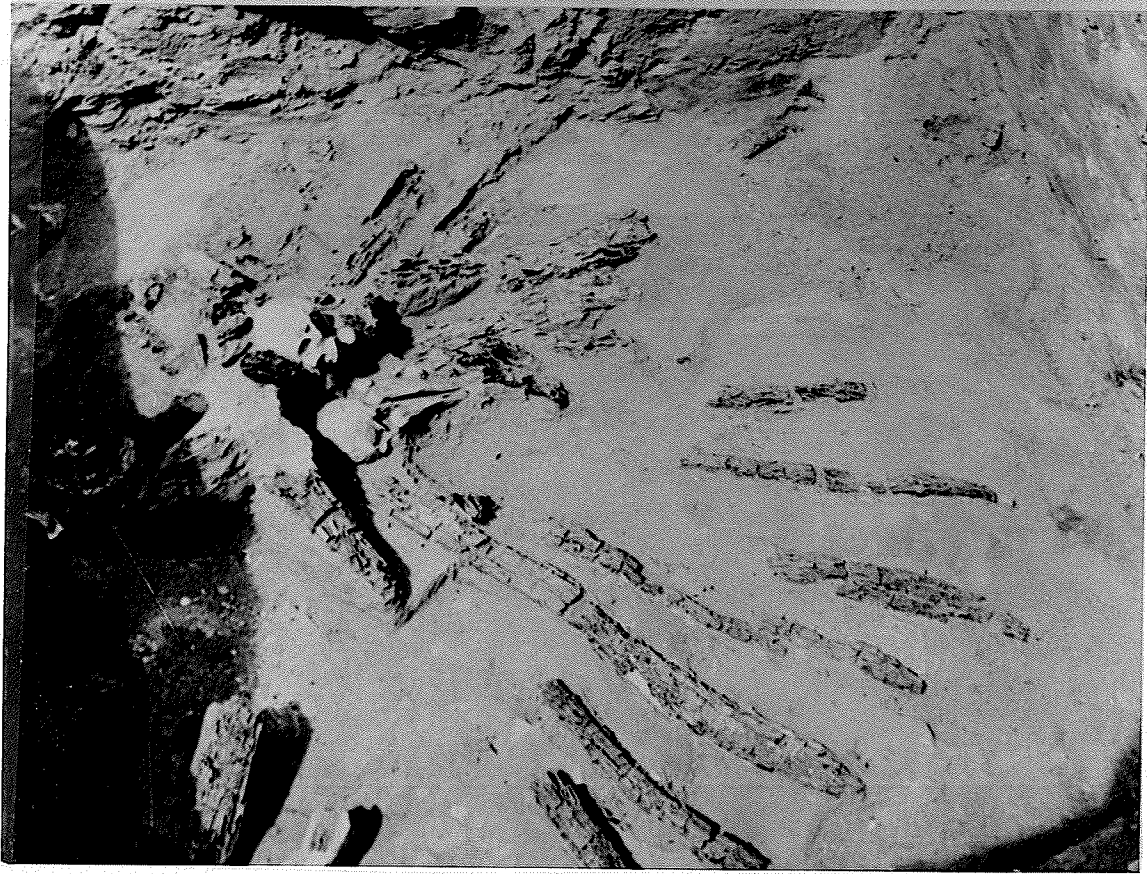


Plate 10

Central Support Post of Burial Chamber,
Moose Bay Mound

Plate 11

Burials 3, 4, and 6, Moose Bay Mound



Plate 12

Planview of Burial Chamber,
Moose Bay Mound

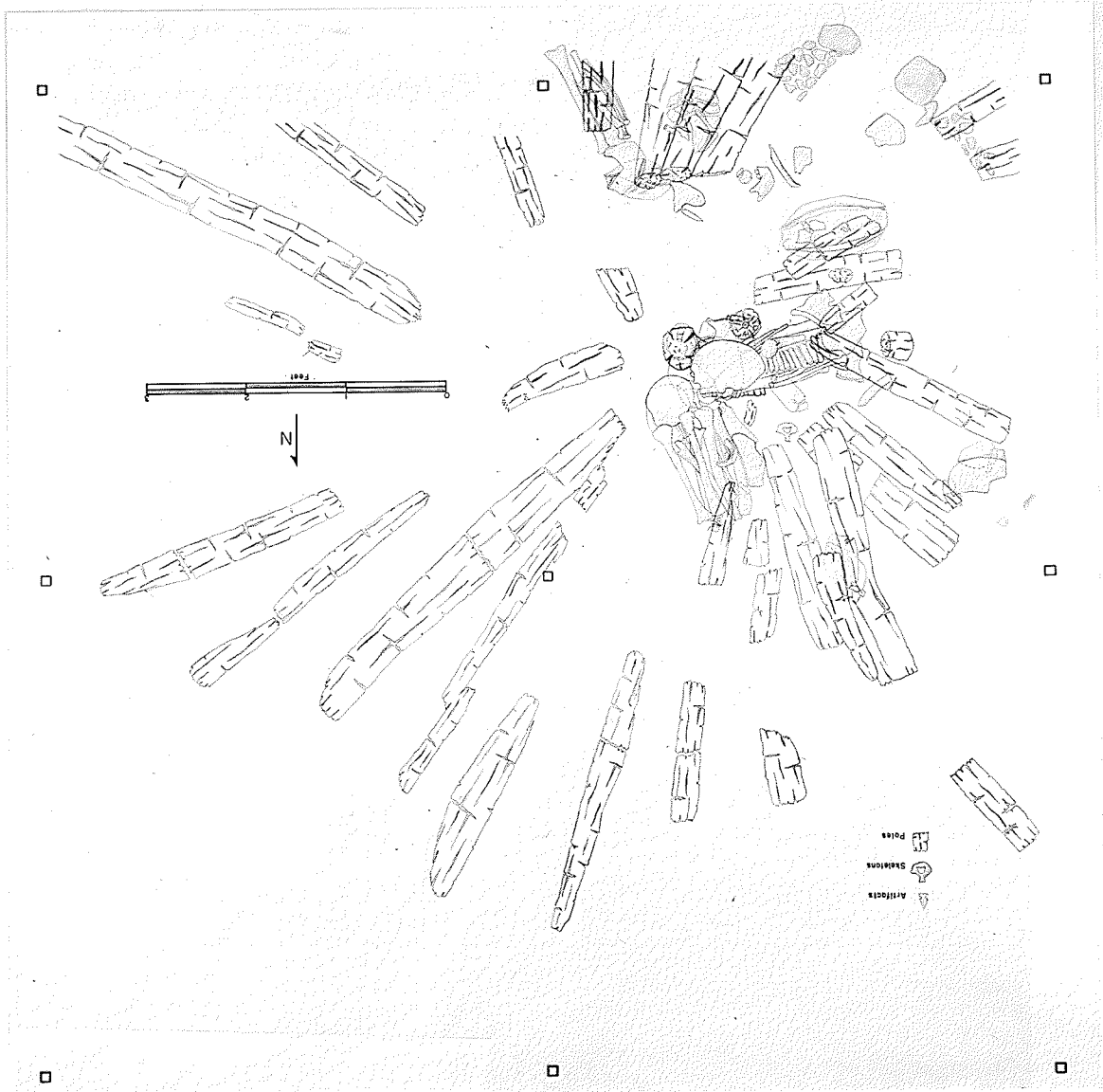


Plate 13

Cross-section of Moose Bay Mound

