Wessex Archaeology

A late Roman Cemetery at Little Keep, Dorchester, Dorset

By Kirsten Egging Dinwiddy

with contributions by

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Summary

Wessex Archaeology undertook the excavation of a site on land adjacent to the Little Keep building, Dorchester. An archaeological evaluation had established the position of some 1860s barrack buildings and also revealed the remains of two inhumation burials (Wessex Archaeology 2007b). During the excavation, a small quantity of residual prehistoric flintwork and pottery of Roman and later date was recovered, however the key discovery was part of a late Roman cemetery, comprising the remains of 29 inhumation burials, a mortuary enclosure and parts of a boundary gully. A small assemblage of grave goods and evidence for grave furniture were recovered together with well preserved human remains. Particularly interesting mortuary rituals such as decapitation and prone positioning were recorded with unusual frequency within the cemetery. The cemetery is described and compared to other cemeteries of similar date in the vicinity and in a wider setting, and its significance is discussed.

The excavations were undertaken in 2007 on behalf of Scott Wilson and Bellway Homes (Wessex), and in advance of residential development. The site was situated in the north-west of Dorchester, Dorset and comprised a broadly triangular parcel of land *c*. 0.4 hectares, centred on NGR 368600 090800 (Fig. 1). It was bounded to the north by a retaining wall and slope approximately 3m above Poundbury Road. The southern boundary was delineated by the railway line, behind which were 19th century houses on ground *c*. 6-7m above that of the site. The south-eastern edge was

bordered by the building known as Little Keep. As a result of historic levelling, the topography was flat, approximately 80m above Ordnance Datum. Despite the severe truncation, the slope of the original land surface within the excavation area was illustrated by the 1m drop from south down to the north. Geologically the site lay on Cretaceous Upper Chalk (Geological Survey of Great Britain 1981, sheet 328).

Historical and Archaeological Background

The Iron Age settlement at Poundbury and the later extensive Roman cemetery (Scheduled Monument 12501) (Green 1987; Farwell and Molleson 1993) is located *c*. 80m to the north-west of the site and recently a further Iron Age settlement was discovered a short distance to the west (Wessex Archaeology 2007a) (Fig. 1).

In the period immediately following the Roman Invasion of AD 43 there is evidence for activity close to the location of what became Dorchester, the aqueduct and new road networks were also constructed (RCHM(E) 1970; Putnam 1992-8; Wessex Archaeology 2004). It was thought that the aqueduct continued through the site, following the line of the Poundbury Road, however no evidence for it was found during the excavations (Fig. 1-3).

The town of Dorchester (*Durnovaria*) was founded by around AD 60–65, although the reasons for which are uncertain. In spite of a lack of archaeological evidence, it has been suggested that a military base or camp formed the focus of the early town (e.g. Frere 1974, 74; Wacher 1978, 316; Field 1992, 125–34; Putnam 1998, 94). Others suggest that the choice of location may have been influenced by a pre-existing shrine (Woodward *et al*. 1993, 367; Trevarthen 2008), or perhaps the junction of the east-west road between Exeter and the south and east of Britain, with a spur road heading north-south to Ilchester (along the Dorset Ridgeway) and Weymouth harbour (Hinton 1998; Trevarthen 2008). The town developed and flourished into an important regional administrative centre until the later 4th–early 5th century (Trevarthen 2008).

The site lies *c.* 280m to the west of the Roman town walls (Scheduled Monument D0648) and two former Roman roads pass close to it. The Bridport Road heads west towards Exeter whilst the Poundbury Road continues north-west on the southern side of the Frome Valley parallel to the main Ilchester Road (Fig. 1).

Typical of Roman towns (Burnham and Wacher 1990), extra-mural cemeteries have been found on three sides of Roman Dorchester, the NNE side being bounded by the River Frome. Burial within a town was illegal under Roman law, but there was also a desire to be remembered and close to human activity rather than in a lonely grave, hence the common location of town cemeteries (Salford 1981, 694). The most significant cemetery found in the vicinity of Roman Dorchester was that at Poundbury (Fig. 1 (part of SM 12501) (Farwell and Molleson 1993)), close to Little Keep and of significance allowing valuable comparisons to be made.

Since 1747 many other Roman inhumation burials have been found around Dorchester, some close to the site, ranging from single burials to larger assemblages (Fig. 1) (RCHM(E) 1970, 582-5; Green *et al.* 1981; Hughes 1989; Wessex Archaeology 2007a). For example, a cemetery including a burial made in a lead coffin, was excavated at the Crown Buildings site, 200m to the west of the West Gate (Fig. 1) (Green *et al.* 1981); about 175m to the south of Little Keep, at 9 Bridport Road, 50 graves were found (Hughes 1989). The most recent discoveries were observed on extensive excavations to the west of the site (Wessex Archaeology 2007a), where singletons and small grave groups were found in association with rectilinear enclosures. A burial made within a stone sarcophagus was also found.

On the southern part of the Little Keep site an unspecified number of Roman inhumation burial remains were found in the 1930s during drain laying and in 1940 during air-raid trench excavation, the remains of approximately six burials were found close to Poundbury Road (Fig. 1) (RCHM(E) 1970, 582).

The Archaeological Sequence

Historically, the area of the site was progressively levelled and in the 1860s a series of barrack blocks were constructed (Fig. 1). It is likely that the most severe truncation to the southern area of the site occurred at this time through further levelling and the insertion of sizeable foundations. Further development in the 20th century included the insertion services and substantial underground tanks that would have removed any underlying archaeology entirely (Fig. 2).

No features pre-dating the late Roman cemetery were observed on the Little Keep site, the activity of this date being represented by only a few residual pieces of worked flint probably of Bronze Age date. These suggest that there may have been prehistoric activity in the immediate vicinity, evidence for which is well documented in and around Dorchester (RCHM(E) 1970; Green 1987). Recent excavations immediately to the west of the site have also revealed a large number of Neolithic and Bronze Age features (Wessex Archaeology 2007b).

The stratigraphy on the site was simple, modern overburden (e.g. demolition debris) and a series of post-medieval levelling deposits overlying the archaeological material to significantly differing depths across the site from *c*. 0.1m in the southern half to over 1m towards the north where the original topography sloped down towards Poundbury Road.

Pre-modern ground surface deposits were fragmentary and only present in parts of the northern half of the excavation area, most having been truncated by subsequent development. These were observed overlying the chalk bedrock and sealed below the levelling deposits along the northern edge of the site, and comprised a homogeneous layer of mid- to dark brown silty clay. No artefacts were recovered from this deposit and the archaeological features were only observed when this layer had been removed, revealing the contrasting chalk geology. It is likely, however, that this deposit represented the Roman land surface (cemetery soil) and as such was doubtless cut by the cemetery features.

There were only three examples of intercutting archaeological features pre-dating the modern period (see below; Figs 2-3).

The Cemetery

A total of 29 graves of late Romano-British date were excavated together with the remains of five truncated graves and a disturbed grave (Figs 2-3). A summary of the graves, their contents and their nature is presented in the grave catalogue below; full details may be found in the archive.

The condition of the skeletal remains is mostly very good to excellent, as was skeletal recovery. The most significant disturbance comprised truncation and loss (or redeposition) of some skeletal elements due to modern construction activity. More common was the movement of small hand and foot bones, and the displacement of the vertebrae due to normal decomposition, settling of the remains and bioturbation. There were two incidences of intercutting graves: grave 1056 which cut through grave 1053, disturbing parts of the burial which were deposited in the backfill of the later grave; grave 1108 cut through grave 1111, removing part of the occupant's feet. Small quantities of human bone were redeposited in the boundary ditch 1124, a later addition to the cemetery, and in the backfills of three graves (1009, 1056 and 1065).

The grave cuts were generally unremarkable, either rectangular or sub-rectangular (rounded at one or both ends). One grave was notably wider at the head end (1087) and grave (1016) was irregular in plan as a result of horizontal truncation.

The graves of the adults ranged between 1.55m to 2.25m in length, averaging 1.84m, from 0.42m to 0.91m in width, averaging 0.66m and depths 0.15m – 0.66m, averaging 0.40m. The infant and juvenile burials were both 0.15m deep, the other dimensions corresponding with the size of the burial. Two graves were particularly narrow (1068 and 1079), and two were somewhat oversized (1087 and 1111).

Most of the graves were aligned approximately east-west, with three (1028, 1036 and 1009) orientated north-west – south-east and three others (1068, 1086 and 1108) on a *c*. north-south alignment; the latter were located close to the mortuary enclosure (1126).

The graves were roughly organised into five rows running approximately north-south with a concentration between the enclosure ditch 1124 and the ditched mortuary enclosure 1126 (Figs 2-3; detailed grave plans Figs 4-8). Two sets of intercutting graves were situated within the clusters, the later graves both orientated in an approximately south/north direction, aligned with the ditches.

There was a similarity in the alignment of the graves and enclosures; the main influencing factor was probably the Poundbury Road, though the location of some graves may have been determined by the enclosures.

The upper fill of most graves comprised dark brown silty clay with frequent chalk rubble, with a lower fill of rubble and a gradual interface. The siltier material at the surface was probably a result of the grave contents settling and slumping of the overlying soil. Where graves lay below a modern soak-away it was noted that the fill was siltier and darker, particularly towards the base and had been detrimental to skeletal preservation.

Large flint nodules (*c*. 100 - 200mm, and up to 300mm maximum length) were noted in the majority of grave backfills. The inclusion of large chalk and flint blocks in grave fills may have been intended to keep the burial (and the individual's soul) in the grave; two of the burials with many flint nodules were decapitated, one of which was also prone. However, it is probable that their inclusion was merely coincidental, the nodules occurring randomly and in patches within in the underlying geology. In three graves (1087, 1108 and 1111 (not illustrated) it was tentatively proposed that one or two nodules might have been placed to keep the burial in position e.g. between the skull and grave edge and up against bent limbs, although the pieces may well have gravitated towards the otherwise vacant spaces during filling and settling.

Most (75.8%) of the burials had been made east-west with four (13.7%) west-east. Three burials were made perpendicular to the majority; two south-north and one north-south. Only 51.7%[1] the burials were positioned in an extended and supine manner, of which three were decapitated. Two were placed diagonally in the grave with their legs crossed just above the ankle. Significantly, *c*. 41% of the graves contained the remains of burials made in a prone position (and extended), of which one was decapitated (1108) and one had crossed legs (1024). In two graves the bodies were flexed, one laid supine, and the other was on its right side (also decapitated, totalling five (17%) decapitated burials).

Three graves (*c.* 10%) contained iron nails suggesting coffined burial (1025 (18 nails), 1045 (65 nails) and 1117 (11 nails)), compared to over 67% seen at other cemeteries serving the town. In those graves without any coffin furniture (26: 90%) the tight position of the arms and legs suggest that the corpse was shrouded.

Grave goods were recorded from nine graves. In three instances (1025, 1053, and 1056) hobnails found around the feet indicated that the individual had been wearing nailed boots or shoes, probably *caliga* type (Rhodes 1980, 113-114), at the time of burial. The smaller number of hobnails from grave 1117 may indicate the presence of repaired or reinforced footwear of lighter construction, placed within the coffin but to either side of the knees. A single hobnail was found in grave 1048. Graves 1009, 1039, 1048, 1108 and 1117 also contained nails which may have had apotropaic significance. Those from graves 1009 and 1039 were found under the chin and immediately in front of the face while those from graves 1048 and 1117 had been placed on the right hip. In grave 1108, a nail was located at the top of the neck in place of the skull, which had been removed and placed beside the feet. The use of nails in ritual to ward-off evil spirits or to 'fix' the dead is discussed below (see Seager Smith – *other nails*). Grave 1087 also contained what has been tentatively interpreted as a grave good (a small possible stone bead made from a fossil).

[1] Note that the percentages given here for extended and supine burials and prone (*c*. 41%) are correct, those in the published report (McKinley and Dinwiddy 2009) are incorrect.

Three copper alloy coins (4th century AD) were found by the right side of the skull in grave 1009. The deepest grave (1069) may also have contained copper alloy grave goods, perhaps coins, indicated by staining on the skull and mandible of the skeleton. It is relatively unusual for such late coins to be used as grave goods and may suggest a continuation or resurgence of the pagan burial rite where coins were provided to pay the ferryman on the journey over the river Styx.

Five features (1059, 1061, 1094, two not numbered; Figs 2-3), were similar in plan, dimensions (1.46m – 1.71m long; 0.43m – 0.56m wide, <0.02m deep), on a similar alignment and also conformed to the general cemetery arrangement. Upon excavation no edges were discernable and the 'fills' could at best be described as disturbed or stained natural chalk. It is likely that these were the truncated remains of graves, presumably much shallower than the excavated examples. A more convincing possible grave (1092) was investigated to the south-east of the mortuary enclosure, below substantial building foundations. It was similar to the other graves, although slightly smaller than most (1.23m x 0.44m x 0.3m); suggesting it originally contained a non-adult individual. The fill was significantly darker and looser than those of the intact graves, and contained a handmade iron nail probably of Roman date, a rim sherd of medieval date, animal bone and ceramic building material but no human remains. It could feasibly be one of the graves excavated in the 1930s.

Other features

Ditched mortuary enclosure (Figs 2-3)

In the north-eastern corner of the site there was a small, square ditched enclosure with rounded corners, measuring 2.32m x 3.59m (approximately 16m^2). It was orientated north-north-east, south-south-west and the shallow, concave profiled ditch (1126) was *c*. 0.50m wide and between 0.06m and 0.13m deep. The ditch contained two naturally deposited fills, the lower one was predominantly chalk rubble (<50mm), and the upper fill was a dark brown silty clay, similar to the overlying buried soil. The large foundations of the barrack buildings had severely damaged part of the northern corner, however it is likely that neither an entrance, nor any structure had existed here. No central feature was observed, although grave 1086 lay in the south-eastern corner. The archaeological relationship between the grave and mortuary enclosure ditch was destroyed by disturbance of the southern half of the grave. The orientation and position of this grave possibly indicates that the enclosure

existed before the grave was dug. An area of rooty disturbance may indicate the presence of shrubs or trees.

Following the projected line of the aqueduct (Figs 1-2) was an insubstantial ditch apparently forming the south-east corner of an enclosure (1124). The ditch was similar in profile and size but much larger in extent than the mortuary enclosure ditch (1126). It was traced for approximately 13m along the northern edge of the site, returning to the north-east (7m long) *c*. 5m north-west of, and parallel to, the mortuary enclosure. The ditch had removed the skull of the skeleton in grave 1033, and was clearly later than grave 1019 (Figs 2-3).

Human Bone

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data recorded and compiled by Kirsten Egging Dinwiddy

Introduction

Human remains were recovered from 38 contexts, including the *in situ* remains of 29 late Romano-British inhumation burials; a minimum of three had been made coffined (*c*. 10%), 12 were laid prone (*c*. 41%; all uncoffined), and five individuals had been decapitated (*c*. 17%; including two coffined burials and one pronated). The remaining contexts comprised the backfills of inhumation graves (three contexts), a Romano-British ditch (one context) and modern service trenches and overburden (five contexts).

The site lies *c*. 200m west of the known line of the west wall of Roman Dorchester, to the south of the route of the Roman road leading north-west from the town (Fig. 1). The grave group forms only one of several contemporaneous cemeteries around Dorchester, the largest of which, Poundbury, lay only *c*. 300m to the north of the site (Fig. 1: Farwell and Molleson 1993; Davies *et al.* 2002; Wessex Archaeology 2007b).

Methods

The degree of erosion to the bone was recorded using one of the writer's system of grading (McKinley 2004, fig. 7.1-7). Age was assessed from the stage of tooth and skeletal development (Beek 1983; Scheuer and Black 2000), and the patterns and degree of age-related changes to the bone (Buikstra and Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (Bass 1987; Buikstra and Ubelaker 1994); where the quantity and quality of sexing criteria was compromised the indicated sex may be qualified (??probable). Measurements were taken (Brothwell and Zakrzewski 2004) and skeletal indices calculated where possible (Trotter and Gleser 1952, 1958; Bass 1987). Non-metric traits were recorded in accordance with Berry and Berry (1967) and Finnegan (1978).

Results

A summary of the results is presented in Table 1. Full details are held in the archive.

