
A REPORT ON THE HUMAN BURIAL FROM THE MILTON-THOMAZI SITE**M. Anne Katzenberg and Norman C. Sullivan***ABSTRACT*

In the spring of 1977 a well preserved human burial was discovered in Peel Country, Ontario. A radiocarbon date of 5910 ± 165 B. P. places the burial well within the Archaic period and indicates that it is the earliest dated human burial so far discovered in Ontario. The individual was a male over 50 years of age suffering from degenerative arthritis and periodontal disease. Metrics and indices are presented along with a general description of the burial, including evidence of pathology.

INTRODUCTION

A prehistoric human burial was discovered in Albion Township, Peel County, Ontario in the spring of 1977. A radiocarbon assay based on bone gelatin fraction analysis yielded a date of 5910 ± 165 B.P. (Geochron Laboratories Sample No. Gx-5193-G). This falls within the Archaic Period of Ontario prehistory and distinguished this burial as the oldest dated human remains thus far discovered in the province. The purpose of this report is to describe this important find from both a physical and an archaeological perspective.

DISCOVERY AND EXCAVATION OF THE SITE

The skull of this individual was first uncovered by one of the landowners, who reported it to the local authorities. The Peel County coroner, Dr. M. Milton, contacted the Department of Anthropology, University of Toronto, because she suspected the remains were prehistoric. Preliminary investigation by Dr. H. Savage and N.C. Sullivan indicated the remains represented one complete individual. Excavation was approved by R.M. O'Brien, Regional Archaeologist of the Ministry of Culture and Recreation, since the hillside was to be leveled by the owners. Under O'Brien's direction, Dr. H. Savage and a crew of students excavated the burial.

The individual was interred in loose, sandy soil on the south slope of a small hillside in what is presently a pasture. The burial was tightly flexed and resting on its back (Fig. 1). The lower extremities were tightly drawn up to the chest and flexed to such an extent that the femoral heads had become dislocated from the acetabulae. The upper extremities were also acutely flexed so that the hands rested approximately 30 cm. below the vertebral column. Soil stratigraphy suggests slumping of the area around the right side of the thorax sometime after interment. Some phalanges were also dislocated, probably due to factors operating after interment.

PARTS PRESENT

With the exception of part of the base, the skull is complete although the facial area has been broken off and distortion has made it impossible to reliably reconstruct the total skull. The mandible is present but has been broken and is somewhat distorted. Both coronoid processes and condyles are missing.

The vertebral column is represented by the seventh cervical vertebra, and the complete thoracic and lumbar series. The sacrum is fairly complete although the posterior aspect of the

