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BRUTALISED, BOUND AND BLED: A CASE OF LATER IRON AGE HUMAN SACRIFICE FROM WINTERBORNE KINGSTON, DORSET

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Although the practice of human sacrifice in the British Iron Age is mentioned by multiple authors, both ancient and modern, physical proof of such activity in the archaeological record is comparatively rare. At Winterborne Kingston, in Dorset, the skeletal remains of a young adult female found face down near the base of a cylindrical storage pit provides clear evidence of violent death in the later Iron Age. Analysis of the skeleton suggests an individual who led a hard-working life and who, having suffered an act of violence a few weeks before death, was killed, possibly with her hands tied, by a blade incision to the neck. Placement of the body further suggests that killing was enacted within the pit, execution as spectacle forming the final act in a larger ceremony involving the creation of an animal bone stack or platform.

Keywords: prehistory; prehistoric society; osteology; skeletal trauma; deathways; animal and human sacrifice; ritual deposition

BACKGROUND

In 2010 a deposit of human and animal bone was uncovered close to the base of a 1.2m-deep pit, number 5013, one of sixty-three such features being excavated inside an Iron Age banjo enclosure at Winterborne Kingston in Dorset (figs 1 and 2).[1] Banjo enclosures, sub-circular areas bounded by a ditch and an external bank connected to a

1. The excavations were part of Bournemouth University's undergraduate field school: Russell et al 2014, 219–20.

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Fig 1. Map showing location of Winterbourne Kingston, Dorset, within the UK and Ireland.

wider system of fields by a funnelled entrance passage, form a distinctive type of later prehistoric site,[2] within which multiple pits and small numbers of roundhouses predominate.[3] To date, more than 140 banjo enclosures have been identified in Britain, the majority from central southern England (Berkshire, Buckinghamshire, Dorset, Gloucestershire, Hampshire, Oxfordshire, Wiltshire and West Sussex).[4] First thought to represent stock corrals, excavated banjos have invariably revealed traces of settlement, practising mixed agriculture with a strong pastoral element, dating evidence suggesting use from around 400 BC to the mid-first century AD.[5]

2. Wainwright 1979; Perry 1986; Fasham 1987; McOmish 2011; Lang 2016.
3. Lang 2016, 357.
4. Ibid, 341.
5. McOmish 2011, 2; Lang 2016, 347–9.

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Fig 2. The Iron Age banjo enclosure of Winterborne Kingston, Dorset, under excavation in 2011, looking due north through the entranceway to the interior.
Photograph: © Adam Stanford for Bournemouth University.

The human remains from pit 5013 at Winterborne Kingston comprised a fully articulated adult, SK-04, positioned over a layer of animal bone (figs 3 and 4). The body lay in a prone position, head and lower limbs towards the left, face tilted downwards towards the left shoulder. Upper limbs were flexed at the elbows, hands resting beneath the body anterior to the abdomen. A sample of bone has been accelerator mass spectrometry dated to 351–53 cal BC (95 per cent confidence interval).[6] Rather than being casually thrown into the pit as refuse, the animal bone layer showed signs of deliberate arrangement, different species (predominantly horse and cow) laid broadly parallel to one other, running transverse to the direction of human remains. The cranium of a horse and three mandibles of cattle lay next to the upper thorax and head of Sk-04, while the mandible of a dog lay close to the right hip.

The treatment of Sk-04 stands apart from other burials recorded at Winterborne Kingston[7] and elsewhere from Late Iron Age cemeteries across Dorset,[8] where bodies were usually furnished with pots and joints of meat. Sk-04 lacked any obvious burial accoutrements, while positioning did not show the same degree of care in placement as other inhumations recorded from inside the banjo enclosure, set down in a flexed or

6. 2146±29 BP (UBA-45874). Sample taken from left M2 mandible by 14CHRONO, Centre for Climate, the Environment and Chronology, School of Geography, Archaeology and Palaeoecology, Queen's University of Belfast.
7. Russell et al 2014, 219–20, 2017, 110; Gerdau-Radonic et al 2021, 248–57.
8. Whimster 1981, 253–72; Papworth 2008, 82–6; Sharples 2010, 277–80; Harding 2016, 83–7; Russell *et al* 2019, 222–5.

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Fig 3. Iron Age adult human female Sk-04 lying prone, face down, close to the base of cylindrical pit 5103 above a structured deposit of animal bone and the same deposit with human remains removed. Images facing west-south-west. *Photographs*: © Bournemouth University.

semi-supine position.[9] This report considers the overall nature of the deposit in an attempt to understand who Sk-04 was, the cause and circumstances of death and the possible significance of the animal bone stack onto which the body was laid.

OSTEOLOGICAL ANALYSIS

Previous studies of human and animal remains have demonstrated that the taphonomic investigation of bone surface modification and skeletal element representation helps

9. Gerdau-Radonic et al 2021, 248–52, 257–9.

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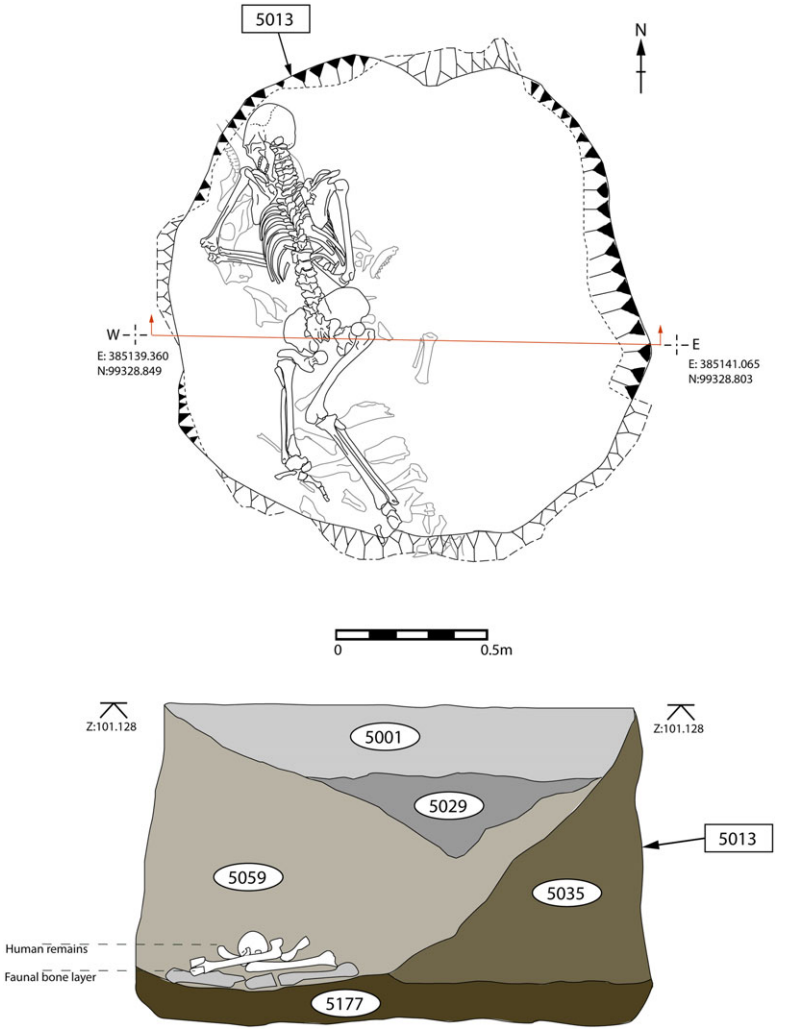

Fig 4. Plan and section drawings of pit 5013, showing the location and position of Sk-04 and the underlying animal bone deposit, within the western portion of the feature. *Images*: © Bournemouth University.

discriminate between different mechanisms of formation[10] with further potential, when integrating microscopic analyses of bone diagenesis,[11] to improve understanding of depositional practice. Detailed archaeothanatological analyses of the position and post-depositional movement of human skeletal remains have further provided insights into Iron Age burial,[12] other studies demonstrating the benefit of detailed taphonomic studies of animal remains to create artefact biographies[13] that facilitate investigation of the different

10. Madgwick 2008, 2010.
11. Booth and Madgwick 2016.
12. Gerdau-Radonic et al 2021.
13. Kopytoff 1986; Hambleton 2013; Morris 2018.

