Coding system used for bone records at EAU, York University

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The purpose of this report is to provide a guide to the coding used in animal bone listings produced in the EAU. This is not a user-manual for any particular recording system.

The record is arranged in a series of fields, separated by oblique slashes (/). The sequence of fields is:
<sitecode>/<context>/<species>/<bonetype>/<bodyside>/<bonepart>
These six fields are rigidly coded and formatted. The remaining fields take a free form, and may be omitted from the record if not applicable. The sequence for the remaining fields is:
<measurements>/<ageing>/<otherdata>
The remainder of this report describes the codes used in these fields.

Sitecode - a group of alphanumeric characters describing the site. For York sites these are derived from the York Archaeological Trust's coding system. Thus for 1-5 Aldwark, the YAT code is 1976.15, and the sitecode 7615.

Context - alphanumeric characters using the context number attributed on site.

Species - in full (up to ten characters) or abbreviated if longer. Always one word, thus COW, PIG, REDDEER, but C-CAILLIE for capercaillie.

Bonetype - a three character code, usually an obvious abbreviation, thus HUMerus, MetaCarpaL, PHalanx 1. Note that ANT may be antler or horncore according to species (see appendix 1).

Bodyside - one character; L (left), R (right), U (uncertain or not attributed).

Bonepart - a series of alphanumeric codes describing the subdivisions of a bone which are present in an incomplete specimen (see appendix 2).

The record may describe one specimen or a group of associated fragments, such as pieces of rib. Such a record would begin
8607/13964/SHEEP/RIB/U/17+35FF/
indicating 17 discrete ribs (counted as articular ends) plus 35 non-articular fragments.

The format for measurements and ageing data is flexible. Either or both categories may be omitted, leaving one slash (/).
Measurements are given in a sequence based on von den Driesch (1976)

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(see appendix 3), with measurements separated by a blank space. Two dashes (--) indicate a number of values set to zero, thus -- 40.3 15.7 57.6 where six measurements are expected would indicate that the first three take the value 0.
Descriptions of horncore form may be included with measurements (see appendix 4).

Ageing data may refer to epiphyses (Proximal, Distal, Fused, Y=unfused) for example -- 41.4 27.2 33.6/PYDF
With mandibles, tooth attrition stages are recorded, thus:
DP4 15 M1 11 M2 9 M3 5
Attrition stages correspond to those of Grant (1982), stage 6 being equivalent to Grant's stage a. Stages 1 to 5 are stages of tooth formation and eruption.

The rest of the record is a 'dump' for all other data, comprising more or less coded notes preceded by a keyword and separated by a slash. The keywords are:
BUTCH   =   specific butchery, e.g. location of knife cuts.
PATH   =   disease or injury.
NONMET   =   non-metrical traits such as location of nutrient foramina.
ABRADED =   specimens conspicuously heavily abraded.
GNAW   =   specimens gnawed by e.g. dogs or rodents.
Such an entry might be
BUTCH C2!AP/GNAW PJL ?DOG/
indicating a specimen which has been chopped (C) right through (2) longitudinally (!) in the antero-posterior plane (AP), and gnawed around the lateral margin of the proximal joint surface (PJL) apparently (?) by a DOG. Codes are listed in appendix 5.
The emphasis throughout is on flexibility and ease of use. Only the first six fields are rigidly coded, and the keywords in the third line. Otherwise, any form of notes and abbreviations can be accommodated.

References
von den Driesch, A., 1976. A guide to the measurement of animal bones from archaeological sites, Peabody Museum Bulletin 1, Harvard
Grant, A., 1982. 'The use of tooth wear as a guide to the age of domestic animals', in R. Wilson, C. Grigson and S. Payne (eds.) Ageing and sexing animal bones from archaeological sites, B.A.R. British Series 109, 91-108

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Appendix 1.

HUM	humerus
RAD	radius
ULN	ulna
CAR	carpal
MCL	metacarpal
MC1, MC2 etc.	metacarpal 1, 2, etc.
PH1	phalanx prima
PH2	phalanx secunda
PH3	phalanx tertia
FEM	femur
TIB	tibia
PAT	patella
FIB	fibula
AST	astragalus
CAL	calcaneum
NAC	naviculocuboid
CUB	cuboid
NAV	navicular
TAR	tarsal
MTL	metatarsal
MT1 etc.	metatarsal 1, etc.
MPL	metapodial
PEL	pelvis
SCA	scapula
CLA	clavicle
SKU	skull
MAN	mandible
MAX	maxilla
ANT	antler or horncore
HYO	hyoid
ATL	atlas
AXI	axis
CER	cervical vertebra
THO	thoracic vertebra
LUM	lumbar vertebra
SAV	sacrum
CAU	caudal vertebra
VER	vertebra unspecified
BAC	baculum
RIB	rib
STE	sternum
FUR	furcula
COR	coracoid
TRR	tracheal ring
BIL	upper mandible (bird)

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Appendix 2

Fragment descriptions.

