

1975

Jgg77b-Sole

Measurements of Animal bones, should have been printed.

SCOLE

BoneCattleSheep, or Goat

horn core basal circum-
ference 106 110 135 140 195 198
outer edge 120 ~ 127 190 200 c.180 163

Mean (all sheep)

basal circumference 57 105 c.135

outer edge ~ 260

humerus DW 68 72

DW 28-33 (9 specimens; mean 30.2)

radius L 273
PW 77 77
MSW 36

PW 26-34 (7; 29.9)

bibia PW 90 ~ ~ ~ ~
DW ~ 62 66 69 69

DW 24-29 (14; 26.0)

astragalus medial L 58 59 61 61 62 64 60.8
lateral L 64 64 67 ~ 66 70 66.2
DW 41 40 45 44 38 44 42.0

lateral L 24

calcaneum L 126

metacarpal PW 52 53 58 52-68 (10 speci-
mens; mean 55.5)
DW ~ ~ ~ ~ 54-68 (11; 58.9)
MSW 27 31 34

L 127 129 139 144 ~ ~
PW ~ ~ ~ ~ 24 25 24 22 23
DW 25 24 26 27 ~ ~
MSW 14 14 15 17 15 14 14

metatarsal L 227 233
PW 51 ~ 42-56 (12; 47.1)
DW 60 51 48-54 (7; 52.0)
MSW 30 28

L 135 137 138 141
PW 20 20 ~ ~ 20 ~ 19 18 20
DW 22 25 26 23 ~ 26 ~ ~
MSW 11 12 13 12 12 13 13 12 12

1st phalanx L 55-68 (55; 61.2)
DW 22-38 (46; 27.3)

L 36 33 35 35 40
DW 9 11 10 11 12

Horse

metatarsal L 246 293
PW 47 55
DW 46 53
MSW 28 33

Fowl

1st phalanx L 77

corocoid L 62

metatarsal DW 38

radius L 72

1st phalanx L 52

ulna L 73

DW 18

metacarpus L 34

Red Deer

metatarsal DW 38

1st phalanx L 52

DW 18

Note: Measurements in mm, to the nearest mm. L - length; P - proximal;
D - distal; W - width; MS mid-shaft.

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Additional
MEASUREMENTS NOT PRINTED.

CATTLE

| | | | | | | | | | | | |
|-------------|-----------------------------------|-----|------|-----|-----|------|----|----|-----|------|---|
| mandible | cheek tooth row | 148 | 135 | 141 | 129 | | | | 136 | 126 | (73 only 2) |
| | length M ₃ , gum level | 37 | 36.5 | 39 | 37 | 35.5 | 34 | 36 | 41 | 38.5 | c.37 |
| radius | distal width | 51 | | | | | | | | | curops & gap P ₂ /P ₃ . |
| astragalus | medial length | 58 | | | | | | | | | |
| | dist. w. | 41 | 48 | | | | | | | | |
| metacarpal | X | | | | | | | | | | |
| PW | 52 | 68 | c.53 | 57 | 57 | 52 | 54 | 56 | 54 | 52 | |
| DW | | | | | | | | | 57 | 59 | 54 |
| M3W | | | | | | | | | 68 | c.65 | 57 |
| metatarsal | PW | 45 | 47 | 47 | 42 | 45 | 42 | 52 | 49 | 46 | 56 |
| DW | | | | | | | | | - | - | 54 |
| M3W | | | | | | | | | 54 | 52 | 53 |
| | | | | | | | | | 50 | 53 | - |
| 1st phalanx | L | 57 | 57 | 58 | 59 | 58 | 56 | 58 | 55 | 56 | 56 |
| DW | | | | | | | | | 60 | 60 | 60 |
| cont | L | 65 | 64 | 64 | 65 | 68 | 68 | 69 | 65 | 65 | 65 |
| DW | | - | 26 | 29 | 26 | 26 | 34 | 27 | 31 | 38 | 28 |
| cont | L | 59 | 60 | 65 | 66 | 67 | 63 | 66 | 58 | 61 | 61 |
| DW | | 27 | 27 | 28 | 31 | 31 | 33 | 25 | 22 | 27 | 25 |
| 2nd phalanx | L | 40 | 37 | 39 | 39 | 36 | 36 | 37 | 37 | 38 | 39 |
| DW | | | | | | | | | 40 | 40 | 37 |
| 3rd phalanx | L along plantar surface | 66 | 75 | 62 | 60 | 63 | 67 | 63 | 46 | 57 | 64 |
| scapula | min. neck width | 50 | c.59 | 54 | 49 | 39? | | | | | |

