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Ancient Monuments Laboratory
Report 33/90

BREAN DOWN, SOMMERSET
REPORT ON HUMAN SKELETON REMAINS
EXCAVATED 1989.

Neil Garland

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Summary

This report is analysis of six skeletons (two males, one possible male, one adolescent and two children) recovered from Brean Down Sandcliff, 1989. Vertebral anomalies were found in two of the adults.

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BREAN DOWN, SOMMERSET

REPORT ON HUMAN SKELETAL REMAINS EXCAVATED 1989.

Summary: This report is analysis of six skeletons (two males, one possible male, one adolescent and two children) recovered from Brean Down Sandcliff, 1989. Vertebral anomalies were found in two of the adults.

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TABLE 2
Stature

Context	Stature (cm) ±S.E.	Method
BD65	167.9 ±3.62	Femur & fibula
BD326	171.4 ±3.74	Femur & tibia
BD327	Not possible to determine	
BD332	Not possible to determine	
BD335	If male 167.5 ±3.74	Femur & tibia
	If female 165.2 ±3.57	Humerus, femur & tibia
BD338	Not possible to determine	

Metrical indices

Cranial, platymeric and platycnemic indices were calculated for the three adult skeletons, where possible. These indices define the shape of the head and upper parts of the shaft of the femur and tibia, respectively. The results are shown in Table 3.

TABLE 3
Metrical indices

	INDEX		
Context number	Cranial	Platymeric	Platycnemic
65	-	77.4	70.0
326	77.0	78.0	74.7
335	80.1	-	70.7

Non-metric traits

Non-metric traits take the form of minor variations in skeletal form. For some of these variants there is evidence that they are to some extent inherited, although their mode of transmission remains obscure.

28 cranial and 15 post-cranial traits were scored on a presence or absence basis (Tables 4 and 5). Those traits with scope for bilateral expression were scored seperately for left and right sides. Trait definitions were taken from Berry & Berry (1969) and Finnegan (1978).

TABLE 4
Cranial non-metric traits

	CONTEXT NUMBER		
TRAIT	65	326	332
Ossicle at lambda	-	-	-
Lambdoid ossicle	0/0	+/+	-/-
Parietal foramina	-/+	-/-	-/-
Bregmatic bone	-	-	-
Metopic suture	+	+	-
Coronal ossicle	-/-	-/-	-/-
Epipteric bone	0/0	0/0	0/0
Parietal notch bone	-/-	0/0	-/-
Sagittal ossicle	-/-	-/-	-/-
Ossicle at asterion	-	-	-
Patent post. condylar canal	0/0	0/0	0/0
Condylar facet double	-/-	-/-	0/-
Precondylar tubercle	-	-	-
Ant. condylar canal	-/-	+/-	0/-
Palatal suture variation	0	0	-
Palatine torus	+	0	-
Auditory torus	+/+	+/+	+/+
Maxillary torus	-/-	+/0	+/+
Zygomaticofacial foramen	-/-	-/0	0/0
Supraorbital foramen complete	-/-	+/+	-/-
Os japonicum	-	0	0
Frontal grooves	+/-	+/-	-/-
Os inca	-/-	0/0	-/-
Multiple mental foramina	-/-	-/-	-/-
Posterior ethmoid foramen	0/0	0/0	0/0
Extrasutural ant. ethmoid foramen	0/0	0/0	0/0
Foramen of Huschke	0/0	0/0	0/0
Torus mandibularis	-/-	0/0	-/-

Abreviations:

+ trait present; - trait absent; 0 skeletal element missing or no observation possible. Ant anterior; post posterior.
Scores for bilateral traits are presented as: score for left side/score for right side.

TABLE 9

MAXILLA

Tooth Number	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
C.G. 65	1	1	1	1	2	2	2	-	-	-	1	1	1	1	1	1
C.G. 326	-	2	-	2	-	2	2	1	-	-	-	-	-	-	-	-
C.G. 332	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C.G. 335	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C.G. 335	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C.G. 332	0	1	1	1	1	1	1	2	2	1	2	1	1	1	2	0
C.G. 326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C.G. 65	1	1	1	2	1	2	2	2	2	2	2	2	1	1	1	-
Tooth Number	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

MANDIBLE

Key: C.G. Calculus grade
- Tooth not available for examination

Skeletal pathology

All recovered bones were assessed for the presence and also absence of skeletal pathologies. There was no evidence of skeletal congenital anomolies, fractures or infection.