Plate 14

Projectile Points, Burial 2A,
Moose Bay Mound

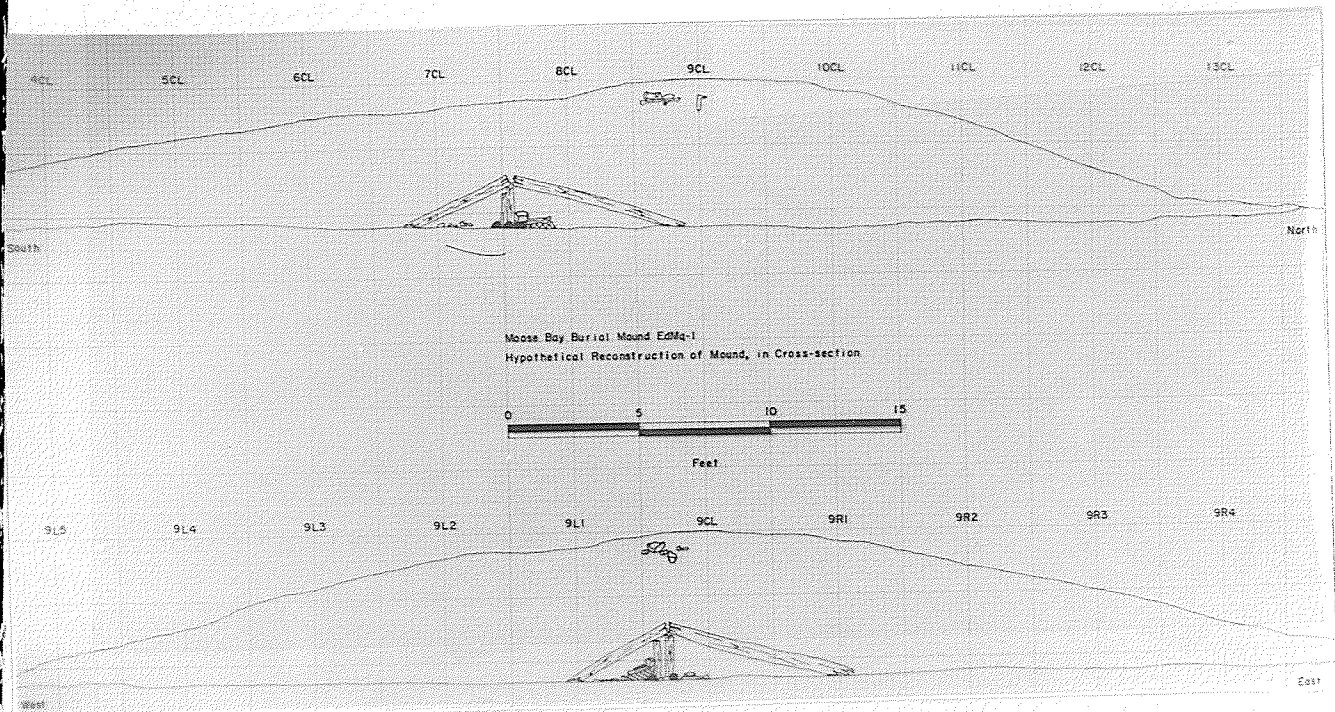


Plate 15

Unifaces; a-f, Burial 1; g, Burial 5,
Moose Bay Mound

Plate 16

Ovoid Biface, Burial 2A,
Moose Bay Mound

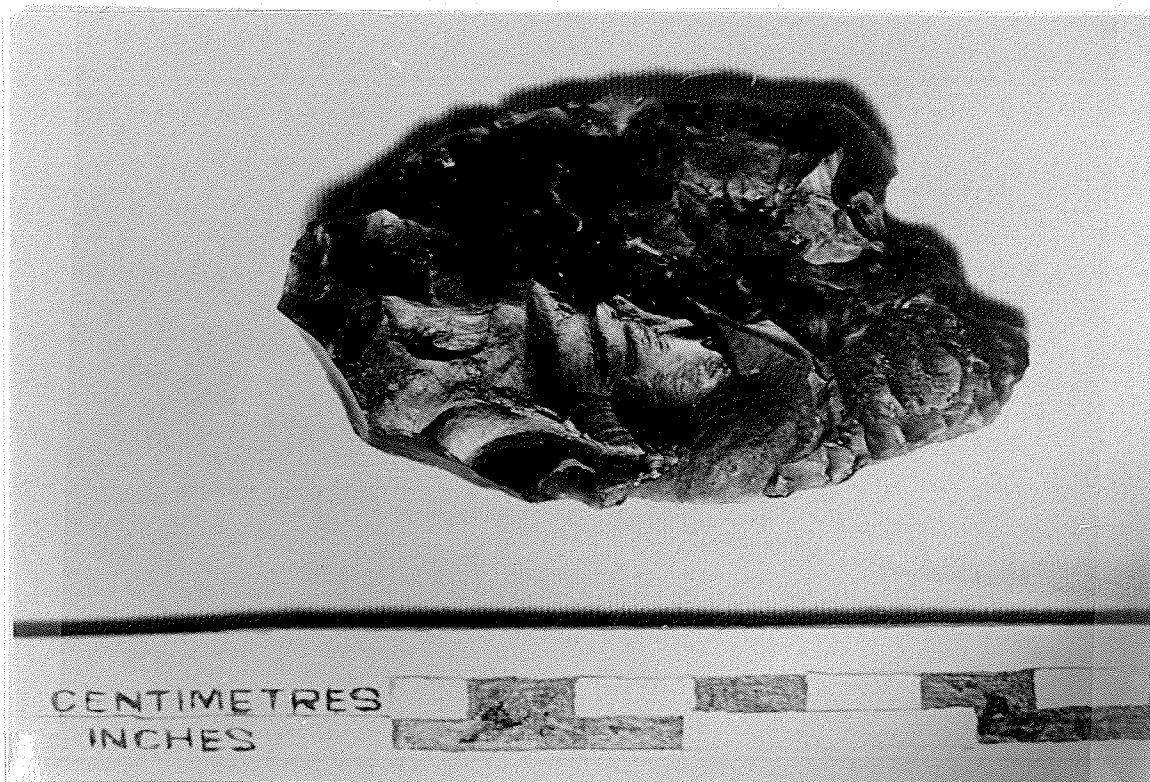
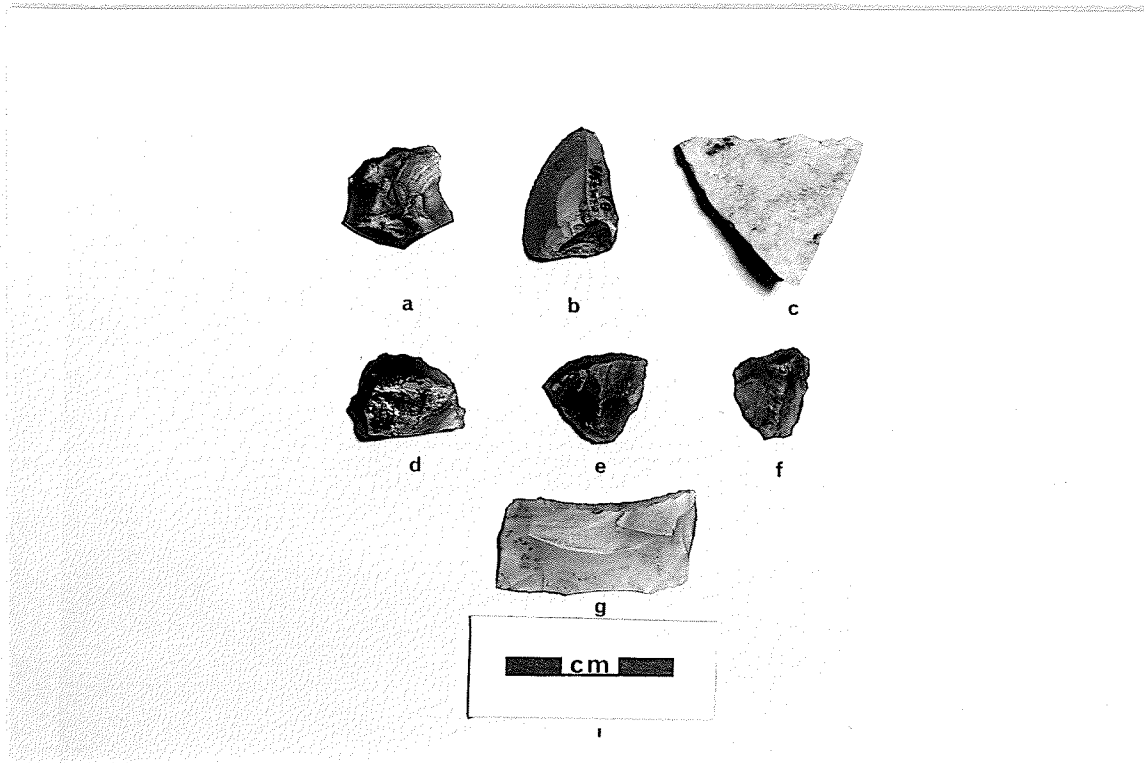