Disturbance and condition

Some level of disturbance to the burial remains was fairly common (*c*. 34%). Intercutting between graves occurred in only two cases, with minimal disturbance to the remains of the burial; the right forearm from grave 1053 was redeposited in the backfill of grave 1056, and part of the foot from 1112 (grave 1111) was removed by the insertion of grave 1108. Grave 1033 was disturbed by the insertion of a Roman boundary ditch (1124) which removed the skull. Landscaping of the site in the late 19th and early 20th centuries prior to redevelopment included terracing and resulted in a reduction in ground level in the southern half of the site with a corresponding build-up in the northern half. Service and foundation trenches were cut through parts of six graves (317, 1004, 1019, 1024, 1036, 1042) and left only the faintest traces of six others across a central strip of the site (Fig. 2); since the latter (including 1059, 1061, 1092 and 1094) were identified only via yellowish-brown 'stains' reminiscent of the other graves it is possible that further, shallower graves may have been removed completely. Two graves appear to have been partially (1086; Figs 2, 7) or completely (1092) excavated during the previous redevelopments.

Despite the disturbance, most of the excavated graves survived to a relatively substantial depth averaging 0.40m, with a range of 0.15-0.60m; two of the shallowest

graves (both 0.15m deep) each contained the remains of the only young immature individuals recovered from the site.

Bone preservation is generally good, with more than half the skeletal remains scored at grades 0-2 (no surface degradation to moderate but patchy surface erosion). Some of the redeposited material and parts of *in situ* remains from four graves (317, 1033, 1045 and 1098) were scored at grade 4 (all surface affected by erosive action). The latter included male and female adults, one infant, and both coffined and uncoffined remains. The graves were dispersed across the northern half of the site, two had been cut by later features and all were below the average recorded depth; both the latter factors may have been of relevance to bone preservation but the observed condition is not consistent across all graves with similar characteristics. Most graves were initially backfilled with chalk rubble (redeposited natural), with an upper soil matrix derived from the old ground surface. Two graves (1075 and 1086) partly contained intrusive fills from modern disturbance, and the bone from both was less well preserved than most recorded at grade 3. Many factors may have an effect on bone preservation and it is probable that undetected variations in the burial microenvironment and mortuary practice (e.g. length of time between death and burial, time of year, inclusion/exclusion of organic remains) will have influenced the variations observed in this instance (e.g. Henderson 1987; Nielsen-Marsh *et al.* 2000; Millard 2001; Hopkins and Wiltshire 2003). The redeposited bone mostly comprises complete or near-complete skeletal elements with fresh breaks rather than fragments disturbed in antiquity. The poor condition was due to *in situ* erosion rather than abrasion resulting from reworking.

The percentage of skeletal recovery from the *in situ* remains ranged between 20% to 100%, with an average of 77%; over 70% of the graves contained more than 75% of the skeleton (Table 1). Disturbance and related removal of remains from the graves was the primary factor affecting skeletal recovery.

Rodent gnawing was noted on parts of the right scapula and left femur from burial 1032 (grave 1033). This grave was one of the shallowest recorded on site (0.15m) and although doubtless originally deeper, the remains would have lain relatively

close to the surface and the open nature of the chalk rubble fill would have facilitated access for burrowing rodents.

Demographic data

A minimum of 29 individuals were identified, one from each of the excavated graves (excluding those seen only as shadows/stains). The small quantity of redeposited bone recovered probably all derived from the disturbed *in situ* burials; the likely burial of origin being attributable in most cases (Table 1). The unstratified material, and that from contexts 1066B and 1011B could not be conclusively linked with the remains of any specific burial(s), but could be accommodated within the minimum number counts (MNI) and have derived from one or more individuals already represented within the assemblage. The only possible exception could be 1011B, the remains from which, on the basis of contextual data and distribution of the remains, may represent the remains of an additional adult male *c*. 30-50 years (NB not included in Table 1 or subsequent calculations).

The assemblage includes the remains of three (*c.* 10%) immature individuals and 26 adults (*c*. 90%; Table 2). All except one of the adults (possible male) were securely sexed, showing a much higher proportion of males (61.5% adults) than females (35% adults); the subadult was tentatively sexed as female. The median age range for all adults is 35-45 years, there being little variation between the sexes. Only one adult, a male, was less than 30 years of age and a substantial proportion (35% adults) were over 45 years of age. A much higher proportion of the female adults (44%) fell into the latter older adult group than did the males (25%).

Although the excavations defined the probable northern extent of the cemetery, further burials forming part of this group will have extended to the north, and possibly to the east and west (Figs 2-3); the excavated graves forming an unquantifiable sample of the cemetery population. There may have been some spatial separation of individuals on the basis of age and/or sex creating a biased view of the cemetery population; though the remains appear to demonstrate a dispersed distribution, the only definable pattern being that all three of the immature individuals were in the same north-south row between the enclosure ditch and the mortuary enclosure (Fig. 3). The graves of the younger immature individuals were

substantially shallower than the average for those of adults (0.15m compared with 0.40m). It is, therefore, possible, given that some graves were almost totally destroyed by modern intrusions and all traces of the burials themselves were removed, that the graves of further immature individuals within the area of the site have been totally eradicated. The common absence of neonatal (0-6 months) remains from Romano-British cemeteries and their frequently recovery from agricultural or domestic settlement locations is a well recognised part of the mortuary rite, the possible reasons for which have been discussed elsewhere (Philpott 1991, 97-102; Struck 1993; Scott 1999, 115; McKinley 2008a). Neonatal remains have been recovered from various locations within Dorchester including Greyhound Yard (Rogers 1993), County Hall (McKinley 1993b), Wollaston House (McKinley 2005a) and the County Hospital (McKinley 2008b).

On the basis of the currently available evidence from Little Keep, however, the proportion of immature individuals is low compared with the 17.4% (including 4.4% neonates) from Cirencester, Gloucestershire (Wells 1982), 25% from the late Romano-British cemetery at Alington Avenue, Dorchester (Fig. 1; Davies *et al.* 2002, 129), 29% from Lankhills, Winchester, Hampshire (Clarke 1979) and 33% (including 5.8% neonates) from Poundbury (Molleson 1993, table 62). The poor representation of immature individuals within the assemblage could be related to the similarly low percentage of young adults (3.8% compared with 7.8%, 14.3% and 28% from Poundbury, Cirencester and Lankhills respectively), which could be a reflection of a preponderance of older adults within the general population using the cemetery, resulting in a low fertility rate.

The higher ratio of male to female adults seen at Little Keep appears to be relatively common within contemporaneous inhumation cemeteries, the close to 2:1 ratio being similar to that from Cirencester (57% males, 26% females; Wells 1982) and the late Romano-British cemetery at Alington Avenue (59% male, 27% female; Davies *et al.* 2002, 129). A similar but smaller variation between the sexes was recorded at Lankhills (39% male and 25% female; Clarke 1979). This trend was not, however, echoed at Poundbury, where almost equal proportions of male (29%) and female (31%) adults were identified. The population burying their dead at Little Keep appears in strong contrast to that using the contemporaneous cemetery *c*. 300m to the

north, with far fewer children and a much greater proportion of males, though in the latter characteristic it has strong similarities with the cemetery at Alington Avenue on the other side of the town. Both Little Keep and Alington Avenue (MNI 109: Waldron 2002, 151) represent substantially smaller cemetery groups than that from Poundbury (MNI 1126; Molleson 1993, table 62), and it may be that the statistically larger group gives a more realistic representative picture of the population. It could, however, reflect the use of the larger cemetery by the general population of the town and that of the smaller cemeteries by specific groups. Both of the latter showed a major imbalance between the sexes, perhaps suggesting they were favoured by unmarried males, male immigrants or migrants workers gravitating to the town for work, possibly from an extended rural hinterland.

Skeletal indices and non-metric traits

It was possible to estimate the stature of the majority (*c*. 88%) of the adults (Table 3). The male mean is just above the average of 1.69m recorded by Roberts and Cox for the Romano-British period (2003, 163), being noticeably greater than that of 1.66m recorded at Poundbury and Alington Avenue (Molleson 1993, table 28; Waldron 2002, table 29a). In contrast, the mean for the females is slightly below that of 1.59m given by Roberts and Cox for the period (2003, 163), and means of 1.61m and 1.57m from Poundbury and Alington Avenue respectively (Molleson 1993, table 28; Waldron 2002, table 29a). The ranges for both sexes are shorter than recorded from Poundbury and Alington Avenue probably, at least in part, influenced by the much smaller numbers of individuals recovered from Little Keep compared with the other two sites. The noticeably greater sexual dimorphism in mean estimated stature at Little Keep (0.14m) compared with the town's other two cemeteries (0.05m at Poundbury and 0.09m at Alington Avenue) further highlights the potential differences already suggested by the demographic data between both the two smaller cemeteries and the major cemetery at Poundbury, and between the two smaller cemeteries themselves.

The cranial index could be calculated for most of the adults (Table 3). The range is slightly shorter than that observed at Poundbury, probably for the same reasons of scale outlined above, resulting in fewer outliers and implying slightly greater homogeneity within the group. At Poundbury, however, the mean for both sexes fell

within the mesocranial (medium breadth-length ratio) range, and Little Keep, yet again, has closer similarities with Alington Avenue, where the mean for the females was in the dolichocranial range (long-headed) and that for the males almost evenly divided between mesocranial and dolichocranial (Molleson 1993, 167; Waldron 2002, 151). The two main outliers, 1076 (male; hyperbrachycranial (extreme round-headed)) and 1013 (female; brachycranial (round-headed)), both had indices at or close to twice the standard deviation above the mean for each sex; neither were noticeably distinguished from their fellows by burial location, orientation or associated artefacts.

The platymeric index (demonstrating the degree of anterior-posterior flattening of the proximal femur) was calculated for 22 (84.6%) of the adults (Table 3). Overall, 50% of femora were within the eurymeric range (moderate/broad), 40% platymeric (flattened) and 10% stenomeric (rounded). Where both femora could be measured there was a slight variation (<7.0) between the two sides, with higher readings from the left in five cases and from the right in nine. Variations above the standard deviation were observed in six cases (four males and two females), suggesting significantly greater physical stresses to one side (equal division between sides; both females to right). At both Poundbury and Alington Avenue, the majority of femora were within the platymeric range, though several were classified as stenomeric within the larger cemetery (Molleson 1993, 167; Waldron 2002, 151). It has been noted that latter classification is usually only found in pathological cases (Bass 1987, 214), however, there are no indications in the three femora which fall within this range (burial 1032 (left), 1043 (right), 1109 (right)) to suggest the classification is linked to a pathological condition.

The platycnemic index (illustrating the degree of meso-lateral flattening of the tibiae) was calculated for 21 adults (80.8%); 60% of tibiae are in the eurycnemic range (broad), 33% mesocnemic (moderately flat) and 7% platycnemic (very flat). Where both tibiae could be measured, there was generally limited variation between sides (higher reading from right in 71.4% and from left in 23.8%), though variations above the standard deviation were observed in six cases (four males (right), two females (one right, one left). The majority of the tibiae from Alington Avenue were in the mesocnemic range (Waldron 2002, 151). The mean for the males at Poundbury was

also in the mesocnemic range that for the females being eurycnemic, with a similarly low proportion (8%) to those from Little Keep in the platycnemic range (Molleson 1993, 167). The suggested potential link between squatting facets and platycnemia (*ibid.*; Brothwell 1972, 91) cannot be supported by the current data; squatting facets were observed in 18.7% of tibiae, and in only two of the three tibiae within the platycnemic range.

The robusticity index (expressing the relative size of the femur shaft; the higher the index, the more robust the bone) was calculated for 12 males and seven females. Where both sides could be measured the variation was generally fairly low, with an equal division between the sides in terms of highest reading for both sexes. Although most of the females fell at the lower end of the range (mean 123.8) and the males towards the upper end (mean 129.4), the highest index (142.6) was observed in a female femur (burial 1080) though this could reflect plastic changes to the bone (see below).

Variations in skeletal morphology may indicate population diversity or homogeneity. The potential interpretative possibilities for individual traits is complex and most are not yet readily definable, particularly on a 'local' archaeological level (Tyrrell 2000). Some traits have been attributed to developmental abnormalities or mechanical modification (*ibid.* 292) e.g. *os acromialie* (non-fusion of the tip of the acromion process of the scapula), which was observed in four individuals from Little Keep, two males and two females (true prevalence rate (TPR) 15.6%). The variant is generally observed in *c*.3-6% of individuals, though in some cases there are indications that activity-related stress may be a factor in its occurrence (Stirland 1984; Knüsel 2000, 115-6). The comparatively high rate from Little Keep and mix of sexes suggests a familial link between these individuals (two of whom were buried in adjacent graves, the other being on the southern and western margins of the cemetery).

Several other common and less frequently occurring non-metric traits were observed and recorded in analysis (Table 1 and archive). There were few dental anomalies (Table 3); the commonly observed congenital absence of the third molars was seen in three dentitions (all female), with an overall rate of 8.7% (21.2% females), which is considerably lower than the *c*. 39% recorded at Poundbury (43% female dentitions,

35% male; Molleson 1993, 168-9). Unlike at Poundbury, no metopic sutures were noted or sagittal ossicles. Ossicles at the lambda were more common at Little Keep (8.7%) than at Poundbury (3.6%); ossicles in the lambdoid suture had a similar frequency (*c*. 41% and 48.8% respectively), the trait showing an even higher rate (56%) at Alington Avenue (*ibid.*; Waldron 2002, 151). Similar rates were observed to those at Poundbury for other cranial variations including mandibular tori (17.8% and 13.6%), plural mental foramen (2.2% and 2.5%) and double occipital condylar facets (5% and 3.2%); other rates were substantially lower than those observed at the larger cemetery including those for parietal foramen (38.6% and 50.2%) and the posterior occipital condylar canal (22.2% and 60.6%; Molleson 1993, table 30). These data could be taken to suggest a level of homogeneity between the two populations, which, although perhaps inevitable given the geographic and temporal proximity, is slightly at odds with some of the other data reviewed above.

Several less common morphological variations were recorded but few were repeated within the assemblage such as to suggest potential familial relationships between individuals. One individual has evidence for a cervical rib (crude prevalence rate (CPR); proportion of individuals affected) 0.8% for the period; Roberts and Cox 2003, table 3.4); two male adults each had a sixth lumbar vertebra; and the process was absent from both hamates in one adult female. Several variations were observed to tarsal and metatarsals including additional articular surfaces in six individuals (four forming a tight group, possibly familial, to the north-west of the mortuary enclosure). A series of coalition defects in the right foot from 1040 are associated with a small wedge-shaped bone situated between the calcaneum, cuboid and navicular (coalitions between calcaneum, ossicle and cuboid, and between cuboid and navicular; Plate 1), which probably represents a rare example of *os calcaneum secundarium* (Bergman *et al.* 1998). Similar extra ossicles with associated coalitions were recorded between the left capitate and the 2nd – 3rd metacarpals from burial 1052. The 1st metacarpal distal articular surfaces from the same individual presented as flat, very slightly concave surfaces rather than the normal convex surfaces. The morphology has the appearance of a variation rather than a pathological condition, and the same form to the 1st metacarpals was observed in the individual from the adjacent grave (1056) suggesting a genetically linked trait.

The older adult female from burial 1112 has pronounced pubic tubercles, with extensions of 9mm (left) and 5mm (right). This lesion, reflective of physical stress to abdominal muscles, has been found to be significantly associated with parity status, usually in females known to have experienced three or more births (Cox 2000).

Pathology

Pathological changes were observed in the remains of 27 individuals, i.e. all except the infant and the juvenile. A summary of the observed lesions and the bones affected is presented in Table 1.

Dental disease

All or parts of 25 erupted permanent dentitions were recovered, including from all 10 females and 15 of the adult males.

Dental calculus (calcified plaque/tartar) was observed in all except two (one female and one male) of the permanent erupted dentitions. Most deposits (52%) were mild-moderate in severity (Brothwell 1972, fig. 58b), with the mandibular teeth slightly more heavily affected than the maxillary, and with almost even distribution on all sides of the teeth. Although there was some indication of an increase in severity with age – the three individuals with moderate-heavy deposits were all over 40 years of age – there was no consistent correlation, and the individual with the heaviest deposits (burial 1011) was aged 35-45 yr. Both the distribution and severity could be misleading, however, since calculus deposits are commonly disturbed and lost during excavation and post-excavation processing.