Osteochondritis dessicans

Osteochondritis dessicans is an avascular asceptic necrosis of unknown aetiology (Ortner & Putschar), characterised by a demarcated fragment of bone and overlying articular cartilage that may become separated from the articular surface. The disease occurs in adolescents and young adults, and is more common in males than females. In the dry bone specimen, the disease is manifest as pitting and depression of the affected articular surface (Wells, 1974).

One individual showed evidence of this disease (Contet 65, male, aged 17-25 years) in the base of the left and right first proximal phalanges of the foot.

Schmorl's nodes

Schmorl's nodes are displacements of the nucleus pulposus (the inner layer of the intervertebral disc), through the annulus fibrosis and into the vertebral body. Although prolapses may occur through an area of weakness in the vertebral end plate, it is thought that most may arise as a sequele to acute or recurrent stress (Jayson, 1986). In the dry bone the nodes are seen as clefts in the surface of the vertebral body. Their distribution is shown in table 10

Individual	No. of affected vertebrae	No. of nodes
65 (Male, aged 18-25)	6 thoracic, 4 lumbar	18
326 (Male, aged 18-25)	3 thoracic, 4 lumbar	11

Unidentifiable pathologies

One major problem in the examination of exhumed human skeletal remains is the accurate identification of pathological processes. Only certain diseases can be diagnoses with any confidence. One specimen from this site was an example of a bone with an unidentifiable pathology. The right fibula of context 65 (age probably 12-15 years) was bowed in a medio-lateral direction. Both the fibula and corresponding tibia were X-Rayed. X-Ray revealled that the bowing was long standing. There was no evidence of healed fractures or any of the characteristic features of rickets at the distal diaphyses.

BREAN DOWN, SOMMERSET

CATALOGUE OF BURIALS

CONTEXT 65

Although the skull, mandible, cervical vertebrae and part of the upper limbs were excavated in 1985, for the sake of completeness the whole skeleton is discussed here.
The skeleton is that of a male, age 18-25 years.
Stature: 167.98 ±3.62 cm (Right femur and fibula).
Bones present are shown in figure 2.

Postcranial measurements

	Left	Right
Humerus		
Hu1	307	309
Hu5	39.74	42.58
Hu9	54.90	-
Radius		
Ra1	238	238
Ulna		
Ul1	254	-
Sacrum		
Sa1	117.06	
Sa2	113.76	
Femur		
Fe1	437	439
Fe2	435	436
Fe6	24.36	25.68
Fe7	26.76	26.88
Fe8	83	83
Fe9	31.78	29.56
Fe10	24.62	24.16
Fe18	43.24	44.36
Fe21	74.28	75.10
Patella		
Pa1	-	40.22
Pa2	-	42.54
Tibia		
Ti1	363	362
Ti3	69.96	69.76
Ti8		
Ti9		
Fibula		
Fi1	-	350
Talus		

Ta1	51.66	50.86

Calcaneous

Ca1	76	-

Cranial measurements

L	167
B	128
B'	96.82
FB	24.76

Mandible measurements

W1	121.46	
GoGo	97.02	
H1	-	
ZZ	50.34	
CrH	L: 56.88	R: 54.24
ML	95	
RB'	L: 32.04	R: 32.32
RH	L: 68.80	R: 60.74
MA	L: 127	R:128

Postcranial non-metric traits

Os acromiale left scapula, right suprascapular notch, double facetting C1, Allen's fossa right and left femora, hypotrochanteric fossa right and left femora, right and left tibial squatting facets.

Dentition

See figure 3. /8 has not fully erupted. /8 is congenitally absent.

Other features

The medial epiphysis of the right clavicle is unfused. The scar of epiphyseal fusion is still visible on the anterior surfaces of both femoral heads. Both iliac crest epiphyseas are fusing to the innominate bones. The first sacral element has not fused to the second.