Plate 17

Ovoid Biface, Showing Two Sections

Plate 18

Notches in Oblique End of Biface

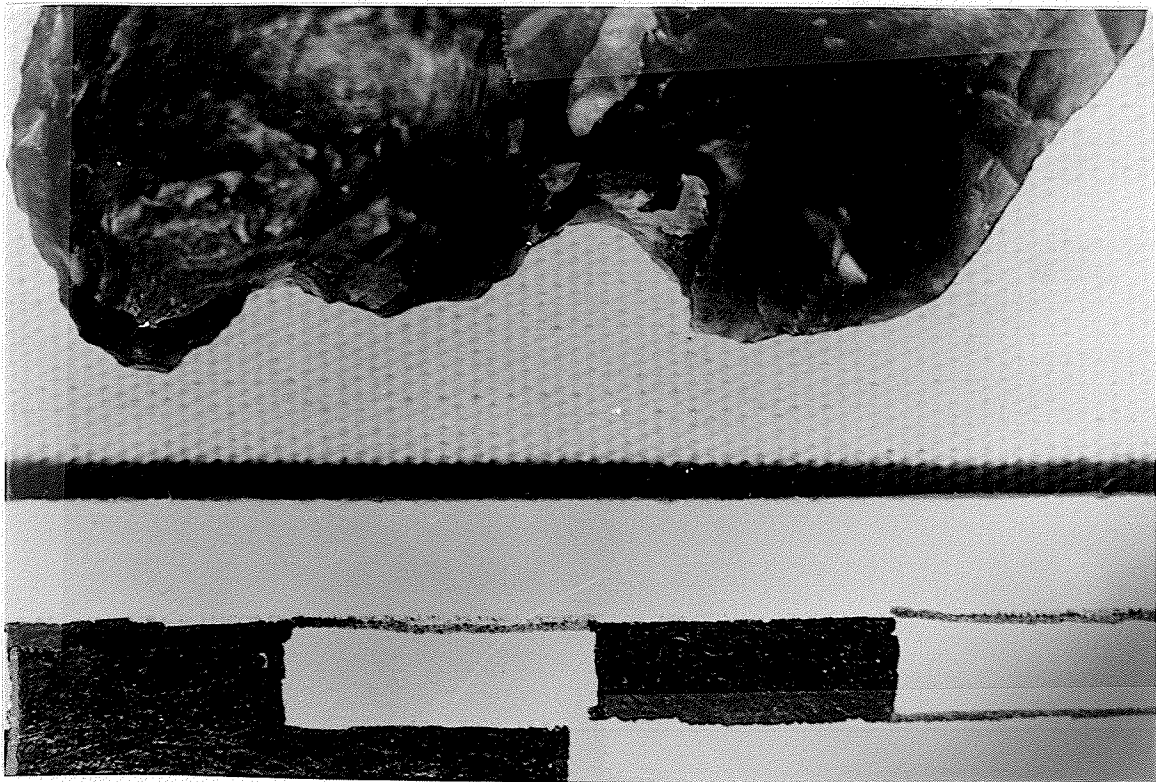
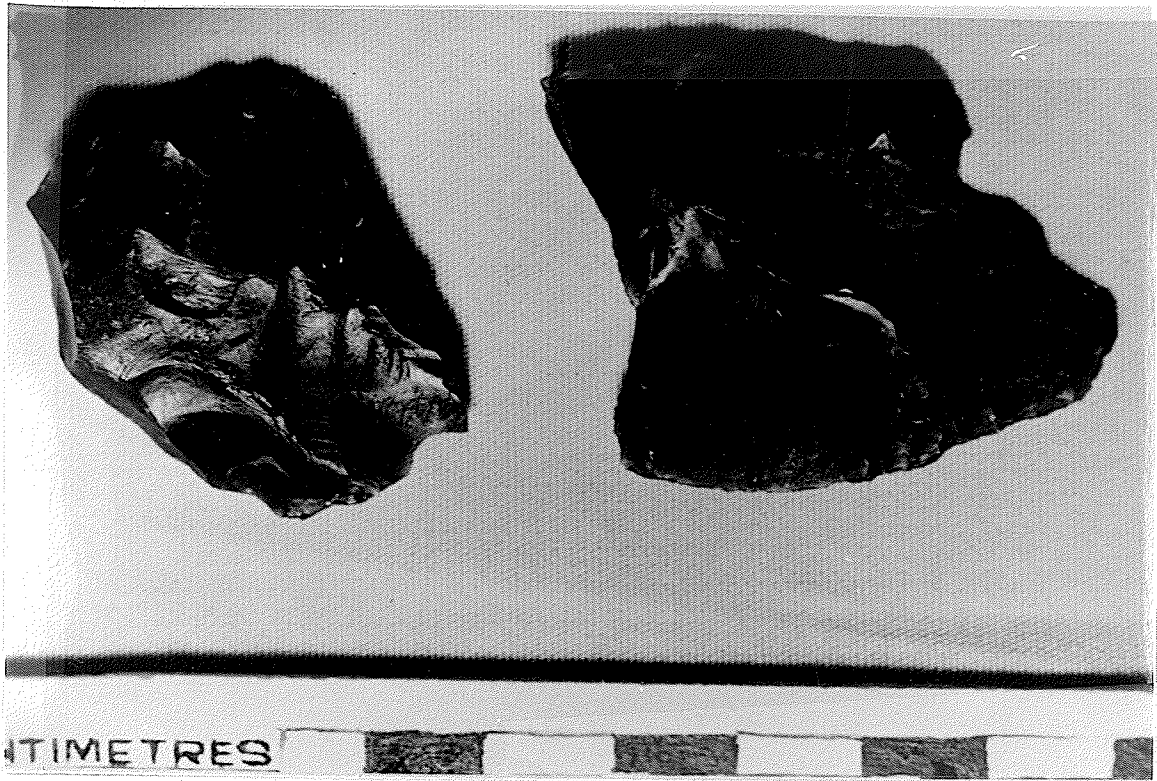