Periodontal disease (gingivitis) had affected the alveolar margin around one or more tooth sockets (never all) in 80% of the female and 66.7% of the male dentitions. In most cases (*c*. 44%) the lesions were slight but heavy lesions were recorded in 33% of the affected dentitions (Ogden 2005). Most lesions were associated with molar or premolar sockets, but anterior sockets were also affected in some cases, severely so in burial 1055 (possibly associated with the extensive calculus deposits). Mandibular and maxillary dentitions were similarly affected.

The *ante mortem* loss of between one and 15 teeth was recorded in 16 dentitions including 90% of the female and 43.7% of the male. A higher proportion of maxillary teeth were subject to loss compared with mandibular (11% *v*. 8.7%). The 1st and 3rd molars were most frequently affected, though most of the teeth excepting the canines had been subject to some loss. The highest rates were recorded in the individuals >50 years of age (male and female) and although there is an age-related link in frequency it is not consistent. The overall rate (Table 4) is below that of 14.1% given by Roberts and Cox for their Romano-British sample (2003, table 3.12) and the 13.4% from Alington Avenue (Waldron 2002, 152).

Dental caries, resulting from destruction of the tooth by acids produced by oral bacteria present in dental plaque, were recorded in between one and 12 teeth in 19 dentitions, including 90% of the female and 66.7% of the male dentitions. A slightly higher proportion of maxillary (12.9%) compared with mandibular teeth (12.1%) were affected. The majority of lesions are in the molar teeth (*c*. 65%), the 3rd molars being most heavily affected (max. 71% left maxillary), with similar proportions in the premolars (*c.* 18%) and anterior teeth (*c*. 17%). The origin of most lesions (45%) could not be ascertained due to the severity of destruction, but where origin was apparent the majority were in the contact area (27%), with similar proportions in the occlusal fissures (13%) or cervical areas (15%). Although there is some indication of an age-related link in frequency, the highest number of lesions occurring in the dentition of a male of *c*. 50-70 years, the link is not consistent. Most of the individuals (87.5%) who had suffered *ante mortem* tooth loss also had carious lesions and it is probable that the conditions were associated. The rate (Table 4) is higher than the 7.5% given by Roberts and Cox for the Romano-British period (2003, table 3.10) and the 2.2% from Alington Avenue (Waldron 2002, 152), but below that of 15.8% for Poundbury (Molleson 1993, 183).

Between one and six lesions indicative of dental abscesses were recorded in 13 dentitions including 50% of females and 54% of males. Most individuals had only one or two lesions, those with five or more both being over 50 years of age (one male, one female). Lesions were twice as common in the maxilla (7.7%) compared with the mandible (3.3%), with the maxillary left 1st molar socket representing the most commonly affected location (17.4%). The link between carious lesions and

dental abscesses was clear in the majority of cases (77%), the carious damage having exposed the supportive structure to infection. At least one of the lesions in the three cases with no associated caries, all in anterior teeth, may have developed in response to injury to the teeth with subsequent formation of a peri-apical cyst rather than to infection. In the case of one older adult male (burial 1015), abscesses in maxillary molars on both sides had tracked superiorly into the maxillary sinuses resulting in secondary sinusitis. One left abscess had exited through the left palate and there were small openings into the right nasal cavity and buccally on both sides of the maxilla; there was no clear signs of infection but the palate is abnormally hypervascular in appearance. The abscess rate (Table 4) is greater than the mean of 3.9% given by Roberts and Cox for the period (2003, table 3.13), and the very low 0.8% from Alington Avenue (Waldron 2002, 152).

Slight dental hypoplasia (developmental defects in the tooth enamel reflective of periods of illness or nutritional stress in the immature individual; Hillson 1979) was observed in 13 dentitions including 60% of female and 47% of male dentitions. The most commonly affected teeth were the maxillary left 2nd incisor (50%) and the canines (24%*).* Most lesions present as faint lines in the tooth crowns, with heavier lines or grooves in four cases, and pitting in one. Although up to 14 crowns within one dentition have evidence of hypoplasia, most were seen in between only one and five teeth, generally with single lines in each crown. The majority of cases indicate periods of stress between 4-6 years of age, with at least one at 2-3 years; two individuals appear to have experienced repeated periods of stress. The rate (13.2%) is above that at 9.1% given by Roberts and Cox for the period (2003, table 3.16), though several sites within their sample have considerably higher rates than at Little Keep.

Congenital conditions

Rare occurrences of minor congenital conditions were recorded including; *coxa vara* (shortening and obtuse angulation of the femoral neck), observed in femora from three adult males; and *spina bifida occulta* (incomplete ossification of the spinal processes, generally of the sacral vertebra) seen in one adult male (CPR 3.5%; TPR 5.9%). Both conditions were observed in the Poundbury assemblage (Molleson 1993, 187), the latter in four cases at Alington Avenue (Waldron 2003, 153), and Roberts

and Cox (2003, table 3.7) show a CPR of 1.7% with a TPR (for only one site in their sample) of 17.4% for the latter condition.

Trauma

Evidence for fractures were recorded in the remains of 11 individuals (CPR 37.9%), including 10 males (62.5%) and one female (10%). Comparative data is largely in the form of crude prevalence rates (CPR), Roberts and Cox giving an overall rate of 10.7% for the period (2003, 151), which is close to the 9.2% from Alington Avenue (Waldron 2002, 152) but below that of 16.7% from Poundbury (Molleson 1993, table 47). Males commonly show greater involvement than females; at Cirencester, for example, Wells recorded 26.7% of males and 6.6% of females as having fractures (1982, 167), while at Poundbury the figures, though higher, demonstrated similar dimorphism with a male CPR of 37.4% and female 18.5% (Molleson 1993, table 47). Most individuals exhibited single lesions, but two, possibly three adult males (1015, 1109 and 1118) had healed fractures at two-three sites. Ribs represent the most common fracture site, well-healed fractures being noted in five individuals (including one female: CPR 17.2%); the TPR of *c*. 1% may be misleading since many of the rib shafts were not complete. In all except one case only a single rib was affected, two adjacent ribs being fractured in one case. The CPR of 17.2% is close to that of 13% noted by Molleson at Poundbury (*ibid.*). Most fractures of the rib result from direct injury such as a fall against a hard object, and most heal unaided in consequence of strong muscle and ligament attachments (Adams 1987, 107).

There were single cases of fractures to other parts of the skeleton. A fracture to the proximal shaft/neck of the left humerus of an elderly male (1047; TPR 2.3%) had healed well but there was medial and distal displacement of the broken end, though the two fragments were apparently firmly impacted (incomplete so full extent of damage unknown). Such fractures generally result from a fall on the limb and elderly individuals (usually female) are particularly prone to such injury due to weakening of the bone by osteoporosis (*ibid.* 132). X-radiograph certainly showed increased translucency indicative of rarefication, but it is not clear if this was part of the cause or the effect of the injury. A small (*c*. 13 x 7mm) semi-circular depressed area in the dorso-lateral margin of the left tibia lateral condyle from burial 1089 is delineated by a clear hairline fracture. The most probably cause was a forceful medial blow to the

lateral side of the knee while the foot was firmly fixed (*ibid.* 251-2). A fracture to a proximal foot phalanx (burial 1049) was probably as a result of something heavy being dropped on the foot.

The adult male 1109 had sustained a fracture to the inferior end of the nasal bone, slightly flattening and splaying both halves (TPR 5.3%). The changes suggest a blow down onto the nose from directly in front of the individual, possibly accidental but more likely deliberate using a blunt implement (Plate 2). The same individual had old fractures to the left mandibular canine and left maxillary 1st premolar, the lingual portions of both crowns having sheered-off, probably as a result of heavy upward or downward impact against the occlusal surfaces of the opposing teeth. Both injuries could have been sustained in the same traumatic event. Facial fractures are uncommon in the archaeological record, though accidental and deliberate blows to the face are likely to have occurred with greater than the observed frequency.

Fractures to the thoracic vertebral bodies are most commonly the results of a vertical force acting on the long axis of the vertebral column (Adams 1987, 100). In the case of the well-healed wedge compression fractures to the T11-12 in the elderly male 1015 (TPR 0.7%), the force is likely to have come from below involving a very heavy fall (presumably from a height) onto the buttocks, since the individual also has well-healed fractures to the sacrum at the S3-4 level, with resulting anterior angulation of the inferior portion (TPR 4.5%). This individual had *spina bifida occulta* and exhibited non-ossification of the entire dorsal length of the sacrum; the condition may have saved the individual from extensive damage to the spinal cord by bony splintering of the spinal processes which could have accompanied the traumatic injury. The size and robusticity of the lower limb elements suggests there was limited, if any, permanent major nerve damage as a result of what must have comprised a major accident.

An unusual feature of a healed but slightly misaligned (palmar-wise) fracture to the right 1st metacarpal from burial 1118 is the apparent fusion of a sesmoid bone (held in the ligament generally adjacent to the distal joint surface) on the dorso-lateral side of the healed bone half-way up its length. This suggests soft tissue damage as well as fracture to the bone; such fractures are often the result of longitudinal violence

applied by a blow, as, for example, in boxing (*ibid.* 186). This individual was one of three males to sustain more than one injury (see above); a possible fracture to a tarsal bone resulting from a direct blow or a fall; extensive exostoses (new bone) on the dorsal shaft of the distal femur illustrating traumatic muscle damage; and a well-healed lesion in the right frontal, probably the result of a sharp weapon-trauma skimming part of the outer-plate off the skull (Plate 3). The teardrop-shaped lesion (29mm x 16mm, 0.5mm max. depth) is shallower and narrower superiorly becoming broader and deeper inferiorly, suggesting a blow from above and to the right side.

One other possible old, healed, weapon trauma was recorded in the left superior frontal of another older adult male (1066), *c*. 24mm from coronal suture and parallel to it. The well rounded anterior edge of the *c*. 14 x 4mm very shallow lesion, appeared more acute than the dorsal edge, again suggesting an oblique blow but from the left side.

Osteochrondritis dissecans, a condition leading to fragmentation and disruption in an articular joint, is generally believed to be traumatic in origin resulting in the obstruction of the blood supply to the affected area and localised necrosis (Rogers and Waldron 1995, 28-30; Roberts and Manchester 1997, 87-89; Aufderheide and Rodríguez-Martín 1998, 81-83; Knüsel 2000, 116). Bi-lateral lesions were recorded in the medial condyles of the femoral from burial 1098; that in the left had healed, the lesion having in-filled, the right remained evident as a concave depression. The condition was not common, Roberts and Cox giving a CPR of 0.04% for the period, with a single case having been recorded from Poundbury (2003, table 3.27) and four from Alington Avenue (Waldron 2002, 153). A small destructive lesion in the proximal articular surface of the 1st left metatarsal from burial 1066 has a similar appearance to that produced by *osteochondritis dissecans,* with a fine, pale new bone infill to the lesion. Although involvement of a concave surface at such a site would be unusual, similarly rare occurrences at other than the classic sites have been recorded (Aufderheide and Rodríguez-Martín 1998; 81-83).

Soft tissue trauma, particularly to muscles/ligaments either as a result of a single violent trauma or repeated low key stress, was also indicated by at least some of the cortical defects observed (mostly at muscle/ligament insertions and predominantly in

males; CPR 34.5%, 62.5% males, 20% females) and some, if not most of the enthesophytes/exostoses recorded (Table 1). The causative factors of enthesophytes (bony growths at tendon and ligament insertions) can include advancing age, traumatic stress, or various diseases (Rogers and Waldron 1995, 24-25) and it is not always possible to be conclusive with respect to the aetiology of particular lesions. Almost all the adults (92.7% males, 80% females) had some lesions at between two to 22 sites, and although there was some correlation between age and number of sites affected this was not consistent or linear progressive (individuals >50 years had lesions at between two and 22 sites). In at least two cases, both adult males (1052 and 1076) extensive enthesophytes at the distal interosseous ligament attachments between the fibula and tibia are likely to be indicative of abduction or lateral rotational violence to the ankle.

Five individuals had been decapitated prior to burial; these have been discussed in a separate section of the report (see below *burial attitude and treatment*).

Infections

Infection of the periosteal membrane covering bone may lead to the formation of periosteal new bone. Infection may be introduced directly as a result of trauma, develop in response to an adjacent soft tissue infection, or spread via the blood stream from foci elsewhere in the body. It is often difficult to detect the causative factors involved in individual cases and the lesions are commonly classified as indicative of a non-specific infection. Three adult males all had very slight lamellar (healing) new bone on small patches of distal fibula shaft; at least one case – 1052 – is likely to be associated with a soft tissue trauma (see above), and slight lesions were also observed in the adjacent tibia shaft. Molleson suggested that most of the similar cases from Poundbury were likely to be related to leg ulcers, in themselves indicative of malnutrition and ill-health, specifically chronic vitamin C deficiency (1993, 189). There was noticeable foreshortening of the left upper limb bones of the adult female from burial 1013; all three long bones being between 11-13mm shorter than those of the right side, though with no obvious variation in the robusticity of the bones. The difference between the two sides suggest an interruption in development of the right upper limb in the immature individual. Although far from conclusive, one possible diagnosis could be poliomyelitis. A viral infection of the central nervous system, the

condition often leads to the temporary or permanent paralysis of the affected muscles and is most common in the immature individual, hence its potential affect on bone growth (Adams 1986, 147-8; Roberts and Manchester 1997, 134; Aufderheide and Rodríguez-Martín 1998, 212). There are few reported cases from the period, the potential diagnoses – as here - tentative and inconclusive in each case (Wells 1982; McKinley 1993b; Roberts and Cox 2003, 127-8).

Joint disease

Joint diseases represent the most commonly recorded conditions in archaeological skeletal material. Similar lesions – osteophytes and other forms of new bone development, and micro- and macro-pitting – may form in response to one of several different disease processes, some also occurring as lone lesions largely reflective of age-related wear-and-tear. Many of the conditions increase in frequency and severity with age, though factors other than the age of the individual are frequently involved and the aetiology of some conditions is not clearly understood. All or parts of 26 spines and 1911 extra-spinal joints were recorded from all the sexed individuals (Table 5).

Schmorl's nodes (a pressure defect resulting from a rupture in the intervertebral disc; Rogers and Waldron 1995, 27; Roberts and Manchester 1997, 107) commonly affect young adult spines. Lesions were seen in 11 male (68.7%) and five female (50%) spines, with between three and 12 affected vertebrae in the former (average seven) and one to 12 in the latter (average five). No lesions were seen above T3, and lesions were most prevalent in the 11th thoracic (52.6% affected). The greatest number of affected vertebrae were seen in an elder female (60-70 yr.) and an older male (50-60 yr.). The rate (Table 5) is slightly above the average of 17.7% for the Romano-British period given by Roberts and Cox (2003, table 3.21).

Degenerative disc disease, resulting from the breakdown of the intervertebral disc and reflecting age-related wear-and-tear (Rogers and Waldron 1995, 27), was recorded in between one and 19 vertebrae in 17 spines, including nine male (56.2%) and eight female (80%). Lesions were observed in all areas of the spine, being most common in the C3 (42.1%); the highest proportion of lesions in the female spine were in the lumbar area (37%) and in the cervical area (15.8%) in the male. There is

an age-related link in extent, all four individuals with more than 10 affected vertebrae being over 50 years of age (two males and two females).

Lesions indicative of osteoarthritis (Rogers and Waldron 1995, 43-44) were recorded at between one and 36 sites in the remains of 21 individuals, including 12 males (75%) and nine females (90%). Spinal lesions were recorded in between one and 20 vertebrae in 14 spines (eight male, six female; Table 5), the greatest prevalence being in an elderly female (burial 1112) who also had extensive lesions in her extra-spinal joints (nine sites). The highest prevalence in a male spine was also seen in an elderly individual (burial 1109, 13 vertebrae), who had non-spinal lesions at 23 sites. Overall the spinal area with the greatest prevalence of osteoarthritis was the 1st sacral (23%); there was a difference between the sexes with the thoracic being the highest affected area in the females (30% thoracic vertebrae) and the 1st sacral in the males (21%). The 10th thoracic showed the highest prevalence overall (30%). Extra-spinal lesions were recorded at between one and 23 sites in the remains of 20 individuals (11 males, nine females; Table 6). Relatively few of the lower limb joints were affected, though in both females and males the greatest prevalence of the disease was seen in the hip joint. The condition was more widespread in the males, but the prevalence in the affected females joints was generally higher than in the males. In general, the rates are slightly higher for the right side than for the left.

