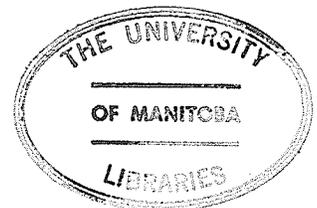


FIDLER MOUNDS (EaLf-3):
ANALYSIS OF A MOUND POPULATION
AND ITS ASSOCIATIONS

By
Barbara J. Saylor

1975



"FIDLER MOUNDS (EaLf-3):
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AND ITS ASSOCIATIONS"

by

BARBARA J. SAYLOR

A dissertation submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
of the degree of

MASTER OF ARTS

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Introduction

The Fidler Mounds (EaLf-3), of which there were 2, were excavated in 1963 prior to the construction of the Greater Winnipeg Floodway. Analysis began after the 1963 season but was discontinued and no more than a few brief reports of a general nature were ever written.

This thesis is a site report and summary of laboratory analysis of the material recovered. Problems and limitations are several. The writer was not present during excavations, and has had to depend on the notes and records made 12 years ago. The mounds themselves had been very badly disturbed and damaged by past excavations, and had been used as root-cellars, garbage dumps, and trash-burning areas for years. Skeletal material and artifacts had been broken, warped, eroded, mixed, scattered and looted. Unfortunately, some have been lost. The few references to the mounds in published literature and delivered papers, based on limited information, have often been erroneous.

It will be the writer's task to report, given the above-mentioned problems, on what was found in the Fidler Mounds, and to discuss the importance of the mounds in Manitoba prehistory.

CHAPTER 1

Mound Research and the Fidler Mounds

Introduction

The reasons for excavation and analysis of burial mounds have been 2-fold: to establish the identity, physical characteristics, and health of the builders, and to establish the place of mound-building and furnishing in the social and religious sphere of the executing people(s). The development of hypotheses, and of means of testing them, may be traced through 4 stages, each dependent on the level of knowledge available at different times in the past.

Stage 1 was an unorganized period of speculation, characterized by no clear directional flow between hypothesis and testing. This was the period of excavations by curious individuals, largely for the acquisition of collector's items. Speculations as to the identity of the mound-builders and the function of mounds came from the individual researcher according to his experience, reading, prejudices, and reasoning power. Donald Gunn (1868) agreed with the local Indians north of Winnipeg that mounds were the remains of earth-lodges, because the Indians he knew used scaffolds to dispose of their dead. George Bryce (1904) ascribed the mounds to the ancestors of the Mandan, based on legends of Mandan presence in southern Manitoba, and local Indian burial practices. John Schultz (1881) noted differences between the skulls recovered from mounds and those of modern Plains Cree, and hypothesized a past population change in Manitoba. T.H. Lewis (1886) argued that mounds were specially-made structures, not collapsed earth-lodges; lodges would leave rings and depressions. Henry Montgomery (1908) noted differences in the ceramics, burial modes, and physical

anthropology between Mississippian mounds and those of the north, but assigned both groups to the same extinct people--not ancestral to the modern Indians. Only Cyrus Thomas (1885) of the American Bureau of Ethnology attempted to establish a link between mound-builders and living Indians. To do so, he utilized documentation of migrations of the living groups, shifts in tribal boundaries in relation to mound sites, and some physical anthropology.

Arising out of this period was Stage 2, that of trait-tracing. Assuming that similar groups would share similar artifacts and burial practices, 20th Century archaeologists began compiling trait-lists from their own work and from that of earlier researchers. Digging was still motivated by curiosity, but it was tempered by a conscious attempt to note similarities and differences so as to refine the trait-lists and to sort all known excavated mounds into definite aspects and foci. Differences in burial modes and artifact inclusions meant differences in culture, in this context. Using the diffusion model, archaeologists attempted to find the centres from which burial practices radiated (and weakened, with distance and cultural admixture). The model of cultural evolution was used by other archaeologists to trace the development of mound burial from Archaic to Mississippian times, and its later "decline."

Chris Vickers (1947) saw a link between the Headwaters Lakes Aspect of Minnesota and some of the Manitoba mounds, in the form of seated burials and miniature vessels. MacNeish (1954) lumped all Manitoba mounds into the Manitoba Focus, which he saw as closely related to the Minnesota Blackduck Focus. He also noted similarities between the Arvilla Focus of Minnesota and some Manitoba mounds (MacNeish 1958). This has been most recently reiterated by Johnson (1973), at

the same level of comparison. Capes (1963) summarized these proposed relationships, and went further to demarcate the Souris-Antler region from the rest of southern Manitoba on the basis of possible influences from North Dakota: small ceramic vessels with spiral incisions. All of these authors lean towards the theory that the mounds were built by the ancestors of the Assiniboine, based on the early presence of this group in Manitoba in the fur-trade era, and on the burial customs described by Alexander Henry in 1776 and ascribed to the Assiniboine (MacNeish 1954; Bushnell 1927).

Traits used to determine the degree of relationship between a particular mound and a particular complex or focus have included mound shape; position of graves vis-à-vis the mound floor; the presence/absence of miniature vessels, beaver-tooth gouges, shell beads, log covers for graves, red ochre, triangular or side-notched projectile points, burnt clay floors; and a long list of others (Capes 1963). Not only are many of these items or features shared by a number of supposedly different foci or aspects, but also many of them are so persistent over time and space as to be useless for their stated purpose (e.g., Steinbring's 1975 paper, in which red ocre and subfloor burial are defined as Archaic, and in which Burial 20, Fidler Mounds, is so identified). There is also the historically-documented burial of their dead by other groups in existing mounds, and the crowning problem of widespread mound plundering. Disturbance reduces and/or relocates the full complement of burials and artifacts, so that mixture and negative evidence complicate the history of a particular mound. An example of the difficulty of fitting a mound in a cultural slot is given in Hanna (1973).

In an attempt to introduce a fresh, non-circular approach to the problem of mounds, a number of researchers have concentrated their attention on the physical anthropology of the mound people (Stage 3). Until now, the only description of a Manitoba mound population has been Cameron's (1962) study of the Montgomery collection from the Souris-Antler area. This has since been incorporated into an ambitious attempt to map genetic relationships among various Plains, Woodland, and Arctic groups, with a view of tracing population movements and change within North America (Ossenberg 1969). The basic operations involved in such analysis include the selection of non-continuous skeletal characteristics (those most sensitive to genetic change), the computation of their relative frequencies across populations, and the application of an equation calculating genetic relative distance between skeletal groups. Important to this analysis is the inclusion of data from skeletal collections, particularly crania, whose ethnic identities are known, as extrapolations are made from these to those populations whose identities are not known. One basic problem of this approach is that in order to get a big enough sample to work with, skeletal material from relatively large geographical areas must be lumped, and this is done on the risky basis of ascription to an aspect or focus, whether or not this ascription has any basis in reality. An example, acknowledged by Ossenberg herself (1974), is the Melita Focus of southwestern Manitoba, defined solely on the presence of spiral-incised miniature ceramic vessels (Capes 1963).

The 4th stage in the manipulation of mound data concerns the relation of mound features to the status of the dead, and what these indicate about the social structures and organization of the group.

Information used to generate hypotheses comes from ethnographic studies of various types of social organization from urban to band society. Recent papers (Binford 1971, Saxe 1970, Tainter 1975) have pressed archaeologists to turn attention to the potential of applying tests to their data based on the studies of the mortuary customs and rationalizations of groups all over the world. Ucko (1969) has also cautioned archaeologists against the self-defeating application of their own prejudices or assumptions about burials to their data. For instance, disposal of the dead depends to some degree on status, but methods of disposal may be antagonistic within a small geographical area: Group A cremates kings; Group B, 25 miles away, cremates habitual criminals. The inclusion or absence of grave-goods may have nothing whatever to do with the personal status of the deceased or with beliefs in an afterlife.

Differences in burial modes or associations are assumed to reflect the status at death of the individual (Tainter 1975). In the case of northern Plains-Prairie mounds, it is also assumed, from the artifact inventory and from physical indicators (e.g., teeth) that the people buried therein were hunter-gatherers. From ethnographic studies (e.g., Damas 1969, Williams 1974) we know that hunter-gatherers were organized into band societies. Personal status in a band society should fall into a few unambiguous categories: male/female, young/old, married/unmarried. Beyond this level of differentiation, there are others more ambiguous, more qualified: work prowess, physical and mental health, degree of conformity to group standards of behaviour, variations in marital status (bereaved, divorced, re-wed, multiply-wed), congenital factors (hermaphroditism, genetic crippling), clan or voluntary society membership, and status prescribed by spiritual agency (through dreams

or visions), to name a few. Each person, as he/she ages, assumes a mantle of status made of several layers of duty, responsibility, and privilege. The total of these is the social persona (Saxe 1970). A female burial, for example, may reflect in its treatment all of the woman's accumulated status until death: wife, mother, mother of deceased warriors, clan member, and so on. The choice of status to be reflected may be influenced by such factors as cause of death and/or environmental factors (e.g., nearness of enemies, time of year, period of economic activity). The determination of age-sex status may be the most easily done, should any difference be discernible; other types of status are or may be more subtle, and require different methods, such as Tainter's (1975) use of the information statistic to segregate sets of burials marked by degrees of energy expenditure, assuming that there is a positive correlation between rank and labour put into burial.

All 4 stages of research depend on historical documentation, used in various ways, but largely for the generation of hypotheses to account for the phenomena studied. As in other instances of the use of documents in conjunction with archaeological research, however (see Binford 1971: 18), the number of variations on the basic theme of disposal of the dead have assuredly not been recorded (see Bushnell 1920, 1927).

It is in the context of the above discussion that the analysis of material from the Fidler Mounds will be discussed.

Excavation History of the Fidler Mounds

The Fidler Mounds (EaLf-3), once located at 50° 05' 30" N, 96° 56' 08" W, River Lot 160, just north of and across the river from the town of Lockport, Manitoba, were excavated in 1963 as part of a salvage project made necessary by the construction of the Greater Winnipeg Floodway. The results of this excavation, the final one of many, have never been published, as analysis was not completed.

There have been 5 more-or-less recorded excavations of these mounds over a period of 96 years. Of all the material recovered, only that excavated in 1963 was available for study. In 1963, the mounds yielded 21 burials, comprising 49 individuals, and numerous artifacts and faunal remains.

First mention of these mounds was made by Donald Gunn, a pioneer in the Red River district. His neighbour, in the fall of 1866, dug a root-cellar into the edge of the northerly of a pair of mounds on his property. Some 4-5 feet below the surface, oak logs were encountered; these overlay a sitting skeleton. Associated with this burial were 4 or 5 skulls lying face down nearby, and a number of shell ornaments, shell beads, beaver bones, a pot containing a shell, and 2 pipes of "bluestone". A hard-baked earth floor, at 8 feet below the top of the mound, coincided with the actual prairie surface (Gunn 1868).

Charles N. Bell of Winnipeg excavated both mounds in 1885 and reported his findings. Digging a crescent-shaped trench from the top of each mound to the natural prairie level, Bell noted a succession of roots and humus, 4 feet of black loam with traces of ash, charcoal, and burnt clay, and, in the north mound, a layer of hard burnt earth and a log covering over a sitting burial. With the burial were a small

ceramic vessel, shell beads, a shell gorget, steatite pipes, and quantities of red ochre spread over the bones. Near the burial was a central clay platform below rocks, surrounded by 7 bundle burials. Scattered in the fill were supine burials, ascribed to the smallpox epidemic of 1782. The northerly mound was oval in shape, 75 feet long and 65 feet wide, and 8 feet high. Its surface was covered with a profuse growth of 3.5-inch diameter oak trees. A filled-in shaft was located in this mound, possibly the root-cellar of 19 years before. In the southerly mound, for which no excavation details were published, Bell found bones, pottery, stone mauls, shells, and a double layer of rocks 4 feet below the mound surface. Both mounds were situated on a ridge 500 yards from the Red River (Bell 1885, 1893, 1898).

A. McCharles located the mounds on a westerly-facing ridge 40 rods (220 yards) from the Red River. Both were oval in outline, each about 65 feet long, 55 feet wide, and 7 feet high. They were apparently connected by a "walkway" some 300 yards long, made of earth and cracked in the summer heat, similar to ones he had seen in the Souris-Antler area. He re-discovered Bell's trenches, and recovered an extended burial from near the centre of the southerly mound, level with the prairie surface, head to the N and facing E. This individual was covered by 2 layers of limestone slabs. In the fill, 1-3 feet below the mound surface, there were bundle burials. McCharles re-described Bell's artifact finds, which included a seashell pendant with a woman's face carved into it, surmounted by a conical hairdo, a red pipestone hatchet with carved animals on each side, and a yellow clay breastplate (McCharles 1887).

The Reverend George Bryce excavated these mounds as well, remov-

ing a number of individuals associated with shell ornaments. He published no account of these mounds; details of his work were told by the landowner to W. B. Nickerson years later. Nickerson noted that the mounds appeared to have been fully excavated, and that the southerly one had at the time of his visit an active root-cellar in its centre (Capes 1963; see Plate XVII, Fig. 3, for a photograph of this mound).

Timothy Fiske, of the University of Manitoba, found the mounds in 1963 to be 200 yards E of the Red River, severely pitted, and covered with and surrounded by trash. The N mound measured approximately 19 metres across; the S one about 17 metres. Although it seemed unlikely that anything would be found in the mounds, investigation went ahead, and results were obtained.

The Area

The Fidler Mounds were located on a ridge above the river terraces of the Red River, in the Red River sub-area of the central lowland area of Manitoba (Ehrlich, Poyser, Pratt and Ellis 1953). This is a generally flat clay basin with local floodplains and river levees. Underlying the region is the Red River Formation: limestone and dolomite, overlain by glacially-deposited boulder till from 20-200 feet thick. As part of the Lake Agassiz basin, the area is covered with lacustrine and alluvial deposits. The river terraces, subject historically to inundation, are of Red River Clay, a well- to intermediate-well-drained soil type. In profile, the A horizon is black to very dark grey, 8-12 inches thick, neutral in reaction and strongly organic. The B horizon, 4-6 inches thick, is dark grey-brown and slightly alkaline. This grades into the Ca horizon which is light grey-brown clay, 8-10 inches thick, hard when

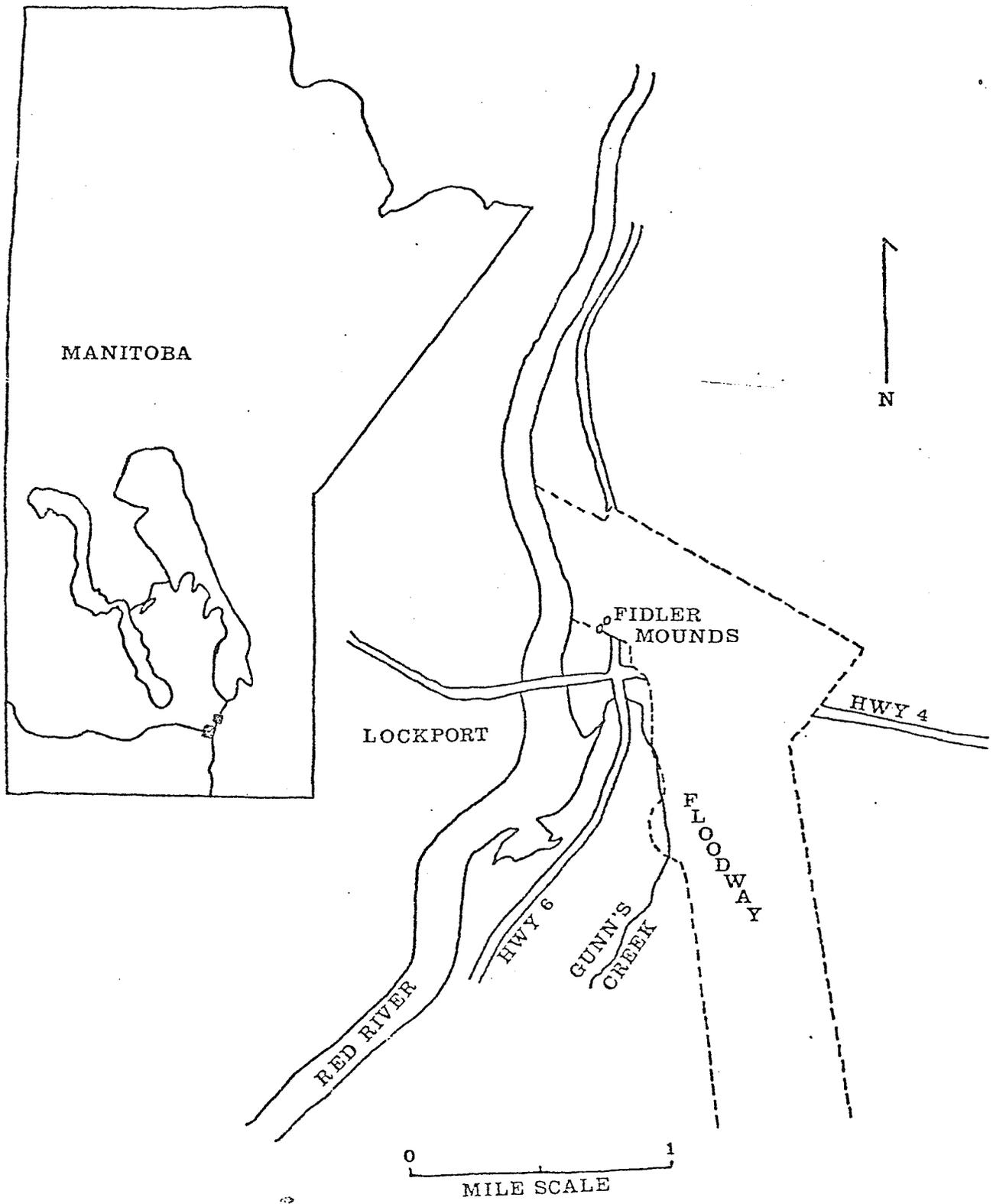


FIG. 1. FLOODWAY, LOCKPORT AREA

dry, and finely lime-carbonated. C1 is grey-brown, cloddy, very hard, and alkaline. This type of soil is generally found on ridges or near stream channels (Ibid.).

Native vegetation was predominantly tall prairie grasses, with shrubs and trees being located along river channels (Ehrlich et al; Watts 1960). On the better-drained Agassiz basin, dominant grasses included big and little bluestem (Andropogon gerardi and A. scoparius), wild rye (Elymus canadensis), northern wheatgrass (Agropyron dasystachyum), June grass (Koeleria cristata), and needlegrass (Stipa spartea) (Bird 1961; Watts 1960).

Well-drained areas above river channels were characterized by white oak (Quercus macrocarpa), trembling aspen (Populus tremuloides), western snowberry (Symphoricarpos occidentalis), hazelnut (Corylus sp.), and red-osier dogwood (Cornus stolonifera). Clay terraces and floodplains were noted for the presence of elm (Ulmus americana), basswood (Tilia americana), cottonwood (Populus deltoides), box elder (Acer negundo), lance-leaved ash (Fraxinus pennsylvanica), willow (Salix sp.), and various ferns and herbaceous plants. Both associations included saskatoon (Amelanchier alnifolia), high-bush cranberry (Viburnum trilobum), and nannyberry (Viburnum lentago), among others (Bird 1961).

Fauna of the area included most of the following: plains bison (Bison bison bison), elk (Cervus canadensis), white-tailed deer (Odocoileus virginianus), moose (Alces americana), black bear (Ursus americanus), coyote (Canis latrans), wolf (Canis lupus), snowshoe hare (Lepus americanus), white-tailed jackrabbit (L. townsendii), beaver (Castor canadensis), muskrat (Ondatra zibethicus), red fox (Vulpes vulpes), martin or fisher (Martes pennanti), mink (Mustela vison), otter (Lutra canadensis).

sis), Franklin's ground squirrel (Citellus franklini), 13-lined ground squirrel (C. tridecom lineatus), and pocket gopher (Thomomys talpoides) (Bird 1961; Peterson 1966).

Birds of the area included prairie chicken (Tympanuchus cupido), sharptailed grouse (Pedioecetes phasianellus), sandhill crane (Grus canadensis tabida), and a variety of waterfowl: mallard (Anas platyrhynchos), common merganser (Mergus merganser americanus), bluewing teal (A. discors), Canada goose (Branta canadensis), whistling swan (Olor columbianus), and trumpeter swan (O. buccinator), to name a few (Ibid.).

Fish of the Red River available for exploitation included channel catfish (Ictalurus lacustris), suckers (Catostomus sp.), northern pike (Esox lucius), perch (Stizostedion vitreum), silver bass (Aplodinotus grunniens), walleye (S. vifrenum), goldeye (Hiodon alsoides), rock bass (Ambloplites rupestris), and sturgeon (Acipenser fulvescens) (Hinks 1943).

A variety of mussel species, including Lasmigonia complanata, Anondonta grandis grandis, Quadrula quadrula, Lampsilis sp., Amblema costata, A. plicata, and Ligumia recta latissima, were (and are) present in the Red River system for exploitation as food (Clarke 1973).

In sum, the banks of the Red River were excellent places to live from the point of view of resources and in terms of good campgrounds. McCharles (1887) noted the good fishing and hunting in the vicinity of the St. Andrew's rapids, and a perusal of the number of recorded sites along the river from just south of Winnipeg to Lockport, not to mention reports from local collectors and early antiquarians, shows that the area was densely settled in prehistoric times.

Excavations in 1963

Excavations were carried out at the Fidler Mounds between June 1

and the end of August, 1963, with a fulltime crew of 5, plus occasional volunteers. The area on and around the mounds had been cleared and staked out earlier. The grid was laid out in 3-metre intervals, but the excavators did not attempt to correlate their units closely with them. Metric equipment was not acquired until July 30, so until that date all measurements were recorded in the English system.

Excavation units were laid out with no apparent attempt to trench the mounds (see Fig. 2). Extensions to excavation units were necessitated by the finding of burials, and were made in no systematic fashion (Fig. 2). Burials and features were numbered consecutively as they were found.

The excavators, attempting to ascertain the original stratigraphy of the mounds, dug in arbitrary levels--although not consistently. Sod was considered to be Level 1, and it averaged about 5 cm in depth. Layers of earth below the sod were removed in levels of from 10-17 cm, with no consistent rule. Most units were dug so that floors were kept horizontal; however, sometimes the floors were dug so that they measured close to the same depth from surface from each corner of the unit. Portions of units were marked off and excavated deeper than the rest, and some levels were expanded laterally beyond the original boundaries. For example, Unit J (see Fig. 2) was dug in 10 levels, of which #1-6 were in the original unit, #7 was a 1-by-0.75-metre level in the SW corner of the unit, #8 was the first level of the NE extension, #9 was the 2nd, and #10 was the level that brought the floor of the extension even with Level 6 in the original unit. Total depth of the unit, measured at the SW corner, was 120 cm.

Excavation was done with trowels, except for work done after the

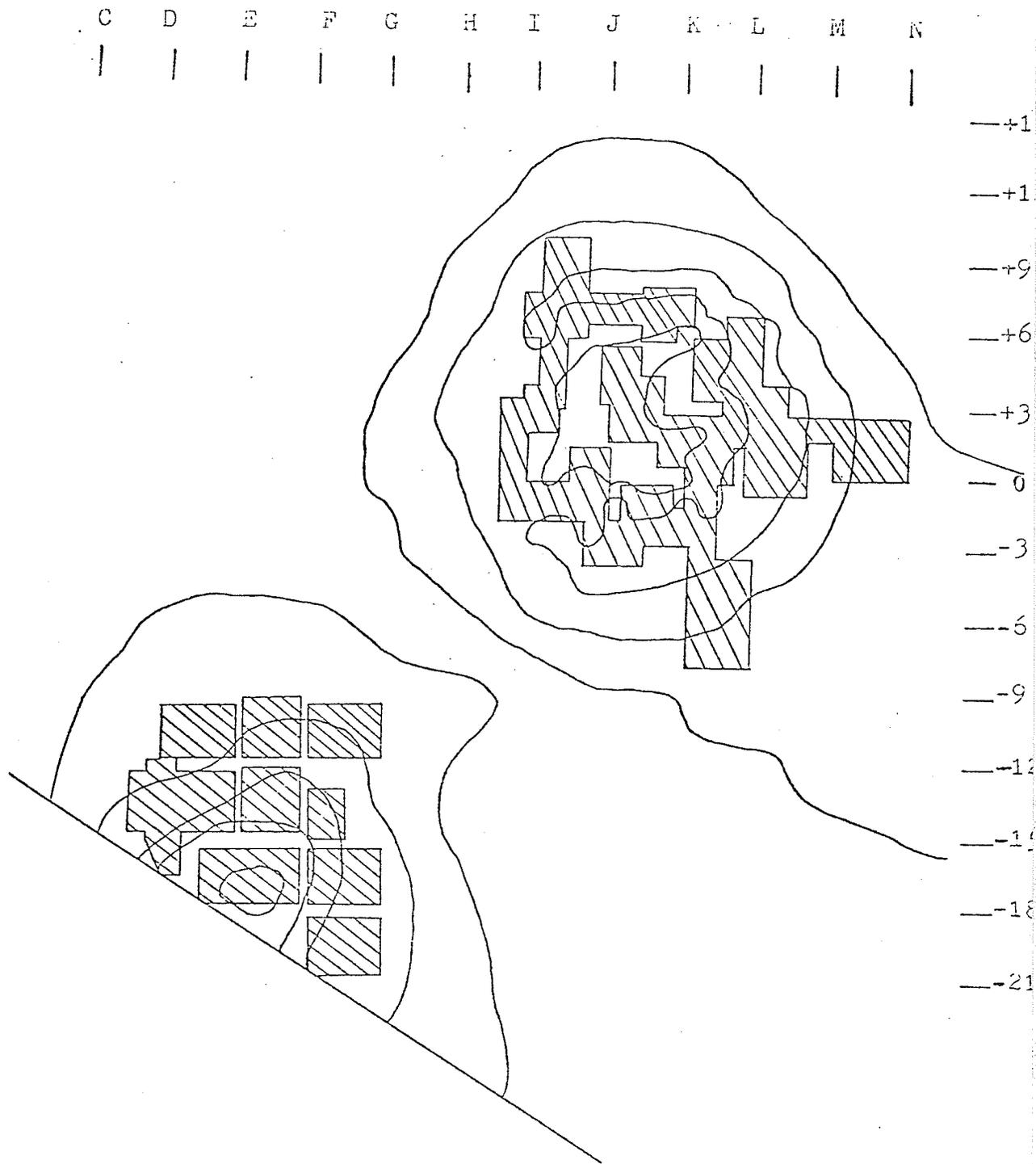


FIG. 2. FIDLER MOUNDS, 1 AND 2

season with shovels (Units AA and BB, Fig. 3 & 4). Half-inch interval screens were used to screen the earth removed from each level. Artifact provenience was recorded by level only, not by distance from the unit walls or depth from surface. Datum for elevations was the top of a large rock just E of Mound 2 (the S mound) near grid stake I-15. However, in his manuscript report, Fiske retained the elevations of burials from this point while changing the horizontal reckoning of burial position to arbitrary straight lines N and E of the mounds. Thus, all burials were recorded as S and W, instead of in relation to datum. The rows of 3-metre stakes ran E from an arbitrary point A-0 W of the mounds and slightly S of the road between them. They were lettered A to M N and S of A-0, and were numbered +/-3, 6, 9, and so on, as far as -24 and +15 (Fig. 2). For the purpose of this paper, datum for horizontal position has been set at G-0, this being a more convenient point with which to work.

Although Mound 1 was investigated in full, the S half of Mound 2 lay outside the Floodway right-of-way on private property, and the landowner denied permission to dig. For this reason, only the N half of Mound 2 was excavated.

A single carbon-14 date was obtained from the Fidler Mounds. It was made on a small sample of scattered bits of charcoal recovered from the floor of the central burial pit, not far from Burial 13. The date, obtained from the Saskatchewan Research Council, was 380 ± 80 years B.P. (S-225) or about A.D. 1570.

Level and unit record sheets, notebooks, sketches, black-and-white prints and colour slides from 1963, together with my raw data, are on file at the Anthropology Laboratory, University of Manitoba.

CHAPTER 2

Burial Inventory and Mound Structure

Introduction

The following is an inventory of the Fidler Mound burials, listed according to location (by excavation unit and distance from arbitrary datum G-0), relation to ground level (AGS/BGS--above/below ground surface), grave form, if determinable, mode of disposal, number of bones per individual, the number, age, and sex of the individuals, any anomaly (genetic oddity) or pathology present, and associations, such as artifacts. Locations of burials are given pictorially in Figs. 3 and 4.

Burial 1:1-12 (Plate 1a)

Location: Unit B, 12.9 metres E of G, 4.5 m S of O, 43 centimetres AGS, in topsoil on the outer slope of Mound 1.

Grave: none.

Mode: none apparent. Bones were clumped in an area 36 cm NS by 26 cm EW, and 10 cm from top to bottom of the bones.

Individuals: 2 of indeterminate sex; 1 adolescent about 18 years of age, and 1 adult, the latter represented by 1 skull fragment. The former was represented by 55 skull fragments, right half of a mandible, a right ulna, right radius, left metacarpal, left 3rd and 4th metatarsals, and left fibula. There is a shovel cut on the mandible; otherwise the bones are relatively intact.

Anomaly: os inca and mixed dentition in the adolescent.

Pathology: none.

Associations: none.

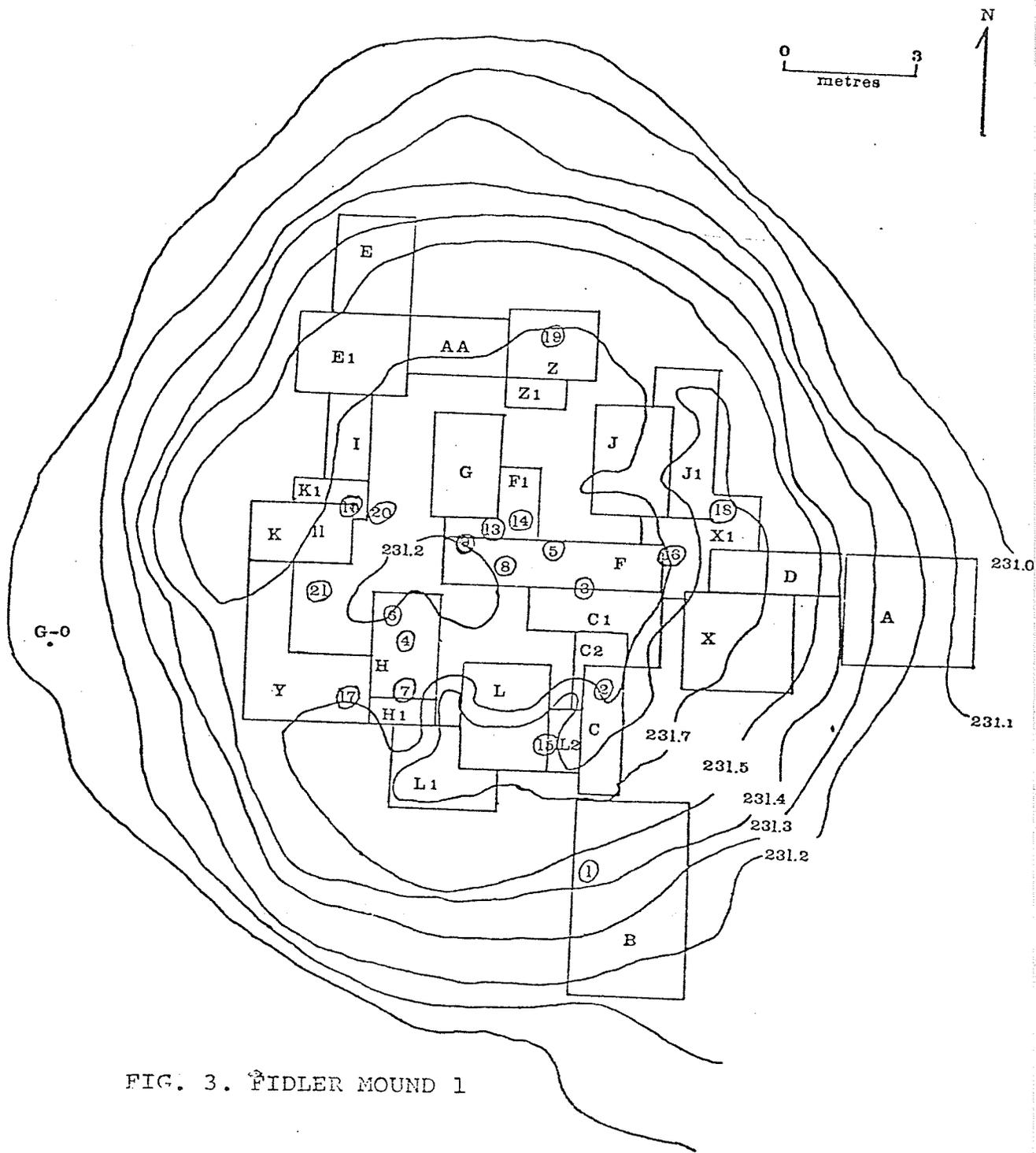


FIG. 3. FIDLER MOUND 1

Burial 2:1-47 (Plate 1b)

Location: 12.2 m E of G, 0.08 m S of O, 15 cm BGS on the slope near the central depression of Mound 1.

Grave: a shallow basin-like pit about 12 cm into the light clay subsoil, measuring 76 cm NS by 61 cm EW at the top of the burial, and 30 by 30 cm at the bottom, 23 cm below.

Mode: secondary bundle burial, with long bones clumped in a NS direction. The burial measures 60 cm NS by 47 cm EW.

Individuals: a) an adult male over 23 years, b) an adult of indeterminate sex, over 40 years, c) an adolescent 17-20 years, d) a child less than 6 months. Individual a) consists of skull fragments, a left humerus, left radius, left femur, left and right tibia, and left and right fragmentary innominates. Individual b) is represented by skull fragments, a mandible, right humerus, left ulna, left femur, and right innominate fragment. The adolescent c) consists of skull fragments, left and right femur, left fibula, and left fragmentary innominate. The child d) consists of skull fragments, a left clavicle, left humerus, left tibia, and left innominate fragment. There were also a right 1st and 2nd metacarpal, left patella, left talus, left 1st and 3rd cuneiforms, left 3rd and 4th and right 2nd, 4th and 5th metatarsals, 2 foot phalanges, 7 rib fragments, and 2 thoracic vertebrae.

Anomaly: none.

Pathology: extreme alveolar resorption on the mandible of (b); arthritic involvement of the vertebrae.