Plate 19

Quartzite Cobble, Burial 2B,
Moose Bay Mound

Plate 20

Sandstone Polishing Tool and Three Pebbles, Burial 1,
Moose Bay Mound

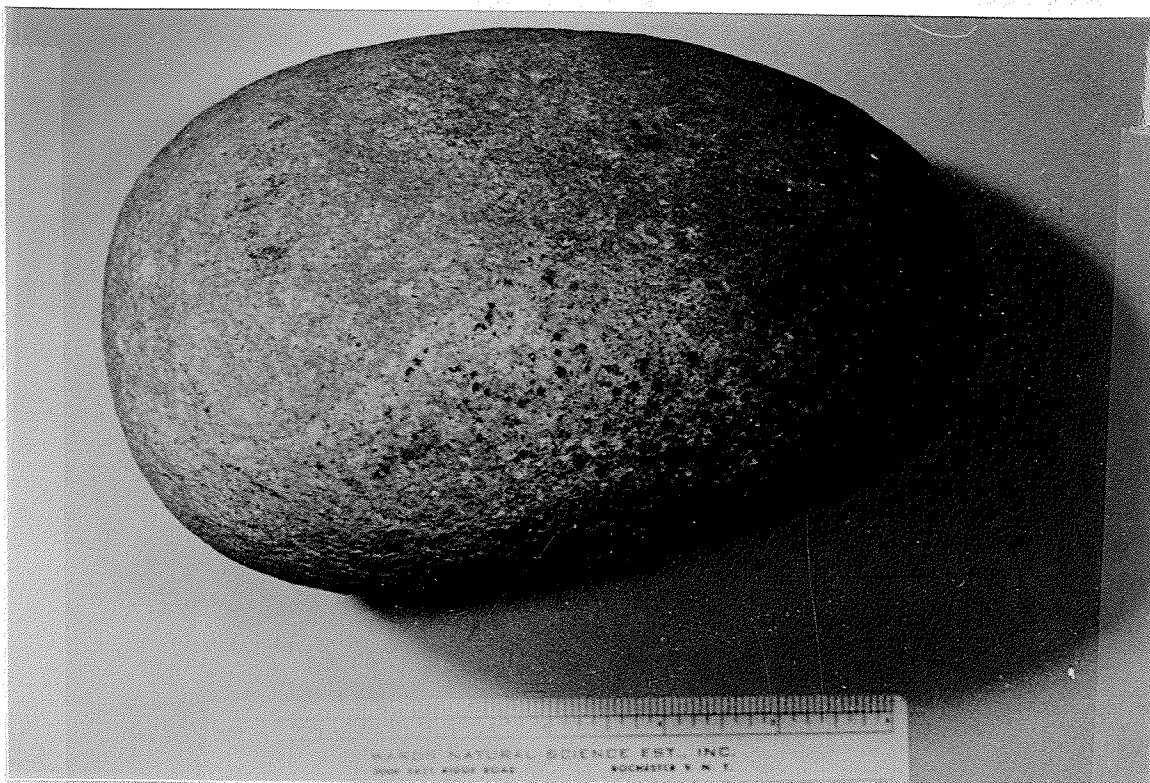
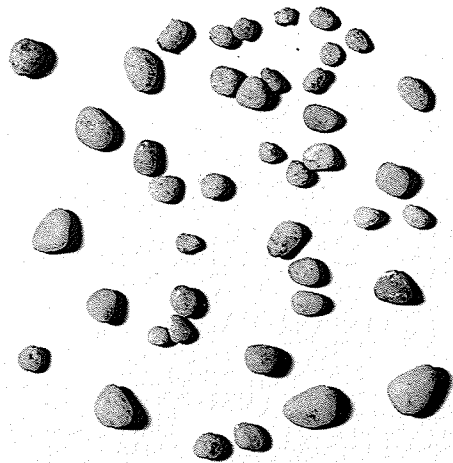


Plate 21

Ochre-rubbed Quartzite Pebbles, Burial 1,
Moose Bay Mound

Plate 22

Clay Concretions, Burial 2A,
Moose Bay Mound



cm

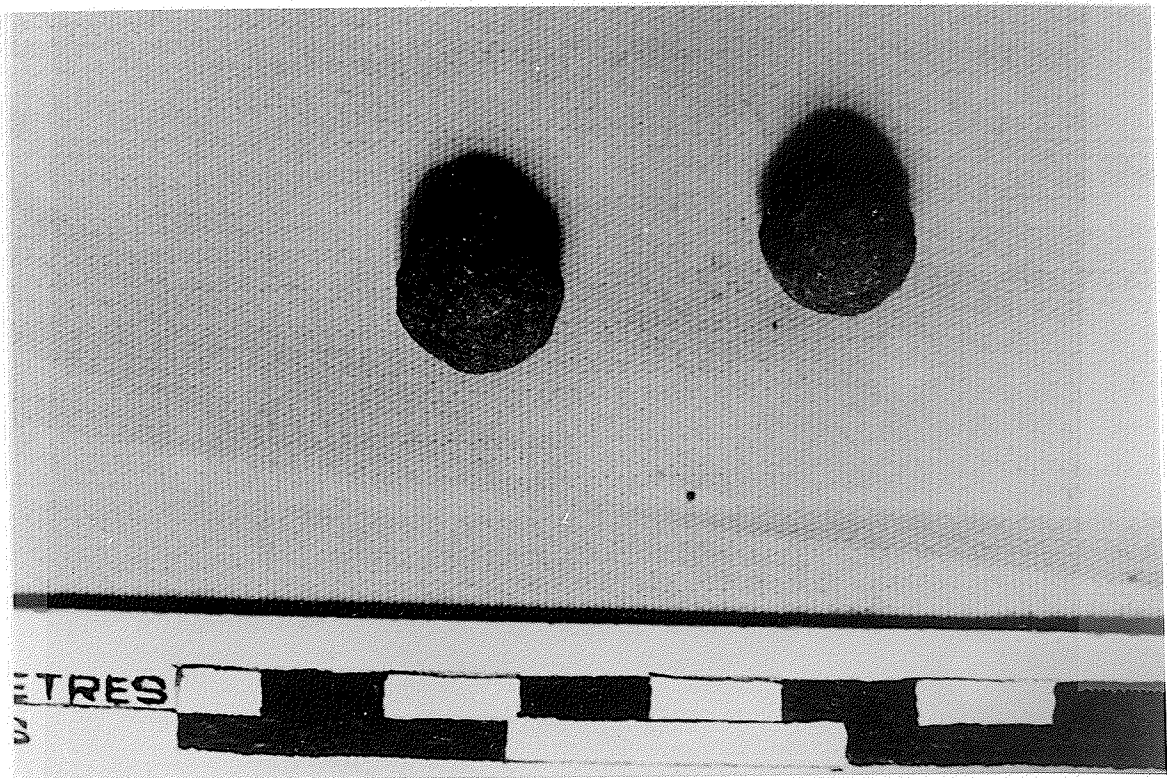


Plate 23

Bone Tools; a-g, Burial 1; h, Burial 2B,
Moose Bay Mound

Plate 24

Turtle Carapace and Plastron Fragments, Burial 2B,
Moose Bay Mound



Plate 25

Turtle Plastron Ornament (?), Burial 2B,
Moose Bay Mound

Plate 26

Pipes; a-c, Burial 1; d, Burial 6,
Moose Bay Mound



Plate 27

Complete Vessel, Three-Quarter View, Burial 1,
Moose Bay Mound

Plate 28

Complete Vessel, Top View, Burial 1,
Moose Bay Mound



Plate 29

Detail of Turtle on Complete Vessel

Plate 30

Punctate on Vessel Shoulder



Plate 31

Applique on Vessel Shoulder

Plate 32

Pottery Fragments; a-f (Vessel 2), Burials 2A & 5;
g (Vessel 3), Burial 4,
Moose Bay Mound