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treatments and changing role of animal remains in the time between death and burial. In recognition of the potential of these combined approaches, this paper presents detailed human osteobiography in combination with taphonomic investigation of both the human and animal bone in order to better understand the relationship between these different classes of remains and the treatment of Sk-04 in life, death and deposition.

Human remains

The skeleton was essentially complete and intact. All anatomical relationships were preserved as in life, with the exception of normal post-depositional movement during decomposition in a filled space,[14] consistent with deposition of the body shortly after death. A few elements, namely the right scapula, lower thoracic/upper lumbar vertebrae, right ilium, left and right pubis and fibula shafts, were subject to *in situ* post-depositional breakage, evidenced by irregular fracture margins, with identical soil patination to the rest of the bone. The surfaces had survived well with little post mortem cracking and no cortical flaking. There was slight root etching in places with the overall condition equating to McKinley's Stage 0–1.[15]

All observable indicators of biological sex were consistent with a female, the exception being the mastoid processes and the right greater sciatic notch, which were scored as indeterminate.[16] The anterior portions of the innominates were too fragmented for reliable assessment. Metric observations relevant to sex determination all fell within the respective female ranges. Given the overall consistency in these results, and the lack of any indications to the contrary, the individual was concluded to be female.[17] Indicators of age at death were in good general agreement, placing the individual between her mid-twenties and early thirties with an age in the late twenties being most likely. The auricular surface was recorded as Buckberry and Chamberlain's Phase II (mean 29.33 years, range 21–38 years).[18] The sternal rib ends were most consistent with İşcan and Loth's Phase 4 (24–32 years).[19] The cranial sutures were mostly open, consistent with a younger adult (Phase S1), firmly under forty but unlikely to be much older than thirty.[20] Dental wear was consistent with the earlier phase of Brothwell's Stage 2 (25–35 years).[21] Lastly, all epiphyses were fully fused, with the exception of the manubrium/sternum, which remains unfused in some adults.[22] Vestiges of epiphyseal lines remained visible on various elements (humeral heads, medial clavicle, iliac crests and femoral heads), again consistent with an adult no older than twenty-five to thirty.

Tibiae were noted to be asymmetrical in length, so stature was estimated solely from the femur (max length: 410mm).[23] This gave a result of 155.37cm (+/–3.72), or 151.65–159.09cm

14. Duday 2009.
15. McKinley 2004.
16. Including features of the skull listed by Acsádi and Nemeskéri 1970 and the indicative aspects of the innominates cited by Buikstra and Ubelaker 1994; Bruzek 2002; Walker 2005; Karsten 2017.
17. Use of her/she in the current paper refers to the individual's biological sex, rather than denoting any assumption regarding gender presentation.
18. Buckberry and Chamberlain 2002.
19. İşcan and Loth 1989.
20. Meindl and Lovejoy 1985.
21. Brothwell 1981.
22. White et al 2012, 151.
23. Trotter 1970.

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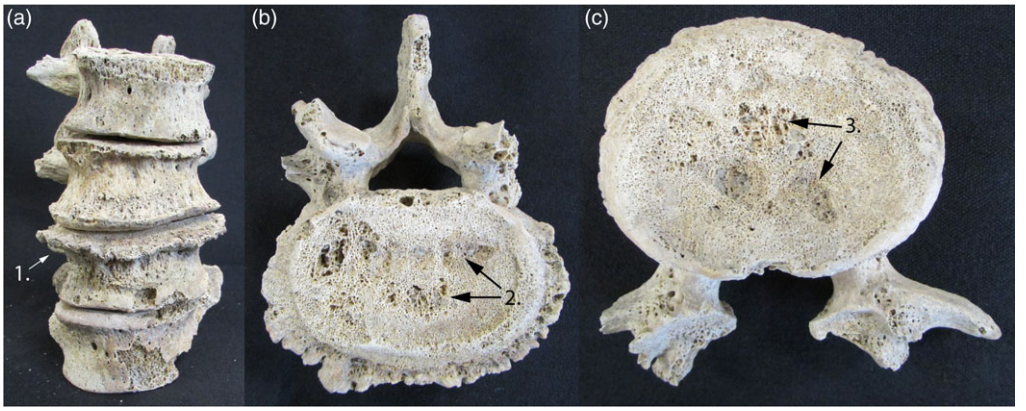

Fig 5. Bones of the lumbar spine of Sk-04, showing degenerative changes in the form of marginal osteophytes (a) and (b) Schmorl's nodes (focal necrotic destruction caused by herniated intervertebral discs). *Photograph*: © Bournemouth University.

(59.7"–62.63"/4'11–5'2"). The individual's spine exhibited a high degree of degenerative change in relation to her relatively young age at death. Marginal osteophytes, some of which were considerably pronounced, were present on the superior and inferior margins of the bodies of the sixth, tenth and twelfth thoracic and first to third lumbar vertebrae. Such extensive changes are not normally seen in individuals below the age of forty and are indicative of significant degeneration of the intervertebral discs.[24] Multiple Schmorl's nodes were present on the eighth to twelfth thoracic and second to fifth lumbar vertebral bodies (fig 5). In an osteological context, these are rounded focal areas of bony erosion caused by rupture of intervertebral discs with associated herniation of the contents (material of the nucleus pulposus). Schmorl's nodes can be caused by acute trauma, for example they are common in road traffic collisions in modern populations, as well as repetitive mechanical stresses, particularly involving compressive forces placed on the spine.[25] In this latter context they have been noted to occur in young individuals who have engaged in repetitive strenuous activity such as repeated heavy lifting.[26]

There was a partially healed fracture to the shaft of the left fifth rib, 170mm anterior from the costovertebral articulation, indicated by a swollen area consisting of patterned new bone formation around the two fractured ends (fig 6). Healing was advancing well, with the initial fibrocartilaginous callus that forms following a fracture in the process of converting to bone and progressing towards union by bridging the break with woven bone at the time of death. Rib fractures in adults typically take up to twelve weeks to heal completely.[27] In a study of forensic cases involving rib fractures of known interval between injury and death, examples in a similar state of healing as that in the current study have a minimum post-traumatic survival time of twenty-one days.[28] Fractures of this type are caused by blunt trauma to the chest, although beyond this statement they are a relatively

24. Ortner 2003, 550.
25. Wagner et al 2000.
26. Aggrawal et al 1979.
27. Baiu and Spain 2019.
28. Capella et al 2019.

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Fig 6. The left fifth rib of Sk-04, with a fracture that was in the process of healing at the time of death. *Photographs*: © Bournemouth University.