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MEASUREMENTS NOT PRINTED, cont.SHEEP OR GOAT

| | | | | | | | | |
|------------|--|-------|-------|-------|-----------|-------|-------|--------------|
| mandible | cheek tooth row | 65 | 79 | 70 | 57 | 65 | 64 | 72 |
| | M ₃ length, e.g. ram level | 20.0 | 21.0 | 24 | 20.5 | 21 | | |
| scapula | min. neck width | c. 20 | 19 | 19 | 20 | 21 | 18 | |
| | min length base of spine to glenoid cavity | 20 | 21 | c. 20 | 20 | c. 21 | 20 | c. 30 (goat) |
| humerus | distal width | 33 | 28 | 30 | c. 28 | 30 | 30 | 31 |
| radius | max prox w. | 33 | 26 | 29 | <u>34</u> | 30 | 27 | 30 |
| | shaft width at top of groove for ulna | | | | 18 | 18 | 18 | 19 |
| tibia | PW | | c. 27 | | | | | |
| | DW | 26 | 27 | 28 | 22 | 25 | 25 | 26 |
| | M3W | 16 | c. 14 | c. 12 | c. 15 | 12 | 15 | 13 |
| metacarpal | PW | | | | | | | +9 |
| | DW | | | | | | | |
| | MSW | 14 | 14 | 14 | 13 | 13 | 14 | c. 14 |
| | | c. 13 | c. 11 | c. 12 | c. 15 | c. 11 | c. 14 | c. 12 |
| metatarsal | PW | 19 | | | | | | |
| | MSW | 12 | 13 | 12 | 14 | 11 | 13 | c. 14 |
| | | c. 11 | c. 12 | c. 13 | c. 12 | c. 15 | c. 11 | c. 12 |

HORSE

2nd phalanx L 43 40

1st phalanx L 77

PW 49

DW

DOG

Well I skull. measurements as in Harcourt 1974

This skull has mature dentition but unfused sutures, probably not mature.

III nasion to alveolar 60

IV zygomatic width (max) c. 75

V palatal length 64

VI " width between PM⁴ & M¹ 47

XI maxillary cheek tooth row L 41 R 40 another specimen: 68

XII mandibular " " " L 48 R 48

tibia L c. 9½ - 10½ i.e. small.