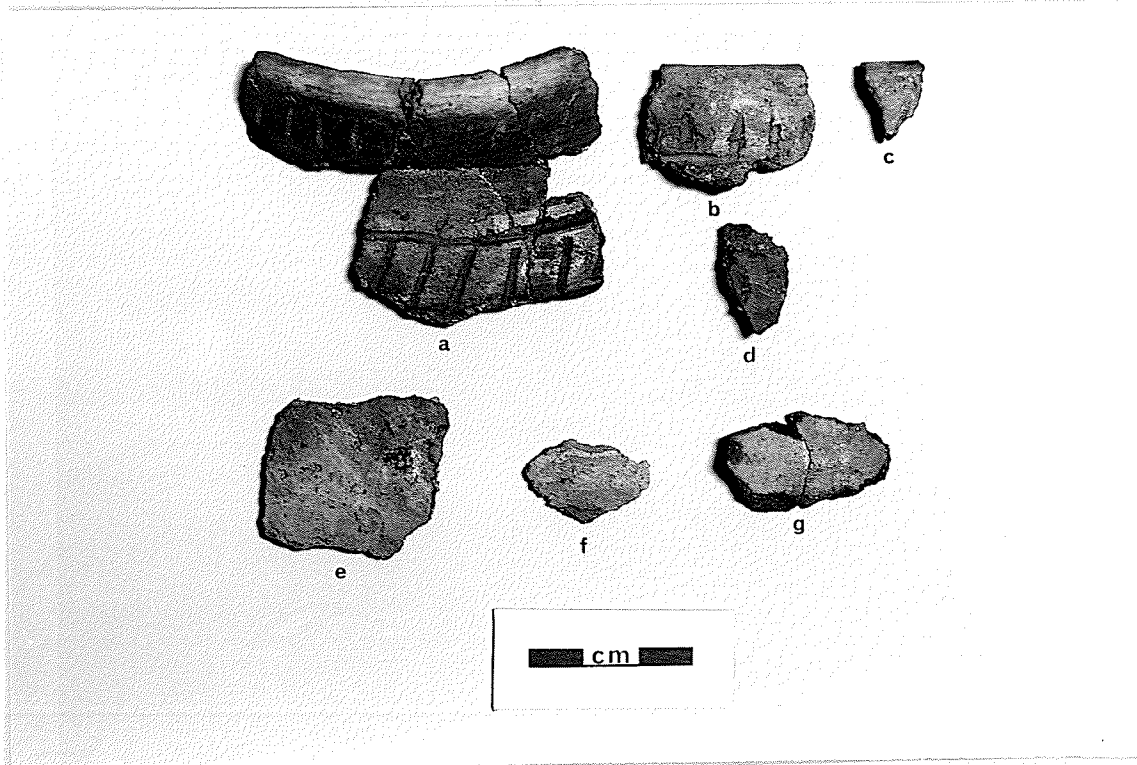


Plate 33

Birch Bark Containers, Burial 1,
Moose Bay Mound

Plate 34

Birch Bark Containers; a & b, Burial 2A; c, Burial 2B,
Moose Bay Mound



Plate 35

Birch Bark Container; a, Burial 3; b & c, Burial 5,
Moose Bay Mound

Plate 36

Detail of Stitching on Container, Cat. No. 57

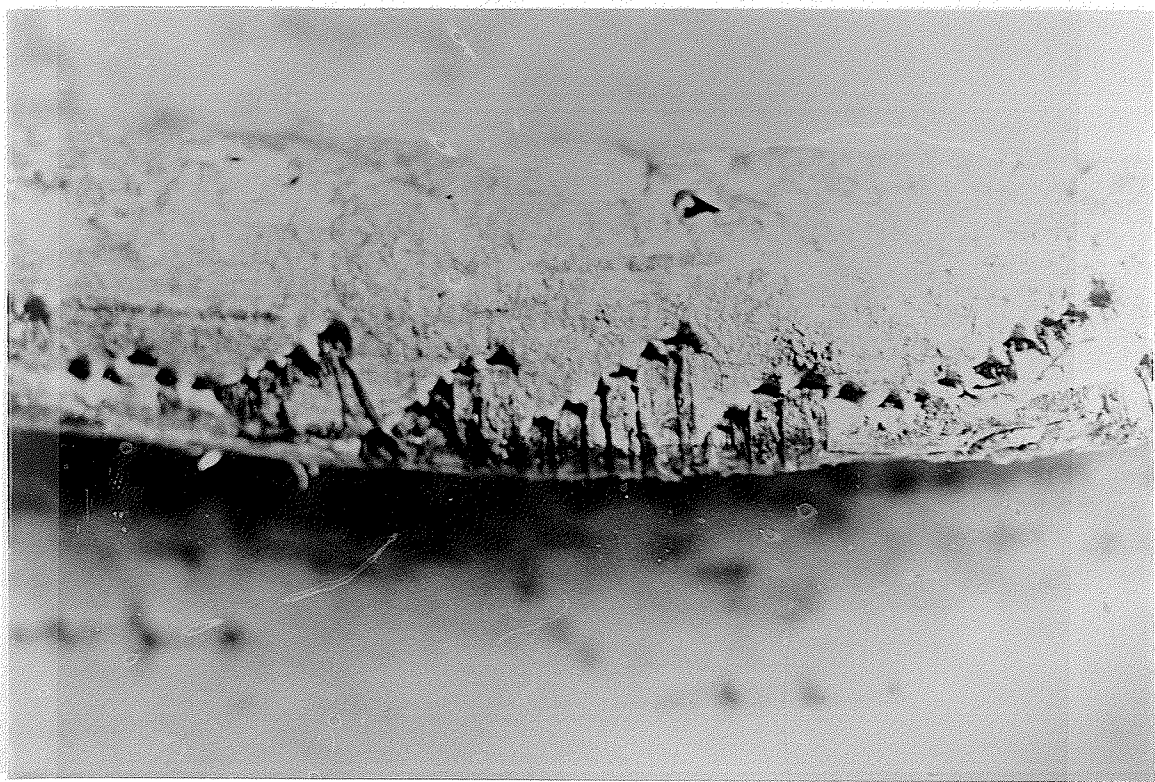


Plate 37