Associations: a mammal long bone fragment, a fishbone, a small mammal bone, and a possible digging tool of broken bison tibia, found with the burial.

Burial 3: 1-48 (Plate 2a)

Location: 12 m E of G, 2.8 m N of O, Unit C, 28 cm BGS, in the depressed centre of Mound 1.

Grave: none. A rockpile (Feature 5) lay over the SW part of the burial; historic glass and tin cans were found on top of the rocks.

Mode: possibly disturbed secondary burial.

Individuals: a) adult male, 30 years of age, b) adult 40 years of age, c) child, 6 years of age. Individual a) consists of a right humerus, left radius, and skull fragments; b) consists of a left ulna and right humerus; c) is represented by a right innominate. In addition, there is a left calcaneus, right talus, left navicular, 2 metatarsals, 1 foot phalanx, 3 rib fragments, 1 cervical vertebra, 1 thoracic vertebra, and 3 unidentifiable pieces.

Anomaly: none.

Pathology: none.

Associations: mammal long bone fragment; a few red ochre stains on 2 bones, a humerus and a navicular.

Burial 4: 1-49 (Plate 2b)

Location: Unit H, 6.4 m E of G, 0.20 m S of O, on the ground surface, near the central depression of Mound 1.

Grave: none.

Mode: possible disturbed primary interment. The bones of the upper body of the main individual were 15 cm higher than the lower body.

Individuals: a) a male 30 years of age, b) an adolescent less than 14 years, c) a child 3-4 years, d) an adult of indeterminate sex. Individual a) consists of a left humerus, left ulna, left femur, left and

right tibia, left fibula, left scapula, and a lumbar vertebra. Individual b) consists of a right femur and right tibia. Individual c) is represented by a sacrum fragment. Individual d) consists of a right femur. In addition, there are 2 skull fragments, 1 immature metacarpal, a left 4th metatarsal, a hand phalanx, 6 rib fragments, and 5 unidentifiable pieces. There was much breakage and apparent "shovel-shock" on the bones.

Anomaly: none.

Pathology: swelling and periostitis in the left tibia and fibula of a), and arthritic lipping on the associated lumbar vertebra. There were small cutmarks on the right tibia.

Associations: red ochre on the left tibia of a).

Burial 5: 1-97 (Plate 3a)

Location: Unit F, 9.7 m E of G, 0.6 m N of O, 50 cm BGS.

Grave: none.

Mode: possible secondary burial; the long bones were oriented EW. The burial dimensions were 48 cm EW by 20 cm NS, and the bone concentration was 12 cm deep.

Individuals: a) a male 30 years of age, b) an adult 25 years of age, indeterminate sex. Individual a) is represented by 12 skull fragments and a left humerus; b) by a right humerus. A tibia was lost in the field, and a foot phalanx makes up the rest of the bones.

Anomaly: none.

Pathology: none.

Associations: none.

Burial 6: 1-98

Location: Unit H, 7.9 m E of G, 1 m N of O, 50 cm BGS.

Grave: none.

Mode: possibly disturbed primary interment; its dimensions were 80 cm NW-SE by 30 cm SW-NE, with the heaviest bone concentration in an area 30 cm SW-NE by 25 cm NW-SE. The bone concentration is 5 cm thick.

Individuals: a child, about 3 years old. Bones were a left scapula, right clavicle, 17 rib fragments, 5 cervical vertebrae and a centrum, and 5 unidentifiable pieces.

Anomaly: none.

Pathology: none.

Associations: 2 faunal bones, a shaft fragment and a foot bone.

Burial 7: 1-99 (Plate 3b)

Location: Unit H, 8.5 m E of G, 0.9 m S of O, 70 cm BGS.

Grave: a basin-shaped pit in the clay subsoil was clear. A clay lens 23 cm AGS may indicate that the pit was dug before the mound was built up. At its top the pit measured 87 cm NS by 95 cm EW; at its bottom, 65 cm NS by 93 cm EW.

Mode: primary interment, resting on the back and right side, arms tightly flexed, legs tightly flexed, legs and head pointed to the right. Orientation was EW with the head to the E. Dimensions were 85 cm EW by 57 cm NS, and the burial was 25 cm thick.

Individuals: adult male about 30-35 years of age, nearly complete except for some carpals, cuboids, hand phalanges, manubrium and sternum, and the hyoid. The mandible has been lost in storage. The condition of the bones is excellent.

Anomaly: none.

Pathology: gross swelling of the right tibia, fibula, radius, and ulna; trephination of the skull just below and to the right of lambda on the

occipital bone.

Associations: green stains on the right wrist bones, and red ochre on the right arm bones. A trumpeter swan ulna, drilled for a whistle, was found by the left shoulder, parallel to the neck; a brown chalcodony biface was found between the ribs and left scapula, and another on the right humerus; an unretouched chert flake was found above the left hip socket on the innominate; a polished drilled bone lay across the ulna whistle; and a flat scratched bird humerus lay 14 cm from the right forearm.

Burial 8: 1-118 (Plate 4a)

Location: 10.8 m E of G, 2.6 m N of O, Unit F, 90 cm BGS, in the central disturbed area of Mound 1.

Grave: none.

Mode: indeterminate; the bones were scattered over an area 110 cm EW by 90 cm NS, and the concentration was 20 cm deep.

Individuals: a) a male 30-35 years of age, b) an adolescent less than 15 years of age. Individual a) consists of a left clavicle, right humerus, left ulna and radius, left and right femur, left tibia, and left and right fibula. Individual b) is represented by a left humerus and ulna, skull fragment, and right radius. In addition, there were 7 rib fragments, 1 cervical, 1 thoracic, and 1 lumbar vertebra, and a lumbar fragment. There was shovel breakage on the left ulna and radius of a).

Anomaly: none.

Pathology: none.

Associations: red ochre stains on the legbones of the adult and on the skull fragment of the adolescent.

Burial 9: 1-119 (Plate 4a)

Location: Unit F, 9.3 m E of G, 2.6 m N of O, 84 cm BGS, near the bottom of the central pit in Mound 1.

Grave: see Feature 4.

Mode: possible disturbed primary sitting interment (legs and feet are upright). The burial measured 22 cm NS by 20 cm EW, and was 40 cm thick.

Individuals: a child, about 8 years of age, consisting of 2 skull fragments, mandible, left clavicle, left and right humerus, right ulna, right radius, part of a 1st metacarpal, 1 femur fragment, left and right tibia, left and right fibula, left and right calcaneus, left and right talus, left and right navicular, 6 metatarsals, complete foot phalanges, 2 ribs and a fragment, a cervical vertebra and a centrum, and a right ischium.

Anomaly: none.

Pathology: small lesion on the left humerus; small cuts on the clavicle, fibula, and mandible.

Associations: red ochre stains present on several bones. This burial may be associated with Feature 4, and Burials 13 and 14.

Burial 10: 1-120 (Plate 4b)

Location: Unit K, 6.7 m E of G, 3.2 m N of O, on the GS, in the slope into the depression of Mound 1.

Grave: darker area of earth around the burial, not clearly defined. Of softer earth, this area extended about 37 cm S and W of Burial 10 and was roughly circular, with an estimated diameter of 130 cm.

Mode: possibly very disturbed primary burial. There are shovel marks on some of the bones.

Individuals: a) adult male, 35-40 years of age, b) adolescent, 18-20 years of age. Individual a) consists of 4 skull fragments, mandible, left clavicle, right scapula, left and right innominate, left and right humerus, left and right ulna, left radius, left and right femur, left and right tibia, left fibula, sternum, sacrum, atlas vertebra, 8 thoracic and 3 lumbar vertebrae. Individual b) consists of a left humerus, ulna, and tibia. There is, in addition, a right hamate, right calcaneus, right talus, left 2nd metatarsal, 21 ribs, and 78 unidentifiable pieces. Anomaly: there is a small medial condyle on the adult left humerus. Pathology: in the adult, a cavity in the lower right 3rd molar, and alveolar resorption.

Associations: large mammal calcaneus, unworked, on the upper body bones of the burial.

Burial 11: 1-121 (Plate 5a)

Location: Unit K, 6 m E of G, 2.5 m N of O, 25 cm BGS, on the extreme W edge of the depression in Mound 1.

Grave: shallow pit in the clay subsoil, irregular in outline and following past the burial dimensions, measuring 152 cm NNE-SSW by 70 cm EW. The burial was 37 cm thick, and there were 4 large rocks on top of it, the highest one being about 25 cm above the burial.

Mode: partly flexed primary interment, lying prone. It measured 133 cm NNE-SSW by 40 cm EW, and had broken upper legs and pelvis due to the rocks. The mandible faced N.

Individuals: adult male, 30-40 years of age, consisting of a skull fragment, mandible, left scapula, left clavicle, left and right humerus, left ulna, left radius, 3 left carpals, 2 right metacarpals, left and right

femur, left and right tibia, left fibula, left calcaneus, left talus, left cuboid, 2 cuneiforms, 3 left and 5 right metatarsals, 14 phalanges, 6 ribs and 16 pieces, a thoracic vertebra, 5 lumbar vertebrae, 3 sacral fragments, left and right innominates, and 78 fragments.

Anomaly: none.

Pathology: arthritic lipping in the lumbar vertebrae and on the cuboid, extreme alveolar resorption on the left mandible and an abscess on the right, and a fused os metatarsum on the medial base of the 2nd metatarsal.

Associations: red ochre is present on the lumbar vertebrae and the right phalanges. In the lumbar area, there was a worked antler with a broken end that may have once accommodated a hafted beaver-tooth.

Burial 12: 1-122 (Plate 5b)

Location: Unit Q, 8.5 m W of G, 13 m S of O, 15 cm BGS, measured at the top of the skull. The only burial found in Mound 2, this was located on the outer NW slope of the mound.

Grave: none.

Mode: primary burial, supine, with knees slightly flexed. A flat limestone slab was found on the chest, and 2 other rocks lay beside the right femur. Oriented NS, head to the N, the burial measured 108 cm NS by 75 cm EW, and was 20 cm thick.

Individuals: an adult female, over 20 years of age, consisting of a skull and mandible, a right scapula and a fragment, right clavicle, left and right (fragment) humerus, right ulna, right radius, 1st metacarpal, left and right femur, left and right tibia, left and right fibula, left calcaneus, left talus, hand phalanx, 4 ribs and 5 fragments, 6 cervical vertebrae, left and right innominate, and 88 fragments. The bones are

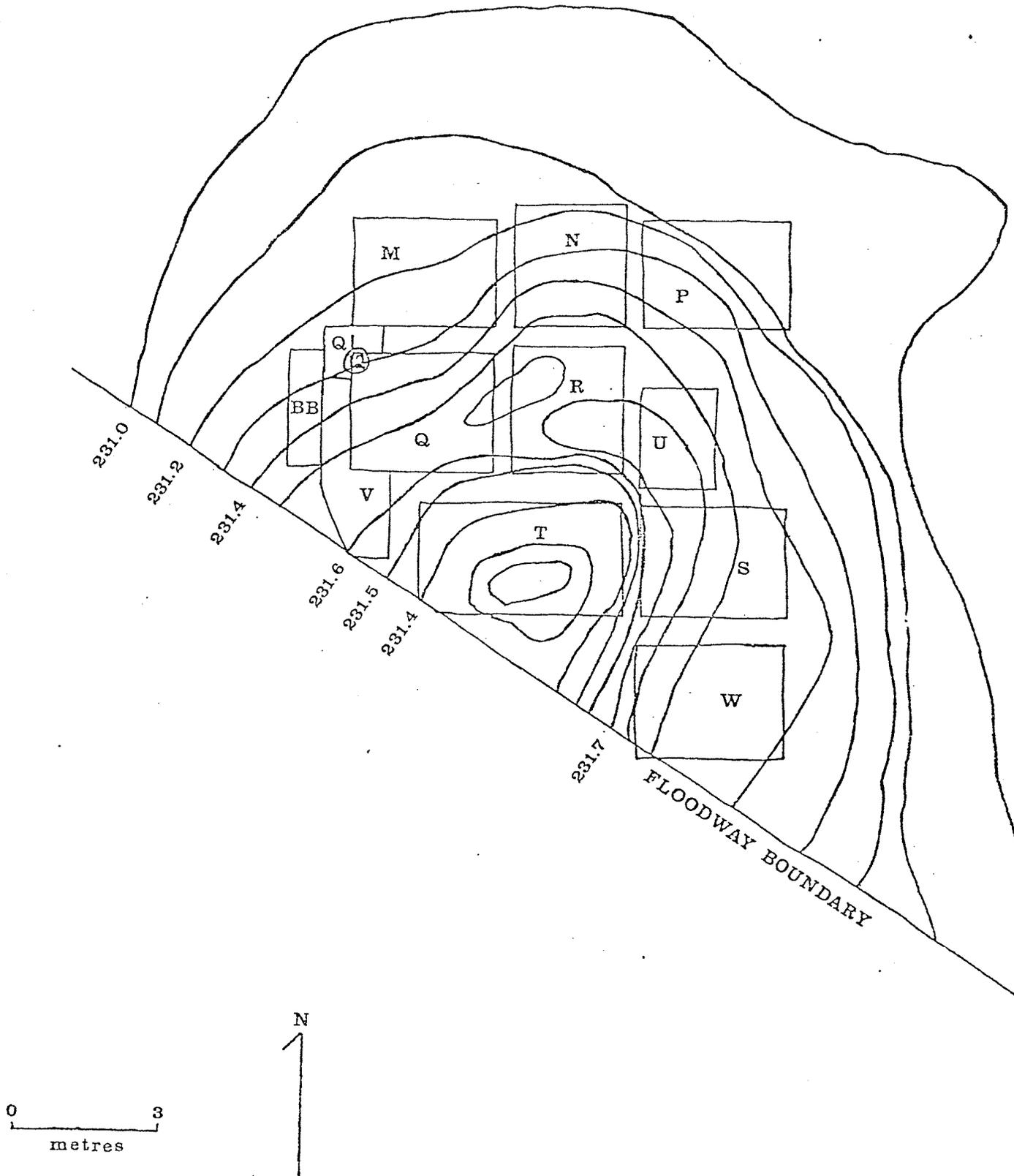


FIG. 4. FIDLER MOUND 2

stained reddish-brown and are very warped and weathered. The bone cortex has decayed.

Anomaly : none determined.

Pathology: none determined.

Associations: rocks (see above).

Burial 13: 1-123 (Plate 6a)

Location: Unit F, 9.8 m E of G, 2.2 m S of O, 1 m BGS, in the central burial pit (Feature 4) of Mound 1.

Grave: the same large pit that held Burials 8, 9, and 14. The depth was 135 cm BGS at excavation. At its bottom, the pit was oval and measured 250 cm NS by 210 cm EW. The floor was covered with charcoal flecks, from which a sample was taken for carbon-dating.

Mode: primary sitting or standing burial, facing N. Only the lower legs remained, standing upright with the feet flat on the floor. The remains covered an area 32 cm NS by 22 cm EW, and reached a height above the floor of 32 cm.

Individuals: a) adult male, 25-30 years of age, b) adult of indeterminate sex, c) a child about 8 years of age. Individual a) consists of left and right humerus, ulna, radius, femur, tibia, and fibula, and complete foot-bones, except for the right 5th metatarsals. Individual b) is represented by a left fibula, and c) by 3 ribs. Extra bones include a pisiform, left 1st metacarpal, hand phalanx. The bones of a) were articulated normally.

Anomaly: none.

Pathology: none.

Associations: red ochre stains were on the legs of a), and 40 cm N of the feet was a small red pottery vessel, heavily fragmented, on the pit

floor.

Burial 14: 1-124 (Plate 6a)

Location: Unit F, 9.7 m E of G, 2.7 m N of O, 30 cm E of Burial 13, 130 cm BGS.

Grave: see Burial 13.

Mode: primary sitting burial (based on the position of the left foot) facing N, and scattered over an area 60 cm NS by 62 cm EW.

Individuals: a) adult female, about 25 years of age, b) a child about 4 years of age. Individual 1 consists of a left radius, left fibula, right fibula, and left calcaneus, talus, navicular, 6 metatarsals, 16 phalanges. Individual b) consists of 2 skull fragments and 3 rib fragments. In addition, there were 2 carpals, 6 metacarpals, and 2 fragments.

Anomaly: none.

Pathology: arthritic lipping on the toes of a).

Associations: red ochre stains were found on a fibula fragment, there was the broken epiphysis of a large mammal cannon bone, and a mollusc shell (Ligumia sp?) on the pit floor, open side down, having a small hole drilled near the umbo.

Burial 15: 1-125 (Plate 6b)

Location: Unit L, 14.3 m E of G, 1.9 m S of O, 45 cm BGS, under the S lip of Mound 1.

Grave: subsoil pit, an irregular circle 116 cm NS by 114 cm EW at the top (skull level) and 26 cm deep, with inward sloping walls, so that the bottom dimensions were only slightly less than those at the top.

Mode: a slumped sitting semi-flexed primary burial, measuring 80 cm NS by 63 cm EW and 28 cm thick. The position of the right scapula in the

pit wall indicated the former sitting posture, facing W with the legs flexed and hands in the lap.

Individuals: a female adult 25-30 years of age, nearly complete except for a few teeth, the carpals, some metacarpals, and the hyoid. The skeleton was in excellent condition.

Anomaly: os inca.

Pathology: healing lesion over the left orbit, 3 mm deep and 6.5 mm in diameter; deviation of nasal bones to the left, and possible swelling of the nasal region.

Associations: none.

Burial 16: 1-211 (Plate 7a)

Location: Unit X, 14 m E of G, 2.9 m N of O, level with the ground surface on the E edge of the disturbed centre of Mound 1.

Grave: shallow pit not intrusive into the subsoil, its W boundary obliterated, but with dimensions of about 76 cm NS by 68 cm EW at the burial level, and extending 25 cm below and 14 cm above the burial, with 45° sides where sides were noted.

Mode: secondary bundle burial; the long bones are oriented NS with 2 skullcaps situated to the E of the bundle. Burial dimensions were 69 cm NS by 50 cm EW, and 20 cm thick.

Individuals: a) adult male, 25-30 years of age, b), c), and d) indeterminate-sexed adults, 20-25 years of age. Individual a) consists of a skull fragment, left and right humerus, and a left femur. Individual b) is represented by a skull fragment, left and right humerus, and a right ulna. Individual c) consists of a left humerus, right ulna, right femur, left and right tibia, and left fibula, and Individual d) consists of a right humerus and tibia. The right humerus of c) was stolen in the

field.

Anomaly: two humeri, 1 tibia and 1 femur are very light and porous, and show shovel damage.

Pathology: none.

Associations: red ochre stain on a right humerus.

Burial 17a: 1-212; 17b: 1-213 (Plate 7b)

Location: Unit Y, 7.1 m E of G, 2.3 m S of O, 20 cm BGS, at the SW edge of the depression in Mound 1.

Grave: an irregular pit at the level of the burial, 105 cm EW by 102 cm NS, sloping to a bottom diameter of about 85 cm NS and 54 cm EW. Total burial thickness was 30 cm.

Mode: 1-213 was a primary flexed burial on its right side, oriented NS, head to the N and facing W; 1-212 was scattered on top of 1-213. The latter was articulated at some points, so may have been a re-interred primary burial. This burial was scattered over an area measuring 97 cm EW by 79 cm NS; 1-213 measured 83 cm NS by 47 cm EW. Together the burials measured 24 cm thick.

Individuals: Burial 1-212 consists of 3 individuals: a) is represented by a skull, mandible, manubrium and sternum, right scapula, left and right innominate, left and right humerus, ulna, radius, femur, tibia, and fibula, right talus, right navicular, 10 ribs, 9 thoracic and 2 lumbar vertebrae; b) consists of a maxilla fragment; and c) consists of an unfused basilar body. These individuals are respectively an adult female over 40 years of age, an indeterminate-sexed adult, also over 40, and a child about 10 years of age. There are also a hamate, 4 metacarpals, 2 metatarsals, 5 hand phalanges, and 49 fragments. Burial 1-213 consists of a skull (lost

in storage), mandible, left and right scapula, humerus, clavicle, ulna, radius, femur, tibia, fibula, calcaneus, 2 metacarpals, a metatarsal, navicular, cuneiform, a manubrium and sternum, 30 rib fragments, 4 cervical, 12 thoracic, and 5 lumbar vertebrae, and left innominate. This burial is of an adult female, 30-35 years of age.

Anomaly: none.

Pathology: Individual a), 1-212, has a short left ulna and right tibia and fibula; the corresponding navicular and calcaneus are grossly deformed. The lumbar vertebrae are arthritic. The teeth are very worn. There are 2 healing lesions on the frontal bone, 1 above each orbit. The individual in 1-213 shows resorption in the mandible and slight lipping of the lumbar vertebrae.

Associations: a pottery pipe in 3 pieces, 2 on the skull of 1-212, the 3rd under the ribs of 1-213, was found. There was also a piece of granular schist on the right innominate of 1-212.

Burial 18: 1-214 (Plate 8a)

Location: Unit X, 15 m E of G, 3.5 m N of O, 27 cm BGS, below the E rim of Mound 1.

Grave: very shallow pit slightly into the clay subsoil, 65 cm NS by 48 cm EW. The wall profiles showed breaks in the soil above, and 2 thin lenses of clay, making this a possible intrusive burial.

Mode: primary flexed burial on its left side and oriented NS (head to the S and facing E); it measured 49 cm NS by 31 cm EW, and was about 18 cm thick.

Individuals: a child, 4-6 years of age, consisting of a skull fragment, a left mandible, right humerus, right radius, left and right femur, left and right tibia, right fibula, 2 ribs, a left ilium, and a few foot bones.

Anomaly: none.

Pathology: none.

Associations: 3 artifacts near the skull: a beaver incisor hafted in an antler, 13 cm SW of the skull, a worked stone baton 6 cm SE of the skull, and part of a highly polished moose/elk mandible 7 cm NE of the skull.

Burial 19: 1-215 (Plate 8b)

Location: Unit Z, 11.9 m E of G, 6.8 m N of O, 45 cm BGS, under the N rim of Mound 1.

Grave: a pit about 30 cm into the clay subsoil, oval, and measuring 130 cm EW by 64 cm NS.

Mode: primary partly flexed burial, supine, oriented EW with the head to the W. The legs were at right angles to the trunk and flexed at the knees, and lay over to the right. The left forearm lay across the trunk; the right arm was fully flexed with the hand under the chin. Burial dimensions were 110 cm EW by 55 cm NS and 20 cm thick.

Individuals: a) adult male, 25-30 years of age, b) an adult 20-25 years of age. Individual a) consists of a skull, mandible, sacrum, left clavicle, left and right scapula, left and right innominate, left and right humerus, ulna, radius, femur, tibia, fibula, a sternum, 12 thoracic and 5 lumbar vertebrae; Individual b) of a skull fragment. In addition, there are 2 carpals, left and right calcaneus, ^oof cuboid, a metatarsal, and 19 rib fragments.

Anomaly: none.

Pathology: none.

Associations: red ochre stains on the face of the older adult, as well as green stains (from copper?) on the occipitals, temporals, and parietals. A flat copper ring was found on the left ribcage near the midshaft of the

left humerus.

Burial 20: 1-222

Location: 7.4 m E of G, 3.5 m N of O, bulldozed from Mound 1 near the E wall of the K extension, 50 cm BGS.

Grave: some evidence of a pit in the clay subsoil; it may have been round, about 97 cm in diameter and more than 20 cm deep (the top had been scraped off by the bulldozer).

Mode: disturbed primary burial, partly flexed, oriented NS with the head (missing) projected to have pointed S, and the body lying on its left side. Burial dimensions were about 75 cm EW by 30 cm NS and 18 cm thick. (problematic, as the burial had been scraped to the W).

Individuals: a) an adult male, 25-30 years of age, b) an adult, indeterminate as to age and sex, c) a child of indeterminate age, d) an adult of indeterminate age and sex. Individual a) consists of a sacrum, left and right innominate, right humerus, left and right ulna, right radius, left and right femur, left and right tibia, left and right fibula. Individual b) is represented by a right ulna, Individual c) by foot bones, and Individual d) by a left calcaneus. In addition, there were a capitate, right patella, left and right calcaneus, left talus, left and right cuboid, and a cuneiform, 8 metatarsals, 12 phalanges, 2 ribs, and 46 fragments.

There was some bulldozer damage to the bones.

Anomaly: none.

Pathology: arthritic roughening of the right femur head of a), and of the corresponding innominate acetabulum.

Associations: some red ochre stains on the bones.

Burial 21: 1-223

Location: 6.2 m E of G, 1.6 m N of O, under tree-roots near the E wall of Unit Y, 40 cm BGS. The tree was uprooted by the bulldozer.

Grave: a pit in the clay subsoil, measuring 53 cm NS by 87 cm EW, and about 28 cm deep.

Mode: primary flexed burial, on its left side, oriented EW, head to the E, measuring 75 cm EW by 43 cm NS and 19 cm thick.

Individuals: a) a female about 18 years of age, b) a child about 4 years of age, c) and d) adults of indeterminate age and sex. Individual a) consists of a sacrum, right clavicle, left and right scapula, sternum, skull, mandible, left and right innominate, left and right humerus, ulna, radius, femur, tibia, fibula, 4 cervical, 11 thoracic, and 5 lumbar vertebrae.

Individual b) is represented by a left radius and an immature tibia; Individuals c) and d) by a calcaneus each. In addition, there are a left talus, a cuboid, a metatarsal, 23 ribs and 24 fragments.

Anomaly: none.

Pathology: in a), a healing lesion in the glabellar region of the skull, with a cut in its middle. There is also a depression in the right parietal bone on the sagittal suture nearly halfway between bregma and lambda.

Associations: the ulna of a trumpeter swan, shaft smoothed.

In addition to the above burials, there were human bone fragments found throughout the fill of the 2 mounds. Nearly every part of the body was represented, as were the rough age-groups of infant/child, adolescent, and adult. The total of fragments was 1725; of this, 40 were found in Mound 2. An estimate of possible number of individuals, made on the long bones and major flat bones such as the innominate, yielded a possible 12 infants and young children and 9 adults and adolescents. The great major-

ity of bones and fragments was concentrated in Units C, F, G, J, L, X, and Z--all either central to, or towards the NE periphery of, Mound 1. This may reflect the concentration of past excavators on the centre of the mound, and the deposition/redeposition of backfill.

Summary

The relationships of the burials to the natural ground surface ranged from 43 cm above it to 130 cm below it, with a mean of 44 cm BGS. Most of the burials lay on or within the 23.7 elevation level (see Fig. 3), which may have represented the rim of the mound. Mound 2 had been so disturbed that it is estimated that further work on it, had the excavators had permission to dig the SW half (see above, p. 16), would have yielded little or nothing; the mound centre had been almost completely hollowed out by earlier excavations and by the digging of a root-cellar.

Grave outlines were evident for 14 burials. Of these, 3 (#9, 13 and 14) were located in Feature 4, assumed to have been the central chamber of Mound 1 (see Fig. 3). The rest were located all around the central depression outside the bounds of Feature 4. All graves were oval or round, all tended to taper inward as they deepened, and most went for some depth into the subsoil (exceptions: Burial 10, a possibly disturbed primary burial, and Burial 18, a primary flexed burial just into the subsoil). Of the 14 burials found in graves, 11 were primary, 1 comprised both primary and secondary burials, and 2 were secondary bundle burials.

Due to disturbance, it was difficult to ascertain the original disposition of many of the burials, but some estimations of position can be made. Burials 9, 13 and 14, all within an approximate 3-metre space, were assumed to have been sitting burials, in view of the anatomical po-

sition of the remaining bones; for example, the tibiae of Burial 13 were upright and articulated with the feet. Burial 15 was once a sitting burial, indicated by the slumped posture of the skeleton and the location of the right scapula in the wall of the pit marking the original position (see Plate 6b).

Flexed burials, and those possibly buried on their sides or backs included Burial 7 (on its right side and back, arms and legs tightly flexed), Burial 11 (prone, slightly flexed legs), Burial 12 (supine, knees slightly bent), Burial 17b (on its right side, tightly flexed), Burial 18 (on its left side), Burial 19 (on its right side, arms fully flexed and legs partly so), Burial 20 (on its left side, partly flexed), and Burial 21 (on its left side, partly flexed). Of these, #11, 12, 20 and 21 have been disturbed, but not enough to destroy the original pattern.

Orientation of the burials varied. Of the secondary bundles, Burial 2 lined up NS, Burial 5 EW, and Burial 16 NS. Others classed as bundles were of indeterminate orientation. Of the primary burials, Burial 7 lay EW and faced N, Burial 10 lined up NS, Burial 11 lined up NS, Burial 12 lay NS and faced E, Burial 15 lay EW and faced S, Burial 17b lay NS and faced W, Burial 18 lay NS and faced W, Burial 19 lined up EW and faced S, Burial 20 lay NS, and Burial 21 lay EW and faced S. The upright central-chamber burials faced varied directions: Burial 9 faced N, Burial 13 faced NE, and Burial 14 faced N.

Grave furniture was sparse. There were rocks on Burial 3, some over Burial 11, and 1 on the chest and 2 by the right thigh of Burial 12. Stains of red ochre were present on Burials 3, 8, 9, and 11, and on isolated bones in Burials 13 (legs), 14 (1 fibula), 16 (1 humerus), 19 (face),

and 20 (indeterminate).

Pottery was associated with only 2 burials: Burial 13 (a red incised pot, fragmented, lay 40 cm N of the feet), and Burial 17 (3 parts of a pottery pipe). Lithics were also few; 2 chalcedony knives and an unmodified chert flake were associated with Burial 7; a lump of schist was associated with the skull of Burial 17b; and a notched stone baton was found near the skull of Burial 18. Bone tools were associated with Burials 2, 6, 7, 10, 11, 14, 18, and 21, and were either cutting or digging tools, or ceremonial items (see Chapter 4). One shell item was associated with Burial 14, and was a half-shell from a river clam, modified only in the drilling of a hole for hanging on a string (see Chapter 4). Indications of the presence of copper artifacts were present in green stains on the bones of Burials 7 and 19; the only such artifact was a ring found with the adult in Burial 19.

Mound Structure

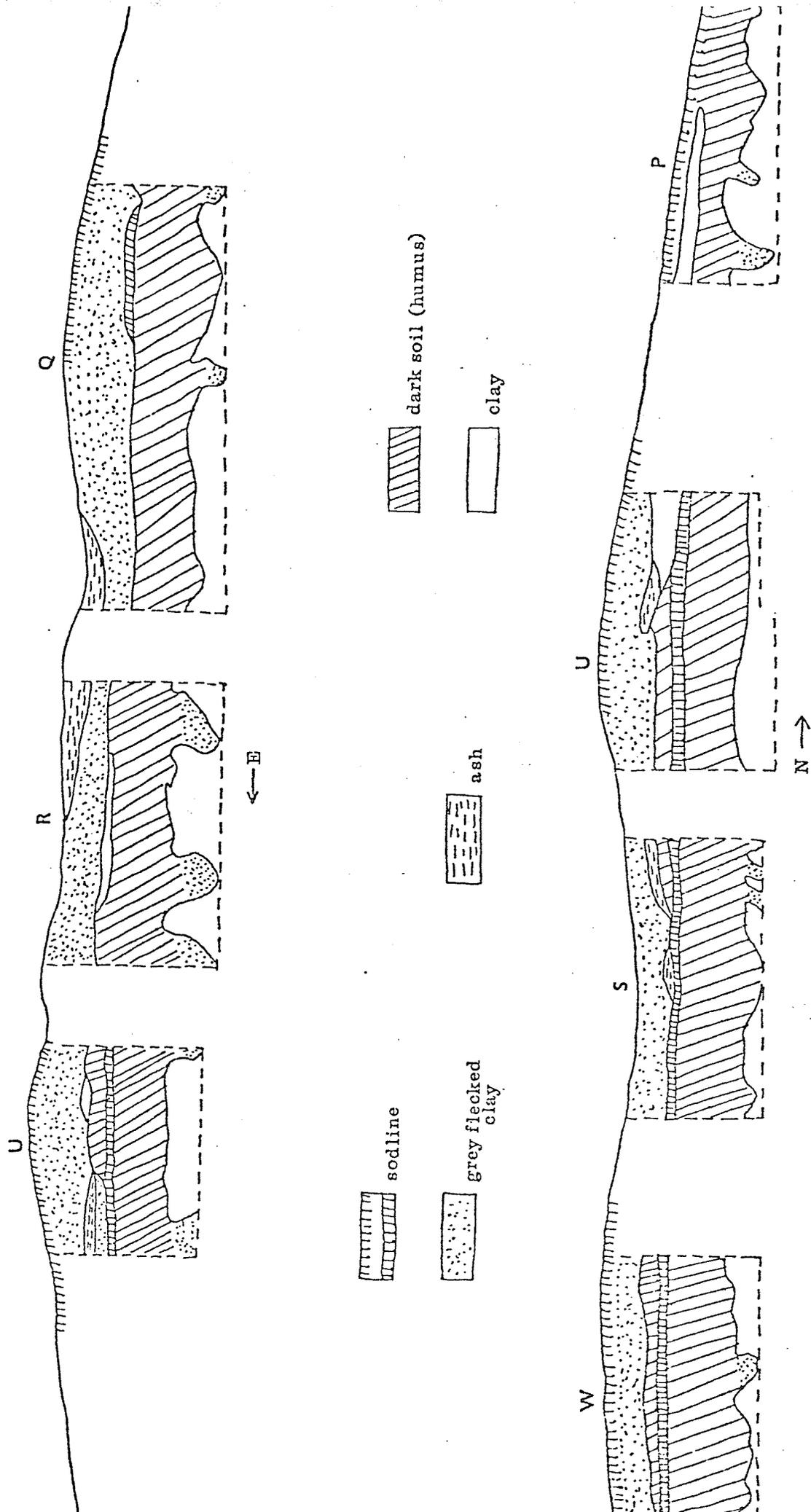
Nine features were noted during excavation of the mounds; these included pits, rockpiles and wood remains. Some were apparently recent, from historic use. Feature 1 was the remains of an historic trash pit. Located in Unit F, Level 3, it was found in the N wall, and its dimensions when found were 11.8 cm SW-NE, and 10 cm thick, at a depth from the surface of 28 cm. It consisted of a layer of charcoal mixed with powdery limestone, fish and faunal bone, glass, crockery, metal and ash. There was considerable root intrusion into the feature. Feature 2 was a pit in the N wall of Unit C, possibly representing recent disturbance. The soil in the indeterminate-shaped pit was light brown and streaked with clay, and the boundaries of the pit were of white clay. Nothing was found in the pit. It lay 91 cm below the surface, and was about 25 cm

long and thick. Feature 3 was a pit in the E wall of Unit C, with a N border of black soil and a S one of white clay. The soil within the pit was mottled. Like Feature 2, of which it may have been part, it was 91 cm below the surface. It measured 31 cm in width and 18 cm in thickness when first noted. Nothing was found in it, except for a streak of orange clay, of which no sample was taken. This may have been recent disturbance. Feature 4 was a large (254 cm long, 213 cm wide) round pit sunk about 94 cm into the subsoil in Unit G. It was first noticed about 168 cm BGS. Located roughly at the centre of Mound 1, and associated with Burials 8, 9, 13 and 14, it was judged to be the central chamber of the mound. Previous excavations (before 1963) were estimated to have come within 31 cm of the pit floor on its W side and 10 cm on the E. The carbon-dating sample taken from this feature came from the pit floor in the SW corner of the feature. Feature 5 was a pile of 15 rocks, each about 13 cm in diameter. The material was thought to be granite. The pile was in Unit C, Level 16, 36 cm BGS, and measured 61 cm by 60 cm, NS and EW respectively. Its associations included Burial 3, charcoal (unsampled), and glass and tin cans. Feature 6 was a layer of white ash and scattered charcoal in the floor of Unit F, about 70 cm BGS. It measured about 53 cm EW and 69 cm NS, and 2 cm thick. It lay in a slight depression, and was topped by tin cans and other historic trash. Feature 7 was also an ash lens, white in colour with flecks of charcoal, located in Unit S. It formed a broad band at the W end of the unit, and seemed to occur in patches in the E end. It was in Level 1, and measured 2.5 m EW and 2 m NS, and was 2-3 cm thick. It lay between 11 cm BGS at the NE corner and 29 cm at the W end of the unit. Associated were glass, crockery, metal, and yellow ash, the latter in a patch in the SE corner.