'non-specific' injury, in that the potential causes of rib fractures are multiple and varied.[29] The fracture was transverse in form, which is most consistent with a direct blow to the chest.[30] The adjacent ribs were uninjured; for this injury to have resulted from a fall, the individual would need to have fallen hard onto a projecting object with the force concentrated on the rib in question. While such a scenario remains possible, it is arguably more plausible that the form of injury present resulted from a deliberate assault. Rib fractures are certainly among a suite of injuries commonly seen in modern instances of domestic violence,[31] being relatively disabling during the time they are healing, with the mean loss of working time following such injury recorded at 51+/–39 days in a modern US population.[32]

There was a defect in the bone located on the superior aspect of the left lamina on the second cervical vertebra (fig 7). This took the form of a linear incision, patinated identically to the rest of the bone, with a tightly angled, V-shaped profile. The internal walls of the defect were flat and the overall form of this damage was consistent with the bone having been cut into by a sharp, narrow-bladed object. The defect was approximately 5.2mm long

29. Brickley 2006.
30. Galloway 1999, 107.
31. Ananthakrishnan et al 2006; Karangelis et al 2011; Russo et al 2018.
32. Kerr-Valentic et al 2003.

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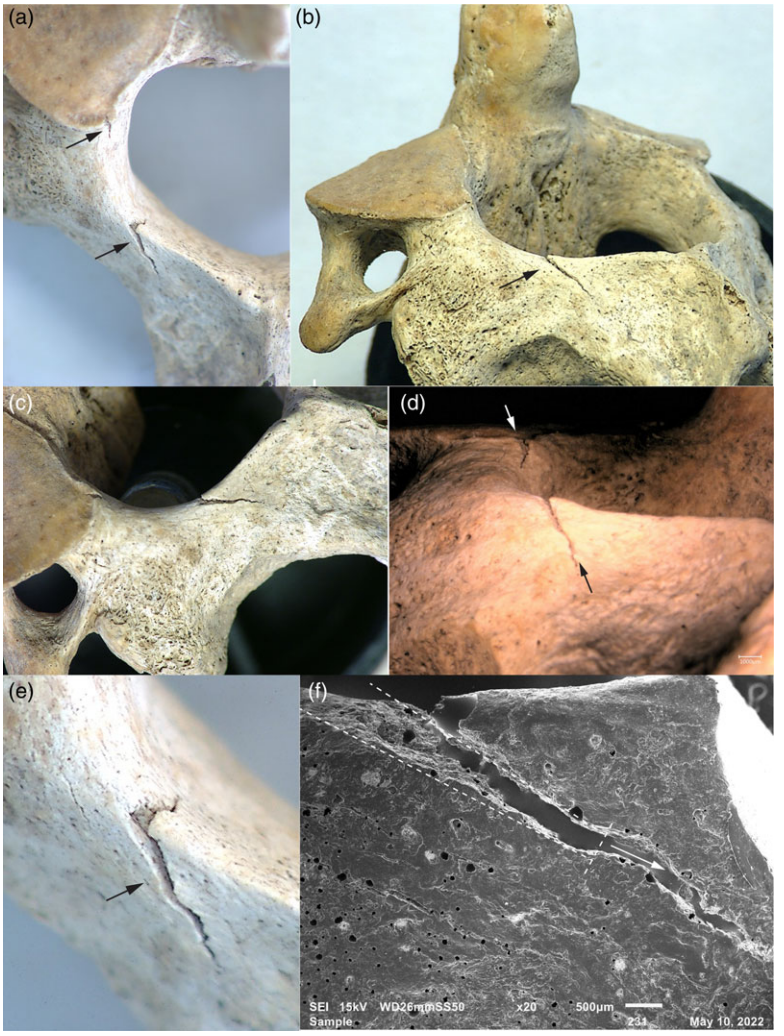

Fig 7. (a)–(c) show views of Sk-04's second cervical vertebra (C2) with cutmarks to the left lamina – arrowed in (a) and (b); (d) shows the two cutmarks are aligned and so were made with a single movement of the blade; (e) shows the edge of the posterior incision; (f) scanning electron micrograph of the posterior cutmark, the dotted lines mark the point at which the incision ends and the kerf has opened further as a post mortem dehydration crack. *Photographs*: © Bournemouth University.

by 1.5mm at its widest,[33] tapering to a point, where the defect then continued as a fine crack that was interpreted as having formed post mortem, on the basis of its irregular form. This interpretation was upheld on further close analysis using scanning electron microscopy (fig 7f).[34] Further credence was given to the interpretation of the initial defect as a tool mark by the presence of a second, fine defect in line with the first, situated in the same plane on the posterior edge of the left superior articular facet (fig 7d).

33. Measured as 5238µm × 1546µm using a Keyence VHX5000 digital microscope.
34. A three-dimensional digital model of the vertebra and cut feature produced by photogrammetry is available as a supplementary file accompanying this article online.

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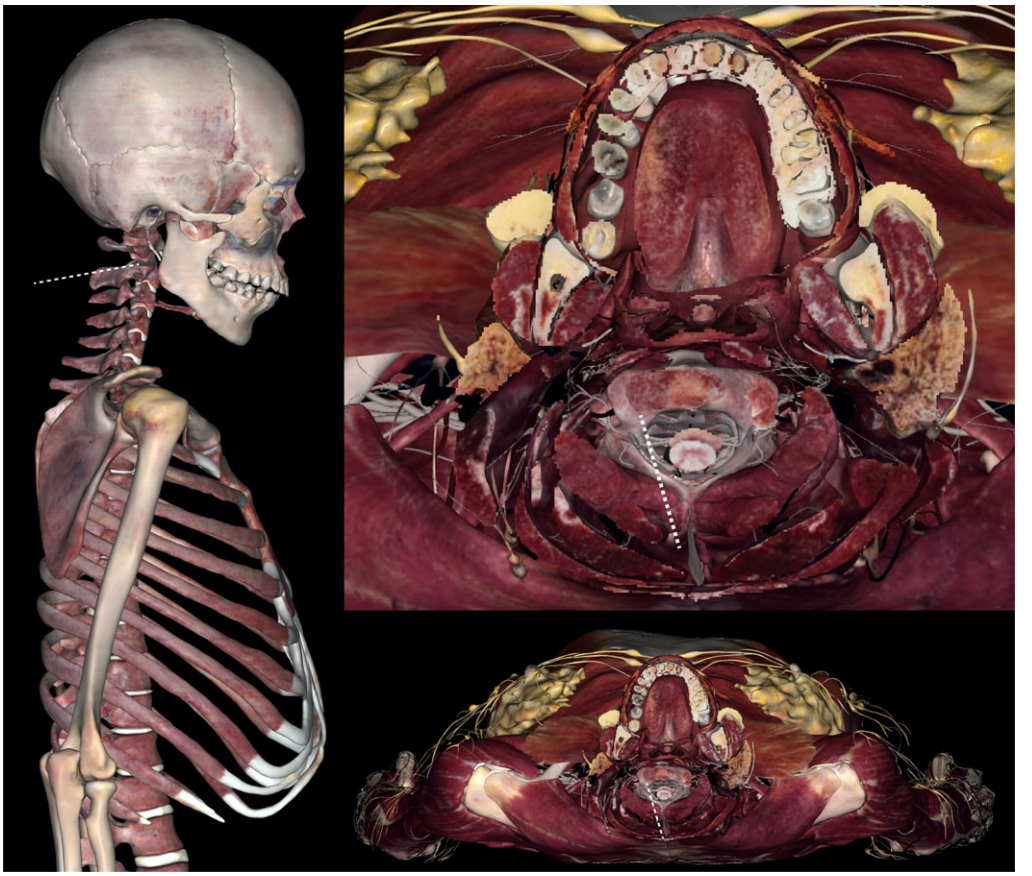

Fig 8. The trajectory of the incised trauma to vertebra C2. (a) lateral view showing angle in relation to the bones of the cervical spine; (b) and (c) superior view showing position of the cut in relation to adjacent soft tissue structures (images created using Anatomage Table software version 8.0).