MSW c. 8 c. 16 c. 10.5

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ANATOMICAL ANALYSIS

| | C | A | T | T | L | E | Period | | Total | | SHEEP / GOAT | |
|--------------|-----|-----|-----|----|---|----|----------|----------|-------|--------------|-----------------------|-----------------------|
| | | | | | | | III & IV | III & II | MNI | Grant Frags. | Well I of III & IV | Well I of III & IV |
| horn core | 5 | 10 | 1 | 1 | 4 | 9 | 1 | 3 | 4 | 7 | 2 | 4 |
| maxilla | 13 | 21 | 5 | 6 | 8 | 15 | 5 | 6 | 12 | 17 | 6 | 7 |
| other skull | 7 | 65 | 1 | 18 | 6 | 47 | 2 | 5 | 5 | 34 | 2 | 19 |
| mandible | 14 | 23 | 111 | 2 | 4 | 23 | 12 | 19 | 88 | 4 | 15 | 3 |
| teeth | 8 | 108 | 2 | 2 | 9 | 8 | 91 | 3 | 27 | 14 | 112 | 3 |
| atlas + axis | 7 | 8 | 11 | 2 | 3 | 4 | 5 | 6 | 9 | 2 | 20 | 11 |
| scapula | 11 | 21 | 47 | 2 | 4 | 7 | 9 | 17 | 40 | 5 | 16 | 7 |
| humerus | 6 | 15 | 30 | 1 | 1 | 1 | 5 | 14 | 29 | 2 | 10 | 15 |
| radius | 8 | 25 | 36 | 1 | 1 | 1 | 7 | 24 | 35 | 4 | 14 | 17 |
| ulna | 6 | 9 | 19 | 1 | 2 | 3 | 5 | 7 | 16 | 3 | 4 | 5 |
| pelvis | 7 | 21 | 31 | 1 | 4 | 5 | 6 | 17 | 26 | 4 | 12 | 13 |
| femur | 3 | 6 | 26 | 1 | 1 | 4 | 2 | 5 | 23 | 1 | 5 | 4 |
| tibia | 7 | 16 | 37 | 1 | 1 | 4 | 6 | 15 | 33 | 4 | 14 | 13 |
| patella | 1 | 2 | 2 | | | | 1 | 2 | 2 | | | |
| carpal | 2 | 9 | 9 | 1 | 1 | 1 | 1 | 8 | 8 | 1 | 2 | 2 |
| metacarpal | 18 | 63 | 72 | 3 | 7 | 7 | 15 | 56 | 65 | 5 | 15 | 17 |
| calcaneum | 9 | 12 | 18 | 1 | 1 | 1 | 8 | 12 | 17 | 3 | 7 | 7 |
| astragalus | 7 | 10 | 11 | 1 | 1 | 1 | 6 | 9 | 10 | 3 | 4 | 4 |
| other tarsal | 2 | 9 | 9 | 1 | 1 | 1 | 1 | 8 | 8 | 1 | 1 | 1 |
| metatarsal | 17 | 56 | 84 | 1 | 2 | 4 | 16 | 54 | 80 | 5 | 17 | 25 |
| phalanx | 1 | 9 | 60 | 2 | 7 | 7 | 7 | 53 | 53 | 3 | 9 | 9 |
| 2 | 3 | 24 | 24 | 1 | 2 | 2 | 3 | 24 | 24 | 1 | 6 | 6 |
| 3 | 4 | 24 | 24 | | | | 3 | 22 | 22 | 1 | 4 | 4 |
| | | | | | | | | | | 1 | 1 | 1 |
| | | | | | | | | | | 1 | 1 | 1 |
| | | | | | | | | | | 1 | 1 | 1 |
| | | | | | | | | | | 1 | 1 | 1 |
| ribs | 374 | 68 | 68 | | | | | | | 308 | 30 | 143 |
| vertebrae | 126 | 10 | 10 | | | | | | | 116 | 36 | 18 |
| unidentified | 881 | 117 | 664 | | | | | | | 169 | 227 | 241 |

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ANATOMICAL ANALYSIS, cont.

| | PIG | HORSE | DOG | RED DEER | FOWL |
|--------------|------------------|--------|--------|-------------|--------|
| | MNI Grant Frags. | Frags. | Frags. | Frags. | Frags. |
| Total | | | | | |
| antler | | | | | |
| maxilla | 6 | 10 | 12 | 2 | |
| other skull | 2 | 14 | 2 | 2 | |
| mandible | 10 | 14 | 16 | 2 | |
| teeth | | 42 | 4 | 1 | |
| atlas & axis | 2 | 2 | 2 | 1 | |
| Note: | | | | | |
| scapula | 7 | 1 | 8 | 2 | 4 |
| humerus | 2 | 1 | 10 | 2 | 2 |
| radius | 3 | 4 | 6 | 3 | |
| ulna | 4 | 8 | 9 | 1 | 4 |
| pelvis | 3 | 2 | 3 | 2 | |
| femur | 1 | 3 | | 2 | |
| tibia | 2 | 4 | 6 | 2 | |
| calcaneum | 3 | 3 | 3 | | |
| astragalus | 1 | 1 | 1 | | |
| metacarpal | 4 | 9 | 14 | 3 | 1 |
| metatarsal | 2 | 2 | 2 | 2 | 6 |
| phalanx | 1 | 1 | 1 | 2 | 1 |
| | 2 | 1 | 1 | 2 | |
| | 3 | 1 | 2 | 1 | |
| coracoid | | | | | 2 |
| furcula | | | | | 1 |