Skeletal pathology

A depression, measuring 3x1.5mm, with a pitted base, is present on the ase of the right first proximal phalanx. A slight depression is visible on the base of the corresponding left bone. These represent healed osteochondritis dessicans.

Schmorl's nodes were present on the following vertebrae:
Superior and inferior surfaces of T7, T8, T9, T10, T11, T12, L1, L2 and on the inferior surface of L3 & L4.

CONTEXT 326

This skeleton is that of a male, aged 18-25.
Stature: 171.41 ±37.4 cm (Right femur and tibia).
Bones present are shown in figure 4.

Postcranial meaurements

	Left	Right
Humerus		
Hu1	326	324
Hu4	64.82	65.34
Radius		
Ra1	244	-
Ulna		
Ul1	237	-
Femur		
Fe1	464	460
Fe2	462	458
Fe6	-	-
Fe7	-	29.42
Fe8	-	-
Fe9	37.48	37.12
Fe10	29.24	29.08
Fe18	50.00	50.68
Fe21	79.78	79.52
Patella		
Pa1	44.96	-
Pa2	46.36	-
Tibia		
Ti1	371	368
Ti3	75.98	75.90
Ti8	35.60	35.44
Ti9	26.62	26.00
Calcaneous		
Ca1	-	86
Scapula		
Sc12	39.54	-

Cranial Measurements

L	183
B	141
B'	108
G'H	67.56
Biast B	112.44
O'2	L: 35.28 R: -
S1	128
S2	148
S'1	105.24

S'2	126.04
FB	24.38
U	281

Postcranial non-metric traits

Double facetting C1 vertebra, suprascapular notch left scapula, plaque on both right and left femora, vastus notch right patella, squatting facets right and left tibiae.

Dentition

The dentition in shown in figure 5. Several horizontal lines (enamel hypoplasia) were visible on the 5 recovered teeth.

Skeletal pathology

Schmorls nodes were present on the superior and inferior surfaces of T11, T12, L2 and L3, and on the superior surface of T10, L2 and L4.

Slight osteophytes were seen around the fovea of both femora.
Spurring posterior surface right calcaneous at insertion of tendocalcaneous.
Spurring left patella at insertion of quadriceps muscle.

CONTEXT 327

The skeletal remains are those of a child, age approxiately 7 years. Bones present are shown in figure 6. It was not possible to determine the sex or stature. Only two diaphyses were intact to be measured:

Right femur 249mm
Right radius 144mm

CONTEXT 332

The skeletal remains are those of an adolescent. The bones present are shown in figure 7.

The following epiphyses are present and unfused:
right radius head, right and left innominates, left ischial tuberosity, right and left femoral heads, right greater trochanter, left lesser trochanter, right and left distal femora, right and left proximal tibiae, right distal tibia and fibula, base of right and left 1st metatarsals, spinous processes of the lumbar vertebrae.

Diaphyseal measurements

	Left	Right
Femur	354	350
Tibia	292	287
Fibula	-	286
Humerus	249	248
Radius	192	194
Ulna	-	218

Mandibular measurements

ZZ	42.32	
RH	L: 54.78	R: -
RB'	L: 30.72	R: -
MA	L: 135°	R: -

Dentition

See figure 8. 8/ is in the process of erupting. The root development of the tooth is compatable with an age older than 12 years. /8 is unerupted. Linear bands of enamel hypoplasia are present on the enamel of all erupted teeth.

Skeletal pathology

The right fibula is bowed in a medio-lateral direction. Both the fibula and corresponding tibia were X-Rayed. X-Ray revealled that the bowing was long standing. There was no evidence of healed fractures or any of the characteristic features of rickets at the distal diaphyses.