No corresponding damage was present on the inferior surfaces of the first cervical vertebra and, given the angle of the cuts, it would seem they could not therefore have been inflicted in a lateral motion, cutting into the neck from the side.

Together these were consistent with a sharp, fine, single bladed implement having been inserted into the individual's neck between the first and second cervical vertebrae from behind, just under the base of the skull (fig 8). This trajectory would involve the blade piercing both superficial and deep muscles, but avoiding the structures of the neck crucial to survival and normal functioning (the major blood vessels and narrowly missing the spinal cord). The absence of bone remodelling indicates that the individual did not survive this injury, although it would not in itself be sufficient to immediately cause death. However, given the overall presentation of the burial, deposited in an unusual position as part of a ritual deposit, rather than with sympathetic funerary treatment, the evidence of a bladed object being inserted into the neck would support an interpretation of death immediately prior to placement in the pit.

The individual had a generally gracile build, although various muscle attachments were notably rugged. These included the attachment of the right deltoid, the pectoralis muscles

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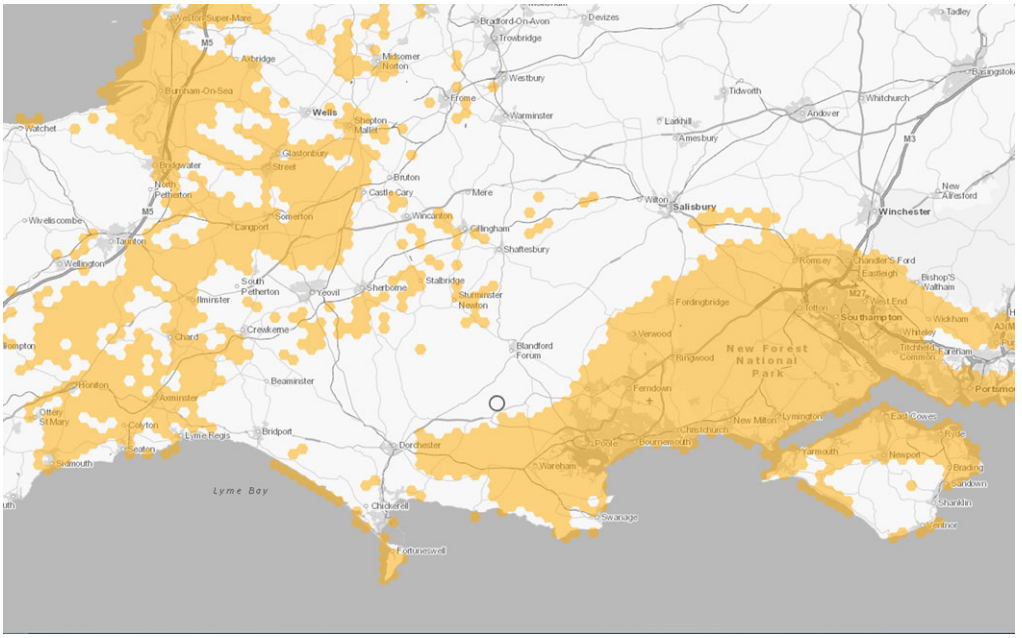

Fig 9. Areas of southern Britain that cannot be excluded as a childhood origin for the human tooth sample from Sk-04 based on strontium and oxygen isotope compositions, with the site of Winterbourne Kingston circled. Map produced using the British Geological Survey biosphere isotope domain facility.

and the forearm muscle attachments at the medial epicondyles of both humeri. The lower limbs told a similar story, with the subtrochanteric muscle attachments of both femora also markedly rugged. The size and rugosity of these points of attachment, where tendons link muscle to bone, indicate a high degree of repetitive mechanical strain due to strenuous muscle contractions,[35] and this line of evidence provides further indication of a physically rigorous and active life. The skeleton exhibited a fair degree of lateral asymmetry with notable differences in lengths of the forearm bones and tibiae. The facial skeleton was also asymmetrical, with the right side of the face dropped in relation to the left. There was a degree of lateral wedging to the lower lumbar vertebrae (L3 and L4), likely resulting from the individual's posture being adapted to compensate for the asymmetry in her lower limbs. The degree of degenerative change present in her spine may have been affected by the stresses induced by such modified posture, although this latter point would not account for the overall severity of the spinal changes observed.

The individual's lower right second molar was sampled for strontium and oxygen isotope analysis at the National Environmental Isotope Facility Laboratory, British Geological Survey. The sample had a relatively common Sr isotope composition for Britain of 0.70888. This value is not strongly diagnostic of geographic origin. The oxygen isotope composition was relatively high (27.7‰) and just outside the 1SD range of west and south coast populations, which cannot be excluded as the childhood origin of this individual based on these results (fig 9). The nearest points from which the individual could have

35. Schlect 2012.

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originated are approximately five kilometres to the south of Winterbourne Kingston, although a variety of other areas both in Britain and on the continent are possible, the closest comprising an area extending to the Dorset coast in the south and expanding eastwards to cover much of what is now the New Forest and the northern part of the Isle of Wight. Scattered pockets of territory towards the north of Dorset are also possible, with a region approximately 50km to the west in the area of the modern Dorset–Devon border being next. These results are therefore equivocal in that Sk-04 may have come from the area close to the site, but could equally have originated from further south in the Dorset zone or from areas beyond Dorset to the west or east.

Bone stable isotope ratios of carbon and nitrogen were obtained (δ13C:–19.9‰, δ15N:10‰) indicating a terrestrial diet in which protein sources were largely derived from animal products (meat or milk) rather than plant-based foods. Similar carbon values were obtained from other individuals buried at Winterborne Kingston (mean –20.06‰, sample size: twenty-eight). The nitrogen value is at the higher end of the range for individuals sampled from this site (mean 9.17‰), although it should be borne in mind that, given the broad date range obtained for Sk-04, the other individuals sampled may date from up to two to three centuries later.

Animal remains

A group of animal bones made up a spatially distinct spread along the west and south-west edges of the pit, located directly beneath the human skeleton (fig 3). The spread of animal bones was assigned to context 5059, although they were at the very lowest level of this fill, lying directly on top of 5177. The spread included most of the identified large mammal bones from context 5059 (thirteen identified fragments of cow and twelve of horse), with sheep/goat remains (four bones) and dog (one bone) less well represented.

