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TWO LATER NEOLITHIC BURIALS FROM STAINES ROAD FARM, SHEPPERTON, SURREY EXCAVATED 1989

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Summary

Two adult inhumations (one unsexed, one probably female) probably of later 3rd millennium B.C. date were recovered from the Staines Road Farm site. The principal point of interest was the nature of the incomplete representation of skeletal parts of the unsexed individual, which included mandible, spinal column and ribs in articulation, but excluded cranium, almost all forelimb and lower limb bones, pelvic bones, and shoulder girdle. Preservational factors alone could not explain this pattern. The possibility of pre-inhumation dismemberment was eliminated, and it was concluded that the missing parts had been removed after in situ soft tissue decompostion, possibly during subsequent disturbance of the ditch fill.

Author's address :-

S A Mays & J Steele

Ancient Monuments Laboratory
English Heritage
23 Savile Row
London
W1X 2HE

Two later Neolithic burials from Staines Road Farm, Shepperton, Surrey, excavated 1989.

Introduction to the site.

Two inhumation burials were recovered from later 3rd millennium B.C. contexts in a ringwork ditch, one skeleton crouched lying on its right side with the head to the NW, one partial skeleton supine on an E-W axis with the head to the E.

The human remains

Context: Burial G10. Crouched inhumation, lying on its right side, with its head to the northwest. Located in the northeast section of the ringwork ditch, immediately adjacent to and to the north of the principal 'causeway'. Likely to be of later 3rd millennium B.C. in date, associated with the second (re-cut) ringwork ditch.

Material: Preservation poor, skeleton 30% complete.

Sex: Probably female (skull, pelvis - Workshop of European Anthropologists 1980).

Age: Probably about 30-40 years (dental wear - Brothwell 1981).

Dental formula:

T	-	T	T	-	-	-	-	.	-	.	x	x	.	T	-
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
.	.	.	x	.	x	.	x	x	x	.	x	.	*	.	.

LEFT RIGHT

Also one unidentified anterior maxillary tooth.

Key: .= tooth in socket x= tooth lost post-mortem, socket present *= tooth lost ante-mortem C= caries A= abscess T= loose tooth present (socket missing or damaged post-mortem)
-= tooth and socket both absent

There was dental calculus of Dobney and Brothwell's (1987) Grade 2 severity.

Stature: Insufficient material to estimate.

Notes: The skeleton was in a poor condition of preservation, with only mid-shaft sections represented for the long bones, and few of the bones with thinner cortices (e.g. ribs, vertebrae, phalanges) surviving, presumably reflecting local soil conditions.

The extant long bone fragments were sufficient to measure the extent of platymeria and platycnemia (flatness of the cross-sectional profile of the femur and tibia, respectively). The left

femur scored 61.3 on the meric index (markedly platymeric), and the left tibia scored 58.9 on the cnemic index (within the range for platycnemia) (Brothwell 1981). These indices represent significant flattening of the lower limb long bones (antero-posterior flattening in the femur, transverse flattening in the tibia). There are a number of explanations current for such variation, which remains poorly understood (Brothwell 1981). One recent explanation of platycnemia has been in terms of a developmental change in tibial morphology caused by adaptation to habitual patterns of mechanical stress in locomotion (Lovejoy et al. 1976), reflected in population-level variability on this index. Platymeria has been variously interpreted as the result either of adaptation to mechanical stresses, or of nutritional deficiency (Brothwell 1981).

Context: Burial G8. Articulated torso, neck, and mandible. Supine, on an E-W axis with the neck and mandible to the E. Located in the base of the north section of the ringwork ditch, resolved stratigraphically as either having been placed directly on the base of the ditch, or in a grave cut which could not be distinguished from the surrounding ditch fill matrix. Likely to be of later 3rd millennium B.C. in date, associated with the second (re-cut) ringwork ditch.

Material: Preservation moderate, skeleton 30% complete.

Sex: Unsexed, although mandible has male characteristics (Workshop of European Anthropologists 1980).

Age: c. 25-35 years (dental wear - Brothwell 1981).

Dental formula:

-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
x	.	.	x	x	x	x	x	x	x	T	T	-	.	.	.

LEFT RIGHT

Key: .= tooth in socket x= tooth lost post-mortem, socket present *= tooth lost ante-mortem C= caries A= abscess T= loose tooth present (socket missing or damaged post-mortem) -= tooth and socket both missing

Dental calculus absent.

Stature: Insufficient material to estimate.

Notes: The principal archaeological point of interest in this individual is the nature of the incomplete representation of skeletal parts. The mandible, spinal column including the sacrum, and some of the rib cage (a minimum of 8 right and 6 left ribs) were present in articulation, but the cranium, forelimbs and shoulder girdle (scapulae and clavicles), lower limbs and pelvic bones were absent, as was the sternum. One right metacarpal and

four phalanges of the hand (one right, three unsided) and one metatarsal from the right foot were found, evidently (from the in situ photographs) in the area of the thorax. In the absence of more complete representation of the distal extremities it is not possible to state conclusively that these individual hand and foot bones were from the same individual, although the archaeological context makes it almost certain.