CONTEXT 335

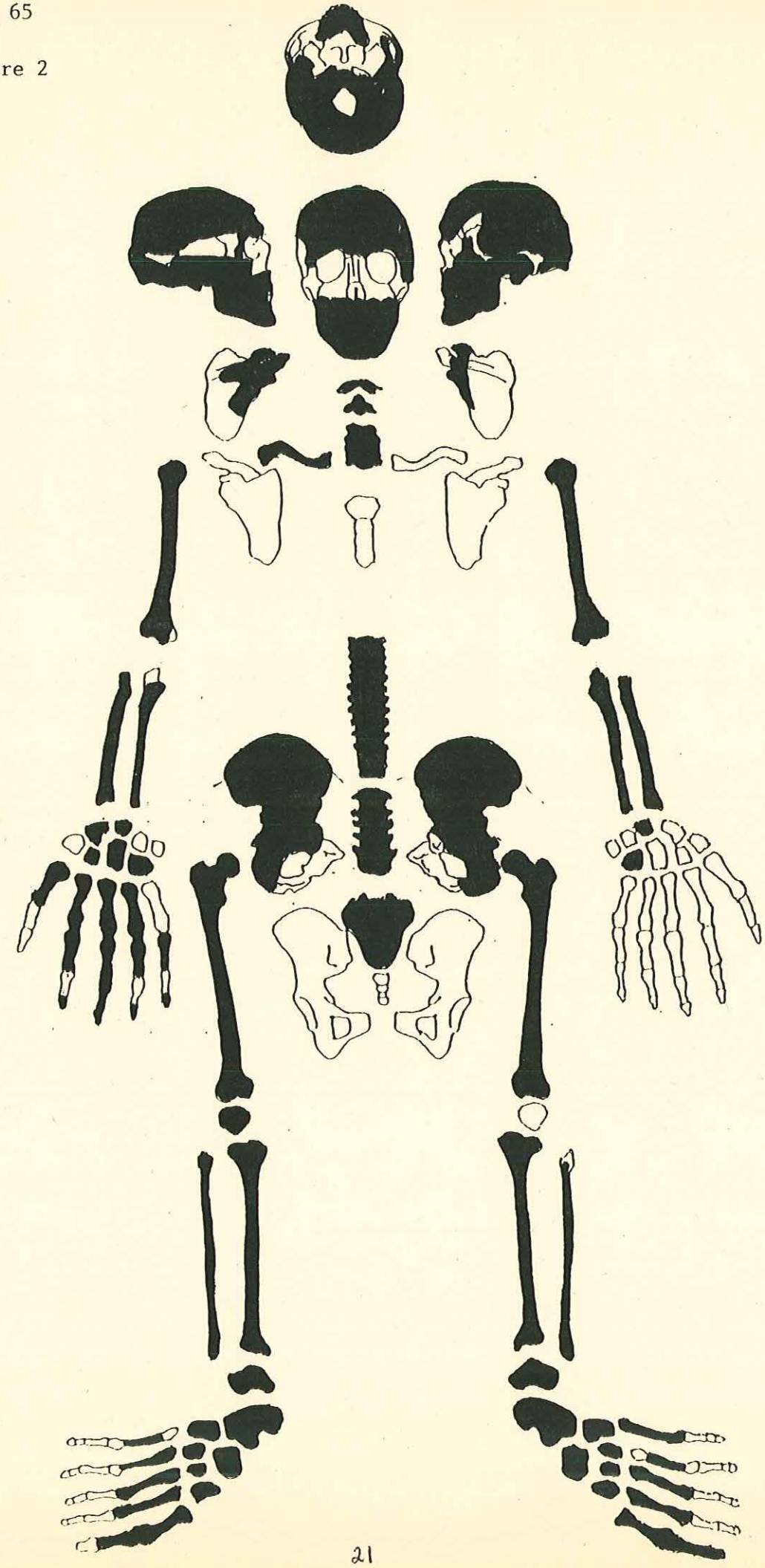
The skeleton is that of a possible male, age 18-25 (from dentition). Bones present are shown in figure 9.
Stature: if male 167.5 ±3.74
if female 165.2 ±3.51