The horse bones include an almost complete cranium, fragments of a mandible, three scapulae, a humerus, two femora and two metapodials. All scapulae were from the right side, so the remains came from a minimum number of three separate individuals. Cattle remains came from a minimum number of three separate individuals and include the right and left mandibles of one adult cow and the left mandibles of two other adults. Other cattle bones include two humeri, a pelvis, femur, tibia, astragalus, two metatarsals and a loose mandibular molar tooth. Within the animal bone spread under the human burial, none of the skeletal elements were in anatomical articulation. Bone distribution, however, appeared to show a spatial pattern whereby head elements (horse skull and two cattle mandibles) were located at the northern most end of the spread, near the head end of the human burial, while forelimb bones (mostly horse) were located in the middle of the spread and bones from the hindquarters and feet of horse and cattle were located towards the most southerly end near the legs of the human. At the western extent of the bone spread, to one side of Sk-04, other bones were identified including a dog mandible (near the hip) and a cow metatarsal and sheep tibia (near the upper leg).

The bones were visually inspected for signs of surface damage and the presence of any modifications identified as butchery, gnawing and weathering were noted. Butchery/cut marks were assigned on the basis of their characteristic appearance of straight linear marks with V-shaped cross-sections, and their location and orientation on the bone.[36] Canid

36. Lyman 1994, 298; Fernandez-Jalvo and Andrews 2016, 26–30.

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gnawing was identified from presence of conical punctures, shallow pitting and crenulated edges at the ends of bone shafts, and linear scoring/grooves with a U-shaped cross-section.[37] Weathering was identified by the presence of linear cracking and surface flaking and further degradation of the cortical surface of the bone,[38] and graded according to severity, with more advanced stages indicating longer periods of sub-aerial exposure.[39] The state of preservation of the cattle and horse bones provide an indication of their depositional history and treatment. All the identified animal bones display signs of surface weathering, including cracking and patches of flaking and surface exfoliation, broadly equivalent to weathering stages 1 and 2 as described by Behrensmeyer,[40] although one horse metapodial displayed more advanced weathering (equivalent to Behrensmeyer's stages 3–4).

Relating weathering stage to duration of exposure prior to burial is difficult, as variables such as temperature, moisture, sun exposure/shade all have an effect,[41] but the degree of weathering here represents a period of exposure of at least several weeks and potentially substantially longer (several seasons). Further evidence of exposure prior to burial is the canid gnawing damage[42] on at least five of the cattle limb bones and very similar (also probably gnawing) damage on the two horse femora. The empty maxillary tooth sockets in the horse skull and a similar absence of teeth in one of the cattle mandibles are the result of post mortem tooth loss from dry-bone remains. Soil was excavated by hand and dry-sieved, this method successfully recovering small bones and fragments, but no corresponding loose teeth were found. This indicates that the horse skull and at least one of the cow mandibles had previously decayed for long enough for teeth to have become loose (and lost elsewhere) before ending up in the pit. What is unclear is whether these remains had previously lain in the bottom of the pit, atop layer 5177, before being further disturbed to form the spread upon which Sk-04 was deposited, or whether the animal remains had been located and decomposed elsewhere, perhaps in a midden or a different pit. Given the depth and vertical sides of pit 5013, the canid scavenging probably occurred in a more accessible location prior to the bones entering the pit. The degree of weathering, post mortem tooth loss and evidence of gnawing all point to these animal remains having been previously exposed for long enough to have skeletonised and for teeth to have been lost before being redeposited as a bone spread upon which Sk-04 lay. The more weathered and gnawed state of the animal bones when compared with the condition of Sk-04 is suggestive of different taphonomic histories and treatment of animals and human remains prior to their final burial. This reflects similar findings from other Iron Age sites, such as Danebury hillfort, where analyses of weathering and gnawing on bone has shown greater evidence of exposure among the animal remains than among articulated and disarticulated human remains.[43]

The redeposition of weathered animal bones makes it difficult to determine the extent to which carcasses had been previously processed or prepared for consumption. The paired cattle mandibles both had cut marks on the ventral surface of the diastema, but no other bones from this spread displayed any obvious signs of butchery, deliberate de-fleshing or

37. Lyman 1994, 213; Fernandez-Jalvo and Andrews 2016, 31–2.
38. Lyman 1994, 354–8; Fernandez-Jalvo and Andrews 2016, 201–5.
39. Behrensmeyer 1978.
40. Ibid.
41. Ibid.
42. Gnawing being both the earliest occurring and most common of taphonomic processes: Madgwick 2010, 67–8.
43. Madgwick 2008.

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other acts of processing. If the remains represent food waste accumulated over a long period or the remains of a single large-scale consumption event (feasting), this was clearly not contemporary with the death and disposal of Sk-04. The intact, articulated and only lightly weathered condition of the human burial suggests the body entered pit 5013 fleshed, while the disarticulated, gnawed and weathered condition of the animal bones suggests they had been defleshed and left exposed prior to deposition. Microscopic study of bone histology has the potential to provide further complementary information concerning whether the body was buried fleshed or had previously been left to skeletonise.[44] Although the death and any subsequent processing and consumption of the animals described was not contemporary with the disposal of Sk-04, the arrangement of animal bones into the spread that underlies the body could well have occurred immediately prior to her interment. The weathering on some of the bones, most notably the horse skull and one of the cattle mandibles, showed more advanced weathering on the surfaces that were uppermost as they were orientated in the pit, suggesting a further period of exposure *in situ*. Caution is needed, for this pattern of additional weathering is not necessarily ancient and may be due to these previously weathered surfaces degrading further during excavation in the period of exposure to the dry summer heat between initial discovery and eventual lifting. However, restriction of the spatial spread of the animal bones to the area of the pit immediately under the body did provide some protection, and the lack of any stratigraphic separation between the animal bone spread and the human remains immediately above strongly support the interpretation that the arrangement of the animal bone spread was contemporary with the human burial.

DISCUSSION

Pits found within areas of Iron Age settlement have, since the late 1930s, been broadly interpreted as storage facilities, securing seed corn over winter, rather than features with a more exclusive 'ritual' function.[45] Cunliffe has discussed the possible implications of storage in the minds of prehistoric people who may have placed their trust in chthonic entities to protect and preserve vital resources,[46] as well as showing gratitude through the placement of propitiatory offerings.[47] The presence of votive items within Iron Age pits throughout much of Iron Age Europe could indicate belief in a subterranean plane of existence,[48] to which the digging of pits created an interface. Hill's work on later prehistoric pits and pit fill emphasised the structured nature of deposition and the associations between finds, arguing that material was set down 'during irregular rituals which engraved a cosmology into the physical lives of Iron Age people'.[49] Perhaps, if pit 5013 had been among the first dug at Winterborne Kingston, either to preserve grain or other perishables or to hold a foundation deposit for the banjo enclosure, then it may have required a particularly special offering.

44. Booth and Madgwick 2016.
45. Bersu 1940, 50; Reynolds 1974.
46. Cunliffe 1983, 1984, 1992.
47. Cunliffe 1992.
48. Sîrbu 2008; Baray and Boulestin 2010.
49. Hill 1995, 126.

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Human sacrifice

Sk-04 was a woman aged in her late twenties, stable isotopes indicating that she may not have spent her childhood in the immediate area of Winterborne Kingston but could have originated elsewhere within central southern England. The positioning of upper limbs suggested a person of slim build, while a combination of pronounced muscle attachments and extensive degenerative changes in her spine tell a story of repeated physical exertion, consistent with a hard-working life. A few weeks before death, she suffered an impact to the chest, either accidentally or through deliberate assault, sufficient to fracture one of her ribs. She appears to have been killed by another human, as evidenced by an unhealed blade incision to her neck, possibly while her hands were tied (apparently at the wrist, in front of the body), placement in the pit being the reason for her death rather than as a response to it.