Comparative data is again in the form of the less reliable CPR (number of individuals affected) rather than the number of joints affected (TPR). Roberts and Cox show a CPR of 13% for spinal joints and 11.1% for extra spinal joints for the period (2003, tables 3.19 and 3.20), the CPR for extra spinal joint involvement at Poundbury being 16.5% (Molleson 1993, table 51). All are considerably lower than the 48.3% spinal and 69% extra-spinal CPRs for osteoarthritis at Little Keep, though the rate from Alington Avenue, at 43.1%, is close (Waldron 2002, 153). As Waldron observed, the prevalence of osteoarthritis is strongly age-related, and the population at Little Keep includes few adults of less than 35 years of age (15.4%) which may largely account for the high rates of osteoarthritis and other degenerative joint diseases. The distribution of the condition at Little Keep is also of interest given the exclusion of the joints of the lower limb; a CPR of 3.1% was recorded for the knee joints at Poundbury for example (Molleson 1993, table 51). These figures could be slightly

misleading, however; lone osteophytes were relatively common around the joints of the lower limb (e.g. 34.8% of knee joints) as elsewhere (Table 1), with occasional lone pitting, and these lesions may have represented the early stages of osteoarthritis, though in many cases they are likely to simply be reflective of age-related wear-and-tear.

A small area of new bone - 10mm x 2mm, projecting medially 10mm – on the superior margins of the right auricular surface of the ilium from burial 1049, extending to articulate with a smaller, similar lesion on the sacral side, may indicate the early stages of ankylosing spondylitis (Rogers and Waldron 1995, 64-68). Other characteristic features of this seronegative arthropathy, symmetry of lesions and surface erosions, are absent, however, making the possible diagnosis highly tentative. Roberts and Cox record only two instances of this disease in the Romano-British period (2003, 150-1).

An unsided proximal phalanx from burial 1032 shows gross destruction of the distal articular surface with loss of all normal contours, the remaining surface area comprising pitted, disorganised new bone with one larger marginal destructive lesion. The lesions are indicative of pyogenic arthritis which results from an infection within the joint following direct trauma or spread from foci elsewhere in the body; as in this instance, the condition generally affects a single joint (Rogers and Waldron 1995, 88).

Bi-lateral lesions in the hand and foot bones from burial 1109, an elderly male, are indicative of rheumatoid arthritis. Non-proliferative destructive lesions predominantly in the joint margins were observed in both scaphoids and the left capitate, both 1st metacarpal-phalangeal joints, the left 3rd and the right 5^{th,} and in several left metatarsal-phalangeal and inter-phalangeal joints; there was also remodelling of some surface contours. The affected joints are a classic location for the condition, which is generally more common in females and has a strong age-related link. The disease was observed in nine individuals from Poundbury (CRP 0.8%), six males (1.8%) and three females (0.7%); the hands and/or feet were affected in all cases; Roberts and Cox did not record the occurrence of the condition at any other contemporaneous site (2003, 150-1). There are suggestions of a genetic

predisposition to the disease, though other factors, including diet and climate, are also key to its development (*ibid.*; Rogers and Waldron 1995, 55-63).

Metabolic conditions

Cribra orbitalia (manifest as pitting in the orbital roof) is believed to result from a metabolic disorder associated with childhood iron deficiency anaemia, though other contributory factors are also recognised (Molleson 1993; Roberts and Manchester 1995, 166-9). Slight (burial 1015) and moderate (burial 1049), bi-lateral porotic lesions were observed in the orbits of two adult males (TPR 9.1%, 14.3% males). Most comparative data comprises only CPR, for example 19.3% for Poundbury, though Roberts and Cox give and overall CPR of 9.6% for the period, TPR (only two sites from their sample) 16.9% (2003, table 3.17). Both the TPR and CPR of 6.9% from Little Keep appear relatively low.

Neoplastic

Neoplasms or new growths represent the uncontrolled growth of tissue cells (in soft and hard tissue) which remain evident after the stimulus to their growth has ceased (Roberts and Manchester 1997, 186-7). Benign neoplasms are localised and their clinical significance is limited to the size of the growth and its impact on the surrounding structure of the body. Ivory osteomas - small, smooth, spherical projections of dense bony tissue - were recorded in the frontal and parietal bones of two adult males. The largest (burial 1118, left frontal) is 7mm in diameter, projecting *c.*1.0mm. Such small, asymptomatic lesions are commonly recorded in archaeological skeletal material, Roberts and Cox recording a CPR of 1.14% for the period (2003, 112).

Miscellaneous lesions

A smooth margined, circular lesion (9mm diameter, 4.9mm deep) in the anterior-right side of the T4 inferior body surface from burial 1066, had exposed the trabecular bone with no indications of infection or new bone formation. The lesion may be indicative of a tumour though no similar lesions were observed in the rest of the vertebrae from this individual.

As with other forms of new bone there may be a variety of triggers to the calcification of cartilaginous tissue within the body, including bone forming diseases such as diffuse idiopathic skeletal hyperostosis (DISH) and a predisposition to hyperostosis. In most cases, however, advancing age is the major factor, both in terms of the degree and extent of calcification. Fragments of calcified cartilage (mostly rib, one thyroid) were recovered with the remains of five individuals, four males and one female. In three cases the individual also showed extensive enthesophytes in various parts of the skeleton (Table 1), perhaps suggesting a predisposition to bone formation (hyperostosis), but all the individuals were over 45 years of age and age may have been the key factor.

Most of the lesions described as cysts in Table 1 represent 'pseudo-erosions' or solitary bone cysts, which are believed to be asymptomatic and not related to a specific disease process (Rogers and Waldron 1995, 61-3). The aetiology of the multiple smooth-margined, circular juxta-articular cavities within the left acetabulum from 1112 is uncertain; maximum 10mm diameter, only one lesions had breached the cortical bone, others were evident from x-radiograph. A small circular destructive lesion, 3.8mm diameter and *c*. 2mm deep, slightly inferior to the right ethmoidal crest within the nasal cavity from burial 1047, has slightly raised margins similar to a fistula, with a reactive appearance suggestive of a localised infection, perhaps partly in the adjacent soft tissue.

Minor plastic changes observed in some skeletal elements within the remains of four burials (three males and one female) are all likely to relate to the action of specific muscles or muscle groups on the affected bones. In the case of the femoral from burial 1115, which show pronounced anterior bowing, the leg movement may have been affected by the individual suffering from *coxa vara*, resulting in a strong use of the anterior muscles for bending the knee. Bending in the femora and tibiae from burial 1080 may be suggestive of rickets (Aufderheide and Rodríguez-Martín 1998, 306; Roberts and Manchester 1995, 173-4; Brickley *et al.* 2005, 390-1; Mays *et al*. 2006), but the lesions are not quite of classic form and the fibulae were unaffected.

Decapitations

There was clear archaeological evidence for the decapitation of five individuals (17% population); all adults over 35 years of age (*c*. 33% this age group), three over 50 years, and inclusive of two females (22%) and three males (19%). In each case, the skull and neck vertebrae above the point of severance had been placed at the distal end of the grave adjacent to or over the leg/ankle (Table 7), though space for the head in the correct anatomical position was maintained within the grave. Three of the graves were within the cluster of four to the north-west of the mortuary enclosure, for the occupants of which a potential familial relationship has been postulated (see *non-metric traits*). The other two graves, both containing coffined burials, including one with hobnail boots/shoes, lay to the north and south in the central area of the cemetery, but not in marginal locations. There is considerable variation in the number of blows used to remove the head, the point of severance and the apparent position of both the victim and perpetrator (Table 7).

No cuts were observed to the remains from burial 1047 (grave 1045), parts of the 4th-6th cervical vertebrae from which are damaged as a result of taphonomic changes. The point of severance was evident, however, from the distribution of the cervical vertebrae. The C1-4 were recovered with the skull together with a small fragment of the C5 comprising the right superior articular process and a small part of the right superior body. The left half of the C5, including the articular processes and the neural arch, was recovered *in situ* together with the rest of the spine. The C5 obviously formed the point of severance. The cut appears to have clipped the very upper lateral portion of the right C6 but not to have damaged the C4. The cut appears to have been made at a *c*. 40° angle, from left to right. The lack of damage to the adjacent vertebrae, particularly the spinal and transverse processes, suggests a backhanded (or left handed) blow was made from in front, with the head pushed back and to the right side, probably with a final push to snap any remaining un-cut bone.

There is evidence for two blows made in the removal of the head from the individual buried within grave 1068 (burial 1069). One cut to the skull base lies immediately dorsal-lateral (within 8mm) to the right side of the foramen magnum border, extending 21mm from posterior to the condylar canal to the medial line and through both plates with slight spalling where the cut terminates. The neck was largely

severed at the level of C3 by a second blow at a similarly shallow *c*. 5° angle, extending half-way through the vertebral body from the mid-right side to the superior surface, clipping the superior portion of the right transverse process. Thereafter the vertebra appears to have been snapped. The cut may also have clipped the C4 right superior articular process but no clear cut is evident. The right mandibular ramus may also have been fractured in the process but by blunt rather than sharp force. The blows appear to have been made from the dorsal right side. There were, however, clearly more than the two blows for which osteological evidence survives, since the C1-6 were recovered with the skull, only the C7 remaining *in situ*. So clearly the neck was severed between C6-7; no cuts were observed to the bodies of either vertebrae.

The C1 and C2 in burial 1109 (grave 1108) were recovered with the skull, the rest of the cervical vertebrae being found *in situ*, illustrating the point of severance between C2-3. No cuts were evident to either vertebrae, but the inferior body of C2 was damaged and incomplete (that of C3 complete and undamaged) and the point of severance was undoubtedly through the lower part of this vertebra. The slight angles evident in the bone suggests the blows were from the front and possibly from the left, the bone probably being snapped in the last instance. A *c*. 22mm long cut across the anterior of the C4 immediately inferior to the superior surface, penetrating only *c*. 2mm into the bone, supports this probably positioning.

In burial 1112 (grave 1111), the 1st-6th cervical vertebrae were recovered with the head, only the C7 remaining *in situ*. The C7 has a clean cut through the superior right side of the body and neural arch at a shallow, *c*. 10° angle (Plate 4). This cut may have continued across the left side of the inferior body of the C6, which is damaged but with no clear cut marks. An almost vertical cut removed the right transverse and articular processes of the C7. A second similar cut at a slightly more obtuse angle (*c*. 30°) had cut through the right side of the 1st thoracic vertebra, including the right margins of the body and the spinal processes. Two short cuts - 11mm long, *c*. 2mm max. depth, and *c*. 6mm apart - on the superior-dorsal margins of the right clavicle shaft (Plate 5) appear to form part of the same episode, perhaps reflecting a deflection of the blade during the downward cut made to the vertebrae rather than representing separate blows.

The 1st to 4th cervical vertebrae were recovered with the skull from burial 1118 (grave 1117), the C6-7 being *in situ* and the C5 missing. No cuts were evident in the C4, but a clear, sharp cut across the superior margin of the right transverse portion of the C6 illustrates the point of severance in the missing C5; the latter was probably subject to preferential post-depositional destruction due to taphonomic factors. A *c*. 26mm long ?cut in the lingual side of the inferior mandible of the left mandibular body could have been inflicted as the blade clipped the bone as part of a blow from the right dorsal side. A *c*. 35mm cut across the left mastoid portion had 'skimmed-off' a shallow (max. 0.7mm) depth of the outer-plate of the skull. The anterior edge was clearly cut with blade which had flaked-off dorsally (Plate 6). It is uncertain whether this lesion forms part of the decapitation process but the lack of healing suggests it is likely.

Discussion

Although there are some suggestions of homogeneity between parts of the population at Poundbury and that at Little Keep, not unexpected in contemporaneous cemeteries serving the same town, it would be erroneous to see the smaller cemetery simply as a southern extension of the larger one. There are notable differences in the demographic structure, skeletal indices and disease rates, which suggest that specific groups of people were using the smaller cemetery. There are indications of a moderate level of homogeneity within the Little Keep assemblage, probably with some familial relationships. There is also strong evidence for an ageing population making use of this area for burial, with very few immature individuals and the preponderance of older individuals being reflected in the relatively high rates of degenerative joint diseases. The high proportion of males, while echoing data from other Romano-British cemeteries including Alington Avenue on the east side of the town, is in marked contrast to the data from Poundbury. The high trauma rates amongst the males, together with evidence for interpersonal violence and several recidivists, may suggest a preponderance of unmarried veterans amongst those buried here, though equally they may be indicative of workers/tradesmen involved in stressful physical activities. The similarity between the males and females in terms of rates of degenerative joint diseases suggests similar stress levels affecting both sexes, though the variation between the sexes those areas affected indicates different stresses, largely, it would appear, acting on the upper body and axial skeleton/core

muscles. This could imply that there were few basic labourers and more trade amongst the dead at Little Keep.

Dental attrition was relatively light with no extensive exposure of dentine until an individual reached their the mid-30s. Although levels of dental hygiene appear to have been fairly poor, the rates for the various dental disease, together with the greater dimorphism between the sexes in terms of height and the slightly above average height of the males, suggests those burying their dead at Little Keep generally enjoyed a more nutritious diet than those burying at Poundbury, with a higher meat protein intake and less reliance of cereal-based potages and stews (see Molleson 1993, 184). Molleson suggested that migrant works from the rural areas were likely to have enjoyed a better diet than their urban counterparts, having had more ready and reliable access to the food products which town dwellers would have had to purchase (*ibid.* 154). Indicators of dietary stress in the immature individual are contradictory, but generally suggest that despite undoubted periods of illness/nutritional stress in the years between weaning and development of the individual's own immune system at approximately six years, as children those buried at Little Keep were relatively well nourished.

Finds

Summary

Lorraine Mepham

A small finds assemblage was recovered, all of which, with the exception of a single piece of worked flint from a service trench, came from burial contexts. The material can be subdivided into finds relating to the late Roman burials (grave goods and coffin furniture), and incidental finds recovered from grave fills, which can be regarded as either residual or intrusive. The latter range in date from prehistoric to medieval and are summarised in Table 8 (further details may be found in the archive); grave goods are summarised in Table 10.

Grave Goods

Coins

Nicholas Cooke

Three coins were recovered from the fill of a single grave (context 1011, grave 1009, an adult male) (Table 9; Fig. 2). All three are small late Roman bronze *nummi*, minted in the 4th century AD. These coins may have originally been placed in the mouth of the deceased. All of the coins are badly corroded, one (ON 10) so badly corroded as to be illegible. The other two coins (ON 22 and 23) were both coins of the House of Theodosius, struck towards the end of the 4th century AD.

These two coins form part of the last issues of Roman coins officially supplied to Britain prior to Honorius' edict of AD 410 effectively relinquished Rome's control over the British provinces. Struck between AD 388 and 402, these coins may have remained in circulation into the later 5th century AD. It is relatively unusual for such late coins to appear as grave goods, and the occurrence of these coins in the grave suggests a continuation or resurgence of the pagan burial rite where coins were placed in a grave to pay the ferryman on the journey over the river Styx, particularly if the coins were indeed as suggested, found in the mouth.

Burial 1069, a decapitated adult female exhibited green staining on the inside of the mandible and on the cervical vertebrae, indicating the presence of a copper alloy object probably in the mouth. The object would have been there for enough time to allow the flesh to decompose and the minerals to leach into bone. No such object, or in fact any other was recovered from the grave, which had been suitably excavated and sampled. No copper alloy material was recovered from the post-excavation processing.

Hobnails

Rachael Seager Smith

Iron hobnails representing nailed boots or shoes were found in five graves (Table 8), ranging in number from 1 to 58 per grave. In three instances (1025, 1053, and 1056), the hobnails were found around the feet indicating that the individual had been wearing nailed boots or shoes, probably of *caliga* type (Rhodes 1980, 113-114) at the time of burial. Three hobnails found within the coffin but on the outside of each knee

of the adult male buried in grave 1117 may also indicate the position of footwear. However, even with the two additional hobnails recovered from the sample taken from the base of the grave, the total of eight seems too small to indicate nailed boots or shoes but they may perhaps be associated with the reinforcement or repair of footwear of lighter construction. A single hobnail also occurred as a stray find in the backfill of grave 1048.

?Bead

A small, spherical stone object, probably a fossil, but possibly deliberately perforated, was found in the thorax area of burial 1089 (grave 1087), and may have been used a bead.