Feature 8 was the remains of an old root-cellar in Unit T, Mound 2. Unit T measured 2 m NS and 4 m EW, and the root-cellar remains nearly filled it, and obviously continued beyond all but the N wall. About 30 cm BGS, the cellar's main feature was collapsed walls of rough-hewn beams (oak?) held together with both round and square nails. These were clearly the walls of the cellar that was functioning when the mound was photographed by Nickerson (Capes 1963: Plate XVII). It was estimated to have been 5 m square and 1-2 m deep. Feature 9 was a charcoal lens in Unit X, Level 1. It lay about 8-16 cm BGS, was 8 cm thick, and measured 111 cm NS by 168 cm EW. Associated were a flake, a bit of shell, and unburnt fragments of glass and bone. Charcoal was gathered for a sample, but never submitted for testing; the field supervisor thought that the lens was an old burnt root system.

The heavy disturbance of the mounds made it difficult for the excavation crew to identify features. Those 9 which were recorded were identified after they had already been partly excavated, and no pedestalling of them was done. Few soil or other samples were taken, and those that were are very small and not useful for analytical purposes. Profiles and photographs of the features lacked clarity. All that can now be said about the features is that #8 was assuredly an historic root-cellar, post-dating the 1880's (see McCharles 1887), that #4 was the remnant of a central burial chamber, and that #1, 6, and 7 were most likely the result of the nuisance-grounds stage of use of the mounds by European settlers. The identification of the other features is uncertain.

The profiles through the mounds (Figs. 5 & 6) show the extent of the disturbance. Mound 2 was more disturbed, with much grey clay brought to the surface from the subsoil. Mound 1 showed heavy disturbance (the fish-



• FIG. 6. MOUND 2 PROFILES

bone pit in Unit G was historic, associated with metal hooks), but the remains of the central burial pit, and possibly the last traces of what may have been a baked white clay floor (the lenses of clay in Units F and G, Fig. 5), were still evident. The profiles also suggest, in the degree of upheaval of the humus and the brown layer and clay, that the mounds were originally much more concentrated and narrow than the 1963 contours, and that they had been flattened and dispersed by the previous excavations.

CHAPTER 3

Physical Anthropology

Procedures

The bones from the burials were sorted into the correct burial units and into individuals per unit, where possible. Determination of individuals was done by a number of criteria: relative size, age, and colour in some cases. All bones on which measurements and observations could be made were so used. Criteria for metrics were taken from Bass (1971), Loukides, Thiessen and West (1971), Olivier (1969), and Wade (1970), and are named in the pertinent Tables.

Due to absence of or damage to skeletal elements, a number of criteria was used for the determination of approximate age. Criteria selected were those of Bennett (1973): epiphyseal maturation of the pubic symphysis, dental eruption, fusion of the basi-occiput with the sphenoid, ossification of the post-cranial skeleton, and dental attrition (1973:5). The Fidler Mounds skeletons were aged largely on the rate of dental eruption, post-cranial ossification, and relative size. Age ranges of the 49 individuals is given in Table 1.

Estimates of sex were based on morphological criteria described in Bass (1971), Bennett (1973), and Phenice (1967). Lack of specific bones led to reliance on a number of criteria rather than consistent dependence on 1 or 2. These criteria included observation of the supra-orbital ridges, the sharpness of the upper orbital edges, palate size, chin shape, vault bossing, size of nuchal crests, extension of the posterior end of the zygomatic process, mastoid size, sacral shape and width, sub-pubic arch, attachment of the arcuate ligament, sciatic notch width, sacroiliac articular area shape, and the presence/absence of a preauricular sulcus.

In addition to observations, some metrics of the mandible were used, and humerus head diameter and robusticity.

TABLE 1
Age and Sex of Fidler Mounds Population

Interval	Male	Female	Indeterminate	%
0-5 years	-	-	5	10.20
6-10	-	-	5	10.20
11-15	-	-	2	4.08
16-20	-	1	3	8.16
21-25	2	2	2	12.24
26-30	6	1	3	20.41
31-35	2	1	-	6.12
36-40	2	-	1	6.12
41 & up	-	1	2	6.12
child			1	2.04
adult			7	14.29
Total	12	6	31	99.98

Non-metric Observations

A number of cranial and post-cranial morphological traits were used in this analysis (see Wade 1970 for traits).

Nasal form (concave, convex, concave-convex, rectangular, hour-glass, triangular) of 5 specimens was concave-convex in profile, with nasal bone shape being hour-glass in 2, triangular in 1, and indeterminate in 2 due to breakage. There was no appreciable sex difference.

Brow-ridge form (continuous, divided, V-shaped; 3 degrees of inten-

sity) of 7 specimens was continuous in 4, and V-shaped in 3. Only 1 had pronounced ridges; there seemed to be no sex difference.

Sagittal crest was absent from all specimens.

Temporal lines (3 degrees of intensity) of 5 specimens were mild in 3, moderate in 1, and pronounced in 1. Females had the least pronounced lines.

Nuchal crest (3 degrees of intensity) of 7 specimens was mild in 4, moderate in 3. Females tended to have the less marked crests.

Mastoids (3 degrees of intensity; absence/presence of notch) of 11 specimens were pronounced in 6, moderate in 3, and small in 2; there was no notching. There was no sex difference.

Auditory meatus (round, oval, square) of 10 specimens was oval in 8, and round in 2. There was no sex difference.

Styloid process (3 degrees of intensity) of 5 specimens was pronounced in 2, moderate in 1, and small in 2. There was no sex difference.

Digastric groove (shallow/deep) of 10 specimens was deep in 7 and shallow in 3. There was no sex difference.

Depth of mandibular fossa (3 degrees of intensity) of 12 specimens was shallow, moderate, and deep in 4 each. Females tended to have shallow or moderately deep fossae.

Palatine torus was absent in all specimens.

Inferior margin of the nasal aperture (shelved, guttered) of 3 specimens was shelved in 2 and guttered in 1. All of these were females.

Pterion form (H, X, K) of 7 specimens was H-shaped in 5 and K-shaped in 2. Three of the H-variety and 1 of the K were females.

Os japonicum was absent from all specimens.

Mylohyoid bridging (0-2 degrees of intensity) of 4 specimens was

moderate in 3 right mandibles (2 female, 1 male), and pronounced bilaterally in 1 male. This is at variance with the report in Ossenberg (1969) which stated that the Fidler Mounds material had an occurrence of 12/21 or 57%.

Mandibular torus (absent, small, large) of 4 specimens was small in all; 2 of these were females.

Genial tubercles (absent; 2 degrees of intensity) of 7 specimens was mild in 5 and pronounced in 2. There was no sex difference.

Gonial eversion (3 degrees of intensity) of 6 specimens was absent in 1, mild in 1, moderate in 2, and pronounced in 2. There seemed to be no sex difference.

Coronal wormian bones were present in 4 specimens, 2 of each sex. Sagittal wormians were present in 4 specimens, 2 of each sex. Lambdoidal wormians were present in 7 specimens, 4 male and 3 female. Three specimens, of which 2 were males, had all 3 kinds of wormians present together. In none of the skulls was there evidence of deformation during life.

Os inca (absent, unitary, bipartite) was present in 2 specimens in the unitary (1-piece) form. One was a female.

Asterionic bones were present in 4 specimens, unilaterally in 2 females and 1 male (1 right, female; 1 left, 1 of each sex), and bilaterally in 1 male.

Epipteric bones were present in 1 female; the one with an os inca.

Supra-orbital foramen (absent, small, double) of 10 specimens was notched in 4 and in the single foramen form in 6. There seemed to be no sex difference.

Infra-orbital foramen (absent, small, moderate, double) in 8 spe-

cimens was small in 3, moderate in 3, and doubled in 2. The ones with doubled foramina were females.

Foramen ovale was present in all of 6 specimens; there was no sex difference.

Foramen of Vesalius was absent in all specimens.

Foramen spinosum was present in 6 specimens; there was no sex difference.

Mastoid foramen was present in 4 specimens; there was no sex difference.

Parietal foramen was present in 8 specimens; there was no sex difference.

Mental foramen (absent, small, moderate, double) was small in 5 and moderate in 3, out of 8 specimens. There was no sex difference.

Marginal foramen of tympanic plate was present in 2 females, bilaterally in 1 and on the right side in the other.

Sciatic notch width (0-2) of 13 specimens was narrow in 7 and wide in 6. These differences were not strictly related to sex.

Femur neck-head angle (0-2) of 12 specimens was narrow in 9 and wide in 3. There was no sex difference.

Condyle-shaft angle (0-2) of 10 specimens was narrow in 8 and wide in 2. There was no sex difference.

Third trochanter (0-2) of 8 specimens was small in 5 and pronounced in 3. There was no sex difference.

Linea aspera (0-2) of 8 specimens was moderate in 5 and pronounced in 3. There was no sex difference.

Shaft bowing (0-2) was moderate in all 4 specimens.

Torsion (0-2) of 10 specimens was moderate in 7 and pronounced in

3. There was no sex difference, but there seemed to be a link to disease and compensatory modification of bone.

Fovea shape (round, oval, elliptical) of 10 specimens was oval in 7 and round in 3. Females tended to have oval foveae.

Septal aperture (3 degrees of intensity) in 8 specimens was small in 4, moderate in 1, and large in 3. There was no sex difference.

Tympanic dehiscence (absent, small, large) was present in 2 specimens, 1 large, 1 small; 1 of each sex.

Scapular notch (absent/present, small-deep, foramen) in 10 specimens was moderate in 5, deep in 4, and in foramen form in 1. There was no sex or side difference.

Scapula medial borders (convex, straight, concave) of 4 specimens were convex in 3 and straight in 1. There was no sex difference.

Tibia anterior squatting facets (0-2) were present in 8 specimens, both sexes, and were all moderate in size.

Metrics

In the following Tables are the cranial dimensions taken on 5 relatively intact skulls. Of these, 1-99 and 1-215 are males. All measurements were taken according to procedures described in Bass (1971) and Olivier (1969); all were taken in millimetres.

According to the standards of cranial indices (Bass 1971) the 3 female crania are classifiable as mesocranic while the males are also mesocranic but in a higher register. As for the ratio of height to length, the only male skull for which this could be calculated is hypsocranic, and the 2 female skulls orthocranic. In the ratio of breadth to height, the 3 skulls involved, 1 male and 2 female, are average. In the

fronto-parietal range, all the skulls are very narrow. The skulls on which the cranio-facial index could be calculated, 1 of each sex, show extreme narrowness of the face. The same applies to the upper facial index. As for the nasal index, the only male sample is platyrrhinc, while 1 female is leptorhinc and the other 2 platyrrhinc. The orbital index of the single male shows extreme narrowness, and the 2 females are narrow and average, respectively. The single male has an average-width palate, while 1 female is very narrow, and the other very broad.

In the mandibular indices, the ramus index shows a larger score for females, the mandibular index shows greater length for females, breadth-to-length shows narrower female scores, and coronoid height-mandibular length and coronoid height-mandibular angle show smaller scores for females. This is the norm. Robusticity in this population is difficult to determine because of the small male sample (for indices, see Loukides et al 1971).

TABLE 2

CRANIAL DIMENSIONS, IN MMS, FIDLER MOUNDS SKELETONS

Measurements	Males		females		
	1-99	1-215	1-125	1-212	1-223
Cranial length	180	181	182	180	180
Cranial breadth	140	144	140	138	140
Minimum frontal br.	47	40	47	45.5	40
Basion-bregma	137	--	132	130	--
Circumference	515	520	520	490	500
Auricular br.	63	63	60	61.5	43
Bimastoid br.	68	67	60	60	62
Total facial ht.	--	123.5	109.5	101	101
Upper facial ht.	72.5	74	62	69	59
Nasal height	56	--	50	55	47
Nasal breadth	28.5	28	29	26.5	26
Nasion-basion	53	--	52	52.5	--
Basion-prosthion	51	--	40	106	--
L orbital height	38	--	36	37	40
R orbital height	38	--	35.2	33	42
L orbital breadth	41	--	41	40	--
R orbital breadth	41	--	39.5	40.5	37
Palatal height	52.5	--	42	53	--
Palatal breadth	42	43.5	43	39	39
Foramen magnum lt.	40.5	--	34	30	--
Foramen magnum br.	33.5	--	29	31	--
Frontal arc	125	122	123	120	118
Parietal arc	123	122	120	100	123
Occipital arc	--	--	125	130	120
Biporial arc	305	315	304	305	308
Frontal chord	111.5	111	108	107.5	98
Parietal chord	111.5	114	112	94	103
Occipital chord	87.5	--	99.5	105.5	94
Simotic chord	12.	--	21	11	--
Biasterionic chord	111	--	99.5	111	109

TABLE 3
CRANIAL INDICES, FIDLER MOUNDS

Index	Males				
	1-99	1-215	1-125	1-212	1-223
Cranial	77.77	79.56	76.92	76.66	77.77
Height-length	76.11	---	72.42	72.22	---
Height-breadth	97.85	---	94.28	94.23	---
Fronto-parietal	33.57	27.77	33.57	32.97	27.02
Cranio-facial	53.57	---	---	50.00	---
Cranial module	152.33	---	151.33	149.33	---
L orbital	95.12	---	87.50	92.50	---
R orbital	95.12	---	89.11	81.48	113.51
Mean orbital	95.12	---	88.46	86.99	---
Nasal	53.77	---	58.00	47.92	55.31
Upper facial	96.66	---	---	101.46	---
Fronto-gonial	---	256.25	210.63	208.79	245.00
External palatal	80.00	---	101.88	73.58	---
Gnathic	96.22	---	76.92	201.90	---

TABLE 4
MANDIBULAR MEASUREMENTS, IN MMS, FIDLER MOUNDS

Measurement	n	Males		n	Females	
		X	Range		X	Range
Mandible lt.	3	112.30	110-114	4	107.13	96.5-115
Bicondylar br.	2	--	--	3	116.66	110-128
Bigonial br.	3	107.20	102.5-110	5	95.30	91-98
L ramus ht.	3	65.66	59-70	4	57.00	54-62
L ramus min. br.	3	39.83	39-41	5	36.60	33-40
Symphyseal ht.	2	--	--	3	27.33	27-28
Interfor. br.	3	48.66	46-52	5	46.44	45-49
Coronoid ht.	3	69.00	63-74	4	60.50	57-64
Body thickness	3	11.33	10-12	4	10.25	9-11
Mandible angle	3	111.5°	102-121°	4	110.25°	107-115°
Ramus lt.	4	63.00	55-70	4	57.00	54-62
Corpus lt.	3	80.00	80-80	4	76.25	70-90
Condylar lt.	3	23.33	22-25	3	20.66	18-22.5
Bicoronoid br.	3	103.00	96-109	5	93.90	88-99.7
M2-P1 chord*	2	--	--	5	29.10	27.5-30.5
M2 ht.	2	30.25	30-30.5	5	25.70	22-28.5
Symph. angle	3	29.66°	22-39°	5	35.70°	20.45°
Monogonial br.	3	6.6	5.8-8	5	5.50	4.5-6.5
Condylar br.	3	9.96	8.6-12	3	10.46	10-11
Monomental ht.	3	15.40	15-16.2	5	13.00	10-15

*M2 refers to 2nd molar; P1 to 1st premolar.

TABLE 5
MANDIBULAR INDICES, FIDLER MOUNDS

Index	n	Males		n	Females	
		X	Range		X	Range
Ramus	3	60.95	57.34-66.94	4	65.91	58.03-74.44
Mandibular	2	---	---	3	92.82	87.72-100.89
Goniocond	2	---	---	3	83.30	77.34-89.54
Br.-lt.	3	140.57	128.12-156.10	4	127.84	106.66-140.71
Coron. ht.- mand. lt.	3	61.37	57.27-64.91	4	56.95	53.09-60.42
Coron. ht.- mand. angle	3	62.29	56.50-72.54	4	54.92	52-59.81
Robusticity	2	---	---	4	40.80	36-50
Bigonial- bicornoid	3	103.46	100.91-104.80	5	100.75	96.28-105.68
Bigonial- bimental	3	220.68	211.53-236.99	5	205.55	193.61-214.13
Bicondylar- mand. lt.	3	91.74	84.21-96.46	4	89.36	77.87-97.20
Ht.-chord	2	---	---	4	65.64	9.66-87.71

Post-cranial measurements and indices for the Fidler Mound population are given in Tables 6 and 7. Predictably, males tended to have a longer forearm-to-upper-arm ratio (brachial index) than females. Both sexes were medium platymeric; and for both, the left platycnemic index was medium while the right was narrow. The crural index (proportion of tibia to femur) showed a proportionately short femur for both sexes.

TABLE 7
POST-CRANIAL INDICES, FIDLER MOUNDS

Index	Males			Females		
	n	X	Range	n	X	Range
L radius-humerus	2	--	--	4	61.51	7.86-82.27
R " "	1	--	--	3	77.91	73.84-80.99
L humerus-femur	2	--	--	4	69.50	68.69-70.62
R " "	3	73.78	72-75.74	4	70.75	69.02-73.03
L humerus head	3	14.79	14.36-15.16	4	14.28	13.65-14.66
R " "	4	15.05	14.61-15.49	4	14.38	13.07-15.39
L humerus dist.	2	--	--	4	19.24	17.14-20.25
R " "	4	17.03	12.60-19.34	3	18.66	16.61-20
L platymeric	5	89.65	80.85-100	4	86.46	80-96.15
R " "	4	92.57	78.12-108.91	4	97.87	77.14-116
L pilasteric	5	104.91	98.34-115.38	4	103.93	92.83-111.36
R " "	4	108.16	100-120	4	106.19	95.83-113.63
L platycnemic	8	70.55	56.75-82.50	4	69.38	63.89-75
R " "	7	74.98	64.63-100.48	4	73.13	69.06-80.74
L tibia-femur	5	85.04	80.85-88.29	4	86.22	84.44-90.17
R " "	2	--	--	4	78.75	69.53-85.09
L intermembral	4	67.64	66.11-70.03	3	58.71	40.91-67.76

Stature

The formulae for stature of Genoves (1967) were used to calculate the statures of the Fidler Mounds population. As the most commonly occurring bones were the tibia and femur, the equations for these bones were used.

TABLE 8
STATURES, FIDLER MOUNDS

Bone	Males			Females		
	n	X	Range	n	X	Range
Femur	5	173.50	167.63-178.70	4	163.57	159.04-168.88
Tibia	9	169.70	162.35-178.03	4	166.43	161.97-173.67

In English measure, this gives us a group of males with an average height of 5 feet 6 inches, and a group of females with an average height of 5 feet 5 inches. The sexes are essentially the same stature, although they differ in the comparatively longer tibia-to-femur ratio in females.

Dentition

The dentition of the Fidler Mounds population was analyzed morphologically. Metrics were omitted because of the extreme attrition of the teeth, which rendered height and width measurements meaningless (for data form see Appendix 1). Immature and partial mandibles were omitted from this analysis, and will be discussed later.

Four individuals--Burials 2 (a), 10 (a), 11, and 17b--3 males and 1 female, were represented by mandibles. Burials 7 and 17a (b) were represented by maxillae (there was a mandible with Burial 7, but it is now lost). Burials having a mandible and maxilla were Burials 12, 15, 17a, 19, and 21 (4 females and 1 male).

No X-rays were taken of the mandibles or maxillae, but there is no apparent congenital absence of any tooth. There are also no supernumerary teeth in the population.

Absence frequencies for each tooth are given in Table 9, on the following page:

TABLE 9
ABSENCE FREQUENCY OF TEETH, FIDLER MOUNDS

Tooth	Maxilla		Mandible	
	Left	Right	Left	Right
3rd molar (M3)	3	3	4	3
2nd molar (M2)	2	2	3	2
1st molar (M1)	0	1	3	1
2nd premolar (P4)	2	3	5	5
1st premolar (P3)	2	3	6	5
canine (C)	1	3	3	5
2nd incisor (I2)	3	5	8	7
1st incisor (I1)	<u>4</u>	<u>2</u>	<u>7</u>	<u>8</u>
Totals	17	22	39	37

Of a possible total 224 maxillary and 228 mandibular teeth, out of 7 maxillae and 9 mandibles, 27 maxillary and 26 mandibular teeth are absent due to post-mortem loss. The next contributing factor is periodontal disease, accounting for 14 maxillary and 37 mandibular teeth being gone. Post-mortem loss of a section of the jaw has taken 4 teeth, 2 maxillary and 2 mandibular. Abscessing accounts for the loss of 3 mandibular teeth; trauma for 2. There is 1 loss due to ante-mortem cause; again, a mandibular tooth. Post-mortem loss especially affects the front teeth, those of the mandible in particular. This is probably due to the fact that these teeth have single roots, and are less firm in the jaw than multi-rooted teeth such as the molars. In this population, periodontal disease affects all teeth, especially the front ones in the mandible.

The type of wear most prevalent was the partial-to-full exposure of the dentine.

TABLE 10
TOOTH ATTRITION, FIDLER MOUNDS

Exposed	Maxilla				Mandible			
	Male	Female	Total	%	Male	Female	Total	%
Partial	17	12	29	13	8	12	20	8.8
Complete	6	13	19	8.5	4	7	11	4.9

Heaviest wear is concentrated on the maxillary M2 through P3, and I2 through C (dentine showing and totally exposed, respectively), and on mandibular M1 (dentine showing). Any apparent sex difference may be the function of the difference of samples; there are 5 males and 6 females represented, which breaks down into 4 male mandibles and 5 female mandibles, and 2 male maxillae and 5 female maxillae, so that there is a preponderance of females.

The only anomalies in this population are lingual crowding of the left P4 on the maxilla of Burial 7 (male) and very small maxillary M3's on Burial 21 (female).

Caries occur in the mandibular teeth only, in 2 males and 2 females. Of the 11 examples, 5 are on the occlusal surface, 2 are located distally, 1 is located mesially, and 3 are in the cementum. The teeth most involved are the right molars (all equally affected); the least, the left M1. Burial 2 (b) has 1 distal and 1 cementum cavity, both small, in the right mandibular M1. Burial 10 (a) has 2 small occlusal cavities on the right mandibular M3. Burial 17a (a) has 1 distal and 1 cementum cavity on the mandibular left M1, 1 occlusal and 1 mesial cavity on the

right M2, and 1 cementum cavity on the right M1, for a total of 5 small caries. Burial 21 (a) has a small occlusal cavity on the mandibular right M2 and M3.

Due to tooth loss and attrition, the present cavity representation may be misleading. Burial 11 has an abscess in the right mandible near M3, 8.3 mm long by 5.6 mm wide, having smooth edges (Plate 11a). This is the only clear case of an abscess; Burials 2, 10, and 17a show periodontal disease severe enough to be taken as beginning abscesses. In Burial 10 such damage occurs at the left M1, P4, P3, and the right P4 and P3; in Burial 17a, such damage occurs at the maxillary right M1.

Periodontal disease, diagnosed from the condition of the alveolus (see Alexandersen 1967), seems to have occurred severely in Burial 2, slightly in Burial 7, moderately in Burial 10, severely in Burial 11, moderately to severely in Burial 17a, and severely in Burial 17b. Severity showed no sex distinction; the sample, however, was 4 males to 2 females.

The only incidences of trauma were ante-mortem chipping on the right C of Burial 1 (mandible), the right M2 of Burial 2 (mandible), left C and I2 of Burial 7 (maxilla), right M2 and M3 of Burial 10 (mandible), and the left M1 and right P4 (maxilla) and right M1 (mandible) on Burial 21.

Shovelling of the incisors was investigated, using the standards of Hrdlicka (1920). In most cases, shovelling was indeterminable due to loss of teeth or attrition. Shovelling was moderate on the mandibular I2 of Burial 1, on the maxillary incisors of Burial 7, on the maxillary left I1 and I2 and right I1 of Burial 19, and on the mandibular left I1 and I2 of Burial 21.

There were few occurrences of Carabelli's cusp. The only example is on the left maxillary M1 of Burial 7, and the cusp is more in the form of a groove. The protostylid, which appears on mandibular teeth, occurred in groove form on the left and right M1 in Burial 12, and as a cusp on the right M3 of Burial 15; both burials are females. The lack of cusp occurrence must be seen in the light of the absence of molars in many of the burials.

Many of the molars are so worn that cusp patterns could not be detected; for those on which patterning could be noted, Table 11 shows the distribution.

TABLE 11
CUSP PATTERNS, FIDLER MOUNDS

Specimens	M3	Left M2	M1	M3	Right M2	M1
Maxillae:						
Burial 12			4+			4+
Burial 19		4	4		3	4
Burial 21	5	3	4+	4	3	4+
Mandibles:						
Burial 1					6Y	5Y
Burial 9*			5Y			6Y
Burial 12	4+	6Y	5Y	4+	4+	5Y
Burial 15	4	4+	4+	5	4+	5Y
Burial 19		4+	5Y	4+	4+	5Y
Burial 21	4+	4+	4+	5Y	4+	4+

* Immature individual with mixed dentition, The M1's are mature.

Burial 1 has a right half of a mandible, and so was omitted from the above tooth counts. It contains the right I2 C P3 M1 M2, in addition to a right immature m2. Only the right I1 seems to have been lost ante-mortem. There is some enamel wear on the right M1.

Burial 9 has a whole mandible showing mixed dentition. Present are immature left m2 ml, right c ml m2; mature left M1 I1 and right I1 M1. There was moderate attrition on the immature teeth, ante-mortem accidental chipping on the left ml and the right ml.

Burial 18 has a mandible with immature dentition. Present are the left m2 and ml, but there was a sub-alveolar pit for the mature M1, and the left M1 was on the point of erupting.

Pathology

Most of the pathologies present in the Fidler Mounds population may be assigned either to arthritis or to infection. The cases will be dealt with by individual, and discussed in detail. Dental pathology, having already been treated, will not be reiterated.

Burial 2 (b), an adult over 40 years of age, shows osteophytic lipping on the articular processes of the thoracic vertebrae and on the auricular surface of the left innominate, where it would articulate surface of the left innominate, where it would articulate with the sacrum.

Burial 4 (a), an adult male about 30 years of age, has a thickened right femur head and a pronounced difference in torsion between this femur and the left. The distal shaft of the left tibia and fibula have lesions and draining fistulae, as well as a scummy-looking periostitic surface of the inferior 1/3 of the shafts of both bones (see Plate 9a). The lumbar vertebra shows lipping on the body.

Burial 7, a male 30-35 years of age, has thickening and deformation of the right radius, ulna, tibia, and fibula, with porosity and osteophytes all over the tibia shaft (see Plates 9b, 10a). The skull has a round hole just below and right of lambda, 37.5 mm high and 43mm wide. The edges are generally smoothed, with some healing evident. General symmetrical osteoporosis occurs from the centre of the frontal bone to just below the hole, and on the brow-ridges. The parietals are very thin.

Burial 9, a child about 8 years of age, has what appears to be a lesion on the left humerus, on the proximal-medial portion of the shaft (see Plate 10b).

Burial 11, a male about 35-40 years of age, has some compression of the vertebral bodies and osteophytic lipping on the edges. The spinous processes and laminae are roughened. There appears to be a lesion and lipping on the inferior medial condyle of the left femur. There is roughening of the bicipital tuberosity of the left radius, and on the anterior-proximal shaft of the left ulna. The few sacral fragments show lipping and roughening. There appears to be gnaw-marks on the anterior-proximal shaft of the right femur. The few foot phalanges have lipping on the articular facets.

Burial 15, a female 25-30 years of age, has an apparent healing lesion 21 mm above the left orbit (see Plate 15b). There are no associated lesions anywhere else on the skeleton. Burial 17a (a), a female over 40 years, has areas of porosity from the frontal bone to the occipital, parallel to the sagittal suture. There is an apparent healing lesion 37 mm above the left orbit and another 30 mm above the right. The frontal bone is very bossed and the lateral portions of the supra-

orbital ridges are pronounced and thickened. The vertebrae are porous and arthritic, especially the lumbar. All the bones show some degree of porosity. The distal left radius is deformed and eburnated, as is the distal right radius, which has a tiny hole in the bicipital tuberosity. There are 5 notches on the medial left tibia, and porosity on its proximal end. The right tibia is short, twisted, and deformed at the distal end. The right fibula has a pronounced distal kink medially (see Plate 12a) and eburnation on the proximal articular facet. The right navicular and calcaneus are so grossly deformed and riddled with draining sinuses that it is difficult to identify the bones. The left ulna has been broken in midshaft and has formed a pseudo-arthritis or false joint; only the superior element is present (see Plates 12b, 13a, 11b).

Burial 17b, a female 30-35 years old, has lipping on the bodies of the lumbar vertebrae.

Burial 20 (a), a male about 25-30 years old shows deformation and osteophytic growths on the head of the right femur, and a comparable roughening of the right acetabulum of the innominate (see Plate 13b).

Burial 21 (a), a female about 18 years of age, has a healing porous lesion in the glabellar region of the skull (see Plate 16b). The basis of this may have been a cut which runs diagonally through glabella. There is also a depression on the right parietal, on the edge of the sagittal suture, nearly halfway between bregma and lambda. This is very slight in size and depth.

Discussion

The age and sex distribution in the Fidler Mounds population is seriously affected by the past disturbance of the site. The usual dis-

tribution is heavily slanted toward the infant-child-adolescent end of the scale; in this site there were only 11 children and 6 adolescents, as against 10 adults between the ages of 26-30 years, and a total of 32 adults in all. There is an over-representation of males peaking at 6 between 26-30 years of age, while the female peak is 2 at 21-25 years of age. Females tend to be more complete specimens than males, causing, as in the cranial analysis (see above), an over-representation of females. The female-male ratio is very likely caused by the incomplete sample.

In the analysis of this population, the fill bones were omitted from examination because of the lack of provenience and the problems of sexing individual bones. Children were not sexed due to the problem of differential development between boys and girls, and the general lack of standards for their sexing.

The tooth attrition in this population is striking. Attrition of this sort is considered a normal part of the process of life, rather than as pathology (Molnar 1971a, b; 1972). It is the result of diet and other cultural factors, in conjunction with genetic factors. Studies have shown that the teeth of hunters and gatherers tend to show more wear and fewer caries than those of agricultural peoples (St. Hoyme and Bass 1962; Molnar 1971a). Molnar (1971b), in his study of skeletal remains from California, the Southwest, and the Valley of Mexico, found heavier wear on the teeth of females, and inferred a greater use of the teeth as tools among women. The over-representation of females in the Fidler Mounds population, due to factors of preservation, makes it impossible to determine sexual differences.

Periodontal disease is difficult to diagnose from dry bone. Alexandersen (1977:13) has suggested 4 criteria for spotting it:

- 1) the surface of the alveolar crest looks porous and degenerate along the buccal and lingual surfaces;
- 2) degeneration of the alveolus;
- 3) resorption;
- 4) horizontal alveolar loss.

These symptoms are very much present on the specimens under consideration. No doubt some of the examples reflect senile atrophic recession; however, the occurrence of the condition among young individuals would indicate some kind of chronic inflammatory condition.

Arthritis occurs in several of the skeletons, mostly on the vertebrae. Osteophytic lipping on the edges of the vertebral bodies results from the degeneration and/or herniation of the intervertebral discs, and the resulting formation of bony bridges between vertebrae for the support of the collapsing spinal column (Morse 1969). In time, such a condition can lead to spinal fusion. Vertebral osteophytosis is not to be confused with osteoarthritis, which attacks the actual articulatory facets of the vertebrae, causing roughening and deformation of the joints through the destruction and regeneration of bone. Although trauma can cause these types of arthritis, age is also an important factor. Of the individuals showing arthritic involvement of spinal elements, all are in later middle age.

Osteoarthritis, in the form of degenerative joint disease, is also present in this population. Usually a part of the aging process, this condition may also be caused by trauma and the introduction of microorganisms into the joint degenerates, bone increases in density as a reaction, and as the cartilage is destroyed, actual bone-on-bone contact may occur, with resulting polish or eburnation, and the formation of

oseophytic growths (Bourke 1967; Morse 1969).

Other arthritic conditions similar to the above-mentioned ones are traumatic arthritis, caused by injury to a joint, such as a wound or sprain, with the transmission of streptococcus or staphylococcus into the joint capsule; rheumatoid arthritis, which involves immobilization of the joint after the destruction of the synovial membrane and cartilage; and infectious arthritis, acute or chronic, which is caused by introduced micro-organisms through wounds, through the bloodstream from another infection in the body (e.g., tooth abscesses), or through a nearby infected bone, and results not only in the destruction of the joint but also in soft-tissue abscessing and the draining of pus from sinuses in the bone (Bourke 1967; Morse 1969).

Turning to the Fidler Mounds skeletons, it is probably safe to say that Burials 2 (b), 10, 11, 17a and 17b all show osteophytosis, and that for the individuals involved, this is a function of age. Burial 2 (b) also shows arthritic roughening of the auricular surface of the innominate, and Burial 11 has similar roughening on the fragments of sacrum, indicating further spread of the vertebral osteoarthritis, both likely due to age. Burial 20 (a), a relatively young man, has a degenerated hip joint that may have been the result of infectious or traumatic arthritis. No X-ray was taken of this joint, so the presence of old injury is not certain.

