

Preliminary Report on the Crania from the Island Field Site, Kent County, Delaware

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Abstract

The report deals with a study of the skeletal population from the Island Field Site, carried out jointly by the two writers during the summer of 1969. It includes demographic data on 95 burials of the late Middle Woodland group that inhabited the Delmarva Peninsula about A.D. 900 according to typological artifact dating. Sixteen of the crania, those of 8 males and 8 females, were reconstructed and measured. The report deals with a brief description of this material, pointing out the relationships of this population to that of other sites in the middle Atlantic States area.

The Island Field Site (7K-F-17) is located near the mouth of the meandering Murderkill, at South Bowers, Delaware, on a sandy knoll only a few hundred yards from Delaware Bay. On a typological basis the Island Field Site has been given the relative date of about A.D. 900. The culture represented at this site is obviously of the Middle Woodland. However, its placement into one of the subdivisions of this broad period presented some difficulties. For that reason the site has been assigned to the Webb Phase—a newly established phase of the Middle Woodland complex defined at the Island Field Site.

Skeletal material was first encountered at the site in the 1930's when, during the construction of a nearby road, the knoll was used for fill. At that time the material was sealed in kegs and reburied in the surrounding marsh by the workmen. As yet, that material has not been relocated. It was not until 1953 that the archaeological importance of the site was recognized by an amateur archaeologist, Frank Austin, who with the aid of the Sussex Society of Archaeology, recovered from a shell pit artifacts characteristic of the Late Woodland Period. Since 1966 there has been intensive excavation carried on at Island Field by the Delaware Archaeological Board under the direction of Mr. Ronald A. Thomas, State Archaeologist. Nearly 90 burials have been uncovered at the site with no fewer than 7 burial types present, although the majority of the burials are either flexed or semi-flexed. Extended burials, two types of cremation, *in situ* and redeposited, disarticulated and skull burials, and both single and mass burials are found at Island Field.

Many of the graves contain grave offerings. Such materials as bone and antler have been used to produce awls, needles, and harpoons while stone artifacts have been encountered as in the case of waste flint, arrowheads, knives, stone pipes, celts, and pendants. Both clay and steatite pipes have been recovered along with clear quartz pebbles, mica, a conch shell cup, shell beads, two shark teeth, and a bowl made from a human skull.

Whereas many of these artifacts are not uncommon to the region, there is an interesting array of foreign materials, whose styles and composition indicate contact between the Island Field Site and such areas as New England, the Midwest and the Southeast.

At the time the data were collected, the skeletal population from this site consisted of 27 adult males, 24 adult females, 11 infants (age 3 or below), 10 children, 12 known but thus far unexcavated individuals, and 5 adults of undetermined sex. The poor condition of the material combined with the desire of the Delaware Archaeological Board to keep the material *in situ* for a possible future museum, allowed only the best skulls to be reconstructed. This resulted in the measurement, and observation of 16 adult crania—8 males and 8 females. From the analysis of the 8 adult male crania it has been determined that the population is primarily Lenid with the exception of one individual which has been classified as Ilinid.

Generally, the Island Field population displays a large degree of muscularity, is quite dolichocephalic or long-headed, with an average cranial index of 71.39. The average length-height index is 73.35, placing the group within the ortho-cranial index class. In no instance was there a case of platybasia; and the position of basion is high. Face size is medium with a tendency toward being large. The average total facial index is 91.12, or leptoprosopic in character.

The superior facial index is 76.96, or mesene. The orbits are rhomboid in 62.5% of the individuals and oblong in the remaining 37.5%. Their inclination tends to be small. The overall orbital index is 77.43, or mesoconch. The nasal bones are medium in size and the root is medium to high. Nasal bridge height is also high in $\frac{2}{3}$ of the individuals observed. The nasal index is 49.14, or mesorrhine in classification. The height of the palate is from high to very high while the average maxillo-alveolar index is 141.41, or mesuranic in character. The average mandibular index is 86.42. However, the size of the mandible is from medium to large, each displaying a frequency of 50%. Chin projection is usually neutral.

The purpose of this summer's field work with the skeletal material from the Island Field Site was to remove the skulls of 16 of the skeletons of adults—8 male and 8 female—reconstruct, measure, and photograph them in order to determine whether this population could possibly be identified as ancestral to the Delaware tribe, which inhabited New Jersey and northern Delaware in historic times. If this were the case it would place the Delawares in the East about 500 years before the date suggested in the *Walam Olum*, the migration record of the Delaware and related Algonquin-speaking tribes. If, on the other hand, the affiliation of this population could be shown to be with the skeletal material from the historic Townsend site dated ca. 1400-1500, the Island Field population could be identified as Nanticoke, whose ancestors inhabited the Delmarva Peninsula since Archaic times—a circumstance that would confirm the Delaware migration account. The morphological data seem to substantiate the latter. The metric, indicial, and morphological description of the crania is given in Tables 1 through 3 for comparative purposes.