Coffin furniture

Rachael Seager Smith

The iron nails indicative of coffined burials in graves 1025 (18 nails), 1045 (65 nails) and 1117 (11 nails) were all of Poundbury type 1a (Mills 1993, 115) but the sizes varied between the graves. The nails from grave 1117 were only 40-50mm long, for example, while those from graves 1025 and 1045 were up to 110mm long. Traces of mineralised wood and right-angled bends in the shanks of 24 of the nails from grave 1045 indicated use of planks 50-60mm thick or, perhaps, the presence of reinforcing batons at strategic points along the length of the coffin.

Other nails

In addition to the copper alloy coins, a neatly and regularly bent iron nail shank was found under the chin of the individual buried in grave 1048. Similarly, a nail was found immediately in front of the face of the individual in grave 1039 while another had been placed in the (anatomical) position of the head (which in this instance was removed and located beside the feet) in grave 1108. Nails were also found on the right hips of the individuals in graves 1048 and 1117; although the latter contained a coffined burial, the nail on the hip (object 118) was significantly larger and more robust than those used in the construction of the coffin. The level information recorded during excavation indicates a direct relationship between these nails and the human bone. The use of nails in ritual or magical contexts, to ward-off evil spirits or to 'fix' the dead, for example, has been considered (Black 1986, 223; Dungworth

1998, 153) and may provide a possible explanation for the positioning of these nails. It may be significant that all were found with adult males, three of which had evidence for violent trauma (not including decapitation) although there was nothing to link the position of the nails with this or any other (pathological) lesions.

Discussion

Kirsten Egging Dinwiddy and Jacqueline I. McKinley
incorporating comments from Rachael Seager Smith and Nicholas Cooke

The excavations at Little Keep revealed the remains of 29 late Roman inhumation burials, many with 'unusual' burial attitudes, along with associated cemetery features including a ditched mortuary enclosure. The excellent preservation of the skeletal remains and the use of modern archaeological methods have allowed detailed analysis of the remains and an investigation into how and why particular mortuary treatments may have been practiced.

This discussion considers the standard aspects of cemeteries, their character and their assemblages, although it must be remembered that the Little Keep assemblage may only represent part of a larger cemetery. Particular attention has been paid to the burial attitudes and how they relate to all other factors such demography, health, status and lifestyle, as well as other evidence for mortuary rituals, much of which has been addressed in the Human Bone discussion above.

Comprehensive comparative work of significance to this article, both on a local, regional and national level has already been published (Farwell and Molleson 1993; Davies *et al.* 2002; McKinley 2008a, 185-190, Philpott 1991; Table 11) which will be drawn upon and in turn augmented by the discoveries at Little Keep.

Cemetery extent

The excavation revealed an unquantifiable portion of a cemetery, the true extents remain undetermined due to the limited excavation area and modern redevelopment destruction. The blank areas to the north-east and south on the site are deemed misleading due to this truncation rather than evidence of absence.

The northern boundary of the cemetery (although not revealed in the excavation) may have been delineated by the steep slope down to the Poundbury Road. The same slope might still include the aqueduct, which was expected to pass through the site (Fig. 1) but was not revealed by the excavations. Little Keep could well represent the northern liminal zone of a larger cemetery, an area often associated with disparate burial attitudes (Farwell and Molleson 1993; Philpott 1991).

Since the 19th century a number of individual and assemblages of inhumation burials of Roman date have been discovered in the immediate vicinity. Unfortunately many early discoveries insufficiently recorded and seldom analysed, making confident conclusions about their significance to the Little Keep cemetery problematic (RCHM(E) 1970). It is possible that these signify parts of a large cemetery located in the triangular parcel of land between the Poundbury and Bridport Roads (*c.* 150m to the south to the Roman derived Bridport Road and *c.* 275m to the west, as far as Poundbury Crescent (Fig. 1; RCHM(E) 1970; Green *et al.* 1981) of which Little Keep might be part. Equally they could represent a series of smaller cemeteries or perhaps a combination of both.

Chronology and spatial development

The lack of stratigraphic complexity precluded in-depth analysis of the site development, as did the lack of consistent distribution of datable finds. Similar difficulties were encountered on a number of other late Roman cemetery sites including parts of the Poundbury cemetery complex (Farwell and Molleson 1993) and Alington Avenue (Davies *et al.* 2002, 139).

Dating evidence was restricted to three Theodosian coins, although providing a late 4th to early 5th century date, all were from the same grave. In contrast, coin dates and distribution indicated a spatial progression from east to west in parts of the Poundbury cemetery, and from west to east at Lankhills (Farwell and Molleson 1993, 219-20). However, a number of inferences regarding Little Keep's development are still possible:

As at Little Keep, many cemeteries display the influence of pre-existing boundaries (Poundbury Road in this case) on the location and orientation of the graves

(Poundbury, Alington Avenue, Ilchester, Cottington in Ramsgate (Farwell and Molleson 1993; Davies *et al.* 2002; Wessex Archaeology 2006b).

Internal boundary 1124, was clearly later than graves 1033, 1019 and possibly 1024, truncating the skull from the burial in grave 1033 (Figs 2-3, 5). It is not clear if the graves to the north of this boundary are earlier or later than the boundary, although grave 1004 appears to respect the ditch particularly closely. It is also possible that the central row containing grave 1008 was influenced by and therefore later than the ditch. The mortuary enclosure did not post-date any burials (although the relationship with 1086 was lost, see Fig. 7), implying that the enclosure was one of the earlier features in this part of the cemetery. The fact that the main rows and later grave insertions respected the mortuary enclosure orientation and location, indicates that the monument was extant and may have been a focus for the burials.

The most obvious stratigraphic evidence comprised the two sets of intercutting graves (1056 cut 1053; 1108 cut 1111), all of which did not conform to the generally considered standard supine and extended burial position seen in cemeteries of this period (Farwell and Molleson 1993; Philpott 1991; Davies *et al.* 2002). It is probable that there was adequate space between the existing graves and rows to allow grave insertion without disturbing the rest, the earlier graves conceivably the focus of the later graves. This is bolstered by the osteological evidence of common hereditary traits and mortuary treatment (see Human Bone Discussion) that indicate the presence of a family plot in a notable position within the cemetery (i.e. between the internal boundary ditch and the ditched mortuary enclosure). This plot also contained the least frequently occurring grave alignment i.e. north-south/south-north, all three within 3m of the mortuary enclosure.

Clustering around a distinctive area of a cemetery, such as at the boundary junctions and ends is a recognised occurrence in other Roman cemeteries (e.g. Alington Avenue (Davies *et al.* 2002, 139); Poundbury peripheral E (Farwell and Molleson 1993).

At Little Keep no intercutting occurred outside the clusters, in fact many graves were apparently allocated quite a generous plot (*cf* Poundbury Peripheral E). This

indicates that the location of the graves were known and carefully avoided, even the intercutting graves caused minimal disturbance to the earlier burials, a phenomenon recognised in the later graves at Alington Avenue and the main cemetery at Poundbury (Davies *et al.* 2002; Farwell and Molleson 1993). Philpott (1991, 226-8) found that in the 4th century managed cemeteries with organised rows, generally in an east-west orientation became popular particularly in urban settings. The Little Keep cemetery was not quite so strict, the rows being somewhat ragged, possibly due to its more liminal situation (Figs 2-3), certainly the layout was more similar to the zones outside the main Poundbury cemetery.

The graves at Little Keep were comparable in shape (rectangular/sub-rectangular) and on average slightly shorter, narrower and shallower than the graves from all areas of Poundbury and Alington Avenue (Davies *et al.* 2002, 206-214; Farwell and Molleson 1993). Deviations from the norm (outsized, or notably narrow) were rare.

Burial attitude and treatment

The most interesting aspect of the Little Keep cemetery by far is the frequency of certain burial positions and treatments often regarded as unusual in most late Roman (or any) cemetery sites (Farwell and Molleson 1993, 222-7; Davies *et al.* 2002; Philpott 1991). By the late Romano-British period, burial practices in the southern half of Britain had become somewhat standardised, being heavily influenced by continental customs. The standard burial tended to be extended, supine and usually within a wooden coffin (Philpott 1991, 53, 226). Only 38% of the burials at Little Keep were buried supine and extended, a rate rarely seen so low in late Roman cemeteries.

McKinley discusses the Little Keep demographic data in association with general burial treatment and attitude in detail above and decapitation and pronation below:

Decapitations

Decapitated burial remains are a well recognised characteristic within Romano-British cemeteries (Harman *et al.* 1981; Philpott 1991, 77-83; McKinley 1993b-c; Boylston 2000, 367-8). The decapitation sometimes appears to have been carried out *peri-mortem* and under coercion but often seems to have formed part of a mortuary

ritual undertaken on the corpse prior to burial. The severed head could be placed either in its normal anatomical position, between or to one side of the legs, or – as in the one case from Alington Avenue – removed completely (Davies *et al.* 2002, 140). Philpott records ten Romano-British sites in Dorset with decapitations, including five sites around Dorchester (1991, fig. 23). In each case the numbers are small (total of eight from all five sites; *ibid.* 305; Davies *et al.* 2002, 140; Molleson 1993, 152), including 0.9% of the population from Alington Avenue and 0.3% of that from Poundbury; over half the latter were female. Philpott gives an average rate of 6.1% decapitations for his sample, with a maximum of 21.4% for Winterbourne Down in Wiltshire, the only other site with a higher percentage than at Little Keep being Chignall St. James, Essex (Philpott 1991, table 15).

The unusually high percentage of decapitated individuals at Little Keep is apparent from these figures. One other area of difference is the high proportion of adults over 45 years, 33% compared with only *c*. 17% in Philpott's aged sample (1991, table 14), the preferred age groups being young adults of both sexes and older females (*ibid.* 84); this may simply be the influence of there being a relatively high proportion of older adults in general within the population at Little Keep. The number and location of cuts, most commonly via a single blow in the mid-cervical (C3-5) region (Harman *et al*. 1981; Manchester 1983, 63), was only followed in two cases at Little Keep, with multiple blows to the upper and lower areas of the neck occurring in others. There are few recorded decapitations where the head was severed at the level of C7 and which impinged on the T1 or the clavicle shaft as in the case of burial 1112 (Molleson 1993, 152; Boylston *et al.* 2000). In other ways, the cases seen at Little Keep are similar to those elsewhere, including in the preponderance of females (*ibid*.) and the location of the severed heads within the graves (*ibid.* 78).

Various potential reasons for decapitation – execution, sacrifice, weapon trauma and stilling the potentially unquiet dead – have been discussed in some detail elsewhere (Harman *et al.* 1981; Philpott 1991, 77-83; Boylston *et al.* 2000). Clearly, it does not necessarily follow that all those decapitated and buried in any one cemetery had their heads removed for the same reason. There is no indication of any element of coercion amongst the decapitated burial remains from Little Keep. With the possible exception of the flexed (on right side) burial 1109 (grave 1111), there is no noticeable

difference between the decapitated individuals and the others within the cemetery in terms of orientation, burial position, proportion of burials with coffin furniture and graves goods Although most of the decapitations (three of the five) appear to have been undertaken from behind and at least one from in front (the latter at least suggesting *post-* rather than *peri-mortem* removal of the head, though it is difficult to prove either way for most cases at Little Keep), the evidence does not support the interpretation of execution victims for any of the cases. It has been suggested that the occurrence of multiple cuts may indicate unwilling (presumably struggling) victims, including those being ritually dispatched in sacrifice (Harman *et al.* 1981; Philpott 1991, 77-83). It has been suggested that such individuals would include social outcasts – outlaws, criminals and slaves – with elderly females figuring large amongst them. The same arguments could be made against this being the case at Little Keep as against those for execution; the similarity in location and treatment of the individuals, and the general longevity and relatively good nutritional and health status of the individuals themselves (see above). Boylston *et al.* (2000) suggested that the one individual they had with multiple cuts, including to the lower cervical and the clavicle, may have been dispatched in armed combat. There is certainly evidence for interpersonal violence at Little Keep, including healed weapon trauma, but this is amongst the males, and the individual from burial 1112, where the lesions match those seen by Boylston *et al.*, is an older adult female. In a superstitious world, where extraordinary events (including untimely or unexplained deaths) or individuals may be seen as something to be feared (even if also revered), ensuring the dead remained with the dead and did not return to haunt the living would have been a serious consideration. Removal of the head – the seat of wisdom – and placing it out of position, may have represented a way of confusing the dead and ensuring they did not return.

The occurrence of so large a number of decapitations in one cemetery is rendered even more intriguing at Little Keep in that the practice is seen as a predominantly rural one, rarely seen and certainly far less common in large urban centres such as Roman Dorchester (Harman *et al.* 1981; Philpott 1991, 77-83). This may add further support to earlier observations on the osteological data suggesting that those burying their dead here may have included a number of rural migrant workers, who had carried some of their own traditions with them to the urban environment.

Prone burials

In addition to a high proportion of decapitations, the cemetery also had a relatively high percentage of prone burials (41%), including seven males (*c*. 44%) and five females (*c*. 55%). Only one of these individuals was less than 30 years of age, six were between 30-50 years, and of those five (55% of total) were over 45 years. The number of prone burials from Poundbury (0.7%; Molleson 1993, 152) and Alington Avenue (4%; Davies *et al.* 2002) were considerably lower. Details of the orientation, burial position and location have been discussed elsewhere, but there are close similarities with the observations made regarding the decapitated individuals.

As with decapitation, the pronation of burials form a recognised feature of Romano-British cemeteries which, though not as rare as was once believed, are not common. They have often been recorded in liminal locations leading to the suggestion that the pronated dead were criminals or some other form of social outcast (Philpott 1991, 71-75). In recent years, however, a growing number of otherwise 'normal' burials have been recovered (e.g. Maddington Farm (McKinley and Heaton 1996) and Boscombe Down, Wiltshire (Wessex Archaeology in prep.), and it has been suggested that some such burials could have resulted from accidental inversion – particularly of coffined burials - (Philpott 1991, 73; McKinley and Heaton 1996) or, as has been argued for at least some cases of decapitation, have represented a ruse to confuse the dead (Harman *et al.* 1981).

Other burial attitudes

The limb posture in the burials at Little Keep and the frequency of the particular arrangements reflect the findings of previous investigations (Farwell and Molleson 1993; Davies *et al.* 2002; Philpott 1991). Leg positions varied on all sites, the most common being straight and extended (79% at Little Keep), with variations including slightly bent (three cases; also small numbers observed at Alington Avenue, Cirencester and Lankhills, as well as Poundbury peripheral north). One at Little Keep was also pronated (grave 1053) whilst the legs of the burial in grave 1068 had been arranged in order to accommodate the decapitated skull. Burials with crossed legs were entirely absent at Poundbury, but three burials at Little Keep (13%) had crossed legs, and examples were also noted at Lankhills, Cirencester, Bradley Hill and Ulwell. A few flexed burials were recorded at Poundbury east peripheral cemetery

and in the later site at Ulwell. Only two flexed burials were found at Little Keep (between the ditch and mortuary enclosure), a similar occurrence to Lankhills, Cirencester, Alington Avenue and Cannington (Farwell and Molleson, 226).
Nearly all late Roman examples had one or both arms bent onto the pelvis or lower thorax, arms straight by the side was relatively rare. A similar pattern was seen at Little Keep, the most extreme deviance being the burial made on the side, where the arms were placed strangely, the right hand above the left bent knee and the left elbow bent at a right angle, with the wrist hyperflexed, the fingers pointing towards the feet. The legs of this individual were also the most atypical being differentially bent, the left heel was tucked up under the left femur head and the decapitated skull placed between the ankles.

The cemeteries with the greatest variety of examples of burial position include the Poundbury peripherals, Alington Avenue and Cirencester. The assemblage from Little Keep is comparable to these varied examples (Farwell and Molleson 1993, 222; Davies *et al.* 2002).

Coffins

The remains of only three wooden coffins were identified at Little Keep, all of which were fairly simple nailed affairs with no obvious other furniture. Again this site is incongruent with the accepted norm, at Poundbury between 67% and 87% of burials were made in wooden coffins, as were the majority at Alington Avenue, where the wood remnants were identified as oak. Of the three coffined burials at Little Keep two were decapitated (both males > 45 years) and one was flexed (a subadult possible female) i.e. all were non-standard. Most of the other burials exhibited reasonably tight arm and leg positions indicating burial within a shroud.

Grave goods

In the 4th century the placing of nailed boots/shoes (commonly worn [and represented by hobnails])in graves increased, although it fell again in the second half of the century, except at Lankhills (Philpott 1991, 226). Hobnails were recovered from three adjacent graves including those in a cluster with probable familial relationships, and in a fourth grave immediately west of the same cluster, making only *c.* 16% of graves. Two burials were made prone, one was decapitated and the

fourth was a subadult buried in a flexed position, the latter two were also coffined (see above).