Bone inflammation is manifested in several forms: periostitis (infection of the periosteum or outer membrane of the bone); acute osteomyelitis (caused by a pyogenic or pus-generating micro-organism, usually staphylococcus, brought through the bloodstream from another site of infection, or introduced from outside the body); chronic osteomyelitis

(involving several bones, causing bone destruction, abscesses, draining sinuses, and involucra); chronic non-suppurative osteomyelitis of Garré (a rare type of pus-less osteosclerosis which begins as acute osteomyelitis but leaves no abscesses and is confined to a few bones); granulomatous lesions (most frequently caused by tuberculosis and treponema infections, particularly syphilis); sarcoidosis (a benign cyst-like growth); and mycotic (fungus) diseases, rare in bone.

Periostitis is a reaction to infection or trauma, resulting in the laying down of new layers of bone on the cortex. It is not a degenerative process, but can occur in conjunction with osteomyelitis, which in its acute and chronic forms is destructive. Acute osteomyelitis can be fatal; chronic osteomyelitis can go on for years. The chronic variety almost always starts in the medullary part of the bone, near the metaphysis (Morse 1969), and progresses through the bone, causing both destruction and abscessing and the laying down of new bone by the periosteum (Edeiken and Hodes 1967). Because osteomyelitis follows the stages of destruction, destruction-reparation, and regeneration, it can be difficult to identify the particular type or even the stage of the disease from archaeologically-recovered specimens. For the Fidler Mounds bones, external appearance and X-rays have been used to infer the presence of osteomyelitis.

Burial 4 (a) has swelling of the inferior shafts of the left tibia and fibula, associated with periostitic growth over the surface and with several draining sinuses in the tibia (the large missing area just above the malleolus has been ascribed to shovel damage, from past disturbance of the mound). An X-ray of these bones (Plate 34) indicates the thickening of the periosteum characteristic of pyogenic osteomyelitis, with

its appearance of "cloaking" or layering of irregular density (Edeiken and Hodes 1967). It also reveals at least 9 irregular patches of rarefaction in the distal tibia shaft, some of which are outwardly visible as draining sinuses. The fibula has similar cortical thickening but no sinuses or appreciable rarefaction, so it is assumed to be in an earlier stage of the disease, which was probably transmitted from the tibia. It is not known what might have caused the thickening of the right femur head; it may have had no relation to the disease in the lower left leg.

Burial 7 displays what was at first diagnosed as Paget's disease (Fiske 1964; Grogono cited by Fiske 1965; Chalk 1974, pers. comm.). Also called osteitis deformans, this disease occurs in middle and old age, and more frequently in males than in females. Its etiology is unknown. It can occur in 1 site (monostotic) or several (polyostotic), and generally involves the pelvis and lower limbs, particularly the tibia. It has 3 stages: bone destruction with sharp borders between dead and viable bone visible in X-rays; destruction and concurrent deposition of new bone; and the healing or quiescent-sclerotic stage. The commonest stage found archaeologically seems to be the second (Morse 1969). X-rays show dense cortical bone separated by spaces of rarefaction, and a very narrowed medullary canal. In long bones, it invariably begins at 1 end (Edeiken and Hodes 1967). Because of body weight on the weakened bone, there can be bending and pathological fractures (fractures of diseased bone).

Morse (1969) has re-examined reported cases of Paget's disease from archaeological sites in the midwestern United States (Fisher 1935; Denninger 1933) and has expressed doubts that what was observed on the bones was actually Paget's disease. In the case of the skeleton reported by Fisher (1935), later X-ray and microscopic examination disproved the

original diagnosis.

Burial 7's right ulna, radius, tibia and fibula were examined by X-ray, but not by thin-section. Anthroposcopic observation of the bones shows swelling of all bones except the radius, with some bending of the tibia and ulna, and extreme osteophytic growth over the surfaces of the tibia and fibula (Plates 34, 35, 36). In the X-rays, the cortex of all bones including the radius shows great thickening with areas of variable density, characteristic of chronic osteomyelitis (Edeiken and Hodes 1967). Only in the bicipital tuberosity of the radius was there any indication of a lesion, in what appears to be a tiny area of rarefaction invisible except on X-ray. Just what stage of the disease these bones represent is beyond the power of the writer to say. The original cause of the disease cannot be pinned down; the X-rays show no indication of injury. It is possible that a soft-tissue infection was transmitted to the bone, perhaps first to the tibia, and that the malady spread to the lower-arm bones through the bloodstream. The relative youth of the individual makes it more likely that the condition is chronic osteomyelitis; Paget's disease usually strikes after 40 years of age, and even then is rare in most populations (Collins 1966).

Lesions account for at least 4 and possibly 5 cases of trauma in the Fidler Mounds skeletons. Burial 9 has a lesion on the left humerus; Burials 15, 17a (a) and 21 (a) have frontal bone lesions, and Burial 7 has a trephination.

Due to missing bones, it was impossible to determine if the lesion on the humerus of the child in Burial 9 was associated with others, to indicate systemic disease. The lesion itself is very small, shallow and relatively smooth in appearance. Its edges are smooth rather than sharp,

possibly indicating a healing lesion rather than a tumour or purulent infection (see Plate 10b).

It is interesting that of the 3 crania with frontal bone lesions, all are female. Of these, the lesion on Burial 15 is the deepest and most marked, 3 mm deep and 6.5 mm across. Its edges are rounded and smooth, it is roughly triangular in outline (apex towards the orbit), and it is deep, but does not seem to have penetrated the skull. Surrounding the lesion, and below and lateral to it, is an area of bone with a slightly disturbed or swollen appearance. This may indicate that the lesion was bigger, or that infection spread from the site itself to the surrounding scalp and bone surface. An X-ray, not included here, indicated the lesion itself, with no nearby areas of rarefaction. As no lesions were found on other bones, it is assumed that the frontal one was the result of trauma (see Plate 15b).

Burial 17a has 2 frontal bone lesions, quite high up on the head. Both are in late stages of healing, and appear to have been keyhole-shaped. The bone immediately surrounding both is shiny and swollen-looking, with some associated porosity. The lesion over the right orbit seems more healed than the one over the left. Due to this healing, it is difficult to accurately ascribe the lesions to either trauma or disease (Plate 16a).

The glabellar lesion on Burial 21 (a) is right in the midline above the nasal bones. It differs from the other examples in that it is quite shallow and has a roughened surface. It is crossed by a shallow diagonal cut, assumed to be an unhealed ante-mortem injury (Plate 16b).

Stewart and Quade (1969) have examined over 1400 crania from sites in the midwestern United States, the Atlantic seaboard, and the Southwest,

for frontal lesions. The highest occurrence was in a late prehistoric site in Delaware, with a slight preponderance of male cases. Most lesions appeared to be inflammatory, but the authors preferred not to ascribe them to infectious disease because of the general lack of involvement of other bones. While thus reserving judgment, the authors stated that syphilis as a cause of lesions was highly unlikely for the populations under study.

As the frontal bone is a frequent site of trauma in prehistoric populations, it is likely that lesions in this region are the result of trauma with possible complicating infection. A conspicuous lack of associated long bone lesions would support this contention, and so the Fidler Mounds lesions are diagnosed.

Burial 7 has a large hole in the occipital bone (Plate 15a). The first diagnosis was trephination (Fiske 1964), possibly post-mortem (Grogono to Fiske 1965), on the basis of X-ray. The operation, involving surgical removal of a disc of bone from the skull, has been documented best for prehistoric Peruvians, and has occurred as well in Europe, Asia, Africa, Melanesia, and Central and North America (Lisowski 1967). It has been practised on the dead as well as on the living (Brothwell 1965). Motives for the operation are surgical, psychosurgical, and ritualistic (Lisowski 1967). The operation frequently involves the cranial sutures, and specimens from Peru and Europe showing various stages of healing would indicate fairly sophisticated knowledge of surgical technique, for the chances of injury to underlying blood vessels, meninges, and brain are high.

Methods of removing bone include scraping (removal of bone lamina until the dura mater is exposed), grooving (drilling into the bone along

lines until the piece is loosened), bore-and-cut (a circle of perforations is drilled and then linked by grooving), and cross-hatch (grooving of 4 intersecting lines). These techniques leave particular marks on the skull, should the patient die before healing can take place. Scraping should leave wide bevelled edges; grooving slighter bevels; bore-and-cut, the edges of the original holes; and cross-hatch, a square opening. Bore-and-cut is the rarest method, documented only in Peru (Brothwell 1965).

The favorite location for trephination seems to have been the parietals, then the frontal, then the occipital (Lisowski 1967; see also Goldsmith 1945 on the Catlin mark). Healing is indicated by closure of the tables of bone over the diploe, relatively smooth borders, and slight osteoporosis around the opening, reflecting effects of surgery on the scalp and muscles.

Photomicrographs done by R.D. Smail of the Manitoba Museum of Man and Nature show very slight healing of the edges of the hole on Burial 7, and slight bevelling of the edges, possibly the result of grooving. Notable in these photographs is the involvement of the right lambdoidal suture and the cutting of the hole across the sublongitudinal sinus, a major blood vessel.

There are few cases of trephination in North America (Ackerknecht 1947), and Morse doubts that it was practised at all in the midwestern United States, and by implication, anywhere else in America outside Peru. He ascribes all skull openings in Archaic and Mississippian burials to trauma and infection. His criteria for accepting an opening as a trephination include: 1) the presence of cross-hatch marks, 2) multiple holes in various healing stages in 1 individual, 3) square/rectangular openings,

4) nearly perfect circles, 5) angular pattern of osteitis around the hole, and 6) bore-and-cut evidence (Morse 1969: 10-11). By these criteria, Burial 7 does not represent a trephination. The opening is not, however, the result of the spread of osteomyelitis; the good condition of the skull surface, the regularity of the hole, and the smoothness of its edges, rule out disease or trauma. It is my opinion that the skull was trephined during life, and that while Morse's caution with regard to the acceptance of evidence for this operation is understandable, his criteria are too specific to Peruvian cases. The operation on Burial 7 may have been performed to relieve the pain that must have accompanied the osteomyelitis.

Burial 17a (a) exhibits a great deal of pathology. All of the bones present exhibit some porosity, probably due to age. The most outstanding problem in this woman's skeleton is the small and deformed right tibia and fibula, associated with deformed navicular and calcaneus. Comparing these with the normal left bones of Burial 15 (see Plates 12a, 12b, and 13a), it can be seen that whatever caused the shortening and bending must have been active in the youth of the woman; the right tibia measures 297 mm, while the left is 361 cm long. The femora are the same length, but the humeri show a 5 mm difference, the right one being longer. The left femur shows more torsion than the right, as to be expected in a case of bodily compensation for a shortened leg. The normal distal form of the tibia is not exhibited in the right tibia; instead of a medial malleolus there is a bony growth protruding medially and out at an angle from the shaft. There is anterior as well as lateral bowing of the whole bone (Plate 12a), with a posterior-inferior slope to the condyles. The fibula shows a distinct medial bowing in the distal half of its shaft, bringing it quite close to the tibia. The fibula's "kink"

fits under the distal end of the tibia. Its distal end has none of the features of a healthy fibula, having been reduced to a finger-like growth rather than a proper malleolus and articular facet. Eburnation on the proximal facet of articulation with the tibia may be related to the whole syndrome.

X-rays of these bones show a cortical thinning of the tibia and fibula that may have been a function of relative disuse. The bones feel light, possibly reflecting demineralization. The shortening and bowing set in early in the life of the individual, possibly in late adolescence, and may have had to be partially relieved by the use of a crutch. The few foot bones (the calcaneus and navicular) have draining sinuses and are grossly deformed, indicating a long-standing and painful condition, possibly the result of a crushing injury. This, in combination with senile osteoporosis, may have contributed to the deossification of the affected bones.

Possibly linked to this severe injury is the disunited fracture of the left ulna. The ulna seems to have been fractured cleanly and diagonally (sloping downward from lateral to medial, and less from posterior to anterior) and to have formed a pseudo-arthrosis with the inferior element of the shaft, which is missing, likely due to rodent activity. The pseudo-arthrosis shows a mushroomlike growth of new bone and the new articular surface is slightly eburnated. This fracture may have failed to unite properly due to the age of the individual and loss of regenerative powers, but without the missing inferior shaft it is difficult to say.

CHAPTER 4

Artifacts and Non-artifactual Inclusions

Introduction

The artifacts and non-artifactual material had been washed, numbered, and sorted into categories by the laboratory workers after the 1963 field season. The faunal bone had been identified by Paul Lukens; Tim Fiske had begun analysis of the lithics, ceramics, bone tools and shell artifacts. The projectile points and ceramics had been sorted into categories according to MacNeish (1958), but analysis was incomplete.

New analysis included resorting and re-examination of the mound contents. Binford's criteria (1963) were used for projectile point analysis; other lithics were examined with the help of Reeves' (1970) unpublished working papers on lithic analysis, in modified form. Ceramics were approached with reference to Dawson (1973), Evans (1961), Mayer-Oakes (1970) and Stoltman (1973).

This chapter contains sections on lithics, bone and shell artifacts, ceramics, and non-human bone, each with description and discussion.

Projectile points

The 23 projectile points found in the Fidler Mounds were scattered throughout the mound fill, were not associated with any burials, and were most likely village debris incorporated into the mound at the time of building. In terms of form, they fall into 3 basic types:

side-notched (7 in Mound 1; 2 in Mound 2)

corner-notched (4 in Mound 1; 2 in Mound 2)

triangular (1 in Mound 1; 4 in Mound 2)

In addition to the above, there were 2 unfinished points in Mound 2 (see Table 12), and a broken point tip in Mound 1. There were 13 points in

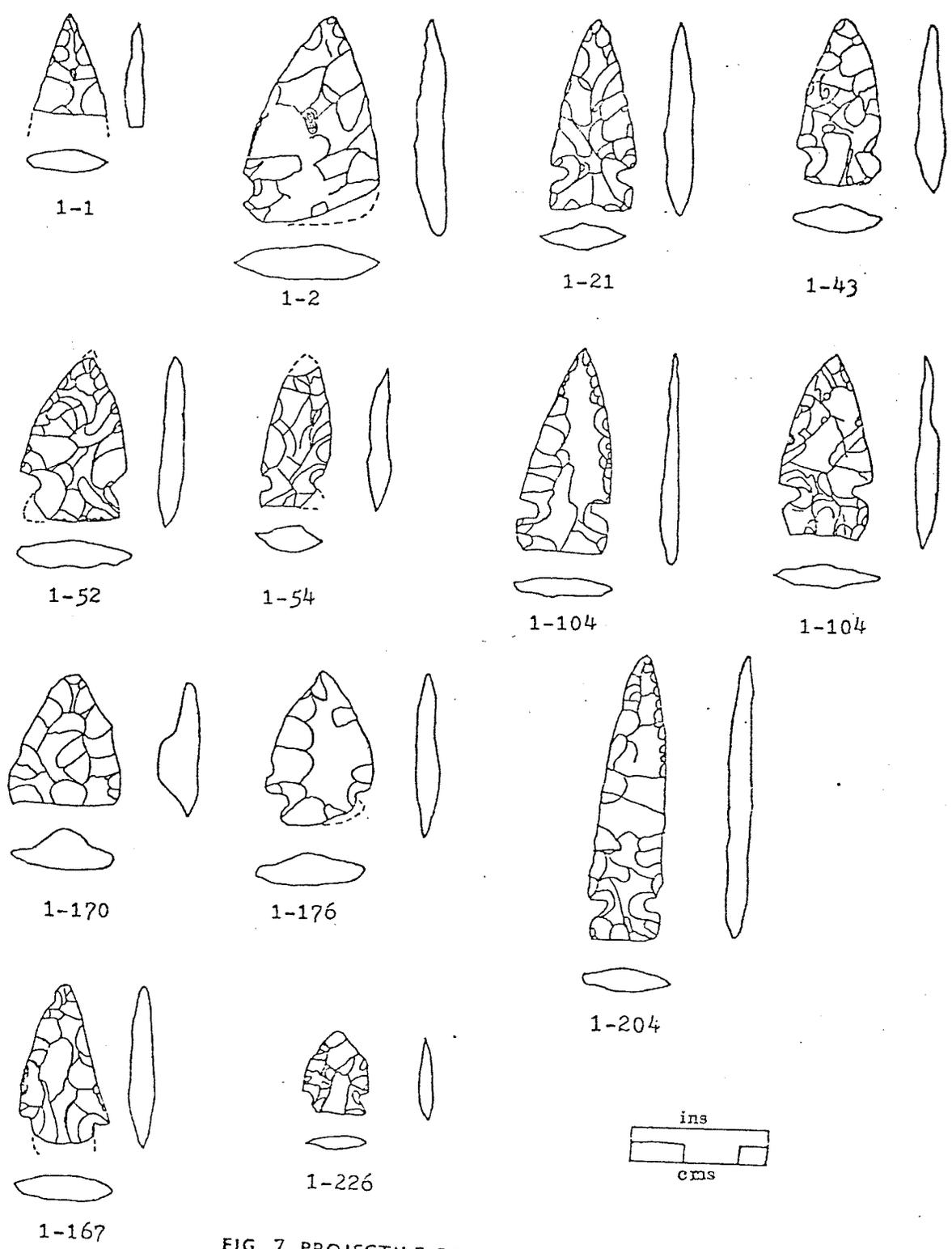


FIG. 7. PROJECTILE POINTS, MOUND I

Mound 1, and 10 in Mound 2.

The material is predominately chert (19/23 specimens, or 83%) with some brown chalcedony (3/23 specimens, or 13%) and 1 item was made of quartzite. The chert is local, and is referred to as "Selkirk chert." It is a limestone chert of Ordovician age, variably white, and is hard but tending to be chalky in texture in some cases (Leonoff 1970). The brown chalcedony is "Knife River Flint" from the Knife River valley, North Dakota (Clayton, Bickley, and Stone 1970). The quartzite is probably local; part of the river gravel.

All of the points are Late Prehistoric in form, and resemble points described by MacNeish (1958), Capes (1963), Kehoe (1966), and Johnson (1973), among others. If the fill for the mounds was taken from a habitation site near or on the Lockport and Floodway Village sites, this could explain the similarities between these points and those of the upper levels of those sites (MacNeish 1958, Fiske n.d.)

a) Side-notched points (Figs. 7 and 8)

There were 9 specimens recovered, 3 of which are broken. They are made from thin flakes, and vary in length and width (see Table 13). Base outline varies: 2 are straight, 3 subconcave, and there is 1 each with subconvex, convex, and concave bases. Notch grinding is present in 7, base grinding in 5.

b) Corner-notched points (Figs. 7 and 8)

There were 6 specimens, 4 of which were broken. These tend to be made from thin flakes. Two have subconcave bases, 1 is straight, 1 is subconvex, and 2 are indeterminate due to breakage. All 6 have notch grinding; only 4 have basal grinding.

c) Triangular points (Figs. 7 and 8)

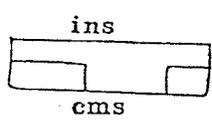
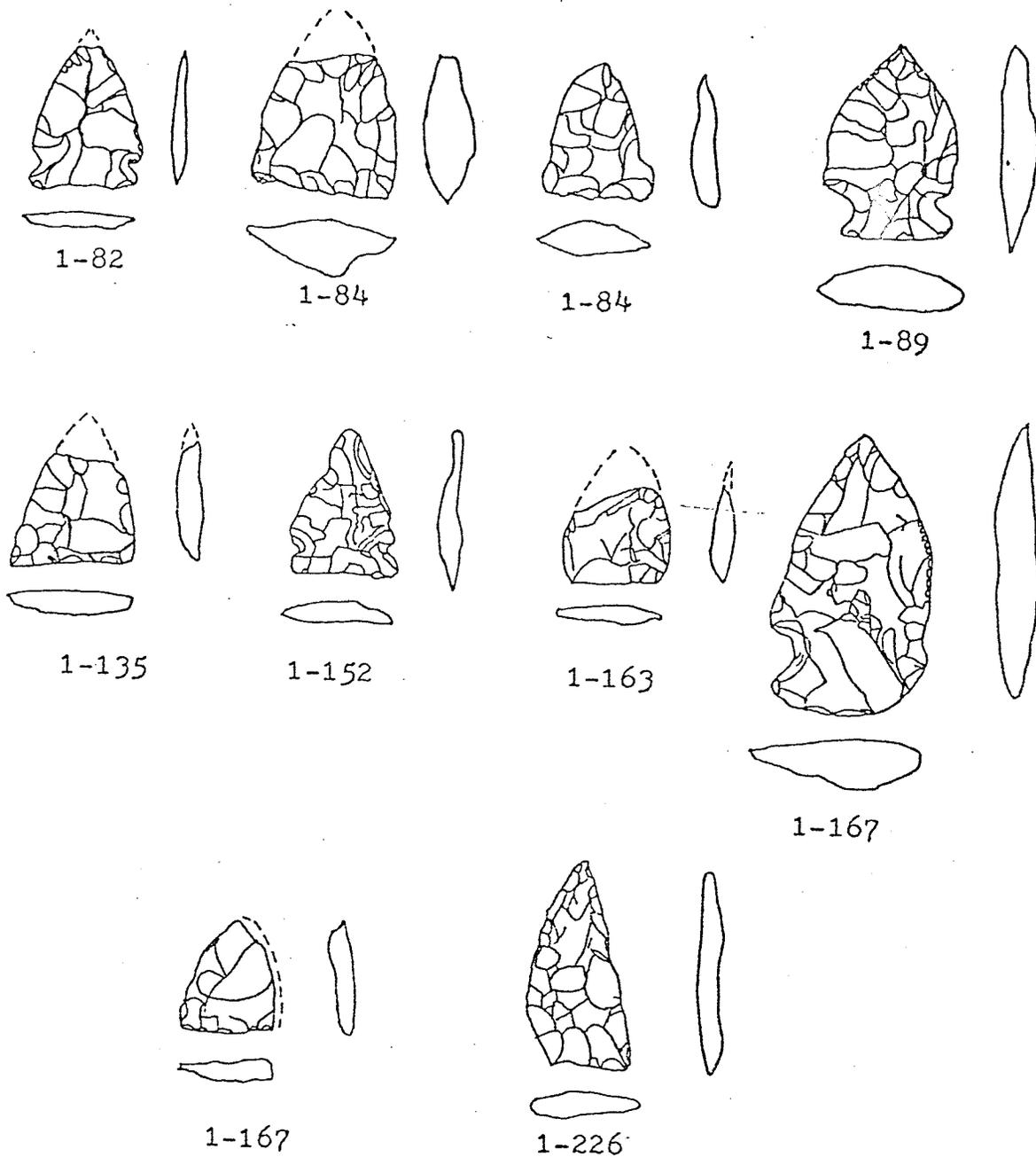


FIG. 8 PROJECTILE POINTS, MOUND 2

Of the 5 specimens, all were either incomplete or broken. Flake thickness varies from thick (see Fig. 7, 1-170) to thin. Base shape can be determined for only 2, which are subconcave. Grinding is not determinable.

The triangular points resemble what has been called Eastern Triangular (MacNeish 1958), or Unnotched Triangular (Evans 1961). These points have been identified with the Selkirk and Manitoba foci in Manitoba, and with the Blackduck focus in Minnesota.

The side-notched points resemble varieties of Plains Side-notch (MacNeish 1958, Kehoe 1966). One corner-notched point, 1-220, resembles what Kehoe calls High River corner-notch (1966).

Endscrapers

There were 45 endscrapers recovered from the Fidler Mounds: 29 from Mound 1 and 16 from Mound 2. Those from Mound 1 are snubnosed (11), rectangular (5), discoidal (4), triangular (5), domed (2), irregular (1), and indeterminate due to breakage (1). Those from Mound 2 are snubnosed (4), triangular (5), rectangular (1), discoidal (3), and irregular (3). For convenience, the snubnosed, triangular, and discoidal endscrapers from both mounds are described together (see Tables 14, 15, 16).

a) Snubnosed scrapers (Fig. 9, 1-116, 1-136)

In overall shape, these are distinguished by the steepness of the working ends (see Fig. 9). In outline, 3 are irregular, 4 rectangular, 4 triangular, 3 discoidal, and 1 ovate. There are 10 complete specimens and 5 distal halves. Flake orientation tends to be parallel (8), but there are 3 oblique, 1 transverse, and 3 indeterminate (broken) examples as well. Only 1 specimen has what appear to be hafting elements: 2 notches in the lateral edges. Eight specimens could be examined for proxi-

TABLE 12
PROJECTILE POINTS, MATERIALS AND TYPES

No.	Unit and Level	Material	Type	Colour
1-1	Surface	chert	tip frag.	5Y8/1
1-84*	M-5	chert	incomplete	10YR7/2
1-226*	BB-1	chert	incomplete	5Y8/1
1-2	A-1	chert	sidenotch	5YR2.5/1
1-21	C-5	chalcedony	sidenotch	10YR3/2
1-43	D-7	chert	sidenotch	5Y8/1
1-54	F-5	chert	sidenotch	5Y4/1
1-104	F-10	chert	sidenotch	2.5Y8/8
1-104	F-10	chert	sidenotch	5Y8/1
1-152*	S-2	chert	sidenotch	10YR8/1
1-167	W-2	chert	sidenotch	5Y8/1
1-204	E-9	chalcedony	sidenotch	2.5YR3/2
1-52	F-3	chert	cornernotch	2.5Y3/3
1-82*	M-3	chert	cornernotch	2/5Y7/4
1-89*	N-3	chert	cornernotch	5YR2.5/1
1-176	X-7	chert	cornernotch	2.5YR3/6
1-217	Z-2	chert	cornernotch	5Y8/1
1-220	Z-5	chalcedony	cornernotch	2.5YR2.5/2
1-84*	M-5	chert	triangular	grey-brown
1-135*	Q-1	chert	triangular	5Y8/1
1-163*	V-2	chert	triangular	5Y8/1
1-167*	W-2	chert	triangular	5Y8/1
1-170	x-1	quartzite	triangular	7.5YR

*Points from Mound 2; all others, Mound 1

TABLE 13

PROJECTILE POINTS, IN MMS, FIDLER MOUNDS

No.	Base Width	Tang Width	Shld. Width	Axial Length	Tang Length	Blade Length	Notch Length	Thik	Orien. Angle
Side-notched									
1-2	-	-	-	-	-	31.8	5.5	-	-
1-21	15	8.8	16.1	36.4	8.5	28.8	4.6	5.2	95°
1-43	16.1	12.5	15.6	31.5	7.1	25.2	3.3	5.0	80°
1-54	-	8.6	13.0	-	6.0	-	2.8	4.4	85°
1-104	17.4	11.5	12.2	39.1	5.7	29.6	4.0	3.7	80°
1-104	16.4	10.4	17.5	35.5	5.0	25.9	4.2	4.5	85°
1-152*	15.5	13.3	15.2	21.4	4.8	17.8	2.2	3.4	80°
1-167*	-	-	-	41.4	12.2	30.3	7.7	7.1	100°
1-204	12.2	7.2	12.5	54.0	8.4	46.0	3.6	4.1	85°
Corner-notched									
1-52	-	14.6	20.1	31.1	8.1	23.5	5.2	5.1	87°
1-82*	15.0	11.8	15.6	20.1	4.9	16.1	3.8	2.5	80°
1-89*	16.5	13.3	18.9	29.1	6.7	23.3	5.7	6.3	85°
1-176	-	14.3	20.2	30.4	6.9	23.1	3.6	5.7	90°
1-217	-	12.1	17.2	-	-	26.4	-	5.1	-
1-220	-	8.8	12.4	15.6	3.8	12.3	4.0+	2.6	90°

* Points from Mound 2

+ Left notch measured; all others right

mal retouch; 4 show irregular pressure flaking, 3 are crushed, and 1 is retouched along the right lateral side of the proximal end. Proximal end shape tends to be straight (5), but there are samples of concave (1), concave-convex (1), convex (1), convex-straight (1), and convex-double-bevel (1). The other 5 are broken. Distal retouch consists of parallel pressure flaking (8) and irregular pressure flaking (7). Distal end shapes include convex (12), convex-straight (1), convex-double-bevel (1), and concave-convex (1).

TABLE 14

SNUBNOSED ENDSCRAPERS, IN MMS, FIDLER MOUNDS

Measure	n	X	Range
Max. length	10	27.57	17.1-52.5
Max. thickness	11	8.84	5.7-17.0
Distance max. thickness from prox. end	10	14.84	10.1-22.2
Max. distal thickness	15	6.73	4.5-11.7
Angle proximal end	10	84°	45°-140°
Angle distal end	15	60°	45°-75°
Angle L. edge	15	52°	20°-110°
Angle R. edge	15	53°	25°-110°
Distance max. width from distal end	15	9.8	3.2-20.8
Max. width of working edge	14	20.6	12.7-25.8
Distance of max. width working edge from distal end	14	4.1	2.1-7.0

Secondary retouch is confined to the distal end only on 3 specimens,

to the distal end and left lateral edge on 4, to the distal end and right lateral edge on 2, and to the distal end and both lateral edges on 6.

Material is chert (9) and chalcedony (6). Colours are as follows:

3 red-black (10R2.5/1)	1 brown-grey (2.5Y6/2)
1 grey (2.5YR2.5/0)	1 grey-brown (2.5Y5/2)
1 white (10YR8/1)	1 black (5YR2.5/1)
2 mottled grey	1 yellow-brown (2.5Y6/4)
1 olive (5Y5/3)	2 olive grey (5Y3/2)
1 white (5Y8/1)	

b) Triangular scrapers (Fig. 9, 1-171, 1-163)

All 10 are made of chert, 8 are entire and 2 are present as distal halves. Flake orientation is parallel in 4, irregular in 5, and oblique in 1. No haft element could be observed. Distal ends are convex (4), concave-straight (1), straight (1), concave-convex (1), concave (1), straight (2), angular (1), concave-double-bevel (1), and irregular or indeterminate (2). Distal retouch is in the form of irregular pressure flaking (7), parallel flaking (1), and 2 specimens are too broken to determine flaking pattern. Proximal flaking is absent on 4, lamellar on 1, and indeterminate due to breakage on 3. On 4 specimens the distal angle is shallow; on 5, steep (1 is broken). Working edge combinations include distal only (6); distal and left (1); distal and right (1); distal and both edges (1); and 1 indeterminate due to breakage.

Colours range from white (5) to variants of grey (3) and red (1). One was mottled.

c) Discoidal scrapers

Of the 7 specimens, 5 are of chert; 2 were of chalcedony. Flake orientation is parallel in 5, oblique in 1, and indeterminate due to

breakage in 1. Six are complete; the 7th exhibits a distal half. A hafting element is absent in 6, but the 7th shows retouch that might have so served. Distal ends are convex (4), concave-convex (1), straight (1), and indeterminate (1) due to breakage. Retouch on the distal end is parallel pressure flaking (1); irregular

TABLE 15

TRIANGULAR ENDSCRAPERS, IN MMS, FIDLER MOUNDS

Measure	n	X	Range
Max. length	8	27.03	17.3-46.3
Max. thickness	8	7.73	5.3-13.7
Distance max. thickness from prox. end	8	17.93	11.1-31.4
Max. distal thick.	9	4.76	3.8-8.6
Angle prox. end	6	83°	55°-100°
Angle distal end	9	50°	30°-80°
Angle L. edge	8	45°	15°-90°
Angle R. edge	6	52°	20°-110°
Maximum width	8	23.77	17.6-31.3
Distance max. width from distal end	8	5.82	4.3-8.5
Max. width of working edge	9	22.73	17.8-30.9
Distance of max. width working edge from distal end	8	3.95	1.7-5.1

pressure flaking on the left side of the distal edge (1); parallel flaking on the left side of the distal edge (2); and 1 indeterminate due to breakage. Proximal end shape is straight (3), convex (1), concave-con-

vex (1), and 2 irregular. Modification on the proximal ends is absent in 5, and in the form of possible use-crushing or battering in 2. Distal edge bevel is steep in 5, shallow in 2. Edge combinations include 5 distal edge only, 1 distal end and right edge, and 1 indeterminate due to breakage. Colours are white (2), grey (2), reddish brown (1), and indeterminate (2), being mottled.

In all types of endscrapers, retouch on the ventral side of the tool is uncommon. Three triangular scrapers are totally retouched ventrally, and 2 on the area of the striking platform. Three snubnosed scrapers are retouched near the striking platform only: 3 are retouched on the left edge, 3 on the right; 1 is retouched entirely, and 1 on both lateral edges. Most of these scrapers are retouched completely on the dorsal surfaces.

TABLE 16

DISCOIDAL ENDCRAPERS, IN MMS, FIDLER MOUNDS			
Measure	n	X	Range
Maximum length	6	18.83	14.3-26.8
Max. thickness	6	7.18	4.3-10.7
Distance max. thickness from prox. end	5	6.76	2.4-12.0
Max. distal thick.	6	3.45	1.0-6.7
Angle prox. end	5	84°	30°-115°
Angle distal end	7	51°	20°-75°
Maximum width	6	27.18	18.3-43.8
Distance max. width from distal end	6	6.90	3.0-10.9
Max. width of working edge	6	23.30	17.2-38.5
Distance of max. width working edge from distal end	6	2.50	1.1-4.5

Sidescrapers (Fig. 9, 1-1, 1-176, 1-151, 1-158)

There were 134 sidescrapers, 67 from each mound. They are made of chert (93), chalcedony (34), quartzite (3), granite (2), schist (1), and basalt (1). Flake orientation is parallel (102), oblique (9), perpendicular (1), and indeterminate due to breakage (22). Seventy-nine are whole, 12 are represented by a distal end, 23 by the proximal end, 5 by the right edge, 10 by the left edge, and 5 by fragments. Overall shape is irregular (72), polygonal (15), stemmed (1), rectangular (11), rectangular-expanding (17), ovate (3), discoidal (6), unequal rhomboid (1), triangular (4), and crescentic (2).

Ventral retouch is present on the whole surface of 3 scrapers, on the striking platform of 23, as hafting areas on 3, laterally on 25, on the striking platform and laterals of 1, on all edges of 1, and it is absent on 76. Proximal retouch is in the form of battering (61), irregular pressure flaking (15), parallel pressure flaking (2), is indeterminate due to breakage (9), and is absent from 22. Distal retouch is present as overall pressure flaking (11), irregular pressure flaking (14), battering (5), grinding (1), lateral edge-distal end flaking (2), blunting (1), and parallel flaking (1). It is absent from 57. Left edge retouch is absent from 38, is present for the length of the edge on 50, and on the distal part of the edge on 29, as blunting or backing on 9, on the proximal half of the edge on 2, on the proximal two-thirds on 3, and irregularly on 1. Right edge retouch is absent from 45, present all along the edge of 50, on the distal part of the edge of 20, as backing or blunting on 10, on the proximal two-thirds of 2, and irregularly on 4. Hafting, in the form of flaking and grinding, is present on 3. Colours include white (42), varieties of grey (43), varieties of brown (34),

black (9), red (2), and various mottles (4).