Although some absent or poorly preserved parts may have decayed in situ due to soil conditions (e.g. sternum, vertebral bodies, and possibly the scapulae), the absence of many of the skeletal parts cannot be attributed to preservation factors, since they include some of the most robust skeletal elements (cranium, long bones, maxillary dentition), and since these parts did survive in the adjacent inhumation G10 (which was generally in a poorer state of preservation).

As an alternative explanation, dismemberment before burial seems improbable for a number of reasons. Where joints are still held in place by soft tissue, it is difficult to disarticulate them without leaving some traces such as cutmarks on the bones. No such cutmarks were observed on any of the extant parts of the skeleton (including sacrum, mandible, and surviving rib elements adjacent to the shoulder joint). This is particularly significant in the case of the sacroiliac joints, binding the sacrum into the pelvic girdle. The pelvic bones are missing from this skeleton; however, there are no visible cutmarks on the sacral faces of either sacro-iliac joint. These joints articulate the sacrum with the ilium, are held in place by the sacroiliac ligaments, and are the most immobile synovial joints in the human body. The joints have a very robust set of soft tissue attachments in vivo which would not have decomposed prior to the decomposition of the attachments holding the ribs in articulation with the thoracic vertebrae. In the absence of any positive indications on the sacrum of active dismemberment of this joint (this particular joint would be almost impossible to dismember without leaving cutmarks on the bones), the removal of the pelvis and lower limbs seems more likely to have occurred as a post mortem disturbance, the flesh being already decomposed. The remaining skeletal elements would have remained in a position of articulation relative to each other owing to their position enclosed in a matrix of 'fill'. This explanation is also supported by the finding of a redeposited metatarsal from the right foot in the thoracic region: the lack of any other foot bones suggests that the foot had not been removed as an articulated unit.

A similar explanation may apply to the absence of the forelimbs and of the cranium, since there were phalanges of the hand and a single right metacarpal in the assemblage, apparently (from the photographs) found in the region of the thorax. While these may have remained in situ from the original inhumation, their presence as isolates suggests that the remainder of the bones of the hands and forelimbs were also removed after the burial, and as skeletal elements with the flesh decomposed. The mandible was almost complete and shows no sign of forcible disarticulation from the cranium: there are no visible cutmarks, and no damage to either of the mandibular condyles (which articulate with the cranium at the temporo-mandibular joints). This indicates that the cranium was also removed from the assemblage after burial,

and after decomposition of the soft tissue attachments.

These observations suggest that the incomplete representation of skeletal parts of this individual should be attributed to disturbance of a complete inhumation after in situ soft tissue decay was completed. This could have been deliberate, in order to recover specific skeletal elements: however, in cases where inhumations have been disturbed, there is generally disturbance of the remaining bones, while those which remain in this context are in undisturbed anatomical relationships with one another. This suggests an accidental removal of portions of the inhumation in association with some later disturbance of the ditch fill. However, the absence of the arms and shoulder girdle suggests further complications in the depositional and post-depositional history of this individual which may remain to be resolved.

The fifth lumbar vertebra of this burial shows spondylolysis. This is a condition in which the posterior part of the neural arch is separated from the rest of the vertebral body at the pars interarticularis. It most commonly (as here) affects the fifth lumbar vertebra. It seems likely (Merbs 1989) that this condition represents fractures of the pars interarticularis which failed to unite. There seems to be a predisposition to the condition in individuals with certain heritable skeletal characteristics such as reduced thickness of the pars interarticularis. In this individual there is also a slight new bone formation near the anterior rim of the superior surface of the body of the top sacral vertebra, perhaps suggesting slight spondylolisthesis (forward slippage) of the L5 vertebral body. Some current work suggests that while spondylolysis can occur as a result of an acute trauma, it is also often caused by (fatigue) fracturing associated with chronic occupational stresses where there is stress loading of the interarticular region of the lower lumbar vertebrae caused by hyperflexion of the spine relative to the pelvis and lower extremities (Merbs 1989).

The presence of a transitional lumbosacral vertebra unfused with the remainder of the sacrum should also be noted, since while there may be no simple aetiological link between spondylosis and the occurrence of transitional vertebrae, there appears to be an association between incidence of the two phenomena (Wynne-Davis and Scott 1979).

Summary and discussion

Both individuals are adults, one (G10) probably female and one (G8) unsexed. Conditions of preservation were generally unfavourable, but the absence of many of the more robust skeletal elements from G8 could not be accounted for by preservation factors. There are indications that this individual was originally buried in a more complete state, with subsequent disturbance and removal of skeletal elements after soft tissue decomposition had taken place.

References

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APPENDIX: DATA FOR INDIVIDUAL BURIALS

CRANIAL MEASUREMENTS

SKEL. G8: ZZ=44.7 RB'=38.1
SKEL. G10: ZZ=43 RB'=32.4 H1=26.0

LONG BONE MEASUREMENTS

SKEL. G10: MERIC INDEX=20/32.6 x 100= 61.3
CNEMIC INDEX=19.2/32.6 x 100= 58.9

Symbols and indices from Brothwell (1981).

SPINAL OSTEOPHYTOSIS

SKEL. G8: Cervical Grade 0/2, Thoracic Grade 0/4, Lumbar Grade 0/5

OSTEOARTHRITIS

SKEL. G8: Cervical Grade 0/7, Thoracic Grade 0/10, Lumbar Grade 0/5