SOMO

SPECIES AND NUMBER OF FRAGMENTS IN EACH FEATURE.

| PERIOD | FEATURE | DOMESTIC | | | | | | WILD | | | | | | |
|--------|--|----------|----------------|-----|-------|---------------|-----|------|----------|----------|---------|----------------------|------|------|
| | | CATTLE | SHEEP/ GOAT | PIG | HORSE | DOG | CAT | FOWL | ROE DEER | RED DEER | JACKDAW | CROW or RAVEN SP. | DUCK | TORD |
| | Pit. 143, <u>144</u> | 40 | 94 | 5 | - | - | - | 8 | - | 2 | - | - | - | - |
| I | Pit. 248, 249, 272, 273. <u>546</u> | 43 | 86 | 21 | 1 | - | - | 5 | - | - | 1 | - | - | - |
| 2 | Pit. 131, 135, 136, <u>223</u> . | 10 | 12 | 1 | 1 | 1 | - | - | - | - | - | - | - | - |
| II | Pit. 407, <u>408</u> | 12 | 4 | 1 | - | - | - | - | - | - | - | - | - | - |
| | Pit. 244, 254, 260, 261, 262. <u>267</u> | 8 | 35 | 8 | 1 | 1 | - | 3 | - | 1 | - | - | - | - |
| | | 19 | 157 | 118 | 39 | 5 | 1 | - | 84 | - | 2 | 1 | 1 | - |
| III | <u>43</u> | 140 | 78 | 22 | 2 | 2 | - | 81 | - | 2 | - | - | 2 | - |
| 2 | <u>59</u> | 27 | 41 | 5 | - | - | - | 41 | - | - | - | - | - | - |
| IV | <u>65</u> | 148 | 79 | 19 | 1 | 2 | - | - | 2 | 2 | - | - | - | - |
| | WELL I | 212 | 96 | 23 | 6 | 7 | - | 5 | - | 4 | - | - | 1 | 3 |
| | WELL II | 51 | 26 | 3 | - | skele- ton | 2 | - | 1 | - | - | - | - | - |

Scms 06

GENERAL ADDITIONAL NOTES LOOKING AT ALL THE BUT MARKED BONE TOGETHER

Sheet 1.

1 Apr 76.

Scapula (mandible - over page)

16¹⁹ marked

? nearly complete unmarked

~~In all but~~

In 16⁵ the head is missing, probably cut right through as in modern practice. (12)

In all but one of the rest, the coracoid was cut off.

All but 2 of the 12 cut on both sides of head

7⁹ of them have cuts on the glenoid cavity surface itself.

Most of the marks are confined to the head; and the spines don't appear to have been cut off deliberately, although 2 are nicked in places. One has a ^{round} hole 2 cm x 3¹/₂ cm ~~in~~ in the lower centre of the blade

Pelvis

cuts on shaft of 5 pubic bones & also on articulatory surface of 2 of these.

cuts on shaft of 2 ilium bones.

humerus

6 distal ends cut:- pretty well hacked about.

5 cut on epicondyles.

4 cut on articulatory surface.

3 cut on anterior side of shaft above condyle

radius

5 proximal ends cut:-

4¹/₂ cut a short way down on side of shaft

3 cut on articulatory surface but not strongly. One damaged by a pointed tool, & the prox. ulna cut off.

3 distal ends :-

cut through distal end - 2 split, 1 has distal part of ulna & part of joint knocked off

femur

Only two femur fragments were noticed; also one distal end cut on

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articulatory surface.

tibia

One fairly complete bone: tibial crest cut off, prox joint missing;
Small cut on lateral side near tibial crest; distal end complete and just
a small cut on lateral side very near the articulatory surface.
i.e. astragalus not separated when fresh.

2 shafts cut suggesting bone broken for marrow/~~or~~ stew.

1 shaft small scrapes from removal of meat.

¶ 3 distal ends ~~chopped~~ heavily - i.e. separated from astragalus.

Tarsal.

1 central tarsal cut on lateral - dorsal corner underneath
i.e. leg limb separated at that point (just above metatarsal).

Astragalus.

2 cut in half. i.e. limb separated ~~above~~ at bottom of tibia.