At Little Keep, only a single grave contained both hobnails and another form of grave goods (grave 1117 contained ?shoes on either side of knees, and an apotropaic nail on right hip). Grave 1087 contained a possible fossil bead (sea urchins have been found in Roman graves (Philpott 1991, 164)). The individual in grave 1009 contained a curved nail amulet, placed under the chin and three coins (see below). Similarly, the nail from prone burial in grave 1039 was found in front of the face (*cf* Sea Mills, Avon, two decapitated burials both had iron nails in the mouth (*ibid*, 74 referencing Bennett 1985, 20); see also coins below). Nails may also have significance other than as part of the coffin structure, which may have been overlooked in earlier cemetery excavations.

The graves that contained grave goods other than hobnails (1009 and 1087) were both laid in a supine and extended fashion, and neither burials were made in coffins. The only notable features of these burials are that one was placed in an oversized grave and the other had crossed legs (also a characteristic of burial 1008 and 1024).

The placing of coins as grave goods was making a come-back in the 4th century, and increased from one to multiple numbers per grave towards the later half, probably due a reflection of the decreased value of these coins. The most common location for the placement of coins was in or by the mouth (Philpott 1991, 212-3), a position clearly seen in grave 1009, where three Theodosian coins (late 4th/early 5th century) were found next to the right ear, the green staining clearly indicating that the coins had been in the mouth. The decapitated skull of the burial in grave 1068 probably once held coins or a copper alloy object, indicated by green staining inside the mandible and on a neck vertebra.

The complete absence of pottery vessels in the graves at Little Keep is in keeping with the suggested late date, pottery deposition in graves all but ceased by this time (Philpott 1991, 212-3).

Using the criteria set out in Farwell and Molleson (1993, 236-7, table 66), the type and frequency of particular rites observed in the burials at Little Keep suggest a heavy tendency towards pagan rather than Christian beliefs.

Ditched mortuary enclosure

The small sub-square ditched enclosure at Little Keep has parallels in a number of cemeteries both in the vicinity and in a wider region, indeed there are some continental parallels. The British examples vary in terms of size and form (McKinley 2008c, 188); at Poundbury feature R4 is most similar being close in area (14.5m^2 and 16m^2), and ditched with no structural evidence, though similar features were found to have evidence for posts (Farwell and Molleson 1993, 49-50, 235). Peripheral areas of Lankhills also contained fairly comparable features that were, however, more akin to mausolea (as seen at Poundbury and many other sites). During the excavations on the M6 toll Road (McKinley 2008c), four comparable enclosures were recorded and dated to the mid-late 3rd century, probably earlier than Little Keep and Poundbury. The Little Keep example fits within the general length range of 2.7 – 8.0m, but was shallow due to severe truncation. Forms recorded on other sites include squares or rectangles both incomplete and complete, the latter of which is most likely at Little Keep. Many of the comparable examples contained a central burial or burials unlike Little Keep, however examples without associated burials have been noted and include St Stephens, Winchester and Wederath, Belgium (McKinley 2008c, 188-9; Cordie-Hackenberg and Haffner 1997; Haffner 1989; Cordie 2006). The M6 Toll Road enclosed features including potential tree-throw holes, cremated and inhumed burials (McKinley 2008c, 188; Booth 2008, 529). A patch of apparently rooty disturbance in the enclosure at Little Keep suggests there may have been shrubs or a tree planted within it.

Farwell and Molleson (1993, 235) suggested that these enclosures formed bedding trenches for bushes, flowers or an enclosing hedge. In France 'empty' enclosures have been interpreted as miniature gardens, possibly associated with banqueting and the Roman traditions of holding commemorative and religious feasts at cemeteries in memory of the dead e.g. *paternalia* (McKinley 2008c, 189; Alcock 1980; Toynbee 1996). These would reasonable interpretations for the example at Little Keep.

There is a continuing debate as to whether these enclosures are a continuation of a tradition from the Late Iron Age or early Roman (as seen at *Verulamium*), or are the predecessors of a post-Roman tradition of burial enclosure (Webster and Brunning 2004, 78).

Conclusion

The Little Keep cemetery has many interesting and unusual aspects. Rather than suggesting that this is a new, unique and special cemetery, it is more appropriate to consider it as part of a larger cemetery, perhaps representing a peripheral zone, up against the Poundbury Road boundary. Despite the dearth of datable artefacts, and although a detailed chronology cannot be deciphered at Little Keep, it is concluded that the evidence is generally consistent with late Roman cemeteries elsewhere (Farwell and Molleson 1993; Davies *et al.* 2002; Philpott 1991), or it may even represent an early 5th century population.

McKinley (above) points out that although there were some homogeneity between Little Keep and Poundbury there were also significant differences. The population at Little Keep was an aging one with few young individuals, and the group appears to have been somewhat homogeneous with evidence to suggest potential familial relationships. The general good health of the individuals might be due to a rural upbringing with easy access to food sources. The preponderance of males over females was similar to the ratios exhibited at Alington Avenue and perhaps represents unmarried veterans, tradesmen or labourers. The trade occupation interpretation is supported by the relative lack of lower body stress markers, and its relative prevalence in the upper body (seen in both males and females).

The good preservation and recovery of the skeletal material has allowed the evidence for decapitation procedures to be analysed in detail, and has shown that the techniques were not consistent, the location, direction and number of blows being variable. Close inspection of the decapitated remains of the burial in grave 1068 resulted in the conclusion that the decapitation took place prior to burial, the grave was therefore not revisited at a later date.

The recent discoveries at Poundbury (Wessex Archaeology 2007a), just to the west of the Little Keep cemetery will allow further study and analysis of the mortuary landscape. Doubtless there will be further similar discoveries in and around Dorchester in the future, all of which should continue to aid and enhance our understanding of the diverse and changing population of Roman Dorchester and its hinterland.

Grave Catalogue

Grave 317 (burial 313; backfill 306/ 312)

NGR 368611 90789

SE-NW sub-rectangular cut with rounded ends, concave sides and base. 1.57m x 0.65m, 0.25m deep (base at 78.92m aOD). Extended, prone.

Human Bone: c. 20%. adult *c.* 50-60 yr. female

Grave 1004 (burial 1005; backfill 1006)

NGR 368605 90797

SE-NW irregular rectangular cut with steep to vertical sides and flat base. 1.4m x 0.55m, 0.31m deep (base at 78.51m aOD). Extended, supine. Truncated by 19th century wall above knees.

Human Bone: c. 78% adult *c.* 40-50 yr. male

Grave 1008 (burial 1015; backfill 1007)

NGR 368620 90794

SE-NW rectangular cut with rounded corners, steep to vertical sides and slightly concave base. 1.78m x 0.67m, 0.50m deep (base at 78.11m aOD). Extended, supine, legs crossed.

Human Bone: c. 92%. adult *c.* 50-70 yr. male

Residual/intrusive finds: 1 Animal bone; 1 worked flint

Grave 1009 (burial 1011; backfill: 1010)

NGR 368613 90781

SE-NW sub-rectangular cut with vertical sides and flat base. 1.85m x 0.60m, 0.42m deep (base at 78.87m aOD). Extended, supine with legs crossed. One nail under chin. Three coins found at right side of skull; iron nail shank found under chin.

Human Bone: *Sk 1011A: c.* 95%, adult *c.* 35-45 yr. male

Redep.: *Sk 1011B:* 1 bone, adult *c.* 35-50 yr. male

Grave Goods: ON 10: Cu Alloy coin - *nummus*, 13mm diameter, 0.8g. 4th century AD, both sides illegible and corroded

ON 22: Cu Alloy coin – *nummus*, 12mm diameter, 0.8g. Issued by House of Theodosius, AD 388-402; Obverse: illegible and corroded & Reverse: Victory l, club on shoulder, dragging captive, Chi-Rho to l. SALVS (REIPVBLICAE). Corroded. Reference: As LRBC II, 796

ON 23: Cu Alloy coin – *nummus*, 13mm diameter, 0.8g. Issued by House of Theodosius, AD 388-402; Obverse: illegible and corroded & Reverse: Winged victory, holding wreath. Victoria Auggg type. Reference: As LRBC II, 162

ON 24: 1 neatly and regularly bent iron nail shank (apotropaic?)

Grave 1012 (burial 1013; backfill 1014)

NGR 368609 90796

NW-SE Sub-rectangular cut with rounded ends, vertical sides and flat base. 1.78m x 0.63m, 0.36m deep (base at 78.44m aOD). Extended.

Human Bone: c. 90%, adult *c.* 30-40 yr. female

Residual/intrusive finds: 1 medieval pot sherd

Grave 1016 (burial 1017; backfill 1018)

NGR 368608 90791

NW-SE narrow irregular cut with shallow sides and flattish base. 1.82m x 0.42m, 0.2m deep (base at 78.8m aOD). Extended. Truncated by modern services at pelvis and above.

Human Bone: c. 40%, adult *c.* 45-60 yr. ??male

Grave 1019 (burial 1020; backfill 1021)

NGR 368611 90794

SE-NW deep, narrow sub-rectangular cut with rounded E end, steep to vertical sides and flattish base. 1.20m x 0.65m, 0.50m deep (base at 78.13m aOD). Extended, supine. Truncated above pelvis by modern foundation trench.

Human Bone: c. 40%, adult *c.* 30-35 yr. male

Residual/intrusive finds: 2 animal bone; 1 medieval pottery sherd

Grave 1024 (burial 1023; backfill 1022)

NGR 368613 90793

NW-SE sub-rectangular cut with rounded SE end, very steep to vertical sides and slightly concave base. 1.58m x 0.60m, 0.45m deep (base at 78.36m aOD). Extended, prone with legs crossed. Truncated by pipe trench from elbow joint to pelvis (hands missing).

Human Bone: *c.* 55%, adult *c.* 35-45 yr. female (=?1121a?)

Grave 1025 (burial 1026; backfill 1027)

NGR 368618 90790

NW-SE sub-rectangular cut with vertical sides and flat base. 1.55m x 0.60m, 0.40m deep (base at 78.35m aOD). Coffined. Flexed. Upper body supine, legs flexed to right. Coffin nails around the skeleton and hobnails by feet.

Human Bone: c. 80%, subadult *c.* 12-14 yr. ??female

Coffin furniture: ONs 11-16, 18-21, 25-28, 51, 123 - 18 iron coffin nails

Grave goods: ONs 17, 30, 31, 52, 122, 124 - 58 hobnails from nailed boots/shoes

Grave 1028 (burial 1029; backfill 1030)

NGR 368612 90786

N-S sub-rectangular cut with rounded ends, almost vertical sides and flat base. 1.74m x 0.49m, 0.31m deep (base at 78.9m aOD). Extended, supine.

Human Bone: c. 75%, adult *c.* 50-60 yr. female

Grave 1033 (burial 1032; backfill 1031)

NGR 368616 90792

NW-SE sub-rectangular with rounded ends, steep sides and flat to slightly concave base. 1.83m x 0.62m, 0.15m deep (base at 78.57m aOD). Extended, prone.

Human Bone: c. 60%, adult *c.* 40-45 yr. male

Residual/intrusive finds: 1 CBM; 5 worked flints

Grave 1036 (burial 1038; backfill 1037)

NGR 368614 90784

N-S rectangular cut with steep, slightly concave sides and flat base. 0.70m x 0.40m, 0.15m deep (base at 79.0m aOD). Extended, supine. Truncated at pelvis by modern service trench.

Human Bone: c. 40%, infant/juvenile *c.* 4-6 yr.

Grave 1039 (burial 1040; backfill 1041)

NGR 368615 90790

W-E sub-rectangular cut with rounded ends, steep to vertical sides and flat base. 1.90m x 0.73m, 0.48m deep (base at 78.39m aOD). Extended, prone. One nail found to the right of skull.

Human Bone: 100%, adult *c.* 23-26 yr. male

Grave goods: ON 29: 1iron nail (apotropaic?)

Residual/intrusive finds: 1 medieval pot sherd, 1 iron nail

Grave 1042 (burial 1043; backfill 1044)

NGR 368613 90788

W-E sub-rectangular cut with rounded W end, vertical sides and flat base. 1.17m x 0.61m, 0.45m deep (base at 78.60m aOD). Extended, prone, neck bent to left, skull pressed up against grave end. Truncated by modern service trench below knees.

Human Bone: c. 75%, adult *c.* 60-70 yr. female

Grave 1045 (burial 1047; backfill 1046)

NGR 368616 90786

W-E rectangular cut with steep sides and flat base. 2.21m x 0.75m, 0.34m deep (base at 78.59m aOD). Coffined. Extended, supine. Decapitated: skull placed to right of legs.

Human Bone: c. 95%, adult *c.* 50-60 yr. male

Coffin Furniture: ONs 32-50, 53-62, 64-93, 96-102, 129 - 65 iron nails, most with mineral preserved wood

Grave 1048 (burial 1049; backfill 1050)

NGR 368617 90789

E-W Sub-rectangular cut with rounded ends, steep sides and concave base. 2.25m x 0.80m, 0.33m deep (base at 78.44m aOD). Extended, supine. Iron nail found on right hip.

Human Bone: c. 98%, adult *c.* 35-40 yr. male

Grave goods: ON 63: 1 iron nail (apotropaic?)

Residual/intrusive finds: 1 hobnail

Grave 1053 (burial 1052; backfill 1051)

NGR 368620 90792

SE-NW sub-rectangular cut with rounded SE end, almost vertical sides and flat base. 1.79m x 0.53m, 0.48m deep (base at 78.13m aOD). Extended, prone; hobnails at feet. Disturbed by later grave (1056 - right radius found in backfill).

Human Bone: c. 85%, adult *c.* 40-45 yr. male

Grave Goods: ONs 94, 120, 126 - 50 hobnails and 1 small cleat

Grave 1056 (burial 1055; backfill 1054)

NGR 368620 90792

SE-NW rectangular cut with steep to vertical sides and flat base. 1.77m x 0.66m, 0.44m deep (base at 78.19m aOD). Extended, prone; hobnails at feet. Truncated earlier burial (1052).

Human Bone: c. 95%, adult *c.* 40-50 yr. female

+26 frags a.u.; min. 1 adult *c.* 25-50yr.

Grave goods: ON 95 - 24 hobnails

Residual/intrusive finds: 4 worked flints

Grave 1065 (burial 1066; backfill 1067)

NGR 368624 90794

E-W rectangular cut with rounded ends, steep sides and flat base. 1.84m x 0.58m, 0.40m deep (base at 77.99m aOD). Extended, prone.

Human Bone: : Sk 1066A: c. 99%, adult *c.* 50-60 yr. male

Redep. Sk. 1066B: 1 tooth, adult *c.* 20-30 yr.

Grave 1068 (burial 1069; backfill 1070)

NGR 368624 90793

NE-SW rectangular cut with rounded ends, steep sides and flat base. 1.97m x 0.60m, 0.53m deep (base at 77.93m aOD). Extended, supine with legs slightly flexed to the left. Decapitated: skull to right of legs.

Human Bone: c. 99%, adult *c.* 35-45 yr. female

Grave 1075 (burial 1076; backfill 1077)

NGR 368622 90790

SE-NW narrow, shallow sub-rectangular cut with rounded NW end, moderate to steep sides and flat base (rising at foot end). 1.85m x 0.55m, 0.30m deep (base at 78.32m aOD). Extended, prone.

Human Bone: c. 90%, adult *c.* 40-50 yr. male

Grave 1079 (burial 1080; backfill 1081)

NGR 368629 90792

W-E sub-rectangular cut, very narrow with slightly rounded ends, steep sides and flat base. 1.90m x 0.53m, 0.32m deep (base at 78.0m aOD). Extended, prone.

Human Bone: c. 90%, adult *c.* 40-45 yr. female

Grave 1086 (burial 1085; backfill 1084)

NGR 368627 90787

N-S sub-rectangular cut with rounded ends, steep sides and slightly concave base. 1.84m x 0.63m, 0.25m deep (base at 78.30m aOD). Extended, supine. Truncated - lower 2/3 of skeleton removed, perhaps an early excavation associated with barrack construction or later works (1930s?). Within mortuary enclosure but not central.