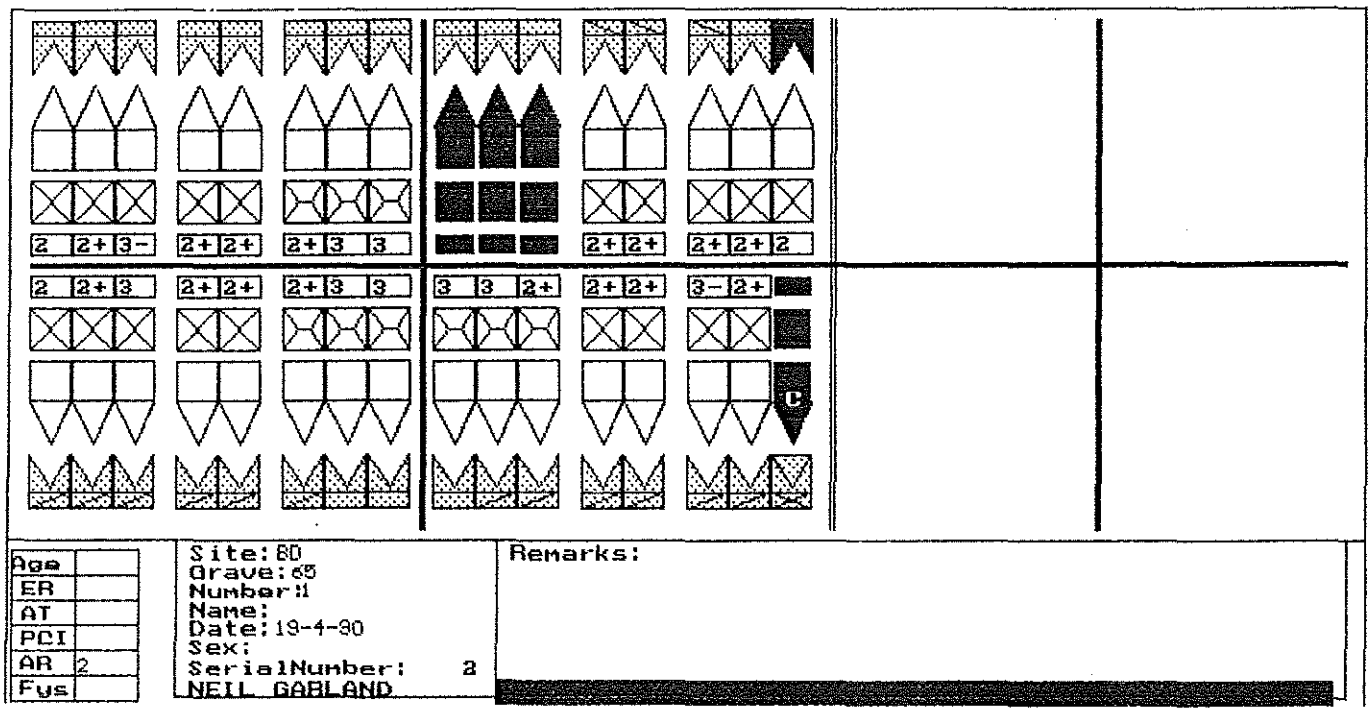
Postcranial measurements

	Left	Right
Humerus		
Hu1	332	-
Hu4	57.70	-
Hu9	46.36	-
Ulna		
Ul1	265	-
Pelvis		
Pe1	-	222
Sacrum		
Sa1	-	
Sa2	109.78	
Femur		
Fe1	440	-
Fe2	438	-
Fe6	31.31	29.90
Fe7	-	-
Fe10	26.62	25.50
Fe18	47.14	45.00
Fe21	78.20	-
Tibia		
Ti1	357	-
Ti3	76.58	-
Ti8	32.60	32.94
Ti9	23.06	23.22
Talus		
Ta1	54.16	54.00
Calcaneous		
Ca1	76	76
Clavicle		
Cl1	155	-
Scapula		
Sc12	36.32	-
Sc13	-	-