TABLE 1. *Cranial measurements—means for 8 males.*

Measurement	Abbreviation	Average
Cranial Vault		
Cranial module	CM	140.2
Mean thickness of left parietal	TP	5.4
Glabello-occipital length	L	191.5
Maximum breadth	B	136.5
Minimum frontal	MF	93.1
Frontal chord	FC	116.4
Basion bregma height	H	141.0
Porion-apex height	PAH	118.1
Basion-porion height	BPH	26.1
Cranial base length	LB	107.3
Face		
Total facial height	TFH	125.1
Upper facial height	UFH	73.9
Total facial breadth	TFB	137.5
Midfacial breadth	MFB	97.5
Internal biorbital breadth	IOB	97.6
Subtense biorbital breadth	SIOB	20.6
Biorbital breadth	BOB	99.3
Ant. interorbital breadth	AIB	19.4
Nasal structure		
Nasal breadth	NB	25.5
Nasal height	NH	52.6
Dacryal chord	DC	22.2
Dacryal subtense	DS	13.8
Minimum nasal breadth	MN	9.3
Subtense nasal breadth	SMN	5.0
Breadth of nasal bridge	BNB	59.8
Height of nasal bridge	HNB	24.8
Orbit		
Left orbital height	LOH	32.8
Left orbital breadth (mf)	LOBM	42.4
Left orbital breadth (d)	LOBD	39.9
Dental arch and profile		
Maxillo-alveolar breadth	MB	63.6
Maxillo-alveolar length	ML	55.6
Facial length (pr)	FL	101.0
Facial length (alv. pt.)	FLA	99.0
Angles		
Facial profile angle	FP<	84.2°
Midfacial profile angle	MP<	88.5°
Alveolar profile angle	AP<	69.8°
Gonial angle	G<	124.8°
Mandible		
Length of mandible	LM	108.7
Bicondylar breadth	BCB	124.9
Height of mandibular symphysis	SH	37.9
Biangular breadth	BA	107.3
Minimum ramus length	RL	34.9

TABLE 2. *Cranial indices—means for 8 males.*

Indices	Abbreviation	Average
Cranial Vault		
Cranial	B/L	71.39
Length-height	H/L	73.35
Breadth-height	H/B	102.76
Mean height	H/(L+B/2)	85.48
Length-auricular	PAH/L	61.79
Flatness of cranial base	BPH/H	18.56
Trans. Fronto-parietal	MF/B	68.24
Frontal	MF/M'F	80.75
Face		
Total facial	TFH/TFB	91.12
Upper facial	UFH/TFB	53.77
Midfacial	UFH/MFB	76.96
Trans. cranio-facial	TFB/B	100.82
Zygo-frontal	MF/TFB	70.62
Fronto-mandibular	BA/MF	114.32
Zygo-mandibular	BA/TFB	77.51
Facial flatness	SIOB/IOB	21.45
Ant. interorbital	AIB/BOB	19.27
Nasal		
Nasal	NB/NH	49.19
Nasal root height	DS/DC	62.28
Nasal bone height	SMN/MN	55.98
Nasal bridge height	HNB/BNB	41.76
Orbit		
Left orbital (mf)	LOH/LOB	77.43
Left orbital (d)	LOH/LOBD	82.31
Dental Arch		
Maxillo-alveolar	MB/ML	114.41
Mandible		
Mandibular	LM/BCB	86.42