TABLE 17

SIDESCRAPERS, IN MMS, FIDLER MOUNDS

Measurement	n	X	Range
Max. length	80	28.05	3.6-65.6
Max. thickness	115	5.75	1.7-19.6
Distance max. thickness from prox. end	84	12.07	2.1-46.3
Angle, prox. end	70	89.26°	20°-150°
Angle, dist. end	35	40°	5°-90°
Angle, L. edge	119	48.95°	5°-165°
Angle, R. edge	116	39.71°	5°-125°
Max. width	90	21.42	10.8-52.8
Distance max. width from dist. end	77	14.15	2.3-40.0
Max. width working edge	168	18.35	5.3-46.7

Bifaces and Knives (Fig. 9, 1-173, 1-168, 1-99)

There were 6 bifaces, 3 from each mound. One has its base thinned, 2 have bases prepared for thinning, and 3 has indeterminate base treatment. Five are not hafted; 1 is indeterminate due to breakage. Primary retouching is bifacial and complete on 2, incomplete on 3, and bifacial and ventral on 1. Secondary retouch is bifacial and complete on 4, unifacial and dorsal on 1, and unifacial on the dorsal edges on 1. Four show no use retouch on the left edge, and 2 show battering; 3 show none on the right edge, 2 show crushing, and 1 is ground. Five are not backed;

1 is indeterminate due to breakage. Four are whole, 1 is represented by a medial segment, and 1 is represented by a proximal half. Four are of chert, and 2 are of chalcedony. Lengths range from 20.5 to 32.0 mm (on 4), widths from 19.1-38.1 mm (on 5), distance of width from proximal end from 12.7-20.4mm (on 5), and thickness from 4.4-15.7 mm (on 5), and distance of thickness from proximal end from 7.8-12.7 mm (on 5). Colours are white and mottled brown.

There are 7 knives, 5 from Mound 1 and 2 from Mound 2. Two of the bifaces from Mound 1 are associated with Burial 7. Three have thinned bases; 1 is prepared for thinning; 1 is indeterminate; and 4 have no base modifications. Four have no hafting modification, 1 has a cornernotch, and 2 appear side-notched and ground. Primary retouching is complete on 3, incomplete on 3, and unifacial on a dorsal edge. Secondary retouch was complete on 1 and incomplete on 6. Use retouch is absent on 2, and present in the form of crushing on 3, battering on 1, and grinding on 1, on the left edge. On the right edge there is no use retouch on 2; there is battering on 2, crushing on 2, and is indeterminate due to breakage on one. Six are not backed; 1 is, on its left edge. Chert is the material from which 5 of the knives are made; 2 (the burial-associated knives) are chalcedony. Six are complete; 1 is represented by a distal half. Colours are red, grey-red, white, grey-white, and mottled.

TABLE 18

KNIVES, IN MMS, FIDLER MOUNDS

Measurement	n	X	Range
Length	6	45.2	27.0-61.1
Width	6	33.2	19.6-42.3
Distance width from prox. end	5	17.3	11.3-24.6
Thickness	6	11.2	6.3-24.0
Distance thickness from prox. end	5	16.3	9.8-27.5

Bifacial scrapers number 6; 1 from Mound 1 and 5 from Mound 2. Four are whole and 2 are represented by a proximal and a distal half each. Four have no base modifications, and 3 have prepared ends. None have hafting modifications. Primary retouch is complete on 4, on the dorsal side only on 1, and on the dorsal edges of 1. Secondary retouch is incomplete and bifacial on 5, and incomplete on 1. Use retouch on the left edge is absent on 2, and in the form of crushing on 3 and blunting on 1. Right use retouch is absent on 1, and in the form of battering on 3 and crushing on 2. Three are backed on the left edge, and 3 are not backed at all. All 6 are of chert. Colours are brown, red-brown, and varieties of white.

TABLE 19

BIFACIAL SCRAPERS, IN MMS, FIDLER MOUNDS

Measurement	n	X	Range
Length	4	36.3	12.1-54.4
Width	5	26.3	20.3-31.0
Distance width from prox. end	4	22.6	7.5-44.1
Thickness	4	11.9	8.1-14.0
Distance thickness from prox. end	3	14.3	5.8-28.0

There are 2 combination scraper-knives, 1 from each mound. Both have indeterminate base modification; neither is hafted. Primary retouch is complete and bifacial on 1, incomplete and bifacial on 1. Secondary retouch is bifacial and complete on 1, unifacial on the dorsal edges on the other. One is crushed on the left edge; the other is battered on the right by use. No backing is evident. Both are chert; 1 is complete and 1 is a distal half. Colours are brown and white.

A possible bifacial wedge from Mound 1 is ovate in outline, unhafted, incompletely primarily retouched and distally retouched secondarily. There is use-crushing on the left edge. It is complete and made of white chert. Its dimensions are 29.8 mm long, 21.7 mm wide; it has a distance between maximum width and proximal end of 16.6 mm. is 9.3 mm thick, and has a distance of thickness from proximal end of 15.7 mm.

A combination knife-graver from Mound 1, of white chert is rhomboid in shape, has no base modification, and is primarily retouched overall. It is incompletely secondarily retouched, shows polish on the left

edge and crushing on the right, and is backed on the left. It is 31.7 mm long, 18.6 mm wide, has a distance between width and proximal end of 16.8 mm, is 7.9 mm thick, and has a distance from thickness to proximal end of 19.5 mm.

Spokeshaves and Gravers (Fig, 9, 1-174, 1-217)

There are 21 spokeshaves; 11 from Mound 1 and 10 from Mound 2. Outline is irregular in 11, polygonal in 4, rectangular-expanding in 3, rectangular-contracting in 1, rectangular-parallel in 1 and ovate in 1. No hafting is evident. Twenty are made of chert; 1 is of quartzite. Nineteen are parallel-oriented flakes; 2 are on split pebbles. The location of the working edge is on the left side (dorsal) on 10, on the left side (dorsal-ventral) on 1, and on the left (ventral) on 3; on the right side (dorsal) in 12, and on the right side (dorsal-ventral) in 1. Backing is present on 2 on the left edge, on 2 on the right, and on 1 on the proximal edge. Use-marks include crushing (on 3), polishing (on 3), and grinding (on 3). Fourteen are whole; the distal half represents 7. Colours include white (12), grey (7), brown (1), and mottled (1).

TABLE 20

SPOKESHAVES, IN MMS, FIDLER MOUNDS

Measurement	n	X	Range
Length	20	21.14	13.2-55.3
Width	20	23.40	15.1-39.6
Thickness	20	13.52	2.3-13.2
Working edge angle	19	52.52	10°-85°

There are 6 graters in all, 3 from each mound. Five are irregular in form; 1 is rectangular-expanding. None is crushed, and 1 is ground. On the right side, 1 shows crushing. None are backed. Three are whole, 2 are present as a distal half, and 1 as a proximal half. All are of chert, grey-white (5), and mottled (1). (Fig. 5, 1-204, 1-163).

There are 2 combination graver-scrapers, 1 of chalcedony and 1 of chert; 1 red-brown, 1 white. Neither is hafted. One has both a dorsal and ventral working edge; 1 has only a dorsal working edge. Neither is backed. Each shows wear on the right side; 1 is crushed, the other ground.

Other Lithics

There are 58 items classified as marginal retouch tools in Mound 1 and 168 in Mound 2. Most of these are slightly chipped flakes, or show battering or grinding from some use. Most of the items are of chert; in Mound 1 there is 1 of granite and 1 of banded chert, and in Mound 2 there are 3 quartzite, 3 granite, 2 petrified wood, 2 chalcedony, 2 metamorphic, and 1 quartz item.

There are 41 cores from Mound 1 and 12 from Mound 2. All are of chert, and all are flake-cores; there are no blade-cores.

Unworked waste-flakes from Mound 1 number 265. Of these, 23 are of chalcedony, 5 of granite, 5 of quartzite, and 6 of schist. The remainder are mostly of white chert. Mound 2 has 206 waste-flakes, of which 15 are of chalcedony, 6 of quartzite, 2 of granite, 2 of basalt, and 1 of petrified wood; the rest are chiefly white chert.

There are 2 pipe fragments, possibly grey steatite, from Unit C in Mound 1. They may be from the same item. Their projected diameter is 20 mm, and thickness varies from 1 to 3 mm.

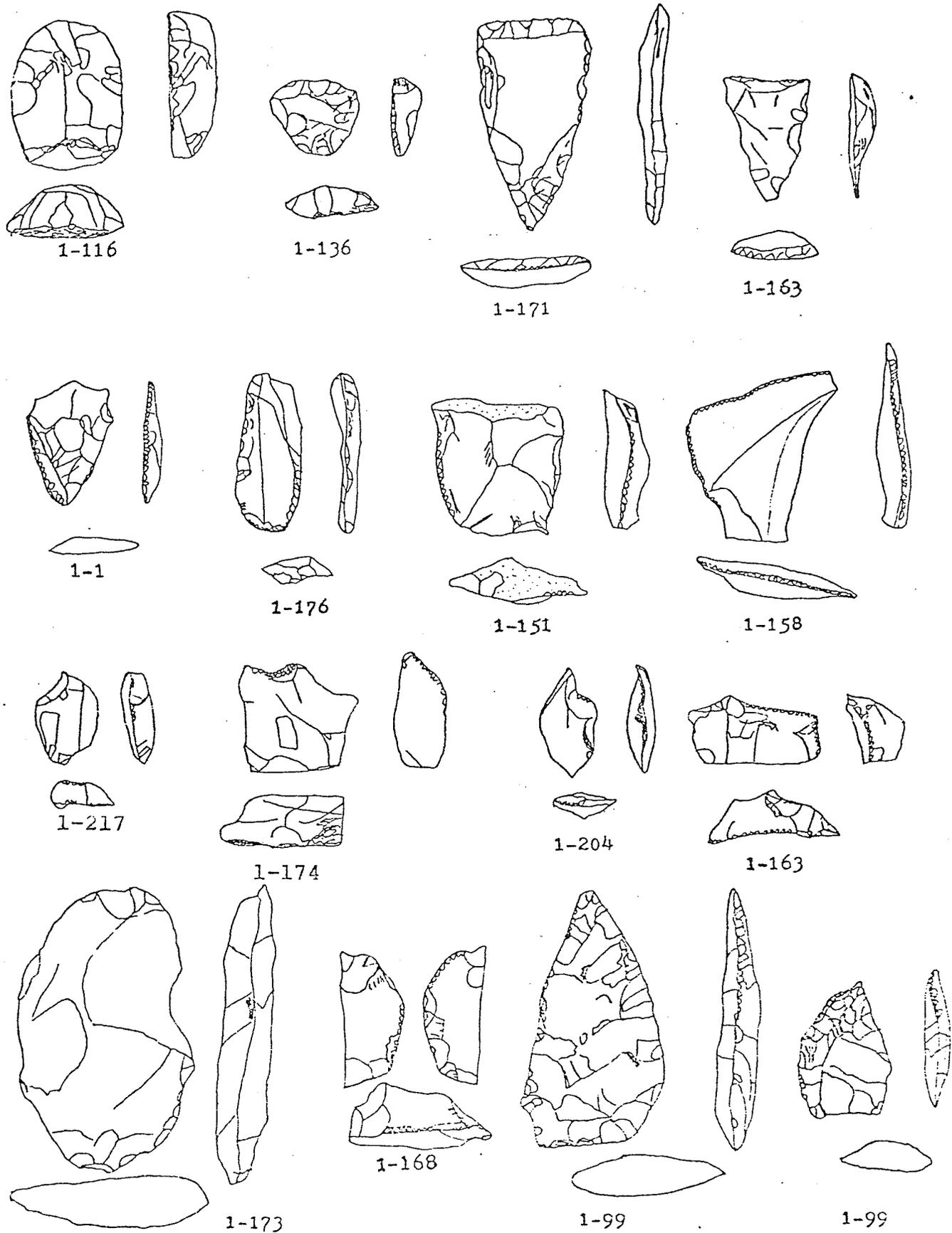


FIG. 9. OTHER LITHICS

There are 2 possible smoothing stones, both from Mound 1. Both are of metamorphic rock; 1 is black, the other, dark grey. The black one, 1-30, measures 40.7 mm long, 24.5 mm wide, and 7.5 mm thick. One end, resembling the bit of a scraper (65° angle) is smoothed. The grey one, 1-75, measures 68.4 mm long, 26.2 mm wide, and 15.2 mm thick. It is smoothed and symmetrical, with a 70° angle at either end, and has patination on the smooth ventral surface. A rubbing stone of granite from Mound 2, 1-166, measures 60 mm by 61.1 mm by 13.8 mm. It is smoothed and rounded at one end, and has striations along one side. Both the ventral and dorsal surfaces are smooth.

No grooved hammerstones were recovered from either mound, but there were several rocks which might have served the purpose without modification; they show possible pounding marks (very vague).

There are several possible abraders in the mounds; 1-31, a siltstone ovate from Mound 1, measuring 45.2 mm by 32.5 mm by 23.9 mm, has striations at one end, possibly from use.

A stone baton, associated with Burial 18, was possibly ground to shape (see Plate 18). It measures 13 cm in length, and tapers from 3 cm at one end to 6.5 cm at the other. It has a limey patination on one slightly-convex side. The baton is irregularly diamond-shaped in cross-section, and one surface appears polished. On the longitudinal ridge on this side are 22 small notches cut into the stone at right angles to the length. These are irregularly spaced. There is a trace of red colour on the polished surface near the smaller end.

Twenty pigment stones were recovered from Mound 1, and 10 from Mound 2 (see Table 21). Of these, 16 are ochre nodules; the others are low-grade limestone and sandstone. Common colours are varieties of red,

pink, and orange. The reds match the shade of ochre found on some of the burials, and it is possible that a number of these nodules were originally burial-associated.

A small grey item, very like a smooth "top", horizontally grooved and oval in side view, was found in the fill of Mound 1 (see Plate 18). This is a calcium carbonate concretion of a type that forms in shale (G. Lammers, pers. comm.). Though naturally formed, the concretion is not naturally occurring in the mound. It measures 37 mm in diameter, and is 20.8 mm thick at the centre.

A grey square English-style gunflint, of grey chert, was found near the surface of Mound 2. Its edge angles are from 35°-60°, and crushing is evident at 2 of the opposing ends. It appears to have been parallel-pressure-flaked, and its ventral surface has been flattened by flaking.

Found near the surface in both mounds were grey slate dowels. The one from Mound 1 measures 52.7 mm in length and 4.8 mm in diameter, and appears to have been sharpened as with a knife at one end. The 3 similar fragments from Mound 2 are from 37.9-40.2 mm in length and 4.8-5.5 mm in diameter. They also look as if they had been sharpened. It is possible that these were markers or construction items of some sort.

TABLE 21

PIGMENT STONES, FIDLER MOUNDS

No. & Unit	Length	Colour	Material
Mound 1:			
1-5 A-5	58.9 mm	10R4/8 (red)	sandstone
1-9 B-2	33.8	5YR6/8 (orange)	ochre
1-31 C-15	17.2	2.5YR4/6 (red)	ochre
1-32 C-16	41.4	5YR7/6 (orange)	sandstone
	28.2	"	"
1-53 F-4	30.5	5YR8/4 (pink)	sandstone
	24.2	2.5YR5/8 (orange)	ochre
1-58 G-4	24.6	10YR8/4 (tan)	limestone
1-71 H-3	22.2	7.5YR8/6 (tan-pink)	limestone
1-74 H-6	16.4	10R4/6 (red)	ochre
1-77 H-9	18.5	5YR8/4 (pink)	limestone
1-100 F-6	27.3	5YR6/4 (pink)	limestone
1-103 F-9	22.3	5YR5/4 (red)	?
1-104 F-10	47.4	2.5YR4/8 (rust)	ochre
	32.1	7.5YR7/6 (orange)	"
1-112 J-5	16.6	2.5YR3/6 (red)	ochre
1-116 J-9	39.6	5YR8/2 (pink)	limestone
	19.7	5YR7/6 (orange)	limestone
1-133 K-8	18.4	5YR6/8 (orange)	ochre
1-184 L-2	35.2	2.5YR3/4 (rust)	ochre
Mound 2:			
1-91 N-5	21.8	5YR5/6 (red)	ochre
1-136 Q-2	26.7	5YR5/6 (red)	ochre
1-140 Q-6	49.4	2.5YR5/8 (rust)	ochre
1-144 R-1	22.2	2.5YR5/6 (rust)	limestone
1-146 R-3	56.6	5YR5/6 (red)	ochre
1-157 T-2	28.3	5YR7/2 (mauve)	limestone
1-158 T-3	39.7	5YR7/4 (orange)	limestone
1-160 U-2	24.5	5YR5/6 (red)	ochre
	22.9	5YR7/6 (orange)	ochre
1-166 W-1	13.9	5YR5/6 (red)	ochre

Discussion

Most of the lithics recovered from the Fidler Mounds were recovered from the mound fill, indicating that they were most likely deposited with habitation site debris when the mounds were built. It is most likely that the earth for the fill came from the lower terrace to the W of the site; this terrace is the location of the Lockport site reported by MacNeish (1958), and of the Floodway Village site, excavated in 1964 and since unpublished, by Timothy Fiske. It is the writer's opinion, based on maps of the area, that the Lockport and Floodway Village sites were one and the same. It would be profitable, therefore, if the lithics and other material from the Floodway Village site could be analyzed, preferably concurrently with a re-analysis of the Lockport site material. Such a study would provide data for comparison with those of the Fidler Mounds. Similar data could be derived from a re-examination of the Larter site, also reported by MacNeish (1958). In this way, information about the lithic assemblages and materials of the northern Red River valley could be collated and used for comparisons with other areas of the province, in particular the Whiteshell and Winnipeg River areas.

Metal

The only metal associated with a burial, Burial 19, was a flattened copper ring, square in cross-section, measuring 3.4 cm in diameter (outside) and 2.8 cm in diameter (inside). The ring is 0.12 cm thick, and is wrapped in what appears to be fibre or animal hide, possibly as part of the hanger of the ornament. The ring had been submitted for metallurgic and trace-element analysis, but as yet no results have been received. The ring was found on the left ribcage of Burial 19 (male

adult), and green stains were located on the ribs, on the left humerus, and on the occipital bones of the skull. It is possible that the ring was part of an elaborate hanging headdress, and that it is the only piece that survived. In the course of storage, it has broken in two.

Bone Artifacts

Not many of the bone artifacts recovered from the Fidler Mounds were associated with burials when found. This is due possibly to the redeposition of the artifacts in the course of the earlier excavations. Originally there were 32 items of bone; in 1973-74 only 27 could be accounted for (see Appendix 2 for the missing items). Identifications, provenience, measurements, and associations are given in Table 22.

TABLE 22

BONE ARTIFACTS, FIDLER MOUNDS

No.	Unit & Level	Artifact	Length	(in mms)		Assoc.
				Width	Thick.	
1-9	B-2	Potmarker (?)	25.2	12.6	-	-
1-10	B-3	Smoother (rib)	78.1	15.1	-	-
1-34	C-18	Awl	80.9	14.7	-	-
1-47	C-7	Cut radius (moose/bison)	213.5	78.4	-	Bur. 2
1-52	F-3	Flaker	118.0	13.9	-	-
1-72	H-4	Bone bracelet	-	30.2	3.1	-
1-87	N-1	Cut incisor (deer)	38.7	6.7	-	-
1-93	P-2	Awl	126.0	38.0	-	-
1-98	H-6	Bird legbone	53.6	6.7	-	Bur. 6
1-99	H-8	Birdbone whistle	190.0	14.1	-	Bur. 7
		Bird humerus	85.4	14.0	3.2	Bur. 7
		Longbone frag.	108.6	16.3	-	Bur. 7
1-100	F-6	Dog tibia frag.	43.8	12.6	-	-
1-117	J-10	Beavertooth tool tool	185.0	26.4	26.4	Bur. 18
1-120	K-4,7	Calcaneus (cow/ bison)	160.0	-	-	Bur. 10
1-121	K-8	Elk antler haft	180.0	27.5	27.5	Bur. 11
1-124	F-10	Ungulate metap.	-	-	-	Bur. 14
1-153	S-3	Rib fragment	61.1	16.6	-	-
1-159	U-1	Beavertooth frag.	46.7	9.5	-	-
1-185	L-3	Bone bracelet	-	14.1	2.0	-
1-192	L-10	Bear mandible frag.	145.0	-	-	-
1-193	L-11	Bone bracelet	-	15.5	1.9	-
1-198	E-3	Swan longbone	187.0	17.4	-	-
1-204	E-9	Smoothed rib	85.9	18.9	-	-
1-214	X-8,9	Moose mandible frag.	185.0	-	-	Bur. 18
1-223	Md. 1	Swan ulna	270.0	15.5	-	Bur. 21*

*Recovered by bulldozer.

Specimen 1-9, the possible pottery marker, is a longbone shaft fragment with 2 notches and 3 points (see Plate 19a). It is dark grey-brown in colour. The notches are about 3.4 mm across and 2.2 mm deep. When used to mark plasticine, the item left deep punctates.

Specimen 1-10, a rib fragment, is notched 5 times vertically in an irregular manner, and smoothed all along the edges (see Plate 20b).

Specimen 1-34, a possible broken awl, is smoothed along the edges, and shows black-flecking, possibly as a result of burning (see Plate 20b).

Specimen 1-47 (see Plate 22b) is the cut distal end of a Bison (?) radius, polished on the shaft and cut end. Directly associated with Burial 2, this may have been a digging tool.

Specimen 1-72 (see Plate 23a) is a bracelet in 5 parts. It tapers to the ends (10.6 mm) where there are drilled holes for a fastening thong (holes are 2.2 mm wide), 5.7 mm from the ends of the item. Three bands of zigzag geometrical designs are bounded by parallel incisions in a horizontal direction. These bands are 4.8 mm wide, with very small intervals. This may be polished antler; some cancellous tissue shows in the centre, which shows striations.

Specimen 1-93, (see Plate 21b) is a piece of moose or elk metapodial, smoothed and possibly gnawed. It is polished all along the edges and the external surface. This may be an awl.

Specimen 1-98 (see Plate 19a) is a bird tibia or fibula, polished, and with one end bevelled. Hollow and triangular in cross-section, it may be a pottery marker. It was associated with Burial 6.

Burial 7 (1-99) was accompanied by 3 bone artifacts (1-99). A whistle (see Plate 21a) is made from a trumpeter swan ulna. The hole for the reed is 13.7 mm long by 7.1 mm wide, and is bevelled down to the

actual opening. The entire surface shows polish and narrow bands of either smoothing or careful scraping. The flat scratched bird humerus (see Plate 21a) has no known function. The curved and polished mammal longbone fragment (Plate 21a) has its ends and shaft smoothed. It has no known function.

Specimen 1-100 (Plate 19a) is a blackened fragment of dog tibia, bevelled at the most darkened end. Fiske interpreted this as a bead; it is the writer's belief that this may have been part of a pipestem.

Specimen 1-117, (Plate 22a) a beaver tooth gouge, is a polished and notched antler with a beaver incisor hafted in it. Notches on either side of the thin tip of the antler number 8 and 12. The haft hole is 11.6 mm across, the incisor 45.8 mm long.

The cow or bison calcaneus associated with Burial 10 was unworked, and may have been intrusive. The moose longbone shaft fragment (see Plate 20a) is smoothed along the edges.

A possible broken beaver-tooth gouge (see Plate 19b) is present as specimen 1-121. Made of smoothed elk antler, this item has a possible drilled hole at its broken end.

Specimen 1-153 (see Plate 19a) is a smoothed and polished rib fragment gouged along one edge. Even the cancellous tissue that remains is smoothed.

Another but smaller bone bracelet, 1-185 (see Plate 23b), is decorated with vertical rows of dots in 3 groups. The edges are irregularly notched. The drilled holes for fastening thongs are 1.4 mm wide, 2 to 3 mm from the ends of the bracelet, which taper. Polishing striations show on the inside and the outside of the bracelet. The number of dots in each group is 3, 5, and 4.

Specimen 1-192 (see Plate 20a) is a fragment of the left side of a black bear mandible, lacking the ramus, which has been cut off. The canine is worn and chipped at the tip, and the whole bone shows weathering.

Specimen 1-193 (see Plate 23b) is yet another bone bracelet, very much like 1-185. The groups of vertical dots are at varying intervals.

A possible unfinished whistle (see Plate 19b), the trumpeter swan tibia or fibula numbered 1-198 was polished and hollow.

The fragment of moose mandible associated with Burial 18 (see Plate 21b) shows extreme polish over the entire surface. This may be a hide-working tool.

Another possible unfinished whistle, 1-223 (see Plate 19b), is a polished and hollowed trumpeter swan ulna, with no flute hole.

Discussion

Of the bone tools accompanying burials, 7 were associated with adult males, 2 with adult females, and 2 with children (see Table 22). Of the 7 male-associated artifacts, 4 could be considered ceremonial in function (whistles, possible tally-sticks). The females were accompanied by a ceremonial and an indeterminate-use item each. The children, one 3 years, the other a possible 4 - 6 years, were associated with a utilitarian and a ceremonial item each.

The tools not directly associated with burials fall mostly on or within the 231.7 elevation line of both mounds, so may have been once associated with burials but have since been redeposited. These tools are utilitarian, ornamental, and ceremonial:

1 possible pottery marker (1-9)

5 smoothers or flakers (1-10, 1-52, 1-120, 1-153, 1-204)
2 awls (1-34, 1-93)
3 bracelets (1-72, 1-185, 1-193)
2 cut incisors (1-87, 1-159)
1 bead/pipestem/sucking tube (1-100)
2 hafted gouges (1-117, 1-121)
1 mandible flaker (1-192)
2 unfinished whistles (1-198, 1-223)
1 unknown item (1-98)

Most of the bone and antler items found in the Fidler Mounds are similar to types of tools and ornaments which enjoy great temporal and geographical distribution. These include awls, flakers, and smoothers. Bird-bone whistles are found from Archaic to historic times, from the Plains to the Eastern Woodlands (Wedel 1961, Webb 1974, Willey 1966, Capes 1963). The bone bracelets, however, closely resemble specimens from Arvilla complex mounds (see Johnson 1973, Plate 26), and some from Laurel mounds (see Stoltman 1973, Plate 47). The beaver-tooth hafted in antler resembles Arvilla specimens (Johnson 1973, Plate 30). The unilaterally-barbed harpoon point mentioned by Johnson (1973: 65) as coming from the Fidler Mounds is actually from the Floodway Village; no harpoon fragments occurred in the mounds.

Shell Artifacts

There were 9 shell items recovered from the Fidler Mounds, of which only 1 was associated with a burial. Data on the items are given in the following table. The identifications were done by Paul Lukens, with the exception of 1-132, tentatively identified in 1974 from Andrews (1971).

The others were rechecked from Eddy and Hodson (1961) and Baker (1928).

Specimens 1-2 and 1-198 may not be actual tools, but both appear to have been deliberately cut.

The cut shell beads (measured parallel and perpendicular to the drilled holes) are both smooth and slightly asymmetrical. The drilled holes measure 2 mm (1-9) and 3.3 mm (1-221), and appear to have been

TABLE 23
SHELL ARTIFACTS, FIDLER MOUNDS

No.	Unit Level	Description	Length	in mms. Width	Identification
1-2	A-1	Cut piece of shell	55.1	28.5	? (river clam)
1-9	B-2	Shell bead, cut	4.8	6.1	?
1-74	H-6	Shell pendant	66.0	19.6	? (river clam)
1-75	H-7	Shell bead, whole	17.1	12.6	<u>Viviparus</u>
1-124	F-10	Shell ornament	58.4	31.1	<u>Lampsilis</u>
1-128	K-3	Shell gorget	68.9	55.4	?
1-132	K-7	Shell bead	19.7	12.4	<u>Olivella/Mitrella</u>
1-198	E-3	Cut shell	28.5	19.0	? (river clam)
1-221	Z-6	Shell bead, cut	4.7	8.5	?

drilled from both sides of the bead, suggesting that the lengths were cut and possibly transported in this fashion to the eventual wearers. The shell has not been identified, but the beads are similar to examples cut from the columella of the Busycon or some other large Gulf of Mexico mollusc, and found in other mounds in Manitoba and the Dakotas (Capes 1963). The white Viviparus (possibly subpurpureus) shell, a spiral fresh-water snail common to the Red River area (Baker 1928, Eddy and Hodson

1961), was converted into a bead by the drilling of a hole in the spiral, which could accommodate a cord through it and through the natural opening of the shell (see Plate 24a). The hole is 5.3 mm wide. Another similar type of bead is 1-132, tentatively identified as either Olivella or Mitrella, Gulf Coast molluscs (Andrews 1971). It is stained, with clay or ochre, and has been made into a bead by the removal of the apex. A groove runs parallel to the edge of the artificial opening for one-third of the way around the shell; below that is a number of parallel scratches (see Plate 24a).

Shell pendants include 1-74, a tapering piece of clam shell with the top squared off and perforated by a hole 2.4 mm across and 9.4 mm below the top of the pendant. The hole has been drilled from the concave side. The bottom part of the pendant has horizontal scratches across the convex side and notches on each edge for a width of 11.6 mm. Specimen 1-128 is as carefully made, smoothed at all edges, and perforated at the centre from the ventral side by a hole 10.9 mm across. Both surfaces are polished, and there is an uneven break in 1 edge of the gorget (see Plate 24b). The least elaborate pendant, 1-124, was associated with Burial 14. The pendant is half of a shell (Lampsillis) with a small hole drilled from the dorsal side near the valve area, just below the lunule (see Plate 24a).

Discussion

The use of tubular cut shell beads is of wide temporal and spatial distribution; however the use of freshwater clam gorgets has been claimed to be a characteristic of the Arvilla complex (Capes 1963: 97; Johnson 1973: 65); and the manufacture and use of notched clamshell pendants,

such as 1-74, has been described as characteristic of the Laurel and Arvilla complexes (Capes ibid., Johnson ibid.). Illustrations in Johnson (1973) and Stoltman (1973) do indeed strongly resemble some of the shell artifacts from the Fidler Mounds.

The presence of marine shells suggests trade from the Gulf Coast, likely via the Mississippi valley and from there to the Red River valley. The occurrence of such shells, as small marine shells or as parts of large ones, dates back at least to the Archaic (Willey 1966; Wedel 1961).

Ceramics

Mound 1 yielded 30 rimsherds and 307 bodysherds, and Mound 2 produce 23 rimsherds and 625 bodysherds, for a total of 53 rimsherds and 932 bodysherds. The percentage of rimsherds to bodysherds was 9.8% for Mound 1, 3.7% for Mound 2, and 5.7% for both combined.

Due to the method of recovery and the history of disturbance, the mounds yielded very little reconstructable pottery. The importance of reconstructed vessels to ceramic analysis has recently been stressed (Syms 1974), and the writer concurs, but circumstances dictated recourse to traditional descriptive methods.

Munsell Color charts were not used to standardize potsherd colours due to failure to find matching colours.

Miniature Vessels

There were fragments of 7 miniature vessels, all found in the fill of Mound 1. The writer follows Mayer-Oakes (1970: 191) and Hanna (1973: 7) in classifying these samples as miniature pots rather than as representative pieces of Laurel, Blackduck, or any other ware. Ethnic ascription of small pots is a problem in ceramic analysis that calls for study of large numbers of such vessels from a number of sites, and is beyond

the scope of this paper. It is possible that all of these vessels were at one time associated with burials; the fact that none was so found in 1963 indicates the heavy disturbance of the mounds.

On the basis of decorative motif, there appear to be 4 categories of miniature vessel:

trailed (1-128, 1-106, 1-107)

dentate (1-103, 1-104, 1-68)

punctated rim (1-61, 1-104)

plain (1-184)

1-128 and 1-106, which fit together, have flat lips sloping up toward the mouth, which on the basis of the curve of the rim is estimated to be 9.8 cm in diameter. The lip is marked with 2 trails, parallel to the rim, and has a pinched castellation (Plate 26a). There are traces of a dark red colour on the lip. The body is also trailed; lip and body trails are 1 mm wide. The marking was probably done with a narrow smooth object, such as a bone awl.

Specimen 1-107, 55 fragments of a miniature vessel, could not be reconstructed for measurement. The colour on the exterior of the pot appears to be a red slip. Decoration, observed from the larger fragments, is in the form of horizontal lines 1.2 mm wide and 2.4 mm apart.

Specimen 1-103 (actually 2 fragments, non-fitting, of the same vessel) has shallow-incised lips, with the incisions perpendicular to the mouth. The mouth is estimated to be between 3.7 and 5.2 cm in diameter. Body decorations on these fragments are horizontal to slightly oblique rectangular dentates 2.1 mm wide, at irregular intervals in a vertical line, tending to expand obliquely toward the shoulder of the pot (Plate 26a).

Specimen 1-104 has shallow-incised lips (the mouth is estimated to be 5.9 cm across) and 3 rows of rectangular shallow dentates 1.9 mm wide and 1.2 mm apart, converging at the neck into the apex of a triangle (Plate 26a).

Specimen 1-68 is two-thirds of a vessel, 30.3 mm tall, 39.8 mm across at the widest part of the body, and 30.9 mm across the mouth (measured from the external rim). The lip averages 1.7 mm thick; the neck 2.7 mm. The body at its widest point is 3.8 mm thick - a measurement facilitated by the fracture of the pot. The lip is narrow and unincised. The neck is circled by punctates, roughly circular in form, about 1.2 mm wide and 1 mm apart. At every 5th punctate, 2 vertical rows of crescent-shaped marks 2.1 mm wide and very close together vertically but about 1.6 mm apart horizontally, run down to the thickest part of the pot. Some punctates are super-imposed, so the number per row varies between 6 and 7. This vessel was erroneously stated by Johnson (1973: 65) to have been associated with a burial. In fact, it was found in the mound fill (Plate 33b).

Specimen 1-61 and 1-104, possible fragments of the same pot, have relatively flattened lips with round punctates, apparently made with a thin hollow tube of some sort, such as a cut feather (L. Syms, pers. comm.). These punctates are 3.1 mm wide and 3.0 mm apart. 1-61 also has a perforation 8.2 mm below the lip. The mouth diameter of the vessel is estimated to be 4.33 cm (Plate 26a).