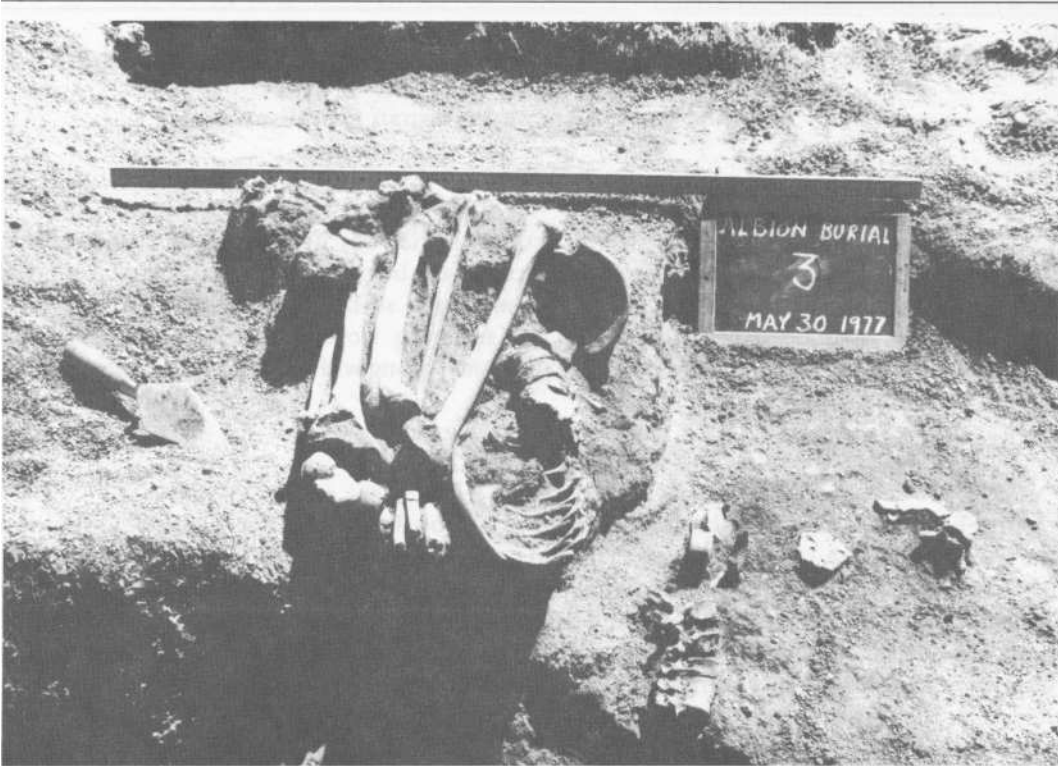


Fig. 1. View to the west of the burial showing the tightly flexed position and slumping of the upper soil around the chest and head.

left side is broken away. Approximately one-half of the ribs are present and complete with the remaining ribs being represented by fragments.

Both scapulae are present and in good condition although warped. The left clavicle has been repaired with no apparent distortion. The right clavicle is missing. Both humeri are present but the right humerus lacks the distal half. The right and left ulnae were broken but have been restored. The right and left radii are both complete. Only a few of the carpals, metacarpals and hand phalanges are present.

The pelvis is complete on both sides except for some slight damage to the left pubic symphysis. The right and left femora are complete although the left femur is broken in such a way as to eliminate the possibility of reconstruction. The left tibia is complete and the right has been restored. The left patella has been broken but one-half of the bone still remains. Both fibulae are complete with no breakage or distortion. The tarsals are represented by the right and left calcaneus as well as the right and left talus. Several metatarsals and foot phalanges are also present.

TABLE 1
CRANIAL METRICS (IN mm) AND INDICES

Maximum Length	183
Maximum Breadth	147
Maximum Height	142
Mean Basion Height	86.1
Cranial Module	157.3
Cranial Index	80.3
Cranial Length-Height Index	77.6
Cranial Breadth-Height Index	96.6

SEX AND AGE DETERMINATION

Based primarily on visual examination of the innominates (as described by Krogman 1962; Stewart 1968; and Phenice 1969) sex was determined to be male. Examination of the skull and mandible (Stewart 1952; Bass 1971) supports this conclusion.

The individual was determined to be over 50 years of age at the time of death based on Todd's (1920) method of aging the symphyseal face of the pubic bone. This age estimate is supported by the fact that, endocranially, all sutures are completely fused (Cobb 1952).

OSTEOMETRICS

Measurements were taken on all the bones which are complete and free from distortion after restoration. Metric techniques follow those described by Bass (1971) and Montagu (1960). For paired bones, preference was given to the left side although bones from the right side were substituted when distortion or breakage prevented accurate measurement of left bones. The results of the metrical analysis are presented in Tables 1 and 2. All measurements are in millimeters.

The cranium is moderately large, as indicated by the module of 157. The value of 80.3 for the cranial index places this skull at the extreme lower end of the brachycranial category, which is described as being broad or round headed. A length-height index of 77.6 puts this skull within the hypsicranial range. Therefore, it is height in relation to its length. The breadth-height index is 96.6 at the upper range of the metriocranial category. This indicates that the vault is only moderately high in relation to breadth.

STATURE ESTIMATION

Stature was estimated using long bone lengths from both the upper and lower limbs. The formulae for Mongoloid populations, developed by Trotter and Gleser (1952, 1958), were used and the results are presented in Table 3. The standard error increases as one reads down the table, with the femur-fibula measurements giving the lowest standard error. Based on this first estimate the stature of the individual is suggested to have been 168.8 cm (66.4 inches).

TABLE 2
INFRACRANIAL METRICS (IN mm) AND INDICIES

Clavicle	
Maximum Length	147
Circumference	37
Robusticity Index	25.2
Claviculo-humeral index	46.5
Humerus	
Maximum Length	316
Maximum Diameter at Mid-shaft	22
Least Circumference	60
Maximum Diameter of Head	47
Minimum Diameter of Head	42
Robusticity Index	19.0
Radius	
Maximum Length	265
Greatest Diameter of Head	24
Radio-Humeral Index	83.9
Ulna	
Maximum Length	285
Least Circumference of Shaft	34
Innominate	
Maximum Height	215
Maximum Breadth	160
Pubis Length	81
Ischium Length	85
Ischium-Pubis Index	95.3
Femur	
Maximum Length	442
Bicondylar Length	434
Maximum Diameter of Shaft	26
Minimum Diameter of Shaft	25
Circumference at Mid-Shaft	80
Antero-Posterior Diameter at Mid-Shaft	24
Medio-Lateral Diameter at Mid-Shaft	26
Maximum Diameter of Head	46
Minimum Diameter of Head	46
Subtrochanteric Antero-Posterior	23
Subtrochanteric Medio-Lateral Diameter	34
Platymeric Index	67.7
Tibia	
Maximum Length	378
Antero-Posterior Diameter at	
Nutrient Foramen	34
Medio-Lateral Diameter at	
Nutrient Foramen	24
Platycnemic Index	70.6
Fibula	
Maximum Length	364