Left Mastoid Process, Pathological, Individual 1,
Moose Bay Mound

Plate 38

Cranium, Individual 2, Frontal View,
Moose Bay Mound

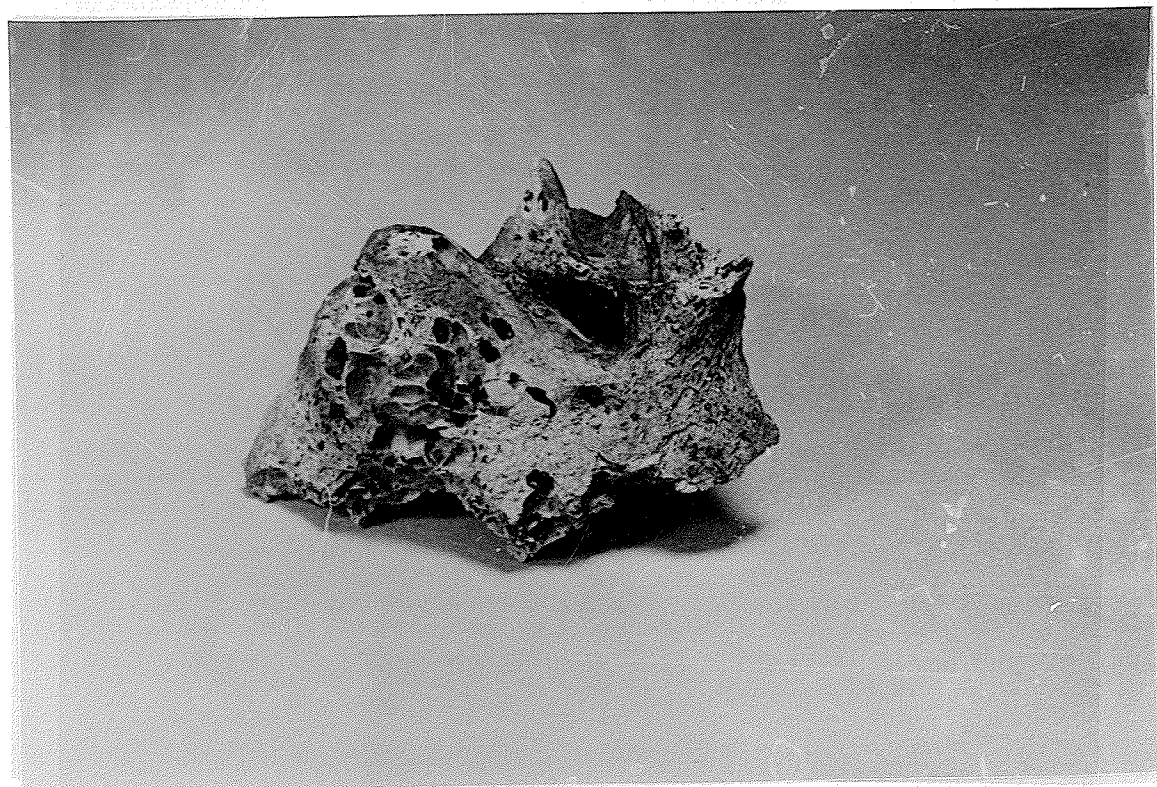


Plate 39

Cranium, Individual 2, Left Lateral View,
Moose Bay Mound

Plate 40

Cranium, Individual 2, Right Lateral View
Moose Bay Mound

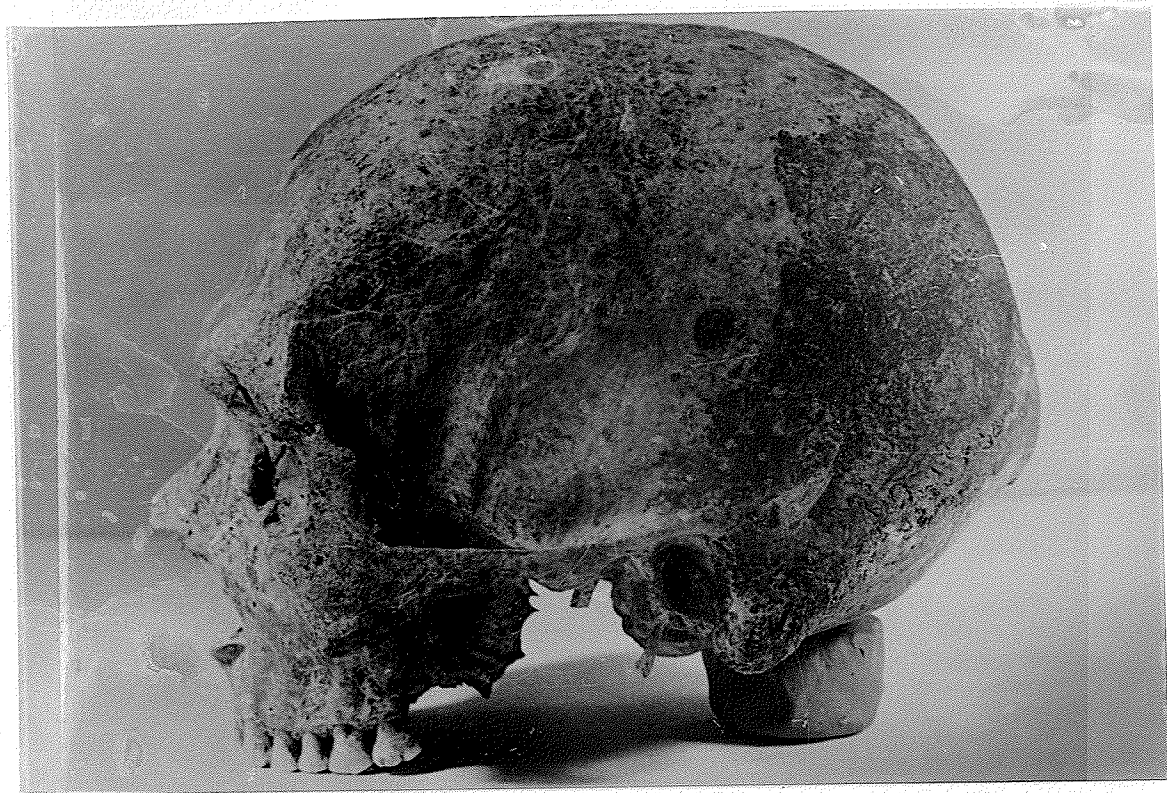


Plate 41