TABLE 3. *Morphological observations—percentages and frequencies.*

	sm*	m	l	vl		
Muscularity	0 (0)	0 (0)	87 (7)	13 (1)		
	lt	m	h			
Weight	0 (0)	71 (5)	29 (2)			
	sm	m	l			
Face size	0 (0)	62 (5)	38 (3)			
	med	div	con	tor		
Brow ridge shape	0 (0)	100 (8)	0 (0)	0 (0)		
	tr	sm	m	l	vl	
Brow ridge size	0 (0)	12 (1)	25 (2)	50 (4)	13 (1)	
	sm	m	l	vl		
Glabella	12 (1)	38 (3)	38 (3)	12 (1)		
	vlo	lo	m	hi	vhi	
Frontal height	0 (0)	13 (1)	75 (6)	12 (1)	0 (0)	
	n	bul	sl	m	p	vp
Frontal slope	0 (0)	0 (0)	13 (1)	87 (7)	0 (0)	0 (0)
	sm	m	l			
Post-orb. constr.	75 (6)	25 (2)	0 (0)			
	sm	m	l			
Frontal eminences	75 (6)	25 (2)	0 (0)			
	n	sm	m	l		
Med. front. crest	75 (6)	25 (2)	0 (0)	0 (0)		
	n	sm	m	l	vl	
Sagittal elev.	37 (3)	50 (4)	37 (1)	0 (0)	0 (0)	
	sm	sm	m	l		
Parietal eminences	0 (0)	100 (8)	0 (0)			
	fl	m	l			
Temp. fullness	25 (2)	38 (3)	37 (3)	0 (0)		
	sm	m	l	vl		
Mastoids, size	0 (0)	50 (4)	25 (2)	25 (2)		
	n	sm	m	p	vp	
Occip. curve	0 (0)	0 (0)	25 (2)	62 (5)	13 (1)	
	hi	m	l			
Occip. position	87 (7)	13 (1)	0 (0)			
	bun	na	m	wi		
Occip. breadth	13 (1)	87 (7)	0 (0)	0 (0)		
	n	sm	m	p		
Lamb. flattening	0 (0)	13 (1)	50 (4)	37 (3)		
	sm	m	l	vl		
Elev. occ. condyles	0 (0)	14 (1)	57 (4)	29 (2)		
	lo	m	hi	vhi		
Basion	0 (0)	71 (5)	15 (1)	14 (1)		
	n	s	m	l		
Platybasia	100 (8)	0 (0)	0 (0)	0 (0)		
	vsm	sm	m	l		
Styloids	25 (2)	50 (4)	13 (1)	12 (1)		
	sm	m	l			
Lacerate foramen	17 (1)	17 (1)	66 (4)			
	sm	m	l			
Glenoid fossa	0 (0)	25 (2)	75 (6)			
	sm	m	l			
Post-glen. process	0 (0)	75 (6)	25 (2)			
	th	m	tk	vtk		
Tympanic plate	87 (7)	13 (1)	0 (0)	0 (0)		
	s	m	l			
Petrous depr.	0 (0)	50 (4)	50 (4)			
	obl	rhm	sq	ell	rd	

TABLE 3. (Continued).

	sm*	m	l	vl	
Orbit shape	38 (3) n	62 (5) sm	0 (0) m	0 (0) p	0 (0) vp
Orbit inclin.	25 (2) n	38 (3) sl	37 (3) m	0 (0) dp	0 (0)
Suborbit. fossa	0 (0) sm	63 (5) m	37 (3) l	0 (0) vl	
Zygomatic size	25 (2) sm	63 (5) m	12 (1) l	0 (0)	
Zygo. lat. proj.	0 (0) sm	50 (4) m	50 (4) l		
Zygo. ant. proj.	0 (0) lo	87 (7) m	13 (1) hi		
Zygo. bone ht.	0 (0) sm	100 (8) m	0 (0) l		
Size of nasals	0 (0) lo	100 (8) m	0 (0) hi		vhi
Nasal root height	13 (1) sm	50 (4) m	37 (3) l	0 (0) vl	
Nasal root breadth	37 (3) lo	38 (3) m	25 (2) hi	0 (0) vhi	
Nasal bridge height	17 (1) sm	17 (1) m	66 (4) l	0 (0)	
Nasal bridge breadth	50 (3) str	50 (3) conc	0 (0) ccv		cvx
Nasal profile	0 (0) n	0 (0) sm	100 (5) m	0 (0) dp	
Nasion depr.	13 (1) par	62 (5) hyp	25 (2) ell	0 (0) sU	IU
Palate shape	50 (4) lo	0 (0) m	13 (1) hi	37 (3) vhi	0 (0)
Palate height	0 (0) n	0 (0) sm	38 (3) m	62 (5) l	
Inframax. notch	33 (2) sm	33 (2) m	17 (1) l	17 (1) vl	
Mandib. size	0 (0) nb	50 (4) wb	50 (4) int	0 (0) med	
Chin form	25 (2) neg	75 (6) neu	0 (0) sm	0 (0) m	l
Chin proj.	0 (0) n	87 (7) sm	0 (0) m	13 (1) l	0 (0)
Gonial eversion	50 (4)	37 (3)	13 (1)	0 (0)	

* Abbreviations: bul bulging, bun bun-shaped, ccv concavo-convex, con continuous, conc concave, cvx convex, div divided, dp deep, ell elliptical, fl flat, h heavy, hi high, hyp hyperbolic, int intermediate, l large, lo low, lt light, IU large U-shaped, m medium, med median, n none, na narrow, nb narrow-bilateral, neg negative, neu neutral, obl oblong, p pronounced, par parabolic, rd round, rhm rhomboid, sl slight, sm small, sq square, str straight, sU small U-shaped, th thin, tk thick, tor torus, tr trace, vhi very high, vl very large, vlo very low, vp very pronounced, vsm very small, vtk very thick, wb wide-bilateral, wi wide.

Literature Cited

1. LILLY, ELI (Ed.) 1954. Walam Olum or Red Score—The Migration Legend of the Lenni Lenape or Delaware Indians. Indiana Historical Society, Indianapolis. 379 p.