BD89 65

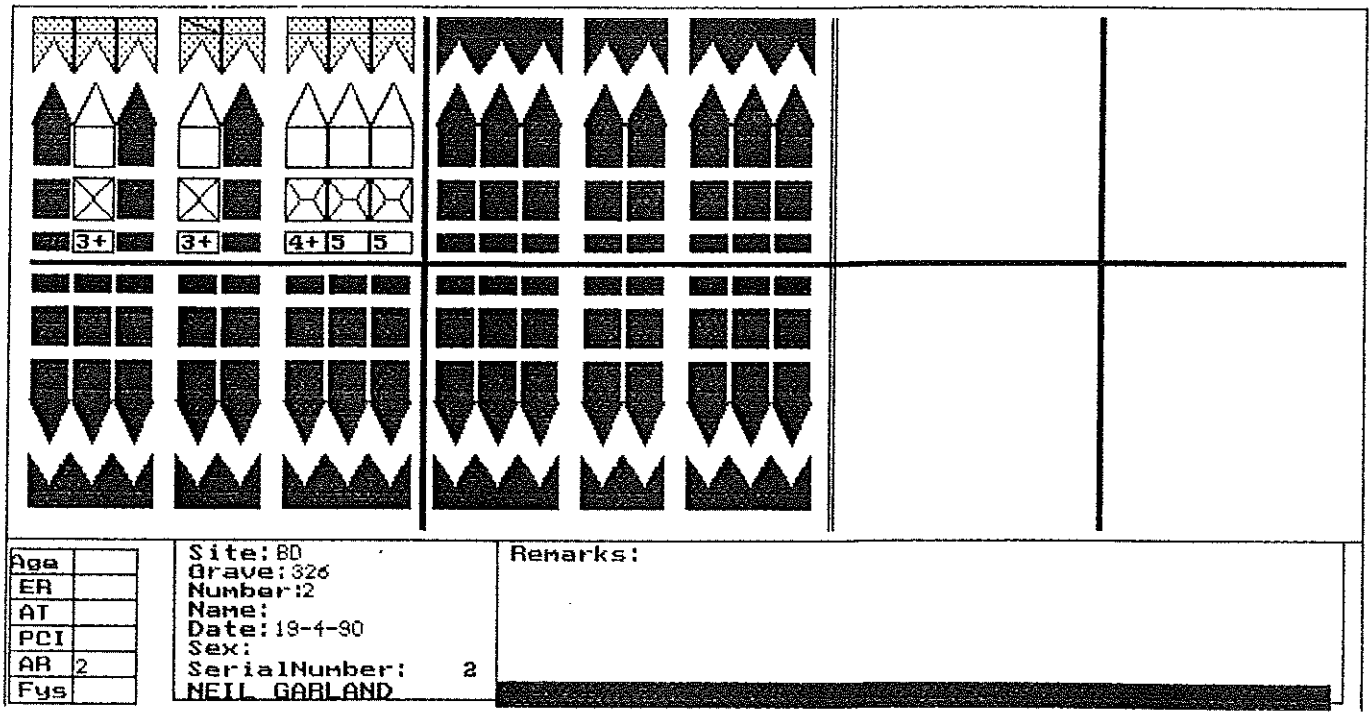
Figure 2





BD98 65 Dental chart

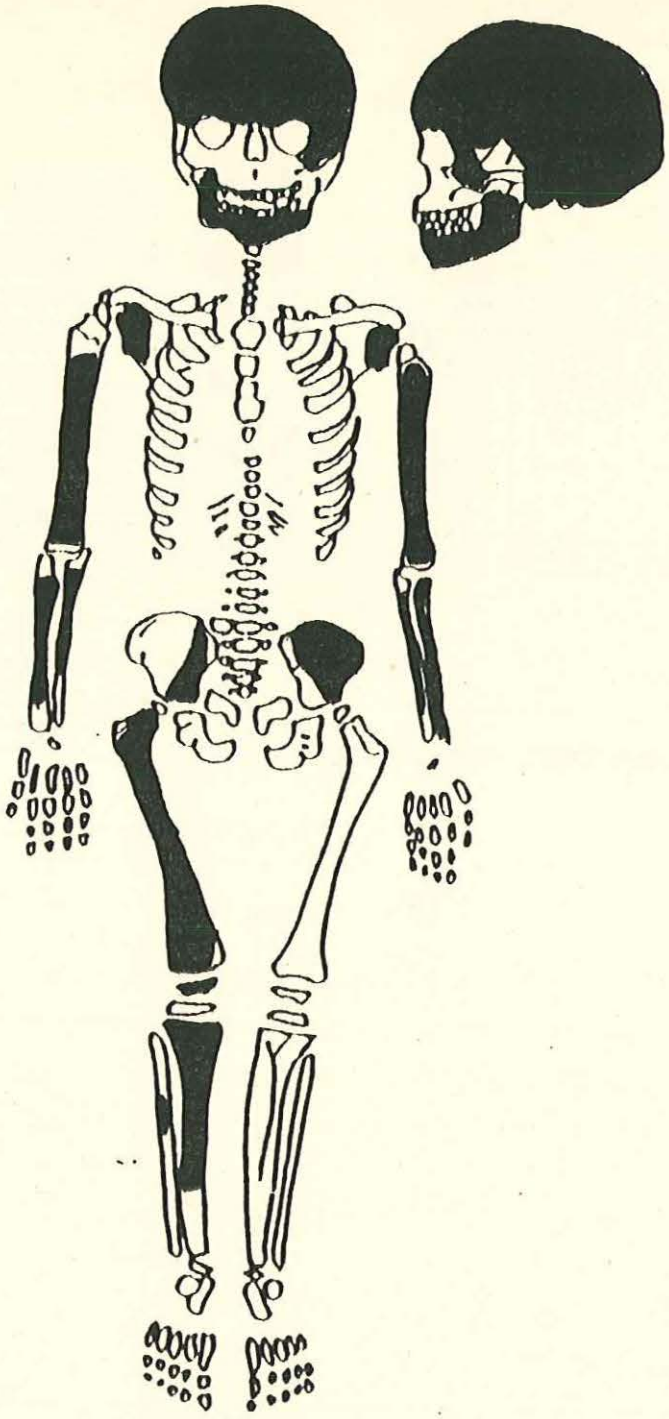
Figure 3



BD98 326
Dental chart

Figure 5.

Figure 6



THE HUMAN REMAINS FROM BREAN DOWN, SOMMERSET 1985/1986 EXCAVATIONS

INVENTORY OF HUMAN SKELETAL REMAINS

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Context 32 : Skeleton 32.

The remains are those of an adult female (based on the morphology of the pelvis and long bone measurements).
Athough the skull vault is in several pieces, no attempt at reconstruction was undertaken.
Age: 18-25 (molar attrition).
Stature: 159.3 ±3.51 cm (Right humerus, femur and tibia).

Postcranial measurements

	Left	Right
Humerus		
Hu1	297	318
Hu4	52.06	53.10
Hu9	42.20	43.22
Ulna		
Ul1	236	246
Ul2	231	242
Pelvis		
Pe2	164	-
Sacrum		
Sa1	109.28	
Sa2	120.50	
Femur		
Fe1	412	411
Fe2	409	410
Fe9	31.26	27.30
Fe10	22.62	22.40
Fe18	31.26	27.30
Fe21	75.10	76.66
Patella		
Pa1	-	38.00
Pa2	-	39.10
Tibia		
Ti1	-	343
Ti3	71.04	71.88
Ti8	28.60	30.10
Ti9	21.10	21.60
Fibula		
Fi1	335	-
Clavicle		
Cl1	141	-
Scapula		
Sc12	32.24	

Postcranial Non-metric traits

Context 89 ?Ischial tuberosity.
Context 163: Basilar part of the occipital bone.
Context 171 6206 Lower right permanent second incisor.
Context 213 6530 Upper right lateral permanent incisor, lower premolar, uper third molar ?side, right temporal bone, 7 fragments of the skull vault.
Contet 213 6540 Lower left permanent first premolar, two canines ?side, fragments long bones.
Context 225 Grave fill: 2 unidentifiable fragments of cancellous bone.
From loose sand in badger sett run: Left ischium.
Auger hole 15/995: Portion of right frontal bone with superior orbital wall.
Auger hole: Proximal third of the right tibia, and fragments of fibula.
Found by C.J.H.: Distal half of a right femur; third left metacarpal.
Unstratified: Left pubic bone of sub-adult: unfused at acetabulum; single cervical vertebra.
70.007/70010: Fragment of parietal bone; left calcaneous.
Unstratified 751: Left malar bone.
U/S Soil pit 8 70061 Lower right permanent second incisor.
U/S 1379 Upper left permanent central incisor.