2 less severely damaged.

Calcarcum

3 cut :-

2 on shaft

1 cut through, at the articulation.

metacarpal.

metatarsal

small cuts parallel with proximal surface, ^{on bone} one on lateral side,
on another bone on medial side.

1st phalanx cut on proximal surface ie to separate from metacarpal or
to sever tendons.

mandible

¶ 6 condyles and/or coronoid processes :-

4 cut heavily, in one case right through, below condyle; in 2 of these
the cor. pro. is undamaged, in the other two it may have been
cut off.

2 have cuts on cor. pro., level with condyle.

1 has one of small cuts below condyle i.e.? removal of meat.

BUTCHERY.CATTLE, cont.~~(SHEET over)~~

GENERAL NOTES SHEET 2.

skull - over page

mandible, cont.i.e. ~~the~~ mandible was separated from skull. - see skull, too.

1 front part cut on diastema.

skull

frontal bone cut through 3 cm behind orbit.

occipital bone cut on articulatory surface i.e. head removed above atlas.Atlas Vertebracut on cranial end. i.e. ⁺ →Axio Vertebrae3 cut in various places suggesting removal of meat rather than dismembering; however, one is chopped on cranial joint (as well as elsewhere) which may show separation of skull below atlas.Other Vertebrae

- not identified definitely but probably cattle.

Various marks.

Ribs. presume mainly cattle. 158 not cut, 104 cut i.e. $\frac{2}{3}$ cut. These mainly chopped to break bone. Many also have finer cuts. Ribs cut from both sides.GENERAL.

The marks appear to have been made by knives and choppers.

No definite evidence of saw marks were noticed, except on antler

and also a sheep calcaneum (143)

An ^{wind}_λ⁽²⁴⁸⁾ is a little eroded on projecting parts. Otherwise, the bones don't seem to have been exposed to treading & weathering.

A few cattle bones bear probable chew marks.

93 burnt pieces; mainly small fragments; some may just be stained not burnt.

over

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Skull

One fairly complete. Middle part of frontal bones and whole top and back of cranium missing (no horn cores). Consistent with the animal having been pollaxed / and the ~~skull~~ brain removed - but proving neither.

Cuts on basal part of occipital bone & on occiput itself showing that the head was removed above the atlas vertebra. There is a cut The bone is cut away from the right occiput to the right zygomatic arch - which would allow the mandible to be separated.

Another, less complete. No marks, but whole back & top ^{& skull} missing.

Horncores.

of 65 horn cores only one has cuts round the base.
none of these 5 nor another (broken off above ~~skull~~ frontal bone) were
apparently marked on the horn core itself.

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SHEEP / GOAT

More signs of bones being chewed by dogs than of butchery marks.

Scapula.

4 blades all ^{chopped} ~~cut~~ on medial side, not on lateral.

Pelvis

3 ilium shafts, chopped in varying spots.

Humerus

Various marks on 6 humeri but no general comment. cuts on upper end of shaft, on middle of shaft & on distal end.

Rachis

4 shafts all cut quite heavily on lateral side near the linea groove; one of these also cut on medial side.

Femur

1 cut on prox end ^{posterior} below distal end of shaft, to posteriorly.

Calcaneum

1 cut

Tet art os tal.

2 complete bones have just a few fine cuts on proximal dorsal side just below the articulatory surface.

At least sixteen bones show marks which are probably the result of being gnawed by dogs.

Horn cores Don't dogs consume the whole of a sheep bone?
The goat horn core was cut off the rest of skull.
A sheep horn core was also probably cut right off - surviving fragment
Stub is cut half way through, rest broken.

The only mark noticed was on a scapula, on the medial side of the blade, and probable cuts into the glenoid cavity.

DEER.

Antler fragment 4½ cm long, which could be sawn through, probably is. Plus 2 other pieces sawn. Other pieces have cuts on. - all Red deer.
No marks on 2 roe deer antlers.

PIG, cont.

- (W&I) atlas cut on both sides.
- " R mand. cut thru buccal & lingual sides.
- " R ulna cut round joint
- " R hum. cut on back in middle of sh.

DOG

No marks.

FOWL

No marks.