TABLE 3
ESTIMATES OF STATURE FROM LONG BONES

Femur-Fibula	168.75 cm	66.44 in
Femur-Tibia	179.41 cm	67.09 in
Fibula	167.92 cm	66.11 in
Tibia	171.79 cm	67.63 in
Femur	167.60 cm	65.98 in
Humerus-Ulna	172.15 cm	67.78 in
Humerus-Radius	171.86 cm	67.66 in
Humerus	167.88 cm	66.09 in
Radius	175.81 cm	69.22 in
Ulna	176.63 cm	69.54 in

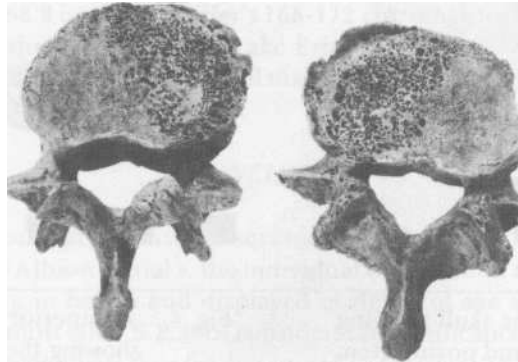


Fig. 2. The third (left) and fourth (right) lumbar vertebrae showing lipping, rarefaction and eburnation of the centra.

PATHOLOGY

Other than age related degenerative conditions of the skeleton and the dentition there is no gross pathology present in this individual. The vertebral column displays several lesions which are indicative of osteoarthritis including lipping around joint margins, osteoporosis of the centra, and erosion of articular surfaces. The third lumbar vertebra, more markedly affected than the others, exhibits a well developed osteophytic outgrowth along the lateral margin of both the superior and inferior surfaces. There is a rarefaction of trabecular bone on the left side of the inferior aspect of the centrum. Accompanying this is an area of eburnation near the margin which extends from the mid-line around to the side of the body (Fig.2). On the superior aspect of the fourth lumbar there is a region of eburnation which corresponds to that observed on the third lumbar centrum. In addition, there is marked osteophytosis of the lateral, superior body margins as well as rarefaction of bone on the left side of the superior aspect of the centrum. There is a marked arthritic involvement of the left superior and inferior articular facets and a slight involvement of the right superior and inferior facets.

The sternum is fragmented, but what remains displays an ossification of the costal cartilage of the left seventh rib. Two other ribs may have been similarly involved on the left side but the bone is too badly preserved to permit confirmation.