Specimen 1-184 has a rolled lip and no decoration. Its mouth is estimated to be 8.85 cm across.

TABLE 24

MINIATURE VESSEL RIMSHERDS, FIDLER MOUNDS

No.	Temper	Colour	Moh Scale	(Dimensions in mms)		
				Lip Thick.	Mouth Dia.	Neck Thick.
1-128	grit	dark brown	4	5.1	98	5.15
1-106	grit	dark brown	4	5.1	98	5.15
1-107	"	orange-red	4	-	-	-
1-103 (2)	"	buff-grey	3	2.2	37-52	3.4
1-104	"	dark grey	3	2.2	59	3.4
1-68	"	orange-grey	3	1.7	309	2.7
1-61	"	buff	3	4.7	433	3.5
1-104	"	grey	3	5.3	"	4.0
1-184	"	dark grey	3	5.7	885	4.8

Larger Vessels

The larger-vessel rimsherds, from an estimated 43 vessels, were analyzed in terms of ware and decoration. As has been mentioned before, limited reconstruction precluded discussion of vessel form. Comparison with sherds from other sites and from various complexes involved reference to Dawson (1973), Evans (1961), Mayer-Oakes (1970), Stoltzman (1973), and to a lesser extent, MacNeish (1958).

The Laurel Plain rimsherds (see Plate 26b) all have a coarse and platy texture. All have been horizontally smoothed. Round lips are present on 6 sherds (1-30, 1-32, 1-74, 1-83, 1-154, 1-185). The rest are flat to slightly rounded. It is possible that these were wide-mouthed pots or near-bowls, varying in mouth diameter from 11.6 to 14.3 cm. It is estimated, from size and motif, that these 9 rims are from 9 separate pots.

TABLE 25

DECORATIVE MOTIFS OF RIMSHERDS, FIDLER MOUNDS

Motif	Mound 1	Mound 2	% of total
Laurel Plain	6	3	20.45
Laurel Incised	-	1	2.27
Laurel Dentate	1	-	2.27
Laurel Pseudoscallop	2	-	4.54
Blackduck	2	-	4.54
Blackduck (Waskish)	1	1	4.54
Alexander Fabric- Impressed	2	10	27.27
Winnipeg Fabric- Impressed	1	-	2.27
Diagonal corded & smoothed	2	3	11.36
Diagonal corded	1	1	4.54
Horizontal corded	3	1	9.09
Vertical corded	1	2	6.81

TABLE 26

LAUREL PLAIN RIMSHERDS, FIDLER MOUNDS

No.	Colour	Moh Scale	Dimensions in mms		
			Lip	Neck	Mouth
			Thick.	Thick.	Diam.
1-30	grey-bluff	3	5.2	5.4	132
1-32	" "	3	3.8	4.8	116
1-74	" "	3	5.5	7.2	143
1-129	" "	4	4.8	5.1	132
1-185	" "	4	4.8	5.3	143
1-224	" "	3	3.9	4.9	143
1-83*	brown-black	4	5.7	-	134
1-145*	buff-brown	4	6.1	6.8	177
1-168*	light buff	3	4.0	5.3	140

* Mound 2 sherds

The only Laurel Incised rimsherd, (see Plate 30a) from Mound 2, is grit-tempered, coarse and platy, and dark brown in colour. Specimen 1-143 registers 3 on the Moh scale. The lip measurement is 5.2 mm, the neck 6.1 mm, and the estimated mouth diameter is 16.7 cm. The surface has been smoothed and irregularly incised in an overlapping fashion at an 85° angle. The lip shows a few tiny irregular nicks, but is otherwise undecorated. A boss or perforated large punctate is located 11.2 mm below the lip and protrudes brokenly into the interior.

The only Laurel Dentate rimsherd, 1-31 (see Plate 29a) from Mound 1, has been marked diagonally by bulky cord at large intervals at a 70° angle. The cords are 1.7 mm wide and 4.9 mm apart. The lip is smooth, as is the interior of the sherd. The writer believes that examination of other Laurel "Dentate" rims (see Stoltman 1973: Plate 22) will show that the diagonal markings are not dentates but heavy cordmarks. The sherd is coloured buff. Its hardness measures 3 on the Moh scale; its lip measures 6.1 mm, its neck 6.4 mm; and the mouth diameter is approximately 21.7 cm.

The Laurel Pseudoscallop rims, from Mound 1, are catalogued 1-104 and 1-191 (see Plates 28b and 29b). Specimen 1-104 is tempered with large grit, is coarse and lumpy in texture, and is black in colour. Hardness is 4 on the Moh scale. Its lip measures 4.0 mm, its diameter an estimated 9.8 cm. The surface is smoothed and marked in a horizontal parallel pattern with marks 1.1 mm wide and 1.5 mm apart. The lip edge is cordmarked at a 30° diagonal. Specimen 1-191 has 0.8 mm wide cordmarks 1.1 mm apart, and no lip decoration. It is buff-orange in colour, its lip measures 4.8 mm, and its estimated mouth diameter is 12.8 cm.

The 2 Blackduck sherds from Mound 1 are grit-tempered, coarse and platy. Specimen 1-184 has left-to-right diagonal marks on the lip and right-to-left marks at a steeper angle on the rest of the rim. The parallel horizontal marks below the diagonals were made by plainly braided cords 1.4 mm wide and 1.6 mm apart. This sherd shows some resemblance to the category called Mode 3, Variety A (Dawson 1974: 23), or "cordwrapped object multi-impressed." Its lip measures 11.1 mm, and its mouth diameter an estimated 12.0 cm. Sherd 1-226 is diagonally marked from the lip down and then smoothed so that the marks are shallow and unclear. The lip has been dentated diagonally. The inside rim has more defined marks at a 70° angle. The cord width is 1.9 mm and the interval 2.2 mm. The dentate marks are 1.5 mm wide and 1 mm apart. The sherd is buff-grey in colour. It registers 4 on the Moh scale; its lip is 6.2 mm thick, and the diameter of its mouth is approximately 11.5 cm across. This sherd generally resembles Mode 4, Variant A (Dawson 1974: 23, 19) or "oblique cordwrapped object impressed" (Plate 29a).

The Waskish vertical cordmarked and punctate rimsherds are grit-tempered, coarse and lumpy, and show cordmarking and resmoothing to the extent that the marks resemble dentates (plasticine impressions bring out the threadmarks). Specimen 1-136 (Mound 2) is red-buff and measures 5.1 mm through the lip. Mouth diameter is approximately 20.1 cm. Its punctates are 0.3 mm across, 0.4 mm apart (Plate 29b). Specimen 1-185, from Mound 1, has obscured diagonal cordmarks 4.9 mm long and 1.2 mm wide, with an interval of 2.7 mm. Eight mm below the lip are 3 oval punctates perforating the sherd, measuring 4.7 mm high by 3.4 mm wide and lying 6.2 mm apart. Both sherds have rounded lips. Specimen 1-136 is also marked

diagonally inside the pot, with marks 1.6 mm wide and 2.3 to 5.0 mm apart. 1-185 is ash-grey and its lip is 6 mm thick. Mouth diameter is approximately 12.2 cm.

Waskish pottery is considered by Evans (1961) to be of the Blackduck ware. The only thing that would militate against this classification is the roundness of the lips, not a Blackduck feature. In 1-185 this is partly due to breakage. In Dawson's modes, the closest resemblance is to variants of Mode 6, "cordwrapped object impressed and linear punctated", both of the above sherds are broken too close to the lip to be really convincing (Plates 28a, 30a).

Alexander Fabric-Impressed rimsherds number 12 in all. They are grit-tempered, coarse-textured, and appear to have been smoothed and then fabric-impressed. Decoration was uniform fabric-marked with some lip variation. The lip is rounded and smooth in 4 sherds (1-90, 1-154, 1-154, 1-136), fabric-marked in 3 (1-157, 1-157, 1-167) and corded in 1 (1-153).

The surface finish varies from ragged to finer fabric-marks, with the effect of overlapping and coarse knots (Plates 27a, 28a, 28b, 29b). Colours range from buff to dark brown, and mouth diameters from 6.5 to 22.1 cms (Table 27).

The only Winnipeg Fabric-Impressed rimsherd, 1-179, comes from Mound 1, (see Plate 28a). It is grit-tempered, brown, scores 4 on the Moh scale, and its lip measures 5.2 mm thick. Approximate mouth diameter is 20 cm. There is no lip decoration. The sherd shows evidence of fabric-impression and subsequent resmoothing; the interior is more smoothed than the exterior.

TABLE 27

ALEXANDER FABRIC-IMPRESSED RIMSHERDS, FIDLER MOUNDS

No.	Colour	Moh Scale	Dimensions in mms.	
			Lip Thickness	Mouth Diam.
1-205	buff	4	6.5	98
1-228	buff	3	4.8	98
1-90*	dark brown	4	7.1	180
1-136*	brown	3	7.4	204
1-153*	buff	4	7.0	151
1-154*	yellowish	3	6.1	199
1-154*	buff-brown	3	6.1	179
1-157*	dark brown	3	5.3	142
1-157*	orange buff	3	5.6	65
1-159*	buff	3	4.3	221
1-167*	orange buff	4	5.3	150
1-167*	dark brown	4	6.8	88

* Mound 2 sherds

Miscellaneous categories

The writer has created the next 3 categories to account for the rimsherds which resemble nothing in standard references, and which are so broken that little can be told of vessel form or general decoration. Thus, the rimsherds cannot be assigned to published categories.

The category called by the writer diagonal corded and smoothed contains grit-tempered sherds with differing decorations. Specimen 1-4 is smoothed, irregularly diagonally cordmarked and resmoothed; each mark is 5.4 mm long. The lip is undecorated. Specimen 1-184 is marked at a slight diagonal (30° - 35°) and resmoothed; individual marks are 4.2 mm long, 1.1 mm wide, and are spaced at 1.3 mm intervals. The lip and in-

terior are smooth. Of the Mound 2 sherds, 1-148 has a 45° cordmark, smoothed over. The cords appear to have a straight weave with overlapping twines. The lip is smooth and flat. Specimen 1-153 is obscure and crumbled; 1-154 is obscured, but the lip is cordmarked (Plates 27a, 28a, 29a, 30d).

TABLE 28

DIAGONAL CORDED AND SMOOTHED RIMSHERDS

No.	Colour	Moh Scale	Dimensions in mms.	
			Lip Thick.	Mouth Diam.
1-4	brown-black	3	5.2	209
1-184	buff	3	3.8	127
1-148*	orange-buff	3	4.5	164
1-153*		4	6.9	191
1-154*	buff	3	5.4	130

* Mound 2 sherds

The diagonal corded sherds are all grit-tempered, and have all been smoothed, marked, and resmoothed. Specimen 1-171 (Mound 1) is diagonally (85° - 87°) marked up to the lip, then obscured. The lip is vertically cordmarked; the inside of the sherd is marked at a 70° angle and, though smoothed, is more distinct than the exterior. The cord width is 1.6 mm; the interval 1.5 mm (measured on the interior). The lip is decorated with 1.3 mm wide cordmarks. Specimen 1-154 is cordmarked and smoothed, and has a slight lip protuberance (Plates 28a, 30d). The 2 sherds are buff-orange (1-171) and brown (1-154). Lip thicknesses are 4.1 mm and 6.1 mm respectively; mouth diameters are 150 mm and 199 mm.

Horizontal corded rimsherds are grit-tempered and coarse. Specimen 1-14 has parallel marks 2.2 mm wide and 3.1 mm apart, quite obscured by smoothing. Smoothing made measuring the marks on 1-110 impossible, but they are noticeably parallel. The interior of the rim is diagonally (80°) cordmarked and less obscure. Specimen 1-128 has 1.3 mm wide cordmarks and 2.1 mm intervals on the exterior, and 1.8 mm cordmarks and 1 mm intervals on the interior; the latter is smoothed. Specimen 1-81 is strongly marked and smoothed, and the lip has been either cordmarked or shallow-dentate and re-smoothed (Plates 27b, 28a, 30d).

TABLE 29

HORIZONTAL CORDMARKED RIMSHERDS, FIDLER MOUNDS

No.	Colour	Moh Scale	Dimensions in mms.	
			Lip Thickness	Mouth Diam.
1-14	buff	3	7.8	236
1-110	brown	4	5.6	169
1-128	buff	4	5.6	146
1-81*	black	3	5.0	167

* Mound 2 sherd

The Vertical corded sherds are grit-tempered and moderately coarse in texture. The marks on 1-204 are 2.6 mm wide, 1.8 mm apart, and smoothed. The lip, which is 5.4 mm thick, is marked along the inner edge parallel to the lip axis. Mouth diameter is 14 cm. Specimen 1-166 (Mound 2) has 1.3 mm cordmarks at 1 mm intervals, and is resmoothed. The marks begin 2.8 mm below the lip, which is diagonally corded and smoothed, and 6.3 mm thick. The inside of the sherd is horizontally cordmarked with 1.3 mm wide bands 1.6 mm apart. Mouth diameter is 15.5

cm. Specimen 1-162 (Mound 2) has marks 1 mm wide and 1.3 mm apart, and just below the rolled lip it has an obscure cordmark as though a string has been squeezed around the vessel at that position. This mark is wider than the others, but due to smoothing. The inside of the sherd is horizontally cordmarked and smoothed; the marks are 1 mm wide and 1.3 mm apart. The lip measures 7.1 mm thick, and the mouth diameter is an estimated 24.9 cm (Plates 28b, 30a).

Bodysherds

The 932 bodysherds were divided into gross categories on the basis of surface treatment (Table 30). Reconstruction was attempted, but with little success.

The majority of the bodysherds are plain or smoothed. They are grit-tempered, coarse-textured, and range in colour from buff to orange to black.

TABLE 30

SURFACE TREATMENT OF BODYSHERDS, FIDLER MOUNDS			
Surface	Mound 1	Mound 2	% of total
Plain/smoothed	130	196	34.98
Fabric-impressed	38	224	28.11
Cordmarked	112	159	29.08
Incised	-	11	1.18
Dentate	1	2	.32
Splits	24	33	6.12*
TOTAL	305	625	99.79

* Two sherds from Mound 1 were shell-tempered and will be considered separately.

The fabric-impressed bodysherds are grit-tempered and range in

colour from buff to orange to black. Surface finish ranges from fabric-marked and smoothed to deep, unsmoothed impressions, from sherd to sherd. Among the sherds from Mound 2 are 95 from 1 pot, recovered from Unit BB by shovel. The colour is black. One sherd, possibly a neck fragment, shows punctates at narrow intervals, 2.7 mm wide and 3.6 mm high, put into the clay at a slight angle.

There are 10 subcategories of cordmarked bodysherds (Table 31).

The horizontal-vertical-horizontal sherd, probably a necksherd, is decorated with cords 1.4 mm wide and 1.6 mm apart horizontally and somewhat less vertically. The sherd is brown on the exterior and black inside, and grit-tempered (Plate 31b).

TABLE 31

SURFACE TREATMENT OF CORDMARKED SHERDS, FIDLER MOUNDS

Type	Mound 1	Mound 2	% of total
Horizontal-vertical-horizontal	1	-	.37
Heavy twine	4	111	5.54
Horizontal	14	125	51.29
Large cord	7	2	3.32
Miscellaneous cord	27	-	9.96
Smoothed cord	5	-	1.85
Overlapping cord	48	14	22.88
Corded and trailed	6	3	3.32
Laurel pseudoscallop	-	3	1.12
Blackduck	-	1	.37
TOTAL	112	259	100.02

The heavy-twine sherds are grit-tempered, buff, orange, or black in colour, and decorated by horizontal single cord marks varying from

1.9 to 2.3 mm wide and lying from 1.7 to 3.2 mm apart. The cord is well-defined (see Plate 31b) and consistently twisted.

Horizontal marked sherds range in colour from buff to black. Surfaces are cordmarked and re-smoothed; the marks vary in width from 1.5 to 2.6 mm at intervals of from 0.9 to 3.9 mm, and are both parallel and horizontal (Plate 32a).

The group called "miscellaneous cordmarked sherds" were buff to black in colour, and had been smoothed, marked and re-smoothed, for the most part in horizontal rows with varying widths and intervals (Plate 31b).

Smoothed corded sherds - Fiske's "linear punctate" - were buff to dark brown in colour. Their surfaces had been smoothed, cordmarked and heavily re-smoothed to the extent that the marks resembled punctates. In plasticine impressions, these marks resembled tight cordmarks, often overlapping, about 1 mm wide and at varying intervals (Plate 31b).

Overlapping cordmarked sherds resemble what has been called "cord-wrapped paddle." These are buff, orange, or black in colour, and have a smoothed surface covered with cordmarks in a frequently crisscross and overlapping effect. Two pieces from Mound 2 have small punctates (Plate 32b).

The cordmarked and trailed sherds - Fiske's "Upper Mississippi spiral" and "Cambria A" are grit-tempered, coarse, orange-buff to dark brown, and have been smoothed, cordmarked, and wide-incised. The samples from Mound 1, probably from the same vessel, are diagonally cordmarked and trailed in a parallel-horizontal direction with a round smooth object. The trails are 3.2 mm wide and from 8.4 to 9.8 mm apart. The surface has been resmoothed to a glossy finish. Marks of the cord vary in distinctness, especially in the Mound 2 samples. The trails on these are 2 mm

wide, 2.8 mm apart, and irregular in outline (Plate 31a).

The Laurel Pseudoscallop sherds were grit-tempered, coarse, and black. The surface had been smoothed and regularly horizontally cord-marked; the marks were 1.1 mm wide and 1 mm apart (Plate 32b).

The neck sherd identified as Blackduck (Plate 32b) has wide cord-marks (1.9 mm) at regular intervals (1 mm apart) in a horizontal direction. Above these are deep vertical punctates 9.1 mm tall, 2.2 mm wide, and 2 to 3 mm apart. Above these ones are diagonal cordmarks 2.2 mm wide, 2 mm apart, and oriented at a 70° angle. This sherd resembles Dawson's Mode 7, Variety B (1974: 23).

Incised bodysherds are grit-tempered, coarse and platy, and buff to dark brown. The surfaces are smoothed and shallow-incised, sometimes in the form of an X, either in a parallel-vertical direction or seemingly at random. There is no other apparent marking. These sherds resemble Laurel Incised (see Plate 32).

Dentate sherds range in colour from orange to black, and have a smooth surface marked with squarish, uneven-depth dentates in parallel-horizontal rows unevenly spaces (see Plate 31a). Each dentate is 3.1 mm long and 2.6 mm wide, and each appears to have been made with a notched or broken instrument. Row intervals are about 4.3 mm.

Only two shell-tempered sherds were recovered from the mounds, and both were found in Mound 1. The sherds are brown, smoothed, and one appears to be vaguely cordmarked (Plate 33a).

Discussion

The miniature-vessel rimsherds came from the central area of Mound 1: 6 from Unit F, 2 from Unit G, 1 from Unit K, and 1 from Unit L. The

1 from K, and 1 of those from F, fit together. This fairly close spatial relationship among the small-vessel rims indicates that the vessels were probably present in the central chamber of the mound, in association with burials. In fact, the only burial-associated vessel, 1-107 (55 fragments of reddish incised pottery), lay on the floor of the central pit not far from the feet of Burial 13, which was represented by 2 feet and lower limbs in a upright position, the feet resting flat on the floor (see Plate 6a). The presence of these rimsherds on the central area indicates that the centre was excavated (probably by shovel) and the vessels thrown off to one side; subsequently, some were thrown back into the pit by backfilling.

Provenience of the rest of the rim and bodysherds indicates random scattering, with the exception of the Alexander Fabric-Imprinted rims, which were found predominantly in Mound 2 in nearly all the excavation units within the top 4 levels. There is also a large proportion of fabric-impressed bodysherds in Mound 2 (e.g., 95 fragments of 1 pot in level 1 of Unit BB). If fabric-impressed bodysherds of the knotty, very rough surface pattern are assumed to be Selkirk ware (not as yet a safe assumption, given our knowledge of reconstructed pots), then there is a possibility that Mound 2 is more recent than Mound 1. It is also possible that the occurrence of fabric-impressed sherds in Mound 1 is the result of backfill from Mound 2 being thrown onto Mound 1 by pothunters. Another possibility is that Mound 1 was built up over a long period, and that the fabric-impressed pottery came from the upper layers of the mound due to later intrusions or from later increments.

The chief use of pottery from mound fill lies in the very general bracketing of the period of construction. In the case of these mounds,

if we assume that the sherds represent habitation site debris, we know that the mounds were built from earth obtained from habitations that initially feature Laurel ceramics, and subsequently, the Blackduck and Selkirk wares.

Other Ceramic Items

The pottery elbow pipe found in close association with Burials 17a and b (see Plates 7b, 25a) is grey in colour and has 10 incised lines running parallel to the rim of the pipe bowl. The stem is curved, and has incised perpendicular lines on the flattened stem base (18 lines in all). This pipe is quite similar to one from the Snake River mounds of Minnesota, described by Johnson (1973: 30; Plate 34a), except that the Snake River pipe has a straight rather than a curved stem. This pipe was found in what the excavators believed was a burial pit in the subsoil below Mound 2 of the Snake River group (Ibid: 28), but which was lacking skeletal remains.

TABLE 32

CERAMIC PIPE MEASUREMENTS,
FIDLER AND SNAKE RIVER MOUNDS

Measurement (in mms)	Snake R.*	Fidler
Base to rim	98.3	89.6
Max. bowl diameter	55.4	50.5
Bowl diameter, stem junction	37.8	28.2
Stem diameter at junct.	26.6	19.3
Mouthpiece diameter	10.2	10.5
Base length	100.0	60.8
Stem-to-bowl length	65.7	40.1

*Johnson 1973: 30

Clay Lumps

Scattered throughout the mounds, in nearly all units and all levels, were amorphous lumps of clay which gave the impression of having been fired, as some were of a reddish colour and all were hard rather than crumbly. Fiske kept only a representative sample: a total of 358 altogether, 346 coming from Mound 1 and 12 from Mound 2. The writer recounted the lumps and found a total of 340, 328 from Mound 1 and 12 from Mound 2. The difference is possibly due to the earlier inclusion of stove clinkers (11 in number) and to loss over 10 years of storage.

One hundred ninety-two of these lumps appear to have stick and/or other impressions on their surfaces. Plasticine impressions of the lumps show a variety of irregular patterns, resembling rootlets, straw, twigs, poles, or rock surfaces. Some of the concavities in the lumps measure from 10 to 30 mm wide. In Mound 1, 7 of the lumps were recovered with burials: 1 each with Burials 1 and 2; 2 with Burial 7; and 3 with Burial 9.

What these lumps are is not known. Wilford (1950: 223) has reported Laurel burials with fire hardened clay in the orbits of the skulls and around the crania. The clay seemed marked with coarse fibres. There is no mention in the excavation notes of clay associated in this way with the Fidler burials. If these lumps are what Bell described in 1898 as "burnt brick" fragments, this would argue against the material being discarded historic (European) house-chinking. Furthermore, the impressions, when present, are quite small. If the lumps represent chinking at all, they would probably be from a wattle-and-daub type of structure. Similar lumps occur at the Floodway Village site (Fiske 1964).

Other hypotheses offered by Fiske include the possibility that the

lumps are the remains of hearth floors that were included in the fill of the mounds during construction. This does not explain the presence of impressions on some of the lumps. If the lumps were the by-products of pottery manufacture, as Fiske has also suggested, this does not explain why they have been hardened. The presence of grit temper has no relevance to this argument, as it is the writer's belief that the clay of the area is naturally tempered, and may not have been sieved carefully before use. If the manufacture of pottery was by the coil-and-build method, then waste clay should not show impressions, as the buildup of a patch of excess on a vessel could be avoided from the beginning of manufacture, and scraping would not have been necessary.

Size of the lumps ranges from ca. 80 mm across to less than 10 mm. Colour is generally tan to orange, with some dark brown fragments. The mound-associated lumps differed from the Floodway Village lumps in several respects:

- 1) the Floodway Village lumps numbered 96, all but 1 being under 22 mm across,
- 2) most Floodway Village lumps show a smoothed side but no stick impressions,
- 3) only 4 were recovered from the burial feature at the Floodway Village (though this may have been a sampling error).

It is suggested that the clay lumps represent daub from some type of structure.

Faunal Material

A great deal of non-human bone was found in the Fidler Mounds. Of

a total of 3174 mammal, bird, and other bones or bone fragments, 1933 were found in Mound 1 and 1242 in Mound 2 (Fiske 1964). Of a total of 4362 fish bones, 3474 were located in Mound 1, and 888 in Mound 2. Shell accounted for 204 pieces, with 175 being found in Mound 1, and the rest in Mound 2.

The biggest single species represented in the mound bone is channel catfish (Ictalurus lacustris). Much of this may be of relatively recent deposition, as it occurred in pits in the mounds, in some cases accompanied by metal fishhooks. Domestic cow also accounts for a fair amount of bone; almost invariably these fragments show the marks of a metal saw. The remains of the 2 species of ground squirrel and the one of gopher (see Table 33) are considered to be mostly naturally deposited, as a result of their habitation in burrows in the mounds. No doubt they had a great deal to do with the scattering of some of the smaller artifacts and human bones.

The initial identification of bone was done for Fiske by Paul Lukens. The writer was able to add a few items to the list, with the aid of comparative bone and references (Miles 1973: Olson 1960). Much of the bone, however, was so fragmentary that it could not be identified, and has been so listed in the tables.

The cat, cow, pig, horse, and dog remains are considered to be part of the trash-dumpings of European settlers. The cat bone comes from about 3 to 4 individuals, 1 of which is immature, and shows holes in one scapula that looked like shotgun-pellet marks.

Mollusc shell from the mounds is very fragmented, and continues to disintegrate in storage. Out of the total of 204 pieces, 35 were identified as genus Amblema, 10 as Lampsilis, possibly 2 species, one of

TABLE 33
FAUNAL REMAINS, FIDLER MOUNDS

Species	Fragments	Remarks
Beaver (<u>Castor canadensis</u>)	35	
Bison (<u>Bison bison</u>)	73 (?)	very difficult to tell from cow
Cow (<u>Bos domesticus</u>)	91	7-8 indivs; some calves
Cat (<u>Felis catus</u>)	116	3-4 indivs; 1 immature
Cervid (?)	9	
Dog (<u>Canis familiaris</u>)	170	5-6; 1 male, 2 immature
Fisher (<u>Martes pennanti</u>)	2	
Ground squirrel (<u>Citellus tridecemlineatus</u>)	47	
Ground squirrel (<u>C. franklinii</u>)	124	1 immature; ? others
Horse (<u>Equus caballus</u>)	5	
Mink (<u>Mustela vison lacustris</u>)	40	1 immature; ? others
Otter (<u>Lutra canadensis canadensis</u>)	2	2 individuals (mandibles)
Pig (<u>Sus scrofa</u>)	16	some butcher marks
Pocket gopher (<u>Thomomys talpoides</u>)	45	21 individuals (crania)
Lepid (?)	32	at least 2 individuals
Turtle (?)	8	no shell; bones only
Unidentified: large mammal fragments	67 2000	some burnt; some sawn

TABLE 34
BIRD REMAINS, FIDLER MOUNDS

Species	Fragments	Remarks
Chicken (domestic)	16	mature and immature
Duck (sp. ?)	2	scaup size
Grouse (Prairie chicken, <u>Tympanuchus cupido</u> , or Sharptail, <u>Pedioecetes phasianellus</u>)	2	
Mallard (<u>Anas Platyhynchos</u>)	1	
Merganser (<u>Mergus merganser americanus</u>)	2	
Bluewing teal (<u>Anas discors</u>)	1	
Unidentified	22	

TABLE 35
FISH REMAINS, FIDLER MOUNDS

Species	Fragments	Remarks
Catfish (<u>Ictalurus lacustris</u>)	2657	recent ?
Northern pike (<u>Esox lucius</u>)	15	
Sheepshead (<u>Aplodinotus grunniens</u>)	77	
Sturgeon (<u>Acipenser fulvescens</u>)	27	
Sucker (<u>Catostomus</u> sp.)	4	
Walleye (<u>Stizostedion vitreum</u>)	86	
Unidentified	1480	

which may have been siliquoidea, and 6 as Ligumia (Lukens; Baker 1928).
All these general belong to the family Unionidae, and all can be found

in the Red River and its tributaries from Lake Traverse, Minnesota, northward (Cvancara 1967; Clarke 1973). It can be assumed that the shellfish were being exploited for food, and that the habitation area from which the mound fill came had been at one time a summer camp.

Paleontological fauna also occurred in the mounds. Five fossils or their fragments were identified by Dr. E.I. Leith of the Department of Geology, University of Manitoba, as belonging to deposits of the Red River Ordovician. The fossils are horn coral (1-20, Unit C-4; 1-60, Unit G-6; 1-179, Unit Y-1), and nautiloid cephalopods (1-143, Unit Q-9; 1-228, bulldozed). None of these items was associated with any burial or anything else in the mounds, but were no doubt deliberately included in the mounds.

Due to the disturbance of the mounds, how much of the faunal remains was deposited during construction is unknown. The non-domestic species were all native to the Red River area (see Bird 1961) and were in all likelihood exploited for food, hides, tools, and ornaments.

CHAPTER 5

Conclusions

The questions asked of the Fidler Mounds are those questions noted in the Introduction, p. 1: who are the mound people, what were their physical characteristics and general conditions, and what place had mound-building in their social-religious sphere? Some of these questions have been partially answered (see Chapter 3), but the questions of identity and of what the burial phenomena tell us about the social organisation are more difficult to answer, and may not be answered on the basis of evidence recovered from these mounds. It is not entirely the fact of past disturbance of the mounds, however, that is responsible for this state of affairs.

Ossenberg has stated that one of the sampling problems in dealing with mound populations is the possibility that

skeletons from several mounds of a phase are in the nature of "total universes" from a number of family cemeteries. Under these circumstances, skeletal analysis, commencing at the level of mound-by-mound comparisons in order to set up pooled samples on the basis of a priori genetic (rather than cultural) affinity, would be theoretically unsound, even though such an approach might be desirable from the point of view of complementing or paralleling the archaeologist's method of classification (1974:17-18).

She has elected to use in her analysis skeletal material from various archaeological phases as defined by archaeologists.

But how have these phases been defined? The Arvilla complex, based solely on mound excavation, is stated to be characterized by

linear and circular burial mounds underlain by deep pits with complete and disarticulated primary burials, secondary burials, and a variety of associated grave goods. Among the latter are numerous ornaments of shell, bone, antler, and teeth. Utilitarian objects of bone and antler are common but chipped stone tools are rare. Pottery

vessels as grave goods are uncommon, though pottery elbow pipes are more numerous (Johnson 1973:3).

In addition, Arvilla-defined mounds consistently follow the glacial Lake Agassiz beach-line and outlet (Ibid., 58), and primary flexed burial and lack of grave goods, both associated with infant/child skeletons, are other features (Ibid., 59). Mounds in Manitoba claimed to be Arvilla include the Fidler Mounds, the Lone Mound, Sims and Star Mounds, and Calf Mountain Mound. The latter 4 are supposed to have the majority of Arvilla traits, except for the presence in them of log-covered or bark-lined graves; the Fidler Mounds are included in the complex largely because of the subsoil pit burials, the flexed sitting burials, the pottery elbow pipe associated with Burial 17a, and 2 erroneous associations: a miniature vessel said to accompany a sitting burial, and a unilaterally-barbed harpoon fragment (see pp. 103 and 108).

In spite of this claim, Ossenberg (1974:20) groups these mounds in the Manitoba phase because

"the trait lists of these sites are not paralleled by those of any single Minnesota complex. They can best be described as a composite or coalescence of the traits of the Minnesota complexes."

For the last statement, she offers no corroboration from any archaeologist.

The Fidler Mounds differ from the Arvilla complex trait-list in that they are not on a Lake Agassiz beach-line, and 1 child burial is associated with grave goods. They also differ from Laurel burial features as described by Capes (1963) and Stoltman (1973) in the lack of harpoons, Busycon shell items (possibly a function of looting), and the absence of long-bones and skulls that have been opened for their contents. Of the Blackduck traits described by Capes, all fit except for the absence in

the Fidler series of clay-plugs in the orbits, a trait which may have been shared by the Laurel and Blackduck folk of the Rainy River area (Capes 1963; Wilford 1950).

It is obvious that trying to shoe-horn the Fidler Mounds into poorly-defined burial complexes is a waste of effort. The lack of reliable carbon-date for the Fidler Mounds (a function of small sample, possible disturbance, and contamination) seriously affects the ability to pin down the period of construction of the central burial pit, possibly the first stage in the building of Mound 1. On the basis of Stage 2 comparison, the mounds can only be described as dating from middle to late Woodland (A.D. 0 - 1600).

On the basis of discrete trait analysis, Ossenberg has concluded that the Manitoba phase people were proto-Assiniboine, descended from Laurel people (1974:38). She qualifies this, however, in view of the geographical spread of the Manitoba phase sites, by suggesting a regional split of the sample (86 individuals) and a more detailed analysis (Ibid., 33). This is highly desirable. At present, there is no published material on 1 of the populations (the Stott Mound), and in the preparation of this paper, I found that in many cases, the Montgomery collection (Arden, Morrison, Pilot, Darlingford Mounds) was non-comparable with the Fidler population. The data from the Nickerson excavations (Lone, McGorman, Sims, Star, Star B Mounds) should also be re-analyzed. The unsatisfactory results from the analysis of the Melita phase indicates that a similar operation would be advisable, in spite of the problem of small samples, once the populations are broken down into regional groups.

