

Osteological Report on the Human Remains from Culzean Castle Cave (Extreme Archaeology 2003)

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Introduction

The caves beneath Culzean Castle were investigated by the Extreme Archaeology Team in July 2003. During the course of the investigation, disarticulated human bones were recovered from a three trenches in the cave.

The bones were washed at the site, then temporarily taken by the local police to be recorded. Later, the bones were returned to Dr Alice Roberts, via GUARD.

Methods

The bones were washed bones were received by Dr Roberts (Bristol Osteoarchaeology Research Group). Individual bones were identified and recorded as an inventory; the state of preservation and fragmentation of the bones was also recorded. The material was aged and sexed according to standard anthropological techniques, (Bass 1971, Brothwell 1981).

Inventory of the Human Remains from Culzean Cave

The human remains were from 3 different locations in the cave: trench 1 (upper chamber with pillars), trench 2 (over the upper part of the culvert in the lower chamber) and trench 3 (over the lower part of the culvert in the lower chamber, nearer to the entrance).

Trench 1 (context 001)

A single human thoracic vertebra was found amongst the many animal bones recovered from trench 1. This was an upper thoracic vertebra, and was immature: the lines of fusion of the neural arch to the body were still visible, and the tips of the transverse and spinous processes were unfused. The bone was almost adult in size, so it is likely to have been from a juvenile individual in early puberty.

Thoracic vertebra (001), superior and lateral aspects

Trench 2 (context 200)

Several human bones and bone fragments were found in trench 2, including both adult and immature bones.

The adult remains were: a fragment of a left humeral head, two small fragments of the adjoining humeral neck, a thoracic vertebra, and a fragment of a right rib including the tubercle. The humeral head had fully fused epiphyses and showed no evidence of joint disease; The maximum (vertical) diameter of the humeral head was 39mm.

The thoracic vertebra was virtually intact, with fused epiphyses and slight lipping around the margins of the costotransverse joint facets. There was a small area of postmortem damage on the anterior surface of the body.

humeral head (200)

Thoracic vertebra (200)

Of the immature bones, there were: an almost intact small thoracic vertebra with fusion lines between neural arch and body still evident, and a right ischium and right pubis, unfused at the acetabulum. Vertebral arches and bodies fuse between the 3rd and 7th year; the three bones of the pelvis begin to unite at the acetabulum in the 12th year (Bass 1971). It is therefore possible that these three bones were from the same individual, aged between 3-12 at the time of death.

immature thoracic vertebra (200)

Unfused pubis and ischium (200)

Immature ischium and pubis (200) showing appearance of unfused acetabular surfaces

Immature pubis (200) showing characteristic billowed appearance at symphysis

There were two further fragments of immature bones: a fragment of the proximal epiphyses of an infant tibia, and a fragment of the shaft of a small (infant or child) forearm bone.

Trench 3 (context 302)

Three adult vertebrae were found in trench 3: a cervical vertebra, a thoracic vertebra and a lumbar vertebra, and a single human tooth.

The cervical vertebra was almost intact, with a slightly damaged left transverse process. The epiphyses were fully fused. There was very slight lipping around the margins of the zygoapophyseal joints, and the spinous process was slightly deviated to the left.

cervical vertebra (302), superior and inferior aspects

The thoracic vertebra was less well preserved, with damage to the body and processes. As this vertebra was discovered within the culvert, this damage is not altogether surprising. The

damage to the vertebrae meant that it was impossible to determine whether secondary epiphyses had fused, although the vertebra appeared adult in size.

Thoracic vertebra (302), superior and inferior aspects

The lumbar vertebra was well preserved, with fully fused ring epiphyses and tips of processes. There was no evidence of joint disease.

Lumbar vertebra (302)

The tooth found in trench 3 was a left upper permanent lateral incisor (2), with complete root and polish at the tip of the crown, but no dentine exposure.

Incisor (302)

Pathology

There was no pathology evident in these remains, nor any signs of cut-marks.

Summary and interpretations

The minimum number of individuals in this sample is 3, based on the ages of the various bones, as shown below:

Child	immature thoracic vertebra, pubis and ischium from trench 2
Juvenile	immature thoracic vertebra from trench 1
Adult	humeral head and mature thoracic vertebra from trench 2; mature cervical and lumbar vertebra from trench 3.

It is important to note that these bones may represent more than 3 individuals; 3 is simply the minimum possible number represented in this sample.

The origin of these bones is somewhat mysterious. They were found in unusual contexts – within the culvert, lying on the floor of the cave and in the backfill from earlier excavations in the cave (trench 1). It is most likely that these bones have been redeposited from an earlier, disturbed context, eg: burials within the cave. From discussion with local archaeologists, it was ascertained that other caves in this area are known to have been used as ancient burial sites. There was absolutely no scientific evidence (such as cut-marks on the bones) to support the alternative explanation that these bones could be the remains of cannibalistic activity as suggested by local legend.

References

Bass WM (1971) *Human Osteology* (2nd edition). The Missouri Archaeological Society.

Brothwell DR (1981) *Digging Up Bones* (3rd edition). Oxford University Press/British Museum (Natural History), Oxford.

Mays S (1998). *The Archaeology of Human Bones*. Routledge, London.