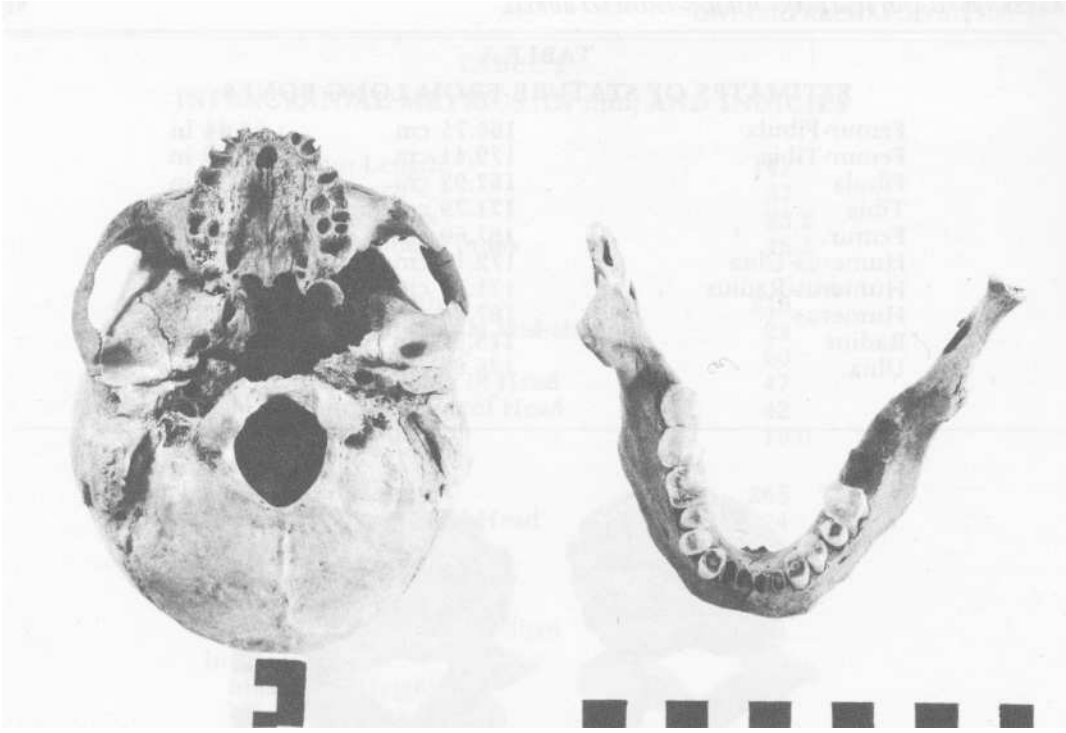


Fig. 3. A basal view of the skull showing the antemortem and postmortem loss of the maxillary dentition.

Fig. 4. A superior view of the mandible showing the severe dental attrition.

The upper limb shows three instances of arthritic change. There is slight arthritic lipping on the medial articular surface of the clavicle. There is also a small area of erosion on the acromial facet of the clavicle. The left ulna also shows some slight lipping at the margins of the surface for articulation with the humerus.

The only instance of pathology in the lower limb involves the right hallux. The distal surface of the proximal first phalanx exhibits a relatively large outgrowth of bone along the left side of the articular margin. Associated with this bony growth is a small but well developed area of eburation. Finally, the distal phalanx of the right hallux also displays an osteophytic outgrowth at the margins of the articular surface. All of these lesions represent the sequellae of arthritis.

Other than conditions associated with extreme dental wear there is surprisingly little dental pathology. In the teeth which are present, there are no caries nor is there any evidence of abscess formation in the bone sockets. None of the maxillary dentition is present although nine of these teeth were lost post-mortem. Ante-mortem tooth loss affected seven maxillary teeth, including: both central incisors, the left first premolar, the left first molar, the right second premolar and the right first and third molars (Fig.3). Of the mandibular teeth, ante-mortem tooth loss occurred only in the left second and third molars. On the remaining molars, at least three-fourths of the enamel on the occlusal surface is worn away which is associated with an extensive deposition of secondary dentin. Cusps on the premolars and canines are completely obliterated and the incisor root has become functional.

This individual also suffered from some type of periodontal disease. This is indicated by the thinning of alveolar bone in the maxilla and by the recession of alveolar bone around the roots of the mandibular teeth.

DISCUSSION

The radiocarbon date of 5919 ± 165 B.P. places this burial well within the Archaic stage of prehistory from 7000-3000 years ago in southern Ontario (Wright 1972). Although it is not valid to make inferences about the physical characters of a population based on one individual it is of interest to compare this burial to others of the Archaic Period from Ontario. Pfeiffer (1977) described Great Lakes Archaic peoples as most frequently being mesocranic and hipsicranic (that is, moderately round-headed with a high vaulted cranium). The burial from the Milton-Thomazi site is also hipsicranic, as shown by the length-height index, and falls near the cut off value for mesocranic and brachycranic, having a value just within the brachycranic range. The stature of 168.8 is within Pfeiffer's 168-172 cm. range for the shorter males from the Hind site, located on the north shore of Lake Erie. Pfeiffer (1977) reported a relatively low incidence of osteoarthritis in Archaic skeletal material, noting that it occurs most frequently in older males.

CONCLUSIONS

This report presents some preliminary observations on the burial from the Milton-Thomazi site, also known as the Albion Burial. The individual was an adult male, over 50 years of age, approximately 169 cm. in height and displayed evidence of age associated pathology. The radiocarbon date of almost 6000 B.P. is of considerable significance since it distinguishes this as the oldest dated human burial thus far discovered in Ontario. The analysis presented is of a preliminary nature since more detailed examination of a single individual is not justifiable at this time. In the advent of the discovery of additional human remains from this area, it would be useful to include age estimates based on osteon counts (Kerley 1965) and the results of radiographic analysis, which might show healed fractures, retained growth arrest lines or other indications of pathological conditions.

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