With regard to the determination of the social organisation of the people who built the Fidler Mounds, Stage 4 analysis has yielded few sta-

tus differences. A number of things do stand out:

- a) the mounds, originally about 8 feet high by 75 feet long by 65 feet wide, would have contained approximately 39,000 cubic feet of earth each. This represents a great deal of labour and time, even assuming that they were built up over years and possibly generations.
- b) 14/21 burials were in excavated subsoil pits, and 3 burials of these were in a central chamber approximately 2.5 m long, 2.1 m wide, and 0.94 m into the subsoil. Eleven of the 14 burials were primary burials, mostly flexed; 1 comprised both a primary and a secondary burial, and 2 were bundle burials. This indicates that labour was expended on the disposal of nearly all the dead in the mound, and that interment took place soon after death, in a season when digging was not too difficult. It also indicates the possibility that the people who used the mounds were in the vicinity or within easy travelling distance at times of death, implying seasonal use of the area.
- c) possibly due in part to disturbance and erosion, there was an under-representation of aged and very young people in the mounds, but there seem to be few differences in burial which correlate with age. Infants/children are buried alone primary (3), associated with other ages in primary burials (6), and occur in bundles (2). Adolescents are associated with other primary burials (3), and are found in bundles (2). Adults of all ages

- are found in bundles (6), in single primary burials (4), and associated with other primary burials (8).
- d) there are some sex differences in disposal. Adult males predominate in bundles, although in 2 cases they are accompanied by children. Adult males, flexed on the right side and oriented EW, are the only ones with either traces of or an actual copper ornament (Burials 7 and 19). Of the burials identified as female, 5/6 are primary, 1 is secondary, and all but 2 of the primary ones are associated with other individuals. Adult males are buried in primary form alone (2) or in association with others (6), as well as in bundles. No other feature (orientation, position) reveals sex differentiation.
- e) the perception of illness or injury as a form of deviance may be reflected in Burials 7 and 17a. Burial 7 was associated with 2 brown chalcedony knives, an unmodified chert flake, and 3 items of bone, 1 of these being a whistle. This was the largest single association of grave goods in the mounds. It is possible that Burial 7's osteomyelitis and trephination may have had something to do with this cache. There is no indication that the knives might have been used in the surgery. Burial 17a, riddled with crippling injury and traumas, was apparently placed in the pit over Burial 17b soon after death: some of her bones were articulated, but some were lost.

Associated with her was a broken pottery elbow pipe, the only one found with a burial. Her treatment may reflect her age, her crippling, the time of year she died, and possibly her relationship to the burial beneath her.

f) in general, the few artifactual associations with burials seem not to be related to sex or age. Bone tools, the most frequently-associated items, were found with both sexes and all ages (see p. 102). The association of 3 items--2 bone, 1 lithic--with Burial 18, a child of 4-6 years of age, may reflect the treatment of a particular individual more than anything else.

In view of the above features, what kind of a group is reflected in the Fidler Mounds site? The wear on the teeth of individuals, and the lithic tools found in the mound fill, not to mention the faunal remains, seem to indicate a hunting-gathering economy. If we assume that hunter-gatherers are organized at the band level, then the mounds were likely built by 1 or more bands, probably over a period of time. The mounds were probably used in the spring, summer and fall, while the group/groups camped in the vicinity of the St. Andrew's Rapids, perhaps at the Lockport-Floodway Village sites on the terrace below. A feature of band society is the differentiation of the sexes at death. In a quick look at hunter-gatherer societies recorded in the Human Relations Area File, Binford found that in 12 of 15 cases, differentiation was based on sex, 6/15 on social position, 4/15 on social affiliation, and 2/15 on age and 1/15 on condition of death (1971:20). The relatively few sex differentiations

notable in the Fidler Mounds may reflect the heavy disturbance of the mounds, the fact that the investigator is missing some very subtle clues, or that this group did not differentiate on the basis of sex, or on sex alone.

The importance of the Fidler Mounds to Manitoba prehistory lies in the fact that they held the only population which has been studied in the context of its burials and associations. Cameron's study of the Montgomery collection was concerned only with the physical characteristics, not with the artifacts or modes of burial. Bones were measured and examined by element (e.g., tibiae) rather than by burial (1962:10). In no other Manitoba population is the description of the burial context and the physical characteristics found under 1 cover. It is hoped that this particular effort may be a contribution to a future re-examination of Manitoba prehistoric populations, and the rejoining of their disparate types of description. With those tools in hand, it may be possible to test hypotheses of what burials and their features signify, in the Woodland period in Manitoba.

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APPENDIX 1--DENTITION FORM

- | | |
|----------------------------|---------------------------|
| 1. Absence/presence | 9. # caries: mesial |
| 2. Unerupted/erupted | 10. # caries: distal |
| 3. Reason absent: | 11. # caries: buccal |
| 0=postmortem | 12. # carie: lingual |
| 1=postmortem bone loss | 13. # caries: cementum |
| 2=antemortem | 14. Pitting: |
| 3=congenital absence | 0=absent |
| 4=periodontal | 1=present |
| 5=abscess | 15. Abscess: |
| 6=trauma | 0=absent |
| 4. Resorption: | 1=present |
| 0=none | 16. Periodontal: |
| 1=slight | 0=absent |
| 2=moderate | 1=slight |
| 3=extreme | 2=moderate |
| 5. Attrition | 3=severe |
| 0=unworn | 17. Trauma: |
| 1=enamel wear | 0=absent |
| 2=part. exp. dentine | 1=postmortem |
| 3=comp. exp. dentine | 2=antemortem nonpurposive |
| 4=pulp exposed | 3=antemortem purposive |
| 5=crown gone | 18. Shovelling: |
| 6=roots only | 1=moderate |
| 6. Molar Attrition | 2=extreme |
| 0=indeterminate | 3=double |
| 1=normal | 19. Carabelli's cusp |
| 2=other | 0=absent |
| 7. Special cases | 1=groove/pit |
| (rotation, microdontia...) | 2=cusp |
| 8. # caries: occlusal | |

Protostylid:

0=absent

1=moderate

2=pronounced

20. Maxillary cusps

(4,4-,3+,3...)

Mandibular cusps

(4-6Y, 4-6+)

APPENDIX 2

Missing Bone tools

The items missing from the Fidler Mounds collection tend to be the smaller pieces. All were without association. They are:

1-2 (A-1) a cut deer incisor

1-16 (B-9) a beaver incisor

1-93 (P-2) a large canid canine

1-152 (S-2) a fragment of bison tibia

1-169 (W-4) a large canid canine

It is believed by the writer that these items disappeared while stored in the Anthropology Laboratory, University of Manitoba.

APPENDIX 3

Historical Materials

A very large amount of historical material was recovered from the Fidler Mounds. In addition to the occasional peach-pit, piece of tin-foil, and plastic, there were the following large categories:

crockery: about 835 pieces, 288 from Mound 1 and 547 from Mound 2,

this was mostly china and earthenware. There were the remains of cups, saucers, plates, bowls, crocks, and bis-que doll arms. Some of the plates and saucers are common English ironstone.

glass: about 1001 pieces, 462 from Mound 1, 539 from Mound 2. This was mostly the remains of bottles, ranging in colour from white to blue, green, and purple. Some pieces of glass were molten.

leather: about 148 pieces, mostly shoe and harness remains.

Metal: about 1849 pieces, mostly round and square nails, buttons, wire, springs, nuts and bolts, machine parts and machine body segments, and bottlecaps.

miscellaneous: 1 blue glass bead, 2 pocketknives, 1 forkhandle, 1 marble, 1 rifle shell, 1 wooden pipebowl, and 5 white clay pipe fragments (3 from Mound 1, 2 from Mound 2), one of which is stamped "Dixon... Montreal."

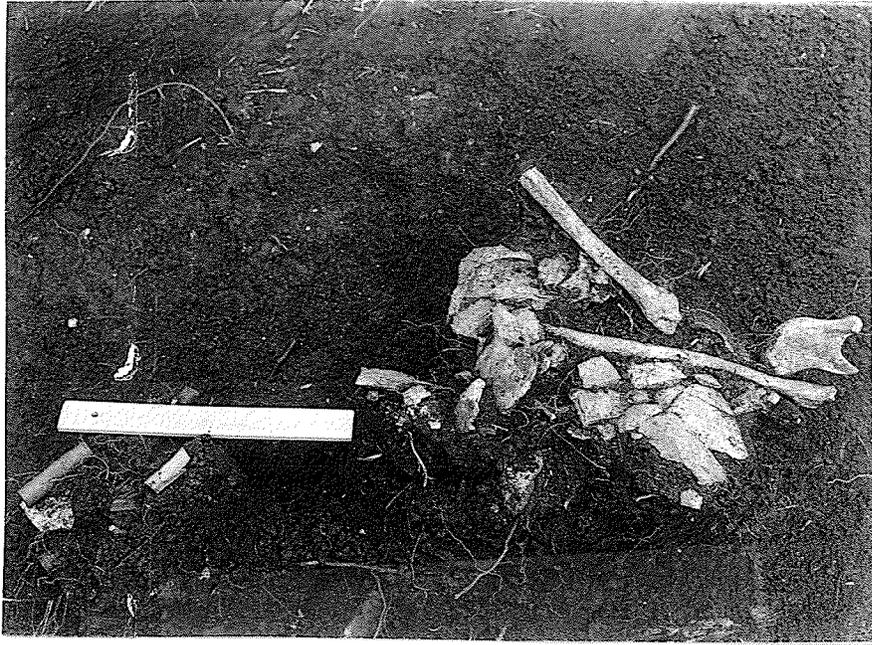
All of this material probably dates from homesteading times right up to the last time the mounds were used as garbage dumps and burning grounds, likely the 1940's or 1950's.

PLATES

PLATE 1

a. Burial 1 (1-12), looking WNW.

b. Burial 2 (1-47), looking E. Note Bison
tibia among human bones, centre.



a



b

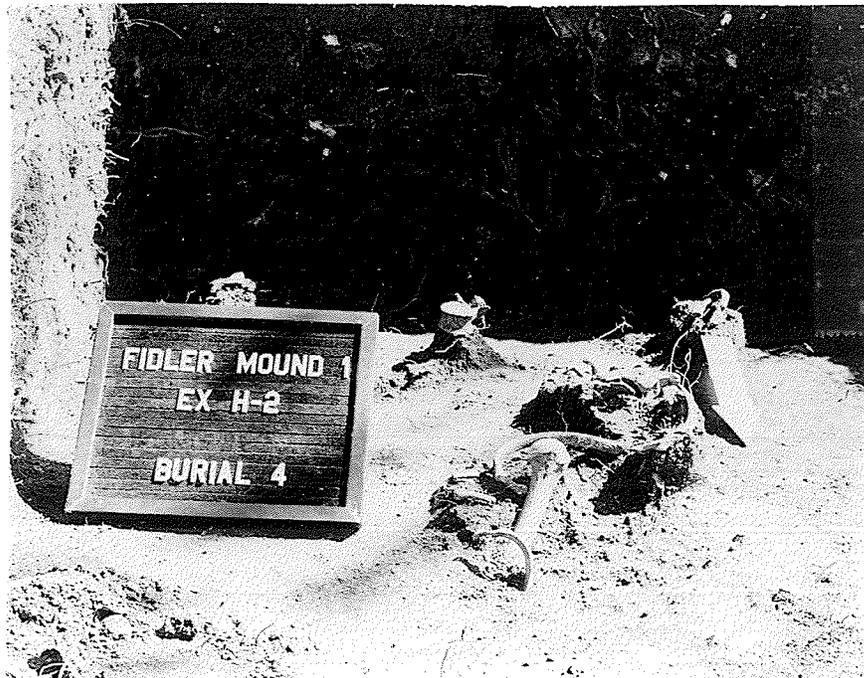
PLATE 2

- a. Burial 3 (1-48), overlain by rocks
(Feature 5). View is looking S.

- b. Burial 4 (1-49), looking S.



a



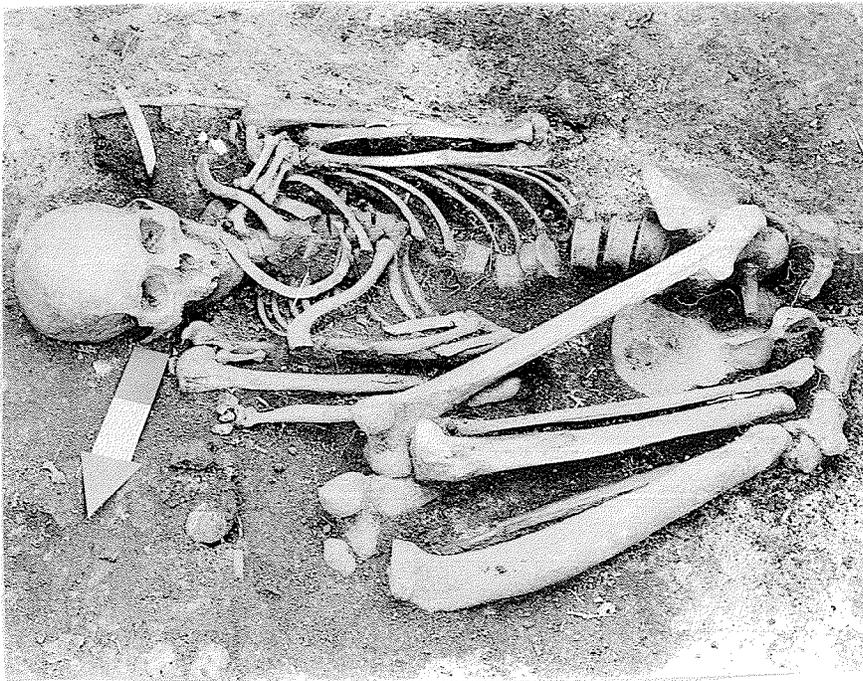
b

PLATE 3

- a. Burial 5 (1-97), looking N.
- b. Burial 7 (1-99), looking S. Note swollen
left tibia; also bone tubes S of the skull.



a



b

PLATE 4

- a. Burial 8 (1-118), and 9 (1-119).
- b. Burial **10** (1-120). Note ungulate calcaneus on the head of the left femur.



a



b

PLATE 5

a. Burial 11 (1-121).

b. Burial 12 (1-122).



a



b

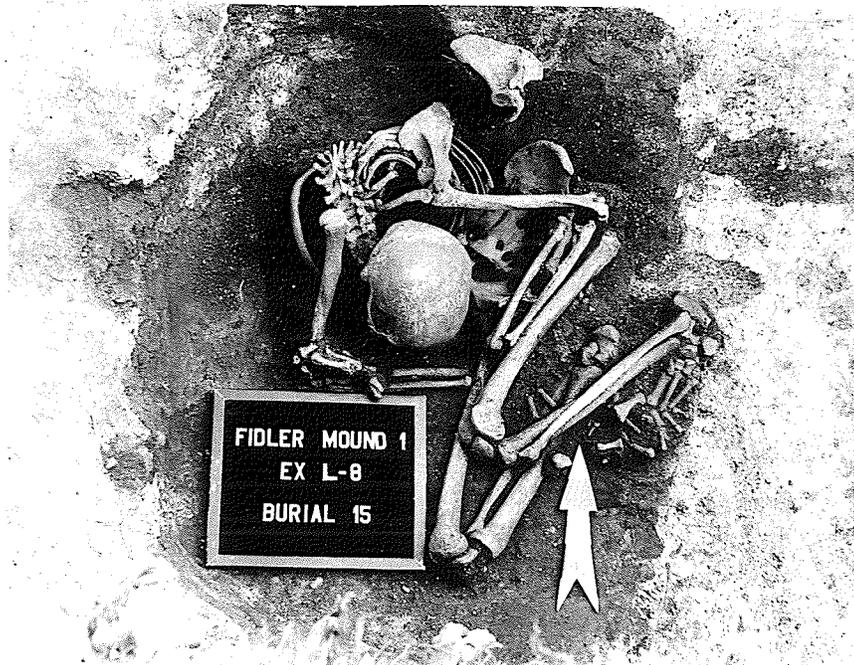
PLATE 6

a. Burial 13 (1-123) and 14 (1-124), near-vertical view.

b. Burial 15 (1-125), near-vertical view. Note position of right scapula in the wall.



a



b

PLATE 7

- a. Burial 16 (1-211).
- b. Burial 17a and b (1-212 and 1-213; 1-212 is on top). Note pottery pipe fragments on the ribcage of 1-213.



a



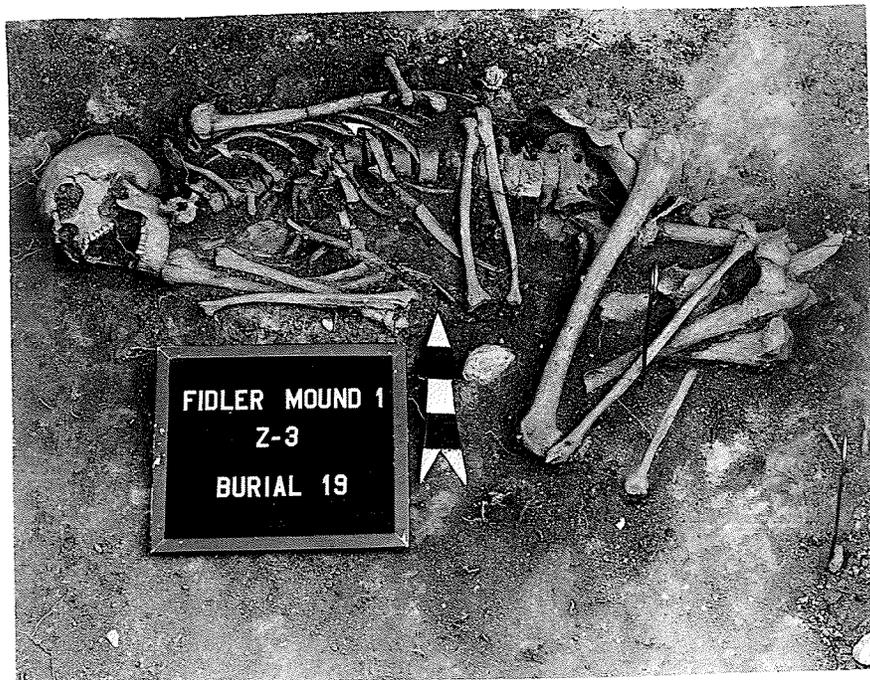
b

PLATE 8

- a. Burial 18 (1-214). Note elk mandible and stone baton, to the right of the skull.
- b. Burial 19 (1-215). Small arrow on left ribcage indicates copper ring.



a



b

PLATE 9

- a. Left tibia and fibula, Burial 4.
- b. Abnormal right and normal left tibiae
and fibulae, Burial 7.

a



b

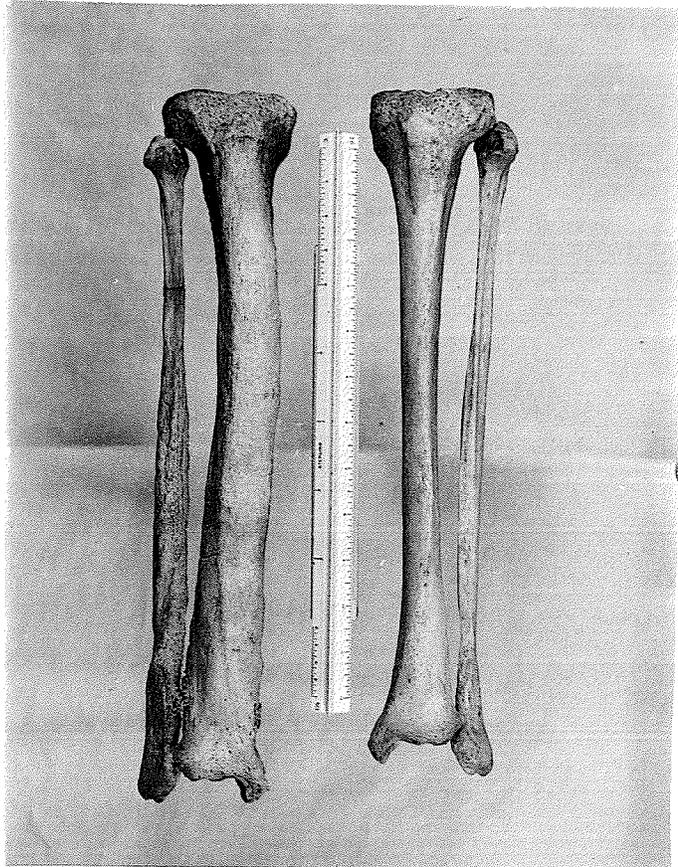
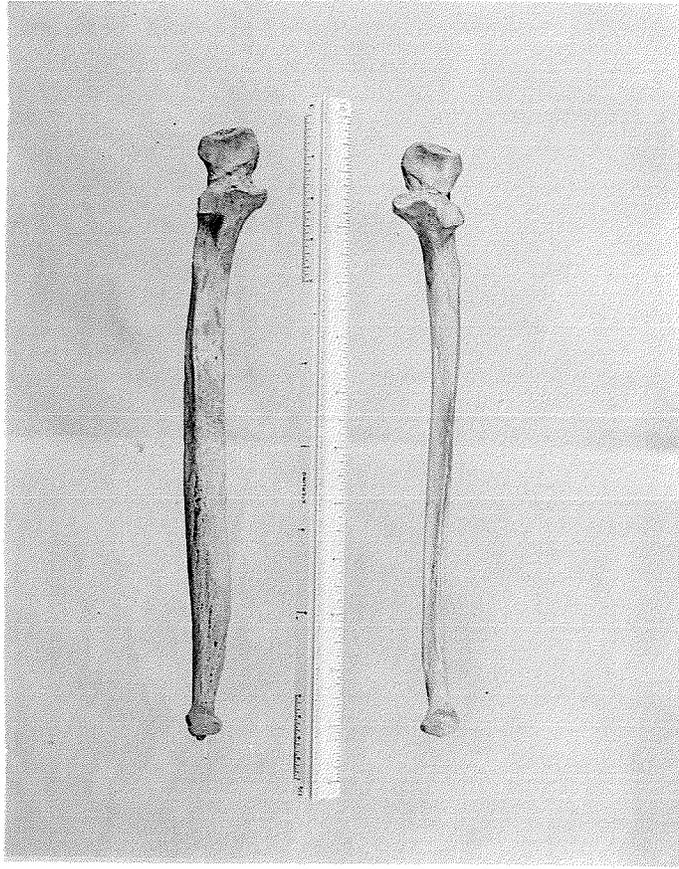


PLATE 10

- a. Abnormal right and normal left ulnae, Burial 7.
- b. Right humerus, Burial 9. Note distal lesion.

10



11



PLATE 11

- a. Mandible, Burial 11, with abscess.
- b. Normal right and abnormal left ulnae,
with radii, Burial 17a.

PL



b

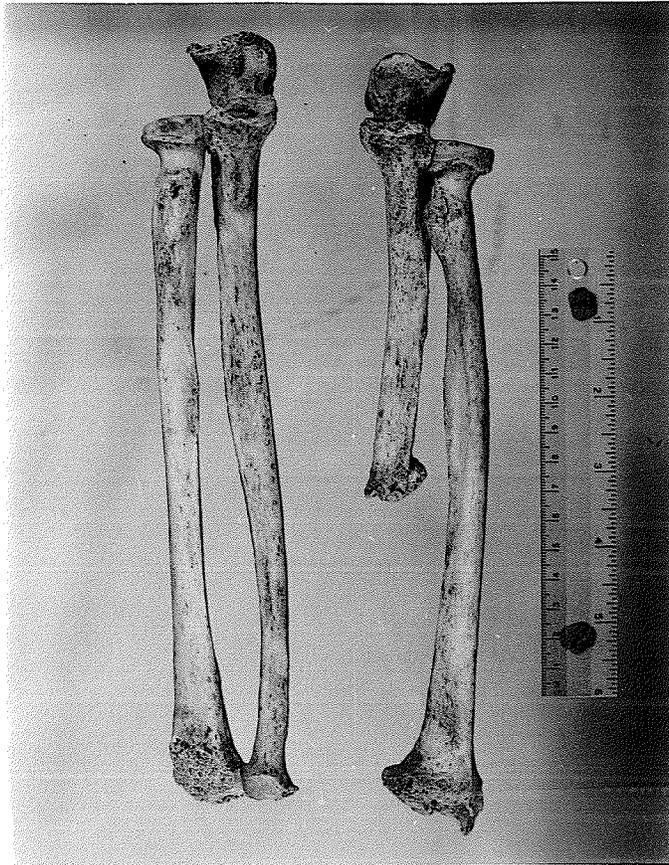
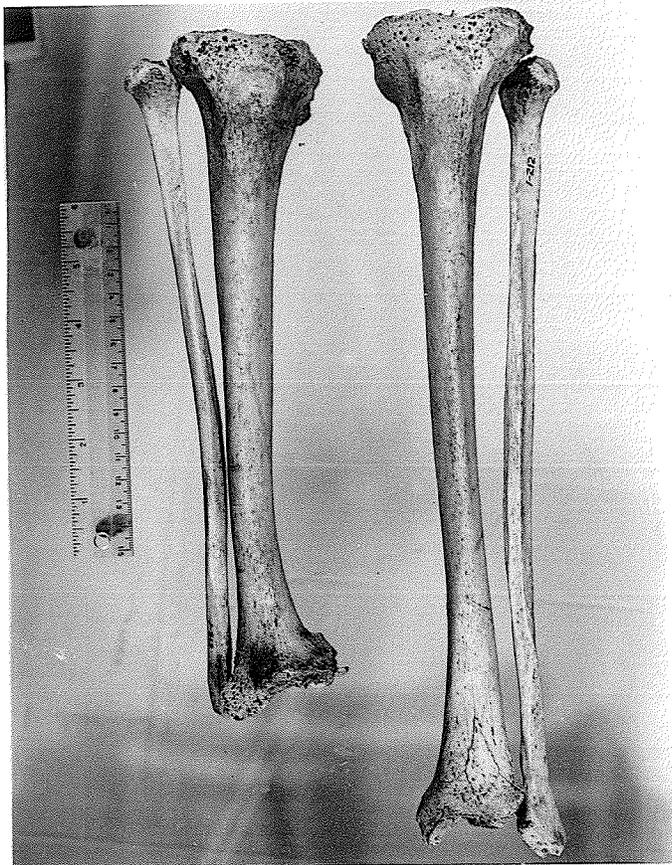


PLATE 12

- a. Abnormal right and normal left tibiae
and fibulae, Burial 17a.
- b. Normal and abnormal right calcanei, Burials
15 and 17a.

a



b

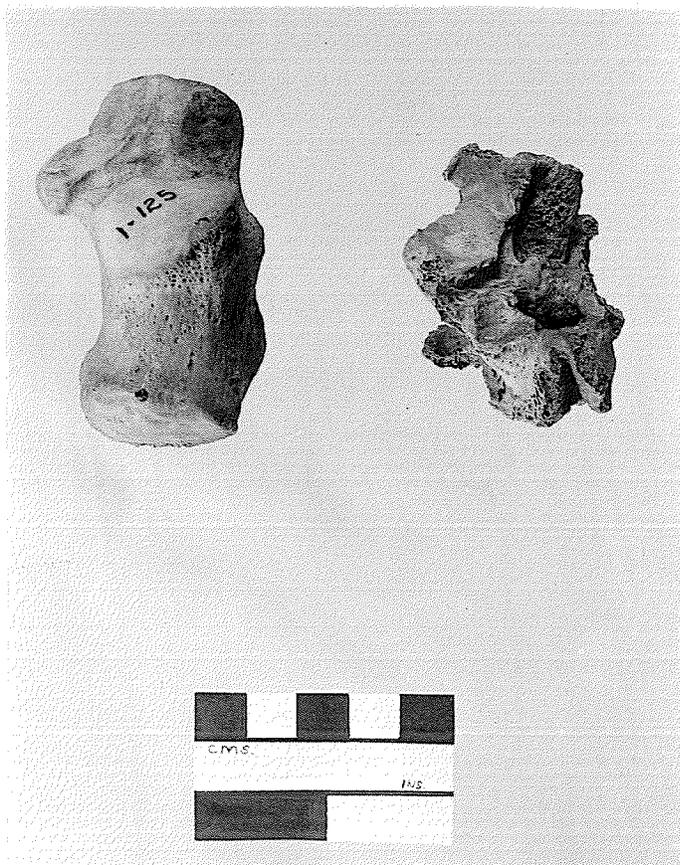
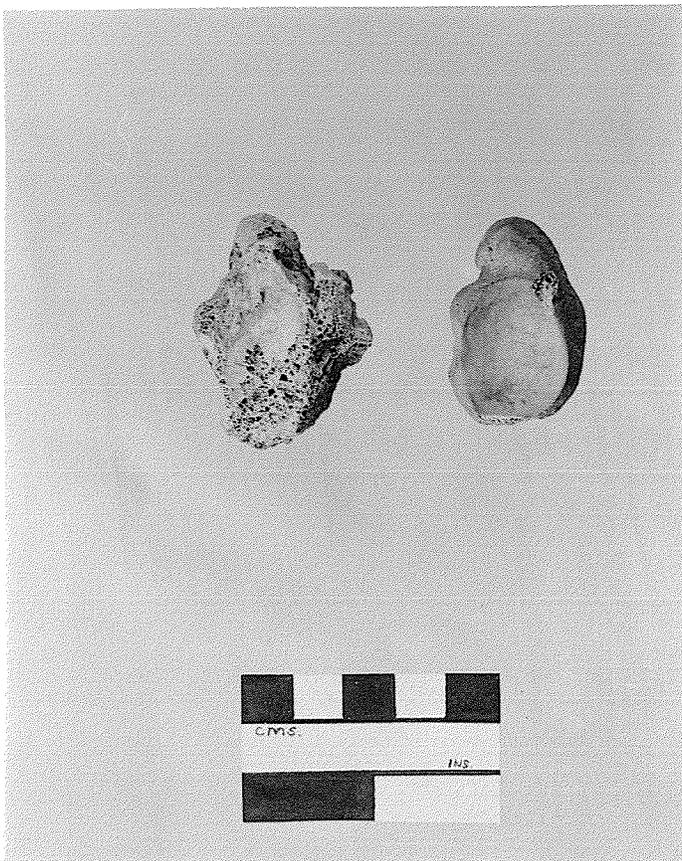


PLATE 13

- a. Abnormal and normal right naviculars,
Burials 17a and 15.
- b. Arthritic right hip components, Burial 20.

a



b

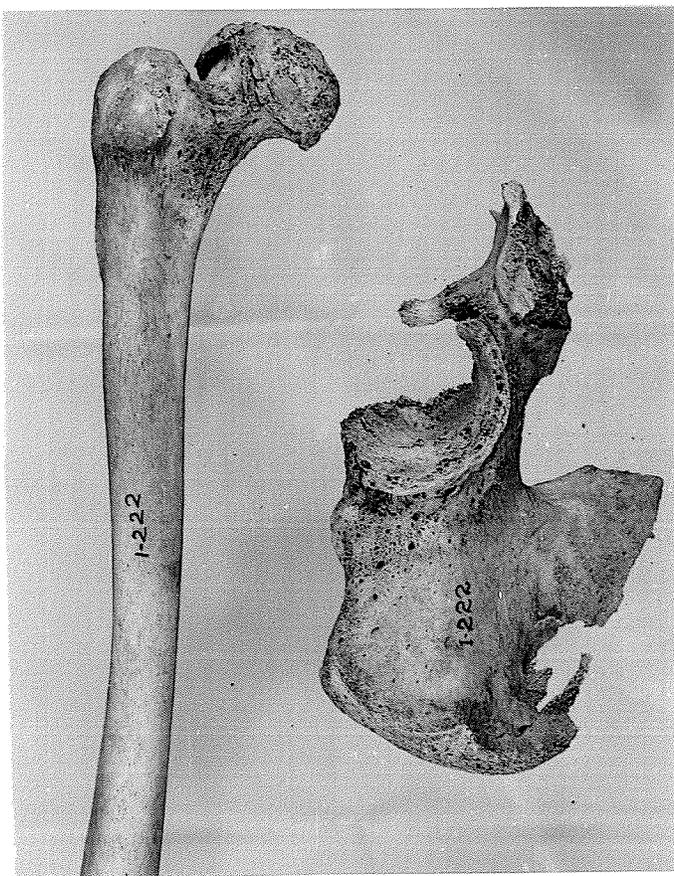
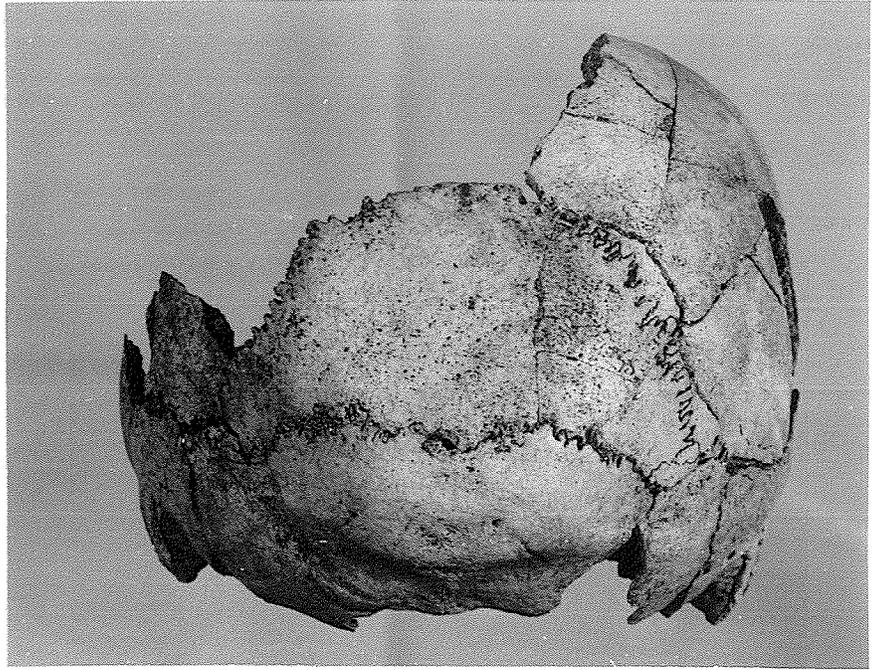


PLATE 14

a. Os inca, Burial 1.

b. Os inca, Burial 15.



a



b

PLATE 15

- a. Trephination, Burial 7.
- b. Frontal lesion over left orbit,
Burial 15.



2



3

PLATE 16

a. Healed lesions on the frontal bone, Burial 17a.

b. Glabellar lesion, Burial 21.

a



b

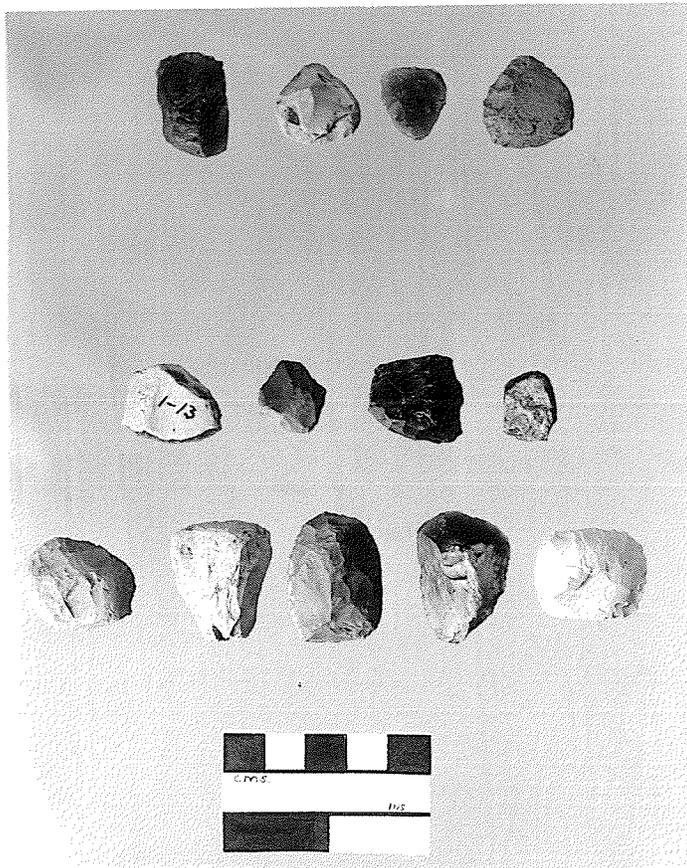


PLATE 17

- a. Snubnose scrapers, Mound 1 (bottom 2 rows) and
Mound 2 (top row).