Cranium, Individual 2, Basal View,
Moose Bay Mound

Plate 42

Cranium, Individual 2, Superior View,
Moose Bay Mound

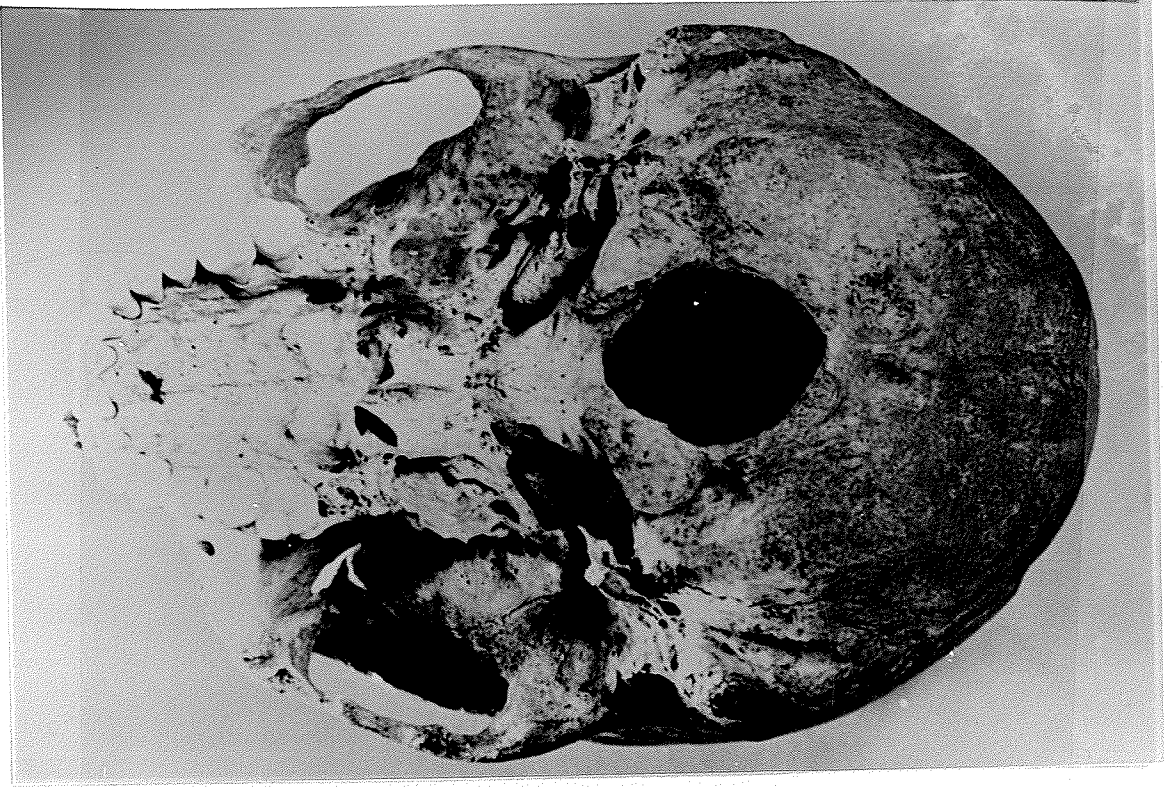


Plate 43

Pathological, Manubrium, Individual 2,
Moose Bay Mound

Plate 44

Pathological Ribs, Anterior Ends, Individual 2,
Moose Bay Mound

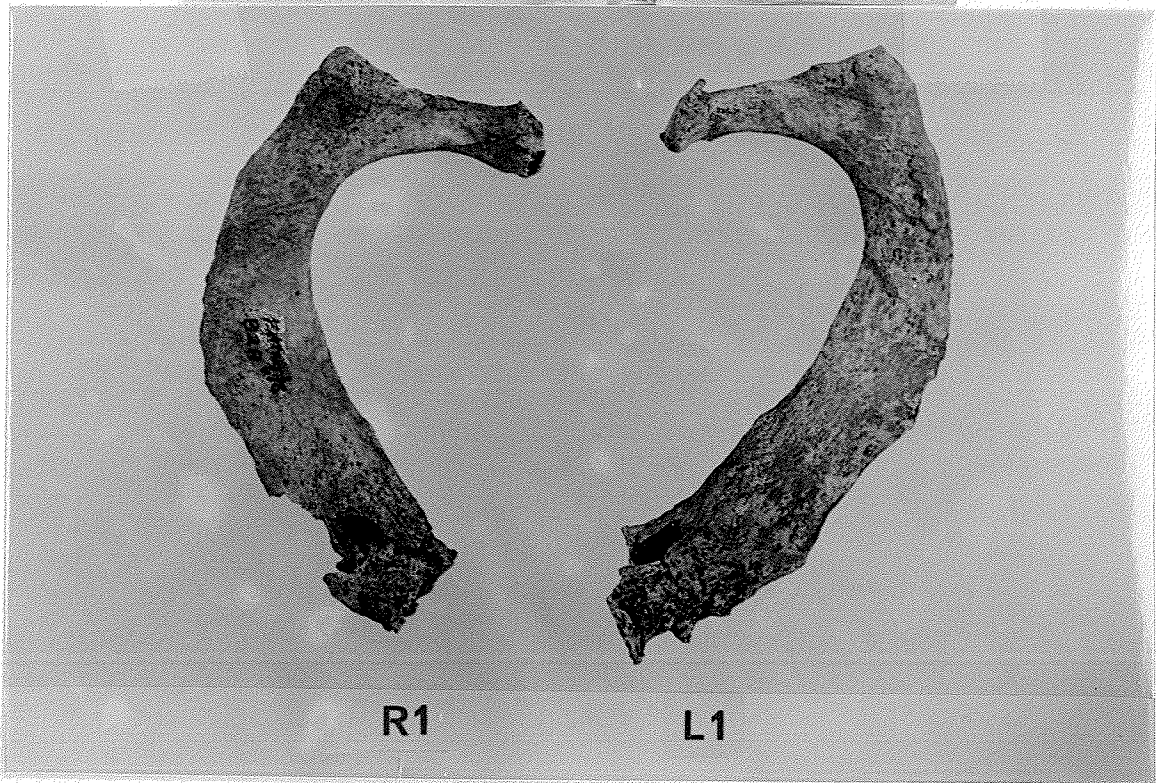
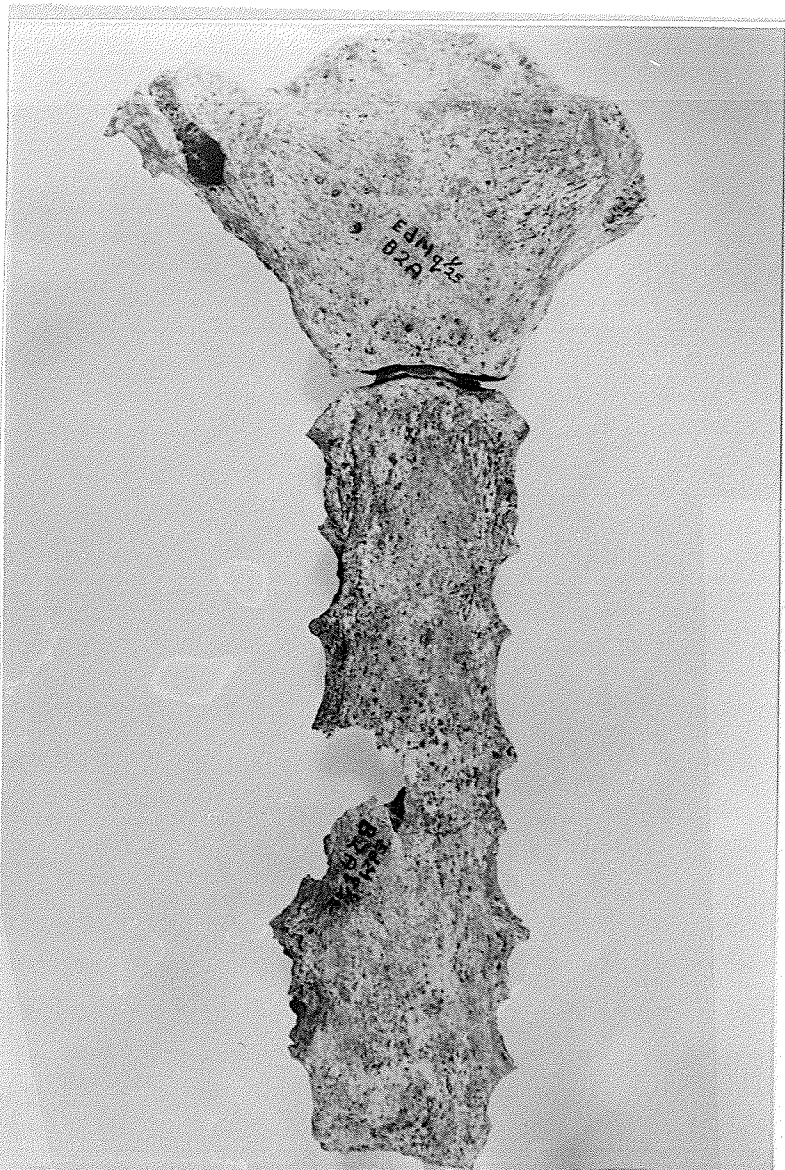