Bioarchaeological evidence for Iron Age violence, based on the analysis of skeletons recorded from central southern Britain, has been much discussed in recent years.[50] In considering remains from Dorset, Redfern has noted trauma patterns broadly consistent with aggressive acts of both interpersonal (conflict) and domestic (intimate partner) origin, concluding that, for younger Iron Age females, 'mortality and risk of violence were inextricably connected'.[51] Were it not for the structured deposit of animal bone beneath Sk-04, the nature of her demise, when coupled with observations made about her hard-working, injury-filled later life, could be taken as evidence for domestic abuse and/or murder. The circumstances and context of her disposal, however, strongly suggest that her existence ended dramatically in an act of premeditated ritualised violence.

Attempts to map claims made by classical sources, regarding human sacrifice practised in Britain and Gaul,[52] onto prehistoric archaeological remains have met with limited success,[53] notable exceptions being pits containing disarticulated and multiple inhumations at Danebury hillfort in Hampshire.[54] Signs of severe trauma, displaying penetrative injuries in the form of spear thrusts and sword blows together with decapitation and knife cuts 'of a kind that might have resulted from scalping',[55] have variously been interpreted as evidence for combat, execution, ritual killing, butchery or cannibalism.[56] Re-examination of the human remains here has shown the full extent of peri-mortem mutilation and dismemberment, further suggesting a 'denigration of the deceased'.[57] The homogenous nature of weapons-induced trauma apparent on the mandibles of two juvenile skulls from pit 2509, consistent with decapitation at the level of the second and third cervical vertebrae, when combined with their simultaneous disposal, argues strongly for a case of execution or ritualised killing.[58]

It is possible that Sk-04 represents a southern British version of the kind of treatment revealed in well-preserved later Iron Age bog bodies.[59] In Cheshire, 'Lindow Man' (Lindow II) suffered a violent death, injuries recorded including lacerations to the crown

50. Redfern 2008, 2009, 2010, 2011, 2012, 2016a, 2019, 2020; Redfern and Hamlin 2022.
51. Redfern 2008, 154.
52. Aldhouse-Green 2001, 82–6.
53. Ibid, 87–9; Armit 2012, 10–11, 48–53, 205–7, 218–20; Harding 2016, 22–4, 97, 198–203.
54. Cunliffe 1983, 105–6; Walker 1984, 461–3.
55. Cunliffe 1993, 53.
56. Hooper in Cunliffe 1984, 465–73; Cunliffe 1995, 76, 2003, 74–7, 149–56.
57. Craig et al 2005, 174–6.
58. Ibid, 170.
59. Brothwell and Gill-Robinson 2002; Lynnerup 2009; Giles 2020, 12–51.

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and scalp caused by a blunt-edged weapon, fracture dislocation of neck vertebrae, a broken rib, a possible stab wound to the upper right chest, an incisional injury to the throat and strangulation with a sinew loop.[60] Aldhouse-Green has discussed the problem of discerning whether such 'bog burials' were individuals dispatched by their own communities or members of outsider-groups put to death as 'foreigners',[61] observing that the 'kernel of human substitution is the notion that the surrogate is of less value, lesser importance and more dispensable'.[62] Those selected for such treatment could therefore perhaps have been thought of as possessing low or marginal social status, being 'criminals, poor people, slaves, foreigners or children'.[63] Caesar's oft cited comment on Gallic society references a class of individual existing in a state of servitude 'for the commonality is held almost in the condition of slaves'.[64] While the latter point could be interpreted as describing a class akin to medieval serfs, Strabo's account of the Britons is specific about enslaved captives being traded or sold from British shores in the Late Iron Age.[65]

Evidence for the arduous life and apparent physical mistreatment of Sk-04 suggest someone lower down the social scale against whom acts of violence may have been considered broadly acceptable. On this basis it is plausible to speculate that her status could be that of a prisoner or captive servile, a point perhaps reinforced by the observation that her wrists were possibly tied at the moment of death. It should, of course, be noted that tightly flexed positioning, consistent with the body having been tied or bound, is a common feature in many British Later Iron Age burials.[66] Whether such binding relates to funerary practice, corpses being wrapped in a shroud to prepare for internment,[67] or to fettering/bondage[68] is not always clear. Given the relative prevalence of joined or crossed wrists in Iron Age inhumations, we cannot automatically view placement of hands as proof of enslavement and/or prisoner sacrifice. The combination, in SK-04, of unusual body placement, trauma and conjoined wrists, however, can reasonably be taken to suggest forcible restraint.

The stable isotope values obtained for Sk-04 would principally be taken to relate to a diet in which the majority of protein was obtained from animal sources. The nitrogen value (δ15N:10‰) is comparable with individuals who had received formal burial, both within the same settlement area of Winterborne Kingston and elsewhere in Dorset. For example, a young woman with a particularly well-furnished burial, excavated over 30km away at Langton Herring, Dorset, returned a δ15N value of 10.31‰.[69] For the latter, it was suggested that this relatively high value could relate to the respective individual having held high social status.[70] Notwithstanding the possibility of these two burials being separated in time (by anything up to three centuries), elevated nitrogen values have also been observed in individuals suffering from malnourishment, such high values having been identified as part of an isotopic signature of periods of biological stress and/or starvation.[71] Given the

60. West 1986, 77–80; Giles 2020.
61. Aldhouse-Green 2001, 15.
62. Ibid, 29; Aldhouse-Green 2005, 156.
63. Aldhouse-Green 2001, 29; Giles 2020, 208.
64. Hammond 1996: Caesar, The Gallic Wars, 6.13.
65. Jones 1928: Strabo, Geography, 4.5.2.
66. Whimster 1981, 253–72.
67. Gerdau-Radonic et al 2021, 256.
68. Aldhouse-Green 2004, 332, 2005, 158.
69. Redfern 2016b; Russell et al 2019, 203–4; Redfern et al 2021, 174–5.
70. Russell et al 2019, 225; Redfern *et al* 2021, 174.
71. Beaumont and Montgomery 2016.

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other aspects of Sk-04, as discussed, this latter result might therefore be a further indicator that this individual lived in difficult circumstances and was at the lower end of the social scale.

Human and animal associations

The positioning of Sk-04, face down in intimate contact with a large quantity of weathered animal bone, lends itself to more than one interpretation. If the manner of burial related to some form of judicial punishment or revenge, then positioning might indicate slighting through a reversal or deviation from the norm, positioning the body so that the spirit or life essence might be directed down into an 'underworld' rather than finding its way to the destination expected for those in receipt of normative funerary treatment. Alternatively, the directing of an individual's essence towards a chthonic realm might be consistent with the notion of a sacrifice, where the offering was intended to appease a supernatural subterranean entity, perhaps to give thanks for the harvest or to the safe storage of grain.[72] Such treatment would accord with the practice of placing special deposits in pits, something common in Iron Age sites across southern Britain where features contain the skeletons of complete and partial animals,[73] some of which were arguably killed for the purpose of burial rather than being butchered and eaten.