Human Bone: c. 30%, adult *c.* 35-45 yr. male

Residual/intrusive finds: 3 worked flints

Grave 1087 (burial 1089; backfill 1088)

NGR 368617 90782

SE-NW Sub-rectangular cut with wider SE end, moderate to steep sides and flat base. Notably wide. 2.05m x 0.91m, 0.30m deep (base at 78.86m aOD). Extended, supine. ?Bead in thorax sample.

Human bone: c. 99%, adult *c.* 35-45 yr. male

Grave Goods: 1 stone (fossil) ?bead

Grave 1092 (burial none; backfill 1093)

NGR 368626 90785

E-W rectangular cut with rounded corners, steep sides and flat base. 1.23m x 0.50m, 0.17m deep (base at 78.37m aOD). Inhumation burial? No human remains present, possibly previously excavated.

Residual/intrusive finds: 1 animal bone; 4 CBM; 3 medieval pot sherds; ON 121 1 iron nail

Grave 1098 (burial 1097; backfill 1096)

NGR 368622 90794

E-W sub-rectangular cut with vertical sides and flat base. 0.76m x 0.29m, 0.15m deep (base at 78.44m aOD). Extended, supine.

Human Bone: c. 35%, infant *c.* 6-9 months

Grave 1108 (burial 1109; backfill 1110)

NGR 368622 90792

NE-SW sub-rectangular cut with rounded ends, very steep sides, very deep and flat base sloping to N. 1.90m x 0.55m, 0.57m deep (base at 78.02m aOD). Extended, prone. Decapitated: skull at right foot. Single nail put in place of skull at the top of the neck. Truncates earlier burial (1112) in grave [1111]. No displaced human bones from truncated grave.

Human Bone: c. 99%, adult *c.* 60-70 yr. male

Grave goods: ON 103: 1 iron nail (apotropaic?)

Grave 1111(burial 1112; backfill 1113)

NGR 368623 90790

SE-NW sub-rectangular cut with rounded ends, moderate to steep sides and concave base. 1.90m x 0.78m, 0.66m deep (base at 77.95m aOD). Flexed. on right side. Decapitated: skull placed between tibiae. Right foot truncated by [1108].

Human Bone: c. 95%, adult *c.* 50-60 yr. female

Grave 1114 (burial 1115; backfill 1116)

NGR 368627 90782

SE-NW irregular rectangular cut, wider at SE end. Notably shallow with steep sides and flat base. 1.75m x 0.79m, 0.23m deep (base at 78.41m aOD). Extended, supine. Truncated horizontally and at feet by modern activity.

Human Bone: c. 95%, adult *c.* 30-40 yr. male

Grave 1117 (burial 1118; backfill 1119)

NGR 368616 90795

W-E rectangular cut with nearly vertical sides and flat base. 1.88m x 0.73m, 0.53m deep (base at 78.08m aOD). Coffined. Extended, supine. Decapitated: skull to the right of legs. SE and NW ends and feet truncated by modern trenches.

Human Bone: c. 90%, adult *c.* 40-50 yr. male.

Grave goods: ONs 107, 108, 113, 127 - 6 hobnails (another 2 from sample taken from base of grave)

ON 118 – 1 iron nail (apotropaic?)

Coffin furniture: ONs 104-106, 109-112, 114-117 - 11 iron coffin nails

Redeposited bone in non-mortuary contexts

Unstratified:

2 frags. l.; adult >18 yr. could be part of a number of burials

Contexts 300 & 308:

1 bone. l.; refit, adult >18 yr. ? same as 1121b/313?

Context 314

Service trench cutting grave 317: same as 313.

Service trench 1120, close to grave 1117

1121A: *c.*10% a.u.l.; adult *c.* 35-45 yr. female (=?1023?)

+1 frag. a.;

1121B: adult *c.* 40-45 yr, ?female (=?313?)

Key: a. axial skeleton

u. upper limb

l. lower limb

Acknowledgments

Wessex Archaeology would like to thank Scott Wilson, working on behalf of Bellway Homes Ltd (Wessex), for commissioning the work. Richard Greatorex managed the fieldwork and Philippa Bradley the post-excavation analysis. Helen Clough and Andrew Armstrong (Scott Wilson) are thanked for their assistance during the project. The excavation was directed by Kirsten Egging Dinwiddy and was assisted on site by Dave Murdie, Elinor Brook, Julia Sulikowska and Zolt Magyar. The illustrations were drawn by Elizabeth James and Elaine Wakefield took the photographs. Jacqueline I. McKinley, Lorraine Mepham, Rachael Seagar Smith and Nicholas Cooke are thanked for their contributions. This report was edited by Phillipa Bradkey and Julie Gardiner. The archive is currently held at Wessex Archaeology under project numbers 64910-13, it is anticiapated that the material will be deposited with the Dorset County Museum, Dorchester in due course.

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Table 1: Summary of human bone

context	cut	deposit type	quantification	age/sex	pathology
u/s	u/s	redep.	2 frags. l.	adult > 18 yr.	
300/ 308	u/s	redep.	1 bone. l.	= 313	
312	317	redep.	*c.* 35 frags.	= 313	
313	317	*in situ* (prone)	*c.* 20%	adult *c.* 50-60 yr. female	amtl; calculus; caries; periodontal disease; oa – 2C, 1T, 4 l. ribs; ddd – 3C, 1T; op – 4C; pitting –1T; mv - congenital absence M3s
314		redep	7 frags. s.a.u.	= 313	
1005	1004	*in situ*	*c.* 78%	adult *c.* 40-50 yr. male	amtl; caries; calculus; abscess; periodontal disease; fracture - l. 11th rib; oa – ribs; ddd – C3-6, ?L2; pitting – C2 bsm, acetabulae, r. acromio-clavicular, sterno-clavicular; op – C2-7, 3T, L1-4, S1, r. glenoid, elbows, wrists, l. distal IPs (hand); enthesophytes – clavicles, femora; cortical defect – glenoid fossae; calcified cartilage; mv – C7 rib facet, L6, *os acromialie*, r. sternal aperture
1011A	1009	*in situ*	*c.* 95%	adult *c.* 35-45 yr. male	abscess; hypoplasia; calculus; caries; periodontal disease; periosteal new bone – fibulae & r. tibia; Schmorl's node –T6, 7 & 9-12, L2 & 3; op – C5, 8T, 2L, l. ribs, elbows; enthesophytes – femora, calcanea; pitting – T9, 12 rib facets, r. acetabulum; cortical defect – l. glenoid & tarsals; mv – tooth impaction, *os acromialie* (bilateral)
1011B	1009	redep.	1 bone. u.	adult *c.* 35-50 yr. male	op – l. C-MtCs joint
1013	1012	*in situ*	*c.* 90%	adult *c.* 30-40 yr. female	amtl; abscess; caries; periodontal disease; calculus; hypoplasia; shortened limbs (?polio) – l. humerus, radius & ulna; Schmorl's node – T8; oa – 3 ribs; ddd – T12, L1-3; op – 7T, S1, ribs, elbows, wrists, knees; enthesophytes – calcanea; pitting – l. tarsals; cortical defects – radii, r. acetabulum; mv – wormian bones, bifurcated foot sesamoid & fused 5th IP
1015	1008	*in situ*	*c.* 92%	adult *c.* 50-70 yr. male	abscess, caries; calculus; periodontal disease; sinusitis; periosteal new bone – fibulae; fracture – T11 & 12, r. 6th rib, sacrum; oa – C3 & 4, T9 & 10, 6 ribs, acetabulae, r. 3rd IP (hand); *cribra orbitalia (porotic)*; button osteoma; Schmorl's node – 5T, L2; ddd – C3-7, 7T, L1-3; op – C1-4, 12T, 5L, S1, tarsals, shoulders, elbows, wrists, l. hand, IP (foot); enthesophytes – T8, 9 & 12, L1-5, 6 costo-vertebral, pelvis, arms, femora, patellae; pitting – temporo-mandibular, 4T, r. acromio-clavicular; cyst – l. scaphoid, 1st MtT; calcified cartilage; *spina bifida occulta*
1017	1016	*in situ* (prone)	*c.* 40% a.u.l.	adult *c.* 45-60 yr. ??male	fracture – r. rib; periosteal new bone – r. fibula; cyst?– r .fibula; oa – l. acetabulum; ddd – 1 L; op – 1L, wrists, r. acetabulum; enthesophytes – patellae; bilateral *coxa vara*
1020	1019	*in situ*	*c.* 40% a.u.l.	adult *c.* 30-35 yr. male	op – l. wrist; cortical defect –l. tibia & l. tarsals; mv – occasional facets (tarsals)
1023	1024	*in situ* (prone)	*c.* 55%	adult *c.* 35-45 yr. female	amtl; caries; abscess; periodontal disease; hypoplasia; calculus; oa – acromio-clavicular; cyst - tali; op – 8T, glenoid fossae, MtT-P & distal l.IPs; pitting – T9, costo-vertebral; enthesophytes – 2 r. ribs, r. humerus, patellae, r. fibula, calcanea; mv - congenital absence M3s

context	cut	deposit type	quantification	age/sex	pathology
1026	1025	coffined burial	*c.* 80%	subadult *c.* 12-14 yr. ??female	calculus; hypoplasia; mv - incomplete fusion of l. 2nd MtC prox. epiphysis
1029	1028	*in situ*	*c.* 75%	adult *c.* 50-60 yr. female	amtl; caries; op – C1, 10T, 2L, S1, shoulders, r. elbow, r. IP (hand), knees, tarsals; oa – l. temporo-mandibular, 4L, r. ribs, l. distal radius, hips; pitting – 2T, S1; enthesophytes – radii; mv – mastoid sutures
1032	1033	*in situ* (prone)	*c.* 60%	adult *c.* 40-45 yr. male	pyogenic arthritis – prox. IP (foot); op – 3L, distal radii, 2nd prox. IP & 4 l. distal IP (hands), acetabulae; enthesophytes – patellae; plastic changes – clavicles
1038	1036	*in situ*	*c.* 40% a.u.l.	infant/juvenile *c.* 4-6 yr.	
1040	1039	*in situ* (prone)	*c.* 100%	adult *c.* 23-26 yr. male	caries; calculus; hypoplasia; Schmorl's node – 4T, 4L; op – C2, 5 costo-vertebral, S1; pitting – T4 & 5, glenoid fossae; enthesophytes – ulnae; cortical defect – clavicles, distal l. fibula, r. 1st MtT & IP; mv - coalition defects in r. calcaneum, cuboid & navicular, wormian bones
1043	1042	*in situ* (prone)	*c.* 75%	adult *c.* 60-70 yr. female	amtl; caries; abscess; calculus; periodontal disease; oa – C6 & 7, T2-5 & 11, L4 & 5, 3 r. & 4 l. ribs, r. hip, carpals, 1st MtC; Schmorl's node – 9T, 3L; ddd – C3-7, T3-10, L1, & 3-5; op – C3-5, T1-12, L1-5, S1, prox. IPs (hands), prox. ulnae, distal radii, l. carpals; pitting – C2, 6 & 7, T2-12, L1-5, r. sacro-iliac, l. sterno-clavicular, l. glenoid; enthesophytes – carpals, patellae; mv - occipito-mastoid suture obliterated, M3 accessory rootlet
1047	1045	coffined burial	*c.* 95%	adult *c.* 50-60 yr. male	amtl; hypoplasia; caries; abscess; calculus; periodontal disease; oa – C5 & 7, T1, l. shoulder; fracture – l. humerus; op – C1-2 & 7, T1, 4, 6-9 & 12, L1-5, 2 l. ribs, hips, l. knee, l. distal tibia, r. shoulder, prox. ulnae; pitting – temporo-mandibular, acromio-clavicular; enthesophytes – ulnae, femora; dl – r. nasal cavity, l. glenoid
1049	1048	*in situ*	*c.* 98%	adult *c.* 35-40 yr. male	calculus; caries; periodontal disease; *cribra orbitalia* (bilateral); fracture - r. 1st prox. IP (foot); bowing/plastic changes – fibulae; Schmorl's node – T9, 11-12, L2 & 3; ddd – L5; op – C1-2 & 5-7, T2-3, 6-7 & 9-12, L2-5, S1, 4 l. ribs, r. sacro-iliac, acetabulae, distal humeri, prox. ulnae, l. distal femur & patella, r. prox. tibia, ankles, 4 l. MtT-P joints & 1 prox. IP (foot); pitting – T8 & 10-12, sterno-clavicular; enthesophytes – iliac crests, patellae; new bone – r.sacro-iliac; cortical defect – r. glenoid; impaction l. mandibular M3
1052	1053	*in situ* (prone)	*c.* 85%	adult *c.* 40-45 yr. male	amtl; calculus; periodontal disease; fracture – 2 r.ribs; periosteal new bone – l. fibula, l. tibia; oa – 2 ribs, sterno-clavicular; op – C1, 2 & 6, T1-4, 6, 8, 10, L3-5, glenoid fossae, prox. l. ulna, distal l. radius, pisiforms, 3 r. C-MtC, hips, knees; pitting – C6, T7, 2 costo-vertebral; enthesophytes – l. ulna, femora, patellae, l. fibula; calcified cartilage; mv – ?retained deciduous max. l. canine, L6, coalition defect l. 2nd & 3rd C-MtC, distal 1st MtC flattened, occasional facets in tarsals
1054	1056	redep.	26 frags. a.u.	min. 1 adult *c.* 25-50 yr.	

context	cut	deposit type	quantification	age/sex	pathology
1055	1056	*in situ* (prone)	*c.* 95%	adult *c.* 40-50 yr. female	amtl; caries; abscess; calculus; periodontal disease; oa – l. temporo-mandibular, C3 - 5, ribs, acetabulae; ddd – C3, T3-8; op – C1-5, T1-12, L3, S1, l. glenoid, distal radii, r. prox. femur; pitting – C3-5, T1 & 4-12, l. distal ulna; enthesophytes – ischium, l. tarsals; cortical defect – r. glenoid; mv - *os acromialie* (bilateral), flattened 1st MtC, hamate hooks absent, occasional facets - tarsals & 1^{st}-2^{nd} Mt-T, cuboids & naviculars, tooth rotation/impaction
1066A	1065	*in situ* (prone)	99%	adult *c.* 50-60 yr. male	amtl; caries; abscess; hypoplasia; calculus; periodontal disease; trauma - ?healed skull wound; oa – ribs, l. hip; Schmorl's node – T3, 5-6 & 8-12, L1-2; ddd – C5-6, T5 & 10-11, L2; op – C2, C5, T1-12, L1-5, S1, r. hip, prox. ulnae, wrists; dl – T4 & l. 1^{st} MtT; pitting – C3-7, T1-7, sterno-clavicular; cortical defects – prox. 1^{st} IP (foot); enthesophytes – prox. femora, patellae, calcanea, r. tibia; mv – retained mendosal fissures (occipital), double mastoids
1066B	1065	redep.	1 tooth	adult *c.* 20-30 yr.	calculus
1069	1068	*in situ*	*c.* 99%	adult *c.* 35-45 yr. female	amtl; caries; hypoplasia; calculus; periodontal disease; cuts (decapitation) – occipital, C3; oa – 5 costo-vertebral, l. carpals; Schmorl's node – L1, 3-5, S1; ddd – C3; op – C1, T6-12, L3-5, hips, sacro-iliac, distal radii, r. carpals, patellae; pitting – T7-8 & 11-12, l. temporo-mandibular, sacro-iliac, acromion-clavicular; enthesophytes – femora, calcanea; mv – congenital absence man. r. M3 , occasional facets in l. tarsals
1076	1075	*in situ* (prone)	*c.* 90%	adult *c.* 40-50 yr. male	amtl; caries; abscess; hypoplasia; calculus; oa – T3-5, acetabulae; Schmorl's node – T6-8 & 11, L2-4; ddd – T9 & 11-12; op –T3-12, L1 & 5, glenoid fossae, distal humeri; enthesophytes – femora fovea, calcanea, r. tibia, r fibula
1080	1079	*in situ* (prone)	*c.* 90%	adult *c.* 40-45 yr. female	amtl; abscess; caries; hypoplasia; calculus; hypercementosis; periodontal disease; fracture – r. 4th rib; plastic changes – humeri, femora, tibiae; oa – temporo-mandibular, T4-5 & 10, 3 ribs; Schmorl's node – L3 & 5; ddd – T6, L2-5; op – C1-2, T5-6, 8 & 10-12, L3-5; pitting –T5-8 & 10; mv – mastoid sutures
1085	1086	*in situ*	*c.* 30% s.a.u.	adult *c.* 35-45 yr. male	calculus; oa – T8; Schmorl's node – T8-10; op – T2 & 7-9; pitting – C4 & 6, T4 & 6-9, r. rib; cortical defects – clavicles; mv - double mastoids
1089	1087	*in situ*	99%	adult *c.* 35-45 yr. male	amtl; caries; abscess; hypoplasia; calculus; periodontal disease; fracture – l. tibia; *osteochondritis dessicans* – bilateral femora; oa – temporo-mandibular joints, T11 & 12, S1; Schmorl's node – T6 & 8, L2 & 3; op – T1-5, 8 & 10-12, S1, 1^{st} MtC shaft, l. knee, 1 prox. IP (foot); pitting – T3-6, 8-12, L3, shoulders, femoral heads, l. patella; enthesophytes – clavicles, femora, calcanea; *coxa vara;* mv – occasional MtT facets
1097	1098	*in situ*	35%	infant *c.* 6-9 mth	