A single, whole bone of any type is recorded as /1OF/. In all cases,
nFF indicates n sundry fragments.

a) long bones. These are divided into six fragment zones, thus:
P = proximal epiphysis
1 = proximal quarter of diaphysis
2 = from 1 to midshaft; i.e. 2nd quarter of diaphysis
3 = midshaft to 3/4 point of diaphysis
4 = distal quarter of diaphysis
D = distal epiphysis
A fragment may comprise only one of these zones, or may span several,
e.g. 3-D would comprise the distal 50% of the bone.

b) mandibles and maxillae. These are described according to the
alveoli present (e.g. I3-M2). the diastema is coded D, the gonial
area below the alveolar plane is X, the ascending ramus above the
alveolar plane is E.

c) skull. A set of subsidiary codes is used to describe which bones
are represented in the fragment. These codes normally conprise the
first two letters of the bone name, e.g. FR for frontal, PA for
parietal. Note combinations may occur such as SPET for sphenethmoid.

d) These are counted as centra, one discrete centrum representing a
whole vertebra. Other parts are coded as
NA = neural arch
NS = neural spine
TP = transverse process
Thus an entry 8007/13946/SHEEP/LUM/U/4+7TP/ would refer to 4 lumbar
vertebrae plus 7 frgaments of transverse process. For the axis, a
separate odontoid process is coded PEG.

e) pelvis. Description comprises any combination of
IL   = ilium
SACIL   = sacro-iliac area
IS   = ischium
PU   = pubis
PUSYM   = pubic symphysis
₽   = acetabulum

f) scapula. Scapulae are counted as glenoid cavities or colla
scapularum, whichever is the more numerous.
COR   = coracoid
G   = glenoid cavity
N   = collum scapuli
B   = blade fragments unspecified.

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Thus 4G+10B describes 4 glenoids and 10 blade fragments.

Further detail as to which part of the bone is present may be given in the last field of the record.

Appendix 3

Bone measurements in the sequence listed in records. Abbreviations refer to von den Driesch (1976) unless otherwise stated.

skull: 1 2 4 5 6 7 8 9 10 11 12 16 17 18 19 20 21 22 23 24 25 26 27

atlas: GB GL BFcr BFcd Lva

axis: LCDe LAPa BPcd BFacd BPtr SBV H

mandible: 1 to 15c

humerus: GL Bp SD Bd BT Dp, height distal medial condyle, minimum a-p depth distal trochlea

radius: GL BFp Bp SD Bd BFd DFp, shaft breadth at top of ulnar scar, a-p perpendicular to previous measurement

ulna: GL LO DPA SDO BPC

metacarpal: GL BP, a-p depth proximal epiphysis, SD DD Bd MDW BM BL, a-p depth medial external distal trochlear component.

femur: GL GLC Bp DC SD Bd, medial edge trochanter minor to proximal edge trochanter major, height distal lateral condyle, height distal medial condyle

tibia: GL Bp SD Bd Dd

astragalus: GLL GLM Bd TGD

calcaneus: GL PD, distal breadth, length cuboid facet, PB SW

scapula: HS DHA Ld SLC GLP LG BG, minimum length collum from base spinus to glenoid margin (sheep only)

pelvis: GL LA LS SHil SBil LFo GBTc GBA GBTi SBi

sacrum: length centra, maximum proximal breadth, breadth proximal centrum, breadth distal centrum

horncores: maximum basal diameter, minimum basal diameter, basal circumference, outer curve length

antler: maximum diameter burr, minimum diameter burr

Appendix 4

Codes for horncore description

very porous	VP	
porous	P	
compact	C	
straight	S	
curved	Z	
twisted	T	
round tip	R	
pointed tip	D	
round X-section	Ø	
oval X-section	F	
naturally polled	N	
surgically polled	A	
small horned	B	
short horned	H	(96-150 mm)
medium horned	M	(150-200 mm)
long horned	L	(200+ mm)
male	1	
female	2	
castrate	3	
polycerate	—	
query	?	

Appendix 5

Codes for location of butchery, etc.

proximal   P
midshaft   S
distal   D
anterior   A
posterior   B
dorsal   U
ventral   V
joint surface   J
medial   M
lateral   L
internal   I
superficial   1
right through   2
longitudinal   !
chopped   C
knife-cut   K
sawn   Z
repeated   R
query   ?

Information may also be written out in obvious abbreviations   such   as
OBL = oblique, TRANS = transverse.