Plate 45

Pathological Thoracic (4th) Vertebra, Individual 3,
Moose Bay Mound

Plate 46

Pathological Ribs, Individual 3,
Moose Bay Mound

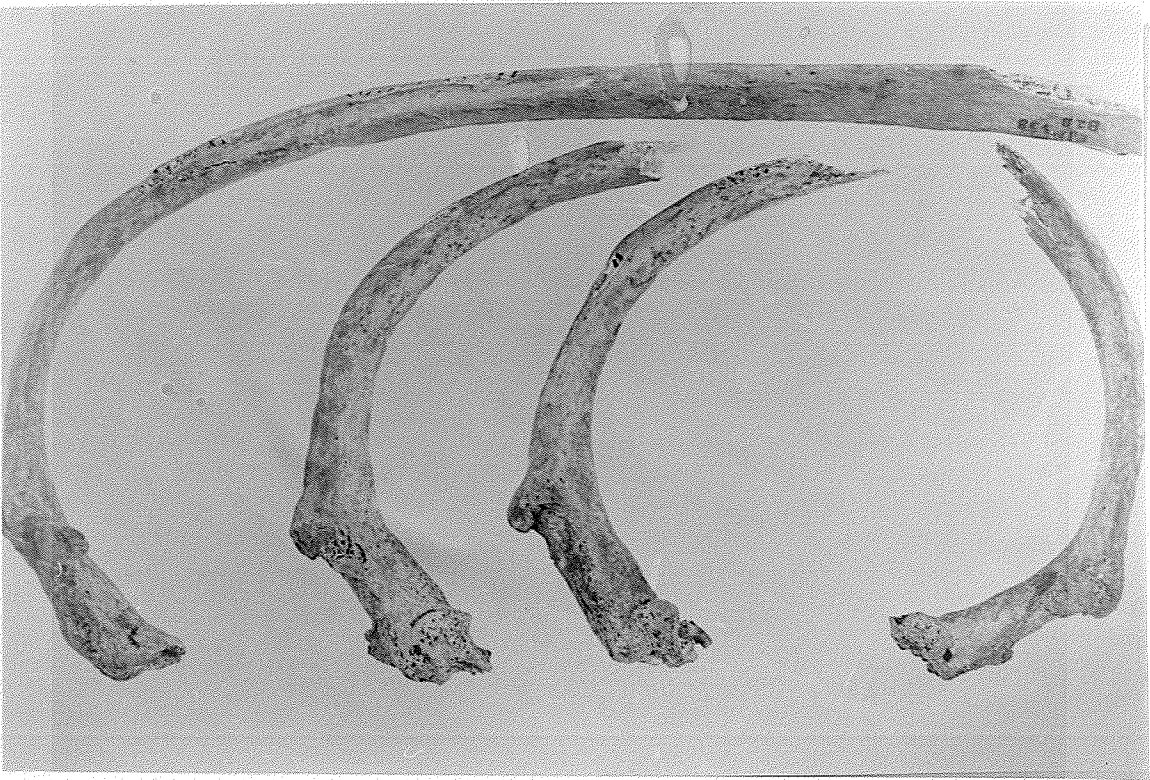


Plate 47

Pathological Auditory Meatus, Individual 7,
Moose Bay Mound

Plate 48

Anomalous Cervical Vertebrae, Individuals 1, 2, & 3,
Moose Bay Mound

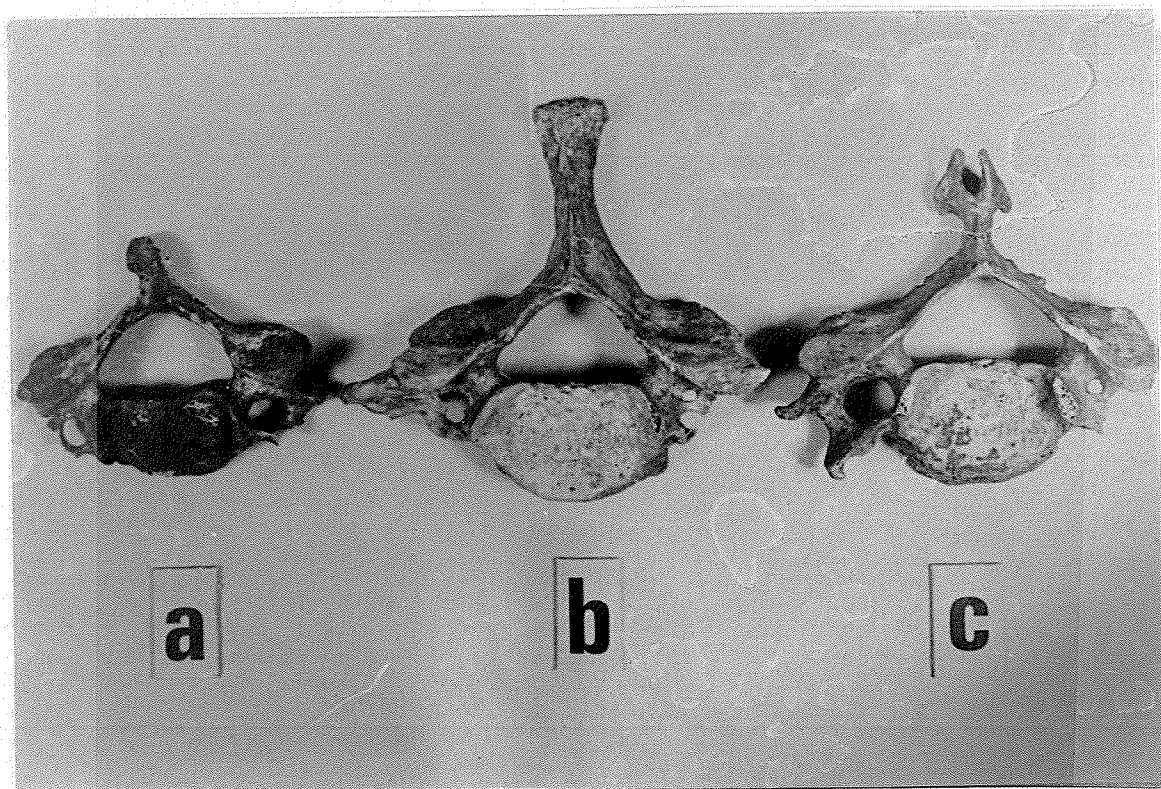


Plate 49

Arthritic Lipping on Sacral Vertebrae, Individual 2,
Moose Bay Mound