Articulated and semi-articulated deposits of animal bone encountered from prehistoric sites in Britain have been interpreted in a variety of ways,[74] including deliberate burials,[75] sacrificial offerings,[76] culled deposits[77] and butchery waste.[78] Identifying symbolic and ritual activity in the deposition of animal bones is fraught with difficulties,[79] not least because faunal remains may have multiple concurrent and dynamic meanings and roles prior to, during and after deposition.[80] Subsequent analysis of such remains has preferred the term 'associated bone group', something that offers a neutral starting point for analysis, recognising the problem of equifinality (many processes and activities result in the same outcome), encouraging deposits to be interpreted on a case by case basis and avoiding blanket interpretations based on superficial similarities.[81] Within the context of the Iron Age, associated bone groups (ABGs) have been well-documented and discussed,[82] being defined within three broad categories: remains deposited with flesh or connective tissue attached; remains of a single animal disarticulated through post-deposition processes; and disarticulated remains of the same animal deposited in association.[83] The problem with bones discovered beneath Sk-04 at Winterborne Kingston, however, is that these were

72. Walker 1984, 462; Cunliffe 1992, 77; Cunliffe and Poole 1995, 83; Madgwick 2008, 101.
73. Grant 1984; Cunliffe 1992; Hill 1995, 102–5; Madgwick 2010; Randall 2010; Morris 2011; Russell et al 2014, 219–20, 2016, 176–7.
74. Ryan and Crabtree 1995; Anderson and Boyle 1996; O'Day et al 2004; Morris and Maltby 2010; Morris 2011.
75. Wheeler 1943, 115.
76. Ross 1968.
77. Maltby 1981.
78. Maltby 1985.
79. Wilson 1992.
80. Hill 1995; Morris 2008, 2011; Hambleton 2013.
81. Hill 1995, 27; Morris 2010, 12.
82. Grant 1984; Cunliffe 1992; Hill 1996; Hambleton 2008; Morris 2011.
83. Morris 2010, 12.

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neither articulated nor in close association, significant time having elapsed between death and deposition in the pit.

Although the deliberate arrangement of weathered, disarticulated animal remains from pit 5013 differs from the majority of identified ABGs, it may be a related phenomenon sharing similar ritualised interpretations such as propitiatory offerings,[84] mnemonic compositions[85] or the final disposal of 'ritually charged rubbish'.[86] It is possible, of course, that the bone spread in pit 5013 had originally been in a state of articulation elsewhere (as an ABG), only later being disturbed for secondary manipulation into a discrete stack or platform. Interestingly, this possible sequence of articulated ABGs being subsequently exhumed and redeposited after a period of exposure and removal of elements is similar to that proposed for the treatment of human remains at Danebury and Suddern Farm.[87] The significance of the pit 5013 stack is enhanced by the observation that the layout of remains was not random, having been subject to deliberate selection (foreshadowing the placement of human remains), a horse skull and two cattle mandibles located directly beneath the head of Sk-04, forelimb bones of horse located in the middle and bones from the hindquarters and feet of horse and cattle at the southernmost end.

An immediate comparison can perhaps be drawn with a bone deposit, dated either to the third to first century BC[88] or the turn of the first century BC/AD,[89] from pit 5 inside an enclosed Iron Age settlement at Viables Farm, Hampshire.[90] This comprised the extended skeleton of a young female, aged between twenty-five and thirty, on her back and an older female, aged between thirty-five and forty, lying on her left side in a crouched position, head 'resting on the pelvis' of the former.[91] The positioning of the older female at the feet of the younger, in an apparently 'subservient position',[92] has been taken to indicate that the burial was a form of 'retainer sacrifice'.[93] Unfortunately, there is no guarantee that the two bodies were contemporary, both may simply have been using pit 5 at different times. Certainly, the crouched female looks like a later, more formal piece of body disposal, one possibly set down with grave goods,[94] by mourners who were unconnected to (and largely unaware of) any earlier phase of deposition. With this possible secondary burial removed, the remains of the younger female, lying on her back, legs apart and right arm outstretched, has a more carelessly thrown appearance, not unlike Sk-04 at Winterborne Kingston.

Beneath the Viables Farm skeleton, the complete remains of two sheep (an immature and an adult ewe), the larger portion of a horse and the partial remains of another horse and two cows were found.[95] It is clear that, although these faunal remains did not comprise a layer of weathered bone, both sheep having been deposited whole as freshly killed animals and the horse and cow having been partially butchered and skinned,[96] the layout broadly

84. Cunliffe 1992.
85. Randall 2010.
86. Hill 1996; Hambleton 2013; Rowley-Conwy 2018.
87. Booth and Madgwick 2016.
88. Millett and Russell 1982, 87–8.
89. Gibson 2004, 2, 26.
90. Millett and Russell 1982, 1984.
91. Millett and Russell 1982, 69–73.
92. Ibid, 87.
93. Harding 2016, 203.
94. Notably the two bone combs, pieces of sawn red deer antler and terrets of antler and silvered bronze: Millett and Russell 1982, 81–7.
95. Maltby in Millett and Russell 1982, 75–80.
96. Ibid, 80.

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mirrored that of pit 5013 at Winterborne Kingston, where an extended human skeleton followed the basic orientation as animal remains below.[97] Certainly the deposition of 'two of each of three key domestic species' at Viables Farm appears significant,[98] the placement of butchered cow and horse carcasses further possibly indicating a broader communal event in which the ritualised killing of animals completed a ceremony with feasting.[99] Themes of paired or mirrored human and animal bodies and body parts, noted in different ways at Winterborne Kingston and Viables Farm, may also be apparent at Blewburton Hill in Oxfordshire, where the skeletons of a female horse, male dog and elderly female human were recovered from the basal levels of a hillfort ditch.[100] The horse, with its neck resting against the outer edge of the ditch, head twisted back across the withers, lay on its left side, the human placed between its front and hind legs, spine parallel to the animal with 'one leg over and the other under the horse's hindquarters'.[101] Although originally interpreted as a rider cast into the ditch with feet tied under the horse as an extreme double sacrifice,[102] it seems more likely that both died, or were slain, elsewhere and only later placed together as a structured form of deposit.[103]

A better parallel for Winterborne Kingston and Viables Farm, suggesting a direct association between human and animal remains, can be found at the Prebendal in Buckinghamshire. Here, an irregular hollow that preceded the construction of a middle Iron Age hillfort contained five sets of human skeletal remains in articulation,[104] with disarticulated bone from a minimum of four other individuals.[105] Radiocarbon dates suggest deposition in the early fourth century BC,[106] although it is not known whether these were all contemporary. Human 1, a twelve-year-old child, lay supine, legs over the remains of seven partial, albeit articulated, skeletons of sheep/goat,[107] two of which, an adult female goat and a young sheep, had their necks bent back, suggesting deposition very soon after death.[108] Elsewhere, a sheep skeleton was noted with Human 2 (a juvenile in their late teens) and 3 (a mature adult female), the animal's rib cage lying on top of the right humerus of Human 2, bent neck vertebrae lying beneath the right foot bones of Human 3. The skull of an adult ewe was also found partly under the pelvis of Human 3,[109] while partial skeletons of a pig and two sheep, plus fragments of sheep skull were found with Human 4 (a four-year-old child).[110] It would be tempting to interpret the sheep/goat remains from the Prebendal, the high number of which may indicate selection from several flocks, as feasting residue, were it not for the sparse evidence for butchery.[111]

97. Millett and Russell 1982, 69.
98. Harding 2016, 255.
99. Aldhouse-Green 2001, 34–5.
100. Collins 1952, 31; Bendrey et al 2010, 34–7; Harding 2016, 254–5.
101. Bendrey et al 2010, 34.
102. Collins 1952, 31.
103. Harding 2016, 255.
104. Farley and Jones 2012, 22–8.
105. Ibid, 74.
106. Ibid, 29.
107. Ibid, 33–4.
108. Ibid, 34.
109. Ibid, 35.
110. Ibid, 35–6.
111. Ibid, 69.

