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Supplementary Methods

Lipid extraction and analysis

Lipids were extracted and analysed by GC-MS and GC-C-IRMS using well-established protocols (Craig et al., 2007, Craig et al., 2012). Each sample (1-2g drilled from the potsherd interior surface) was solvent-extracted by ultrasonication with dichloromethane:methanol (2:1 vol/vol; 3 x 5mL, 15min). The solvent was removed from the foodcrust and evaporated under a gentle stream of N_2 to obtain the total lipid extract (TLE). An aliquot of each TLE was silylated with BSTFA, dissolved in hexane and analyzed by gas chromatography-mass spectrometry (GC-MS). A separate aliquot, was hydrolysed with 0.5 M NaOH in MeOH/H_2O (9:1 vol/vol; 2mL, 70°C, 90min), cooled and then acidified to pH 3 with 6 M HCl. Fatty acid methyl esters (FAMEs) were prepared from the hydrolysed extract by treatment with BF_3-Methanol complex (14% w/v; 70°C, 1h). FAMEs were extracted with hexane (3 × 1 mL) and analyzed by GC-MS and by GC-combustion-isotope ratio MS (GC-C-IRMS). Instruments and instrument conditions for GCMS and GC-C-IRMS were exactly as previously reported (Craig et al., 2012). For GC-C-IRMS, instrument precision on repeated measurements was ±0.3‰ (s.e.m.) and the accuracy determined from FAME and *n*-alkane isotope standards was ±0.5‰ (s.e.m.).

Statistical analysis

All statistical analyses were carried out using SPSS (v 20). A Pearson product-moment correlation coefficient was computed to assess the relationship between thickness and rim diameter. Non-parametrical tests were conducted to examine differences in the distribution of vessels thickness and $\Delta^{13}C$ between contexts.

Faunal analysis

The animal bones were recorded following a modified version of the method described in Davis (1992) and Albarella & Davis (1994). The 'diagnostic zones' that have always been recorded ('countable') are listed in Table S1.

Horncores and antlers with a complete transverse section and 'non-countable' elements, such as proximal ends of the four main long bones and others of particular interest were recorded and used in the ageing analysis, but not included in the taxonomic and body part counts. The presence of large (cattle/horse size), medium (sheep/pig size) and small (cat size or smaller) vertebrae and ribs was recorded, but these have not been included in the countable totals.

The sheep/goat distinction was attempted on the following elements using the criteria described in Boessneck (1969), Kratochvil (1969), Payne (1985), and Halstead & Collins (2002): horncores (non-countable), deciduous lower third premolar (dP_3), deciduous lower fourth premolar (dP_4), permanent lower molars (when more than one tooth is present), distal humerus, proximal radius, distal metacarpal, distal tibia, astragalus, calcaneum and distal metatarsal.

The number of identified specimens (NISP) was calculated for all taxa and the minimum number of individuals (MNI) was calculated for the most common taxa, such as cattle, pig and red deer.

Wear stages were recorded following Grant (1982) for mandibular cattle and pig teeth, and Payne (1973; 1987) for sheep/goats. In addition, a recently designed system by Wright *et al.* (In press) was used to record wear on pig upper teeth and, in addition to Grant's system, on pig lower teeth. In all cases wear was recorded on both deciduous and permanent fourth premolars, and permanent molars, whether they were found in jaws or loose.

Tooth measurements and wear stages were only recorded when sufficient enamel was preserved. Measurements of fused, fusing and unfused bones were taken following the criteria described in Albarella and Davis (1994), Albarella and Payne (2005), Davis (1992), von den Driesch (1976), and Payne & Bull (1988). For all foetal and neonatal bones the greatest length of the diaphysis and the smallest width of the shaft were taken.

Skeletal element	**Zone/part**
Loose teeth	> half occlusal surface
Mandible/maxilla	With at least one tooth present (> half occlusal surface)
Cranium	Zygomaticus > half
Atlas	> half
Axis	> half
Scapula	Glenoid articulation > half
Humerus	Distal end > half
Radius	Distal end > half
Ulna	Articular end (proximal) > half
Carpal 2-3	> half
Pelvis	Ischial part of the acetabulum

Tibia	Distal end > half
Femur	Distal end > half
Astragalus	Lateral half
Calcaneum	Sustentaculum
Scafocuboid	> half
Metatarsal	Proximal end > half At least one distal condyle
Metacarpal	Proximal end > half At least one distal condyle
Phalanges 1, 2 and 3	Proximal end > half

Table S1. List of diagnostic zones of mammal bones recorded for the Durrington Walls assemblage~~.~~

Collagen extraction and stable isotope analysis

Collagen extraction was based on Longin's method, modified by a two-step filtering process (Brown et al., 1988; Longin, 1971). Whole bone samples were demineralized in 0.5 M HCl at 4° C. The remaining product was denatured in pH 3 aqueous solution at 70° C for 48 h. The solution was filtered using Ezee® filters, followed by centrifugal filtering using Millipore ultrafilters which separated molecules smaller than 30 kD. The larger, less degraded molecules were then freeze-dried and weighed to tin capsules for combustion to N_2 and CO_2 which was analysed using a Thermo Finnigan DELTA Plus XL continuous helium flow gas isotope ratio mass spectrometer coupled with a Flash EA elemental analyser ~~at the Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology, Leipzig~~. All human samples were analysed at the Max Planck Institute for Evolutionary Anthropology, Leipzig, except for Find 1349, which was analysed at Oxford University. All animal samples were analysed at the University of Bradford. Inter-laboratory comparisons between these Bradford data and the human data analysed in Leipzig have been undertaken and they are considered comparable. The analytical standard deviation, averaged from laboratory working standards run with the samples (methionine), amounted to ±0.1‰ for $\delta^{13}C$ and less than ±0.1‰ for $\delta^{15}N$. Two replicates were run for each sample, analysed in separate batches, and the results averaged. The widely accepted quality tests for collagen $\delta^{13}C$ and $\delta^{15}N$ data in terms of atomic C:N ratios of 2.9 to 3.6 and appropriate elemental percentages (approximately 30 to 47% for carbon and 10 to 18% for nitrogen) (Ambrose, 1990; DeNiro, 1985; van Klinken, 1999) were met for all samples

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Paleobotanical analysis

A 25% sample of layers such as the midden contexts was recovered using a grid of 0.5m x 0.5m squares, with every fourth square being sampled in its entirety. A 100% sample was recovered from the house floor deposits, also with the use of a grid of 0.5m x 0.5m squares. Discrete features such as pits and post holes were sampled in their entirety or to a minimum sample size of forty litres. In total 1177 samples, representing over 13,600 litres of soil, were processed using a water separation machine. Floating material was collected in sieves of 1mm and 300μm mesh and the heavy residue was retained in a 1mm mesh. Each sample was scanned using a low power binocular microscope (x7 – x45) and the presence of charred plant material was recorded using a scale of abundance. Where identifiable charred plant remains were found to be present, samples were sorted in full and the charred plant remains fully quantified

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