context	cut	deposit type	quantification	age/sex	pathology
1109	1108	*in situ* (prone)	*c.* 99%	adult *c.* 60-70 yr. male	hypoplasia; calculus; fracture – nasal, mandibular teeth; rheumatoid arthritis – bilateral C-MtC, MtT-P & IP joints (foot); cuts (decapitation) – C2-4; Schmorl's node – T6-12, L1 & 4; ddd – C3-7, T7-11, L3 & 5; oa – C1-4 & 7, T1, 7-8 & 10-12, L4-5, S1, 16 ribs, l. sacro-iliac, r. hip, shoulders, sterno-clavicular, wrists; op – C1-7, T1-12, L1-5, S1, elbows, 5 IP (hands), hips, knees, ankles, 2 r. & 3 l. prox. IP (feet); pitting – temporo-mandibular, C5, T1-5, 7 & 12, r. prox. radius; cysts – carpals; enthesophytes – ischium, patellae, tibiae, fibulae; calcified cartilage; mv – wormian bones, occasional facets tarsals
1112	1111	*in situ*	*c.* 95%	adult *c.* 50-60 yr. female	amtl; caries; hypoplasia; calculus; periodontal disease; oa – C3-5 & 7, T1, 3-7 & 9-12, L1-5, S1, l. temporo-mandibular, 3 l. ribs, sterno- & r. acromio-clavicular, hips; cysts – acetabulum; cuts (decapitation) – C7, T1, r. clavicle; Schmorl's node – T6-10 & 12; ddd – C3-6, T1-3, 5-7, 9-12, L1-4, S1; op – C2-7, T1-12, L1-5, ribs, shoulders, r. distal radius, 1 r.distal IP (hand), knees, r. ankle, l. tarsals; pitting – 24 ribs, l. acromio-clavicular joint; enthesophytes – iliac crests, ischial tuberosities, humeri, ulnae, femora, tibiae, fibulae, r. ankle, calcanea; exostoses – r. talus; calcified cartilage; mv – *os acromialie* (bilateral)
1115	1114	*in situ*	*c.* 95%	adult *c.* 30-40 yr. male	caries; abscess; calculus; periodontal disease; surface defect – l. 2nd MtT; plastic changes - temporo-mandibular, distal ulnae & midshaft femora; oa – C4-5, T6, 4 ribs; Schmorl's node – T6-12, L1 & 2; ddd – T7-12; op – C2, T3-5, 7-12, hips; cortical defects – clavicles, r. patella; pitting – hips; *coxa vara*; mv – wormian bones, mastoid sutures, mandibular tori, tooth impaction, flattened distal 1st MtC
1118	1117	coffined burial	*c.* 90%	adult *c.* 40-50 yr. male	amtl; calculus; periodontal disease; hyper-eruption; weapon trauma – frontal; fracture – r. 1st MtC, tarsal; cuts (decapitation) – C6, l.mastoid; button osteoma; oa – C4-5, T8-10 & 12, L5, S1, 6 ribs, l. temporo-mandibular; Schmorl's node – T9-12, L2; ddd – T10, L2-3 & 5; op – C2, , T1-12, L1-5, S1, acetabulae, l. prox. humerus, distal ulnae, l. distal radius, carpals, 1 r. & 4 l. prox. IP (hand), patellae; pitting – r. temporo-mandibular, T2 & 10, clavicles, distal tibiae, 5th MtT; enthesophytes – humeri, femora; exostoses – l. femur; mv – wormian bones
1121A	1120	redep.	*c.* 10% a.u.l.	adult *c.* 35-45 yr. female (?=1023)	ddd – L5; op – L4 -5, S1 r. hip
1121B	1120	redep.	1 frag. a.	adult *c.* 40-45 yr. ?female (?=313)	

key: redep. – redeposited; s. – skull, a. - axial skeleton, u. - upper limb, l. - lower limb (skeletal areas recovered where all not represented, amtl - *ante mortem* tooth loss; oa – osteoarthritis; op – osteophytes; ddd - degenerative disc disease; mv - morphological variation; dl - destructive lesion;

C – cervical; T – thoracic; L – lumbar; bsm - body surface margins; MtT – metatarsal; MtC – metacarpal; IP – interphalangeal; prox. – proximal

Table 2: Summary of age/sex of identified individuals

	unsexed	*female*		*male*		
		??	total	*??*	total	
immature						
infant 0.5-5 yr.	1					1
infant/juvenile 4-6 yr.	1					1
subadult 13-18 yr.		1				1
adult						
c. 20-30 yr.					1	1
c. 30-40 yr.			1		3	4
c. 35-45 yr.			3		5	8
c. 40-50 yr.			1		3	4
> 45 yr.				1		1
50-60yr			3		2	5
50-70 yr					1	1
60-70 yr			1		1	2
totals	**2**	**1**	**9**	**1**	**16**	**29**

Table 3: Main skeletal indices

	number	**range**	**mean**
estimated stature			
male	15 (94% males)	1.62 - 1.79m (*c.* 5' 4¼" - 5' 11")	1.70m (*c.* 5' 6¾"; SD 0.05)
female	8 (89% females)	1.48 – 1.62m (*c.* 4' 10¾ " - 5' 4¼ ")	1.56m (*c.* 5' 1 ¼ "; SD 0.05)
cranial index			
male	13 (81% males)	70.6 – 85.1 (dolichocranial – hyperbrachycraial)	76.7 (SD 4.10) (mesocranial)
female	8 (89% females)	68.9 – 81.9 (dolichocranial – brachycranial)	73.6 (SD 4.44) (dolichocranial)
platymeric index			
male	15 (94% males)	72.97 – 100.0	87.29 (SD 7.18) (eurymeric)
female	7 (78 % females)	72.23 – 100.0	85.71 (SD 8.22) (eurymeric)
platycnemic index			
male	14 (88% males)	60.40 – 82.70	71.24 (SD 6.39) (eurycnemic)
female	7 (78% females)	59.94 – 76.37	70.17 (SD 4.72) (eurycnemic)

Table 4: Summary of permanent erupted dentitions by sex

	teeth	**socket positions**	***ante mortem* tooth loss**	**caries**	**abscesses**
male	330	425	39 (9.2%)	37 (11.2%)	22 (5.2%)
female	248	286	32 (11.2%)	36 (14.5%)	15 (5.2%)
total (inc. unsexed dentition)	584	713	71 (10.0%)	73 (12.5%)	36 (5.2%)

Table 5: summary of number and rates of spinal lesions (excluding infant/juvenile)

	total no. vertebrae	**osteoarthritis**	**Schmorl's nodes**	**degenerative disc disease**	**lone osteophytes**	**lone pitting**
male	337 65.7% total	37 (11.0%)	74 (22.0%)	53 (15.7%)	52 (15.4%)	52 (15.4%)
female	176 34.3% total	40 (22.7%)	26 (14.7%)	60 (34.1%)	82 (46.6%)	38 (21.6%)
total	513	77 (15.0%)	100 (19.5%)	113 (22.0%)	251 (48.9%)	90 (17.5%)

Table 6: summary of number and rates of extra-spinal lesions (excluding infant/juvenile)

	joint count	**osteoarthritis**	**joint count**	**osteoarthritis**
	male		*female*	
Temporo-mandibular	26	3 (12%)	18	1 (6%)
Costo-vertebral (ribs)	296	28 (9%)	184	19 (10%)
Acromio-clavicular	22		10	2 (20%)
Sacro-iliac	22	1 (5%)	12	
Sterno-clavicular	27	2 (7%)	10	2 (20%)
Shoulder – glenoid	30	2 (7%)	17	
Shoulder – humerus	28	1 (4%)	16	
Wrist – radius	28	1 (4%)	14	
Wrist – ulna	27	1 (4%)	11	
Hand – carpals	148	9 (6%)	71	8 (11%)
Hip – pelvis	30		15	5 (33%)
Hip – femur	32	1 (3%)	15	3 (20%)

Table 7: Summary of decapitations

burial /grave	**age/sex**	**orientation**	**coffin furniture /grave goods**	**skull location**	**position of cut**
1047/ 1045	male *c*. 50-60 yr.	supine extended NW-SE	coffined	lateral to right leg; on base facing proximal	single cut; C5; ?from front
1069/1068	female *c*. 35-45 yr.	supine flexed to left SSE-NNW		behind right knee; on left side facing out	min. three blows; right occipital & C3; from posterior right; head severed between C6-7
1109/1108	male *c*. 60-70 yr.	prone extended SSE-NNW	apotropaic nail?	lateral to right ankle; ?on left side	two blows; C1 & C4; from left front
1112/1111	female *c*. 50-60 yr.	flexed to right SE-NW		between legs, on right side, facing knees	min. three blows; C7; from ?dorsal right
1118/1117	male *c*. 40-50 yr.	supine extended ESE-WNW	coffined hobnails apotropaic nail?	over right foot, on left side, facing distally	?single blow; C5; from dorsal right

Table 8: Summary of all finds

	grave goods			**coffin furniture**	**incidental finds**
grave	**coins**	**iron**	**stone**	**iron**	**all types**
317					1 animal bone; 1 medieval pottery
1008					1 animal bone; 1 worked flint
1009	3	1 nail			
1012					1 medieval pottery
1019					1 animal bone
1025		58 hobnails		18 nails	
1033					1 CBM; 5 worked flints
1039		1 nail			1 medieval pottery; 1 iron nail – ex situ
1045				65 nails	
1048		1 nail			1 hobnail
1053		70 hobnails			
1056		24 hobnails			4 worked flints
1086					3 worked flints
1087			1 ?bead		
1092					1 animal bone; 4 CBM; 3 medieval pottery; 1 iron nail (*ex situ*)
1108		1 nail			

1117		8 hobnails, 1 nail		11 nails	
other features					1 worked flint
TOTAL	**3**	**165**	**1**	**94**	

CBM = ceramic building material

Table 9: Summary of copper alloy coins from context 1011

ON	Denom	Reverse axis	Dia	Wgt (g)	Issuer	Issue date	Obverse	Reverse	Mint	Reference
10	*nummus*	-	13	0.8	Uncertain	C4	Illegible. Corroded	Illegible. Corroded	Unknown	-
22	*nummus*	-	12	0.8	House of Theodosius	AD 388 – 402	Illegible. Corroded	Victory l, club on shoulder, dragging captive, Chi-Rho to l. SALVS (REIPVBLICAE). Corroded	Unknown	As LRBC II, 796
23	*nummus*	-	13	0.8	House of Theodosius	AD 388 - 402	Illegible. Corroded	Winged victory , holding wreath. Victoria Auggg type	Unknown	As LRBC II, 162

Table 10: Summary of all graves containing coffins and/or grave goods

grave	*coffin*	*prone*	*flexed*	*decapitated*	*hobnails*	*nail 'amulet'*	*other*	*other comments*
1009						x	Coins	legs crossed
1025	x		x		x			subadult,
1039						x		
1045	x			x				
1048						x		
1053		x			x			cut by 1056
1056		x			x			cuts 1053
1087							stone bead	oversized grave
1108						x		cuts 1111
1117	x			x	x	x		
	3	2	1	2	4	5	2	

Table 11: Gazetteer to Figure 1

Fig.1 ref	NGR	Site	Reference	Year	Description
1	370200 89900	Alington Avenue	Davies *et al* 2002	1984-87	*c.* 100 inhumation burials. 1st to 4th century AD. Native and Romanised types. First Roman dwarf discovered
2	368700 90600	9 Bridport Road	Hughes 1989	1989	*c.* 50 inhumation graves
3	369070 90455	County Hospital	Trevarthen 2008	2000-1	*c.* nine uncoffined inhumation burials. All neonates. Disarticulated fragment - adult
4	369010 90910	County Hall	Smith 1993	1988	*c.* six individuals. Neonates and foetal/neonate associated with buildings. Disarticulated radius – adult, in a pit
5	369300 90600	Greyhound Yard	Woodward *et al* 1993	1993	26+ foetuses and neonates. 13 graves, also pits, wells and spreads. more not analysed from animal bone. Fragments of an adult skull.
6	368700 90680	Crown Buildings	Green *et al.* 1981	1981	*c.* 50. Inhumation cemetery. E and W extent defined. Most deep, extended and W/E. Little bone recovered. No grave goods. Most adults, fewer children. ?cist burial, Lead coffin with gypsum and a ?lead lined wooden coffin.
7	369070 90000	Police Station	WA 2006c	2005	One coffined inhumation burial. Disarticulated bone from a pit. Small watching brief.
8	368500 91100	Poundbury main	Green 1987; Farwell & Molleson 1993	1966-1987	*c.* 1400 inhumation burials. Late Roman. Clear zoning within the cemetery. Stone coffins, stone built mausolea and ditched funerary enclosures
9	367250 90950	Poundbury 2007	WA 2008	2007	35 inhumation burial. Early to late Roman. Several groups and singletons. Varied burial characteristics. Some grave goods. Similarity to Alington Avenue
10	369300 90600	Wollaston Road	McKinley 2005(a)	2005	Redeposited bone in Roman buildings. Six individuals. Two neonates, three adults
11	368630 90760 368660 90760	Depot Barracks	RCHME 1970 224a & b	*c.* 1938 1940	Unspecified number of inhumation burials *c.* six inhumation burials. No grave goods.
	368900 90300 368880 90530 368900 90570	Borough gardens area, Albert Road	1895 - 1942 1921 & 1942 1896 & 1898	RCHME 1970 222a 222b	1895 – two inhumation burials. Bronze objects. One apparently face down; 1921 – skull only 1951 – re-analysed 50+ burials including children. All directions. No grave goods or coffins. Several inhumations & possible cremations. Male with bronze ring around lower thigh, jar by skull – possible cremation deposit. Armlets and other probable grave goods
	368810 90690 368840 90780	Corporation Yard, Poundbury	1931 *c.* 1920 & 1965	RCHME 1970 223a 223b	One inhumation burial. E-W in ditch, possible aqueduct branch? Coffined and a 'regular' burial. Armlet *c.* 30 inhumation burials. ?disturbed – skulls broken. 2 inhumation burials in 1965. Extended W-E. Either side of parallel ditches ?aqueduct?
	368580 90660	St Thomas Way	1962	RCHME 1970 224c	One inhumation burial. Extended NW-SE. Skull dislodged

	368550 90690	Mountain Ash Road	1866 – *c.* 1921	RCHME 1970 224d	Unspecified number of inhumation burials. Two 'stone coffins' probably slab lined cists? close to railway cutting
	368400 90700	Prospect Road	1910 & *c.* 1955	RCHME 1970 224e	Several inhumation burials. Some coffined. Some with pottery vessels by the skulls. 'Many' seen in 1955 water works
	368700 90600	Bridport Road	1880s	RCHME 1970 224f	Unspecified number. Either side of Bridport Road and railway cutting
	368500 90620	Hawthorn Lodge	1965	RCHME 1970 224g	One inhumation burial. Extended. W-E.
	368450 90600	Steam Laundry Chimney	*c.* 1940	RCHME 1970 224h	One burial in a stone lined cist. Destroyed prior to observations.
	368330 90620	Water Works, Bridport Road	1943	RCHME 1970 224i	One inhumation burial. Flexed or 'sitting upright' with 'cooking' vessels between the knees
	368900 91000 368860 91060 368820 91000	The Grove	1841, 1903 & 1963 1964-5	RCHME 1970 226a 226b 226c	Two or more inhumation burials 17 or more inhumation burials. Various directions. All extended. *c*. 6-7ft deep. 1st-2nd century. Two pottery vessels One or two inhumation burials. *c.* S-N aligned. Hobnails at feet