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Sacrifice as spectacle?

Something that may have significance, in light of the treatment received by Sk-04, is the observation that the human remains and underlying animal bone were set to one side of pit 5013. Unless Sk-04 had simply been dropped in from above, space would have been required for those placing the body in the pit, something that may in turn explain the off-centre positioning. It is plausible, in this respect, that one or more other people were standing in the feature, holding or restraining Sk-04 at the point of death, the confines of the pit helping to frame a performative space, audience observing from above. The stratigraphic sequence, as recorded in the east–west section of pit 5013, with the deposit of animal bones lying directly over context 5177 (the basal fill of the feature) and the westernmost edge of fill 5035, may however suggest a different interpretation, the presence of layer 5035 entering the pit from the east side, possibly indicating that the pit had already been partially backfilled at the time both animal and human remains were introduced. Soil material falling, or being shovelled, into the feature would leave an unfilled area along its western side which, if true, could indicate that the animal bones were placed at the bottom of a partially filled pit, perhaps to provide a 'bed' onto which the victim, having been mortally injured at the uppermost edge of the feature, could then be pushed down on to.

However the formation of the animal bone layer in pit 5013 is interpreted, it is clear that the material created a discrete stack or platform. The restricted, semi-subterranean nature of this, comprising a deposit not unlike those of compacted chalk observed within Later Bronze Age sites at East Chisenbury and All Cannings Cross in Wiltshire,[112] 'whose luminosity and surface quality provided a vehicle for display',[113] could be viewed as a form of stage, weathered bone standing out against the darker soil of primary pit fill. The creation of such a performance space would have generated a distinct social dynamic, separating participants from audience in a very physical sense, further helping spectators focus their attention on the unique nature of the drama as it unfolded.[114]

Sacrifice as spectacle is well-attested within the literature of the ancient Mediterranean, the process often involving processions (of animals, religious officials and worshippers), prayers, chanting, music and ecstatic dance.[115] In the majority of cases, ritualised execution was intended as a collective event, witnessed by the community, whose shared participation and assumption of joint responsibility provided both excitement and release.[116] The consumption of flesh, within the context of a communal meal or feast, would have further enhanced the collective experience of a group, providing a ceremony or social event in which both gods and worshippers participated through the sharing of 'meat, nourishment and conviviality'.[117] The layer of animal bones found beneath Sk-04, although presumably indicating consumption of domesticates, does not appear to have been intimately connected with human sacrifice, at least in the form of a contemporary feast, the remains displaying clear evidence of weathering and gnawing consistent with having lain exposed for a long period. If the bone was residue from a series of discrete meals, rather

112. Cunnington 1923; McOmish 1996, 73; McOmish *et al* 2010.
113. Waddington 2010, 113.
114. Pearson and Shanks 2001, 69; Waddington 2010, 112–13.
115. Van Straten 1995, 13–102.
116. Aldhouse-Green 2001, 34–5.
117. Ibid, 40.

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than a single phase of slaughter/feasting, then this must have occurred some significant time prior to the killing of SK-04, albeit recent enough for the residue to be both remembered and accessible.

Disturbance/redeposition of animal bone in pit 5013 could perhaps have been a deliberate act of desecration: an essential part of the disposal by the local community of a devalued or marginalised individual. In such a scenario, the placing of the body directly onto a reordered bone pile could represent the ultimate act of disrespect, close contact with such remains in a burial context being considered unclean; a specially reserved insult for the socially polluted going beyond death. In such a context, Sk-04 may have acted as a scapegoat, execution serving to bear away perceived sins or impurities ascribed to the wider community.[118] Sacrifice of such an individual in the pit could have provided a degree of catharsis, restoring perceptions of order and cohesion to a group by recreating and reinforcing the social system.[119] Alternatively, the death of the woman and the subsequent placement of her body in the pit may suggest this was a blood-sacrifice in which the killer (or killers) intended human life to dissipate into the dismembered remains of domesticates consumed by the wider community at an earlier time. The sudden flow of blood from the throat of the victim directly into the bone and soil could have been a transformative process providing a degree of physical and supernatural nourishment to the ground.[120] Added to this would be the, no doubt, 'visceral effect and spectacle'[121] generated by a theatrical kill, a shocking and 'adrenalizing drama'[122] set within the context of a tightly contained, partially subterranean space.

A very similar performative concept may have been behind the assault detected on the later Iron Age individual Lindow II, who, among other injuries sustained in his final moments, had his throat cut with a sharp-edged weapon, the forward flow of blood being accentuated by the application of a length of animal sinew around the neck, tightened, probably with a piece of wood, like a tourniquet.[123] Such a stage-managed, ritualised execution would, for an audience, no doubt have been 'morbidly thrilling, coruscating even in the squeezing, wringing, wounding bloodshed it wrought'.[124] In the case of Sk-04, violent demise and forceful forward placement, directing the dark-red life essence down onto the weathered, white bone stack, may have been intended as a dramatic way of ensuring the future fertility of community domesticates or, perhaps, in the hope of somehow bringing existence back to dismembered, disarticulated animal body parts.

CONCLUSONS

Pit 5013 lends itself to utilitarian interpretation as a 'simple' storage pit, dug with the intention of being a repository for structured and sacrificial deposits once decommissioned. The absence of environmental evidence for use as such could, however, equally suggest that it was dug for entirely ritual purposes, with no intent to store grain or other

118. Aldhouse-Green 2005, 155.
119. Smith and Doniger 1989; Janowitz 2011.
120. Durand 1989, 119–28; Aldhouse-Green 2001, 39–40.
121. Giles 2020, 207–8.
122. Giles 2015, 548.
123. West 1986, 78–9; Giles 2020, 196.
124. Giles 2020, 208.

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foodstuffs, perhaps acting as an interface to a perceived underworld (although such interpretations need not be mutually exclusive). Rather than being furnished with grave goods, the woman's final disposal, face down near to the base of the pit, appears more consistent with being a part of a votive deposit, comprised largely of dismembered and reordered animal bone. She experienced physical hardship, had been exposed to risk of injury, her life ending in a violent, highly ritualised manner. As discussed, multiple interpretations for this unusual combination are certainly possible, but the suggestion that appears most plausible is the sacrifice of a marginalised individual, ascribed as low in status and therefore perceived to be in some way perhaps more 'dispensable' than other members of the community.

To date, although animal and human sacrifice in the British Iron Age has frequently been inferred,[125] archaeology has been largely unable to supply much in the way of evidence either for ritualised killing or for the context of such activity. The nature of the 5013 pit deposit at Winterborne Kingston is therefore of considerable significance as it appears to provide a narrative, not just for the human victim of sacrifice, but also the nature of their demise and final placement, providing, for the first time, a specific context for the highly theatrical nature of an Iron Age community-sanctioned murder.

SUPPLEMENTARY MATERIAL

To view supplementary material for this article, please visit https://doi.org/10.1017/S0003581524000143.

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125. Cunliffe 1992 and 1995, 100–5; Sharples 2010, 238–40, 251–72.

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