- b. Brown chalcedony knives, Burial 7.

a



b



PLATE 18

Stone baton, Burial 18, and concretion,
1-175.

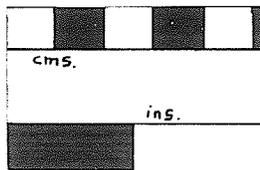
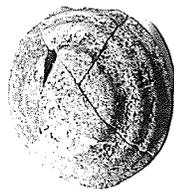
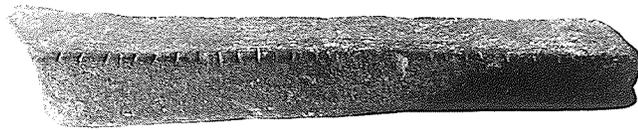
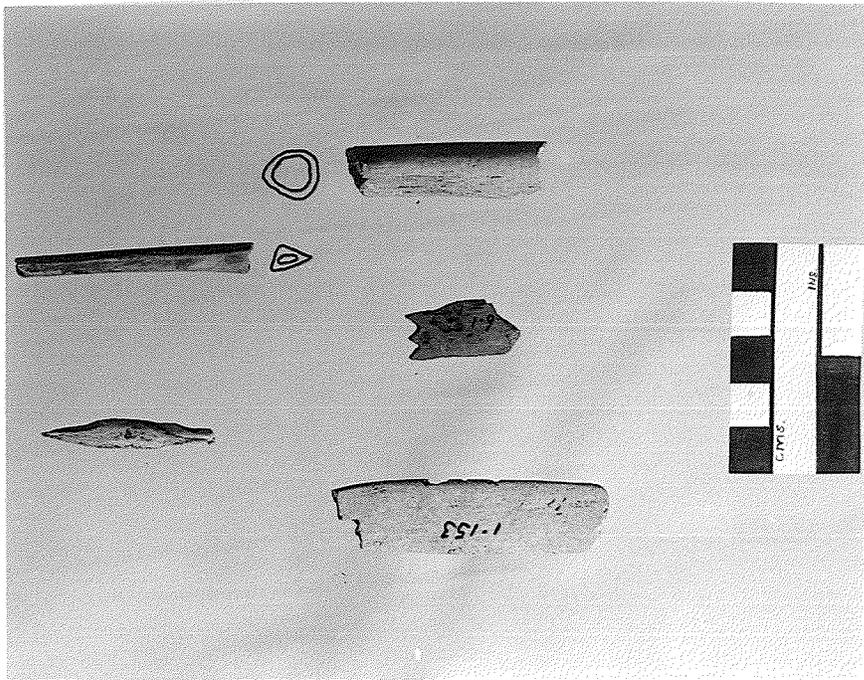
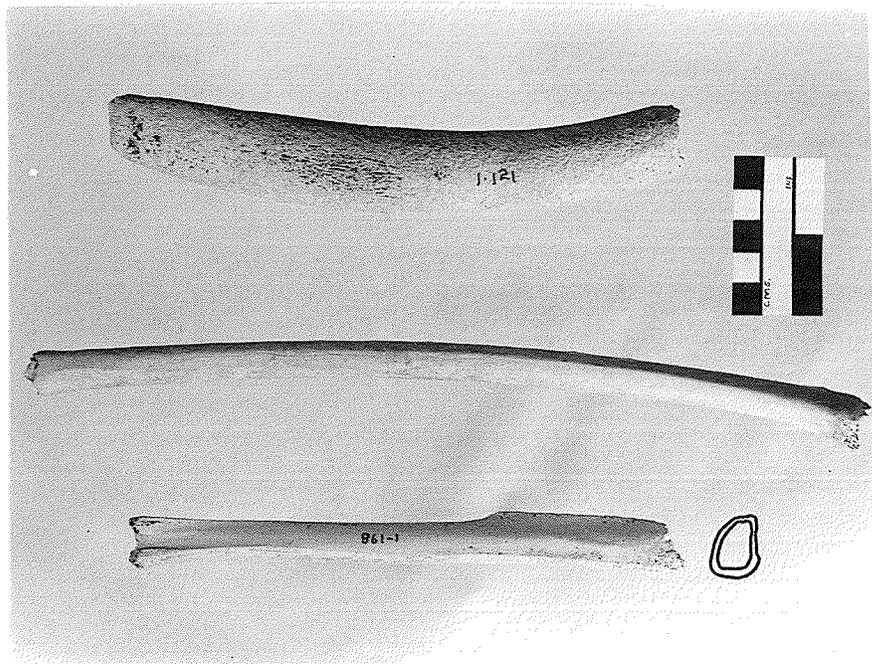


PLATE 19

- a. From left, top to bottom: bird longbone 1-98 (and cross-section), deer incisor 1-87, dog tibia 1-100 (and cross-section), notched pottery marker 1-9, bone paddle 1-153.
- b. From top to bottom: cut antler 1-121, bird longbones 1-223 and 1-198 (and cross-section).



a



b

PLATE 20

- a. From top to bottom: flaker 1-52, bear mandible 1-192, elk antler fragment.

- b. From top to bottom: awls 1-10 and 1-34, bone paddle 1-204.



a



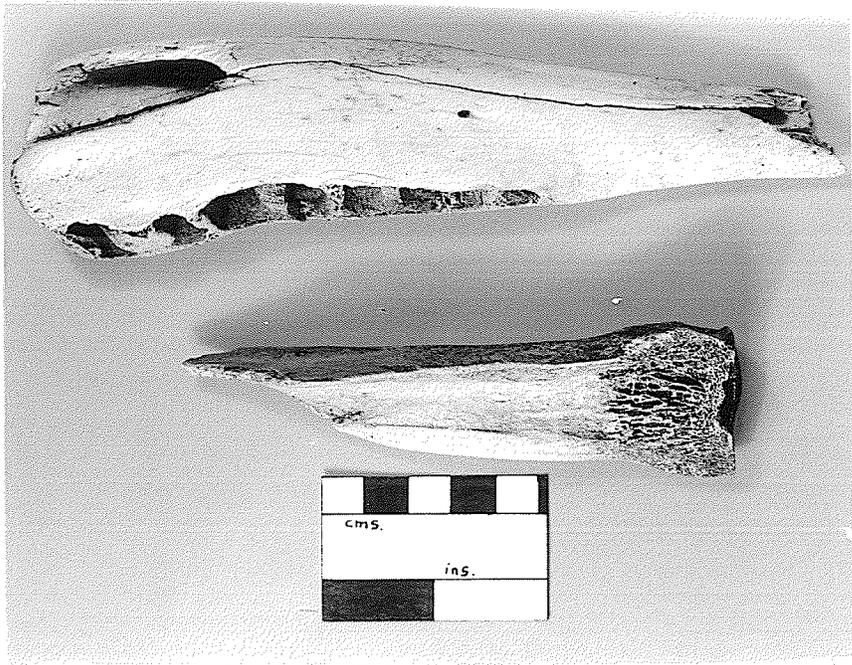
b

PLATE 21

- a. From top to bottom: bird bones, Burial 7.
- b. Moose mandible 1-214, and awl 1-93.



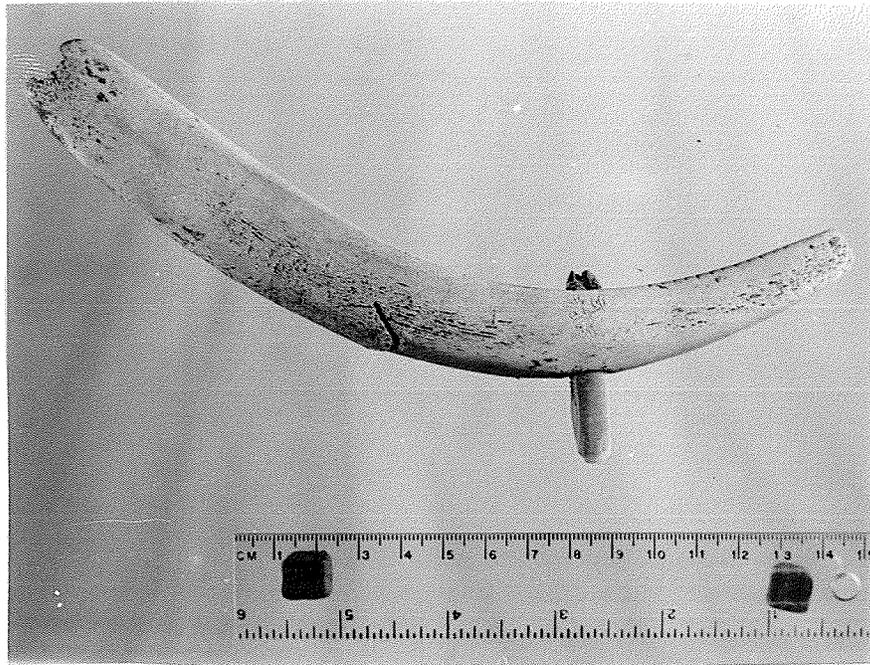
a



b

PLATE 22

- a. Hafted beavertooth tool in antler, 1-117.
- b. Chopper/digging tool (Bison tibia) 1-47,
Burial 2.



a

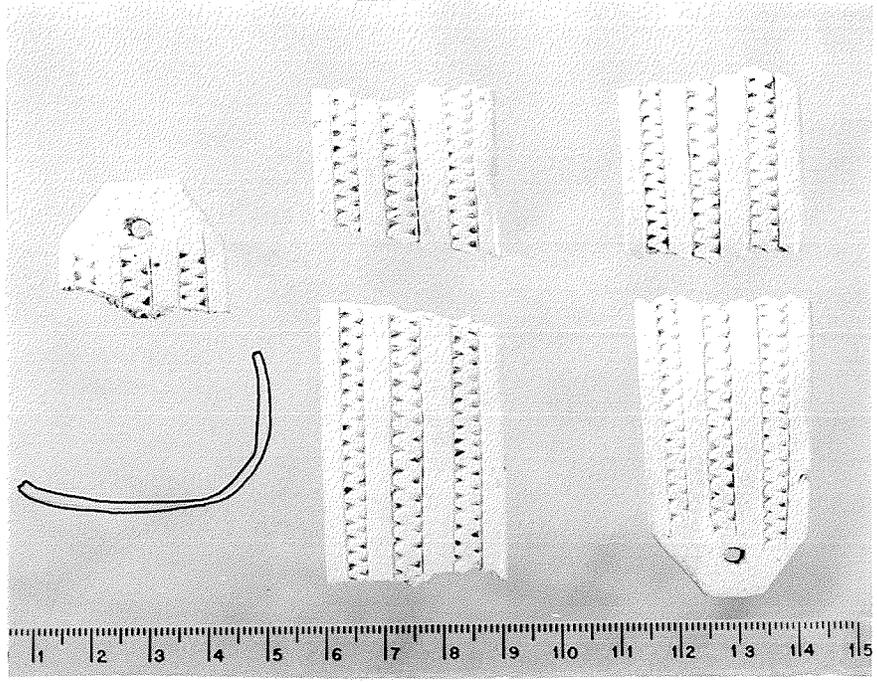


b

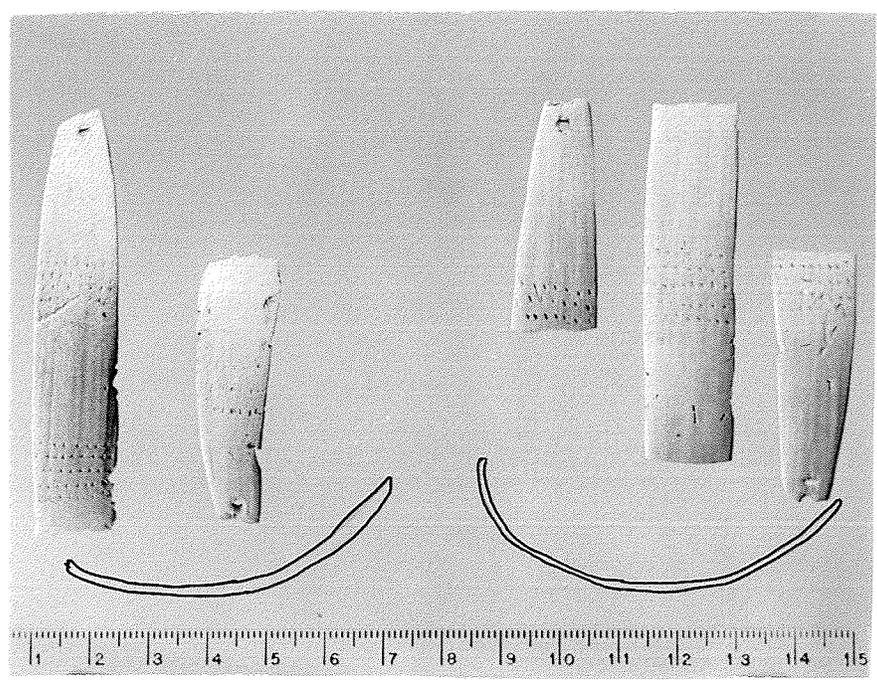
PLATE 23

- a. Bone bracelet 1-72, and reconstructed outline
(not to scale).

- b. Left to right, bone bracelets 1-193 and 1-185,
and reconstructed outlines (not to scale).



a

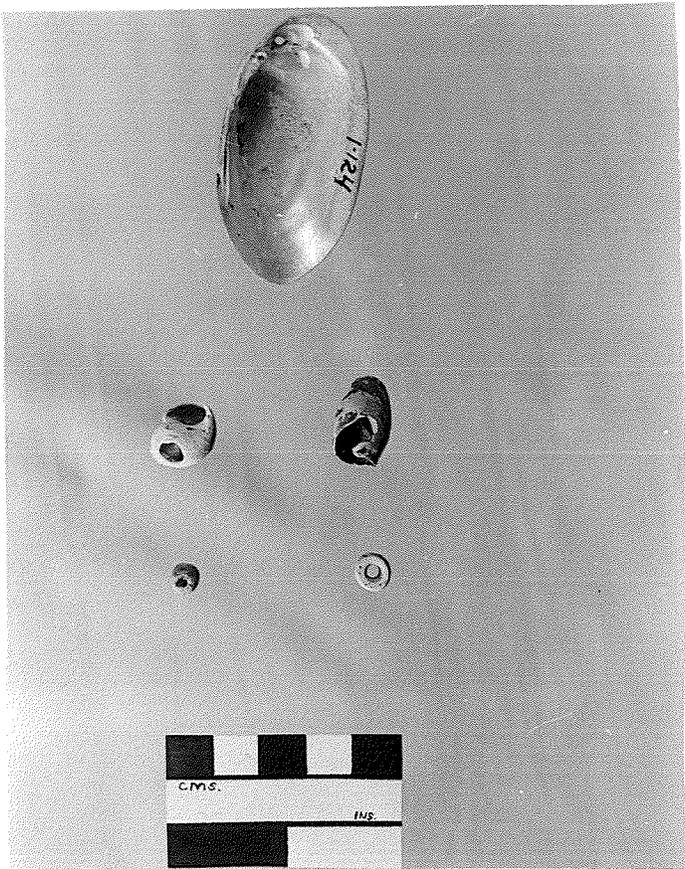


b

PLATE 24

- a. From top to bottom, left to right: shell pendant 1-124, and beads 1-75, 1-32, 1-9, and 1-221.
- b. Shell pendants 1-128 and 1-74.

a



b

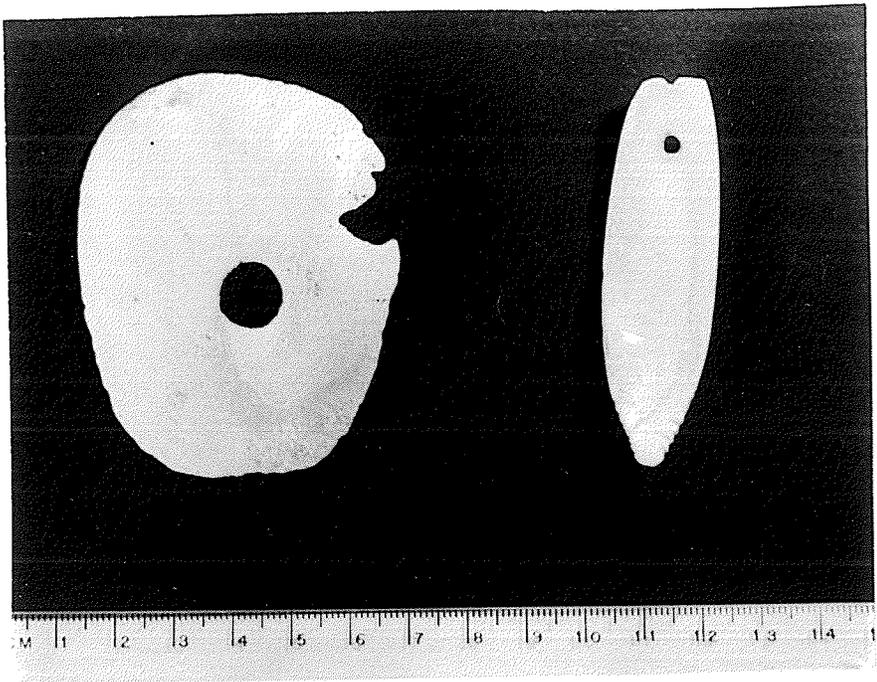
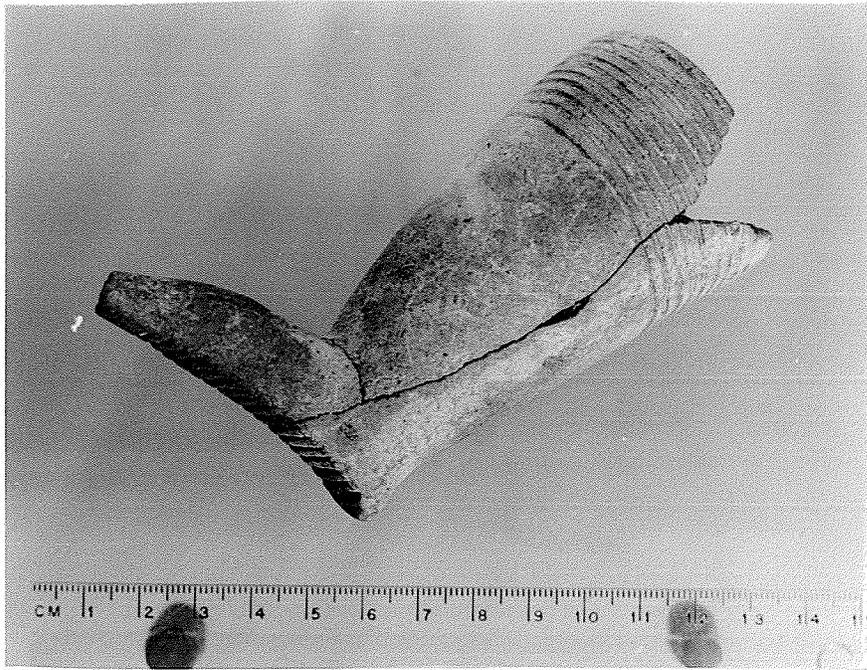


PLATE 25

a. Pottery pipe, Burial 17a.

b. Copper ring, Burial 19.



a

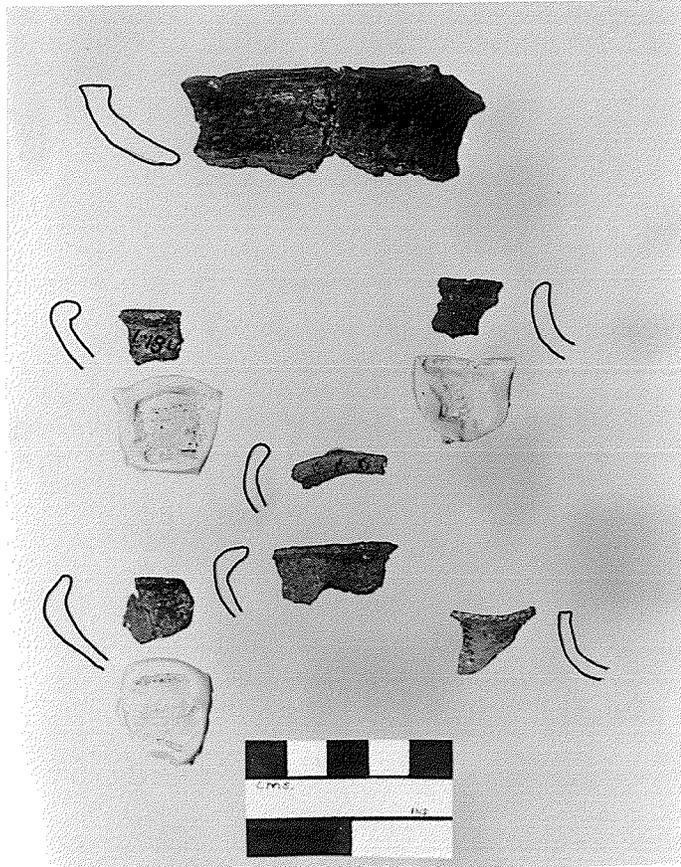


b

PLATE 26

- a. Small pot rimsherds , Mound 1 (all profiles have pot interior on the left); from top left: 1-106 (1-128), 1-184, 1-61, 1-103 (row 1), and 1-104, 1-104, 1-103 (row 2).
- b. Laurel Plain rimsherds, Mound 1.

a



b



PLATE 27

- a. Alexander fabric-impressed rimsherds 1-228 (top) and 1-205.

- b. Alexander fabric-impressed rimsherds, Mound 2.
From top left: 1-154, 1-136, 1-157 (row 1), and 1-167 (3 sherds, row 2).

a



b

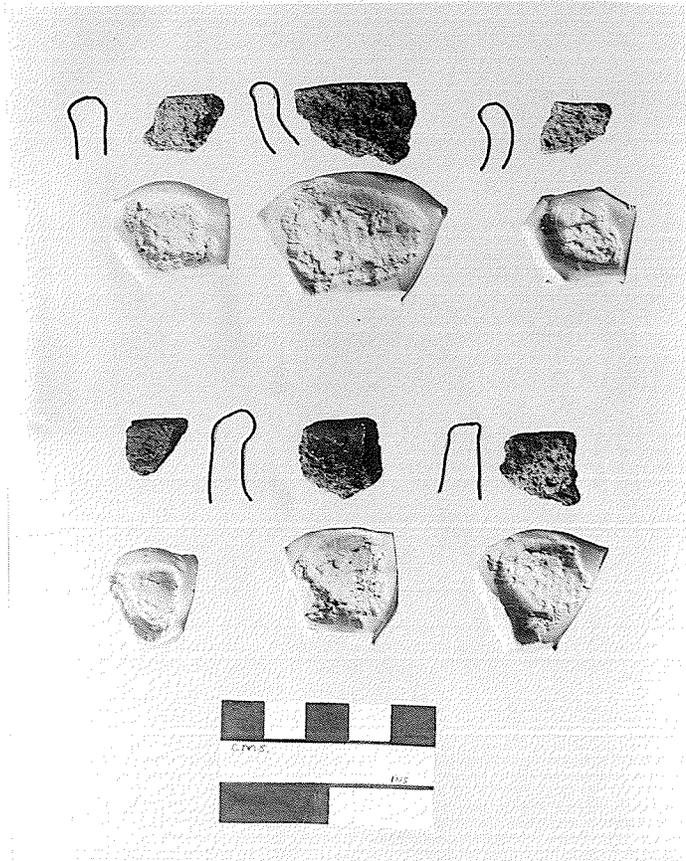


PLATE 28

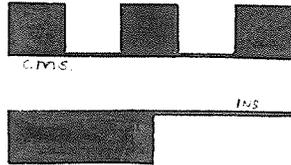
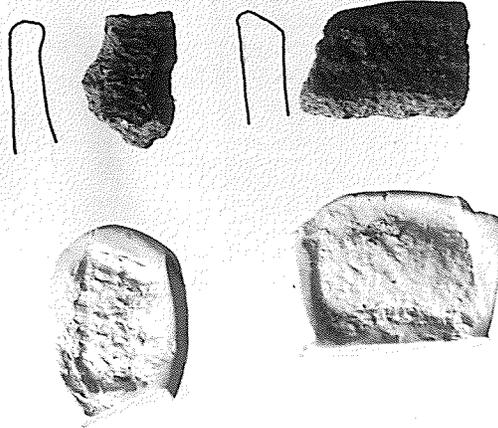
a. Alexander fabric-impressed rimsherds, Mound 2.

From left: 1-157, 1-90.

b. Laurel Pseudoscallop rimsherd 1-104, and

vertical corded rimsherd 1-204.

a



b

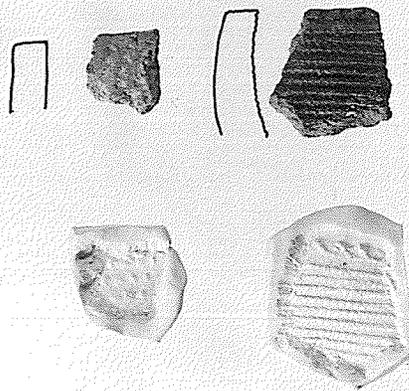
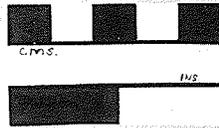
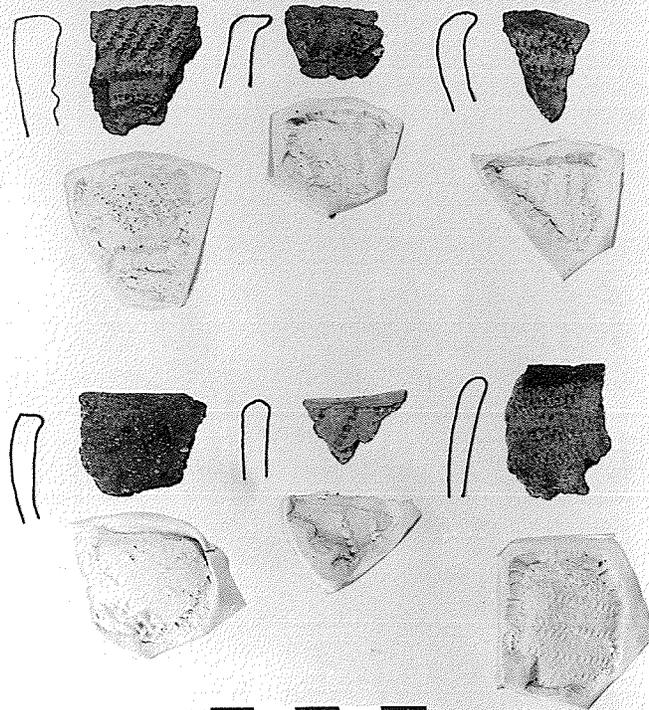


PLATE 29

- a. From top left: Blackduck Mode 3 Variant A (1-184), Blackduck 1-226, horizontal corded 1-14 (row 1); diagonal corded and smoothed 1-4, Laurel Dentate 1-31, horizontal corded 1-110 (row 2).
- b. From top left: Laurel Pseudoscallop 1-191, horizontal corded 1-128, Winnipeg fabric-impressed 1-179, diagonal corded and smoothed 1-184, diagonal corded 1-171, Waskish 1-185.

a



b

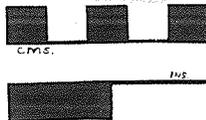
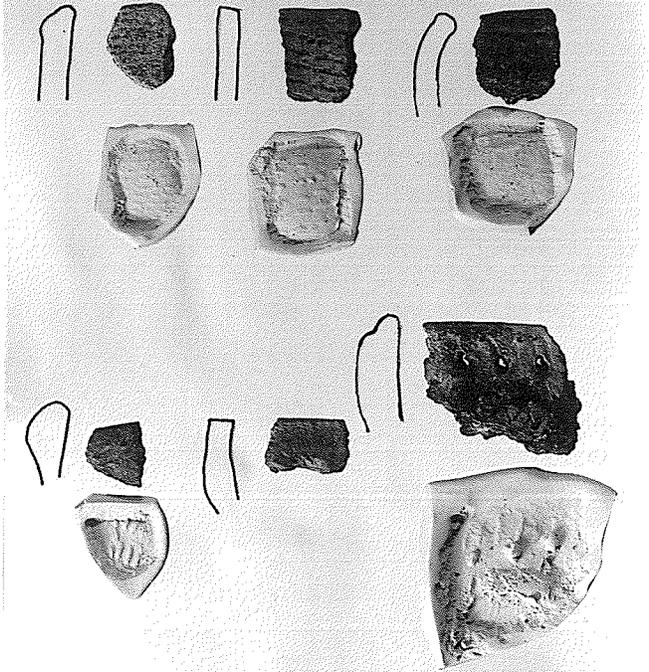


PLATE 30

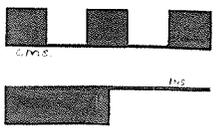
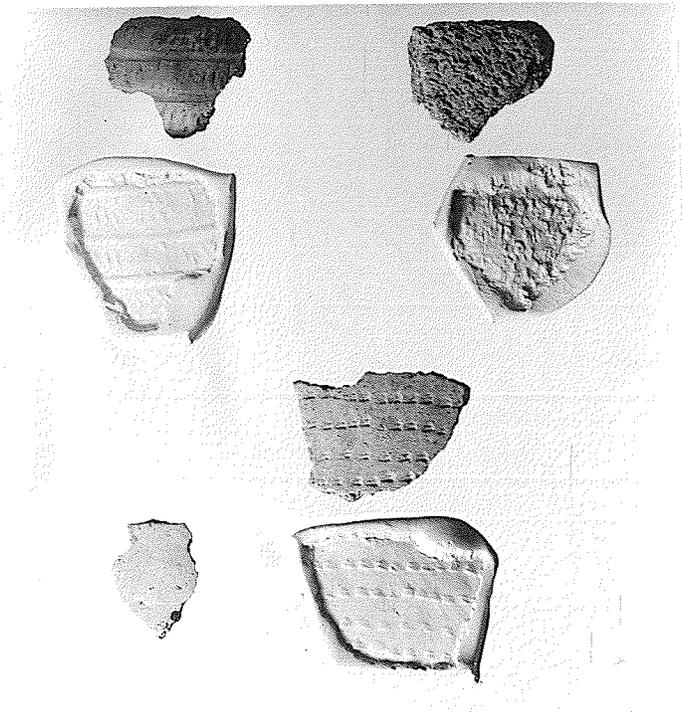
- a. From top left: horizontal corded rimsherd 1-162, Waskish 1-136, vertical corded 1-166, Laurel Incised 1-143, diagonal corded 1-154, diagonal corded and smoothed 1-148.
- b. From top left: Alexander fabric-impressed 1-159, 1-167, 1-153. Row 2: diagonal corded and smoothed 1-153 and 1-154, horizontal corded 1-81.



PLATE 31

- a. Mound 1 bodysherds; from top left, trailed, fabric-impressed, plain, stamped.
- b. Mound 1 bodysherds; from top left, large corded, miscellaneous corded, smooth corded, horizontal-vertical-horizontal corded, heavy twine, and horizontal corded.

a



b

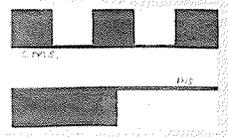
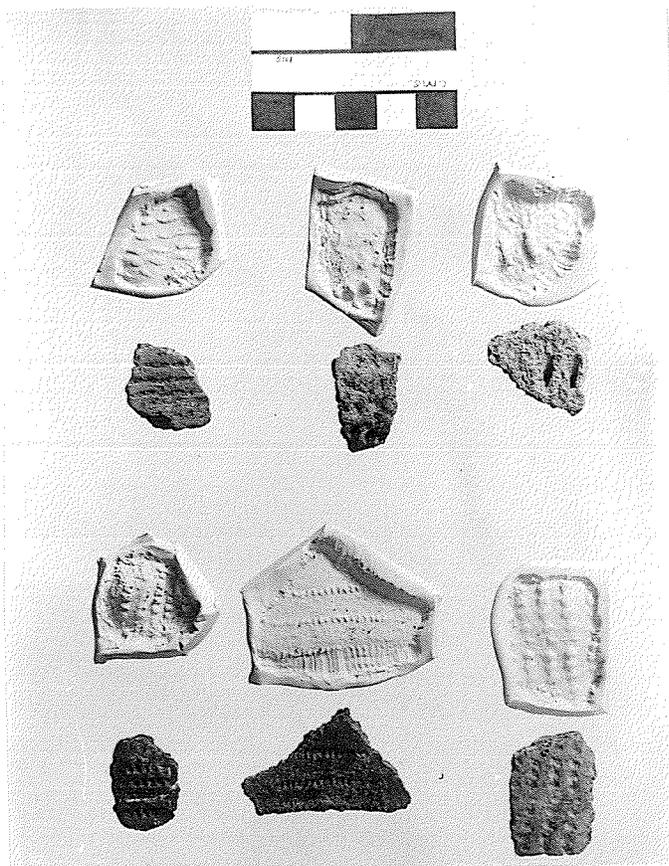


PLATE 32

- a. Mound 2 bodysherds; from top left, heavy twine, horizontal, heavy twine, smoothed corded.
- b. Mound 2 bodysherds; from top left, Blackduck, dentate, Laurel Incised, overlapping corded and trailed, and Laurel Pseudoscallop.



9



2

PLATE 33

a. Mound 2 bodysherds: plain, shell-tempered, red-trailed (left to right, top to bottom).

b. Miniature vessel 1-68, Mound 1.

a



b



PLATE 34

X-ray: right fibula (Burial 7), left tibia and
fibula (Burial 4).

PLATE 35

X-ray: right and left tibiae, Burial 7.

PLATE 36

X-ray: left and right ulnae, radii, Burial 7.

PLATE 37

X-ray: ulnae, radii, fibulae, Burial 17a.

PLATE 38

X-ray: normal and abnormal tibiae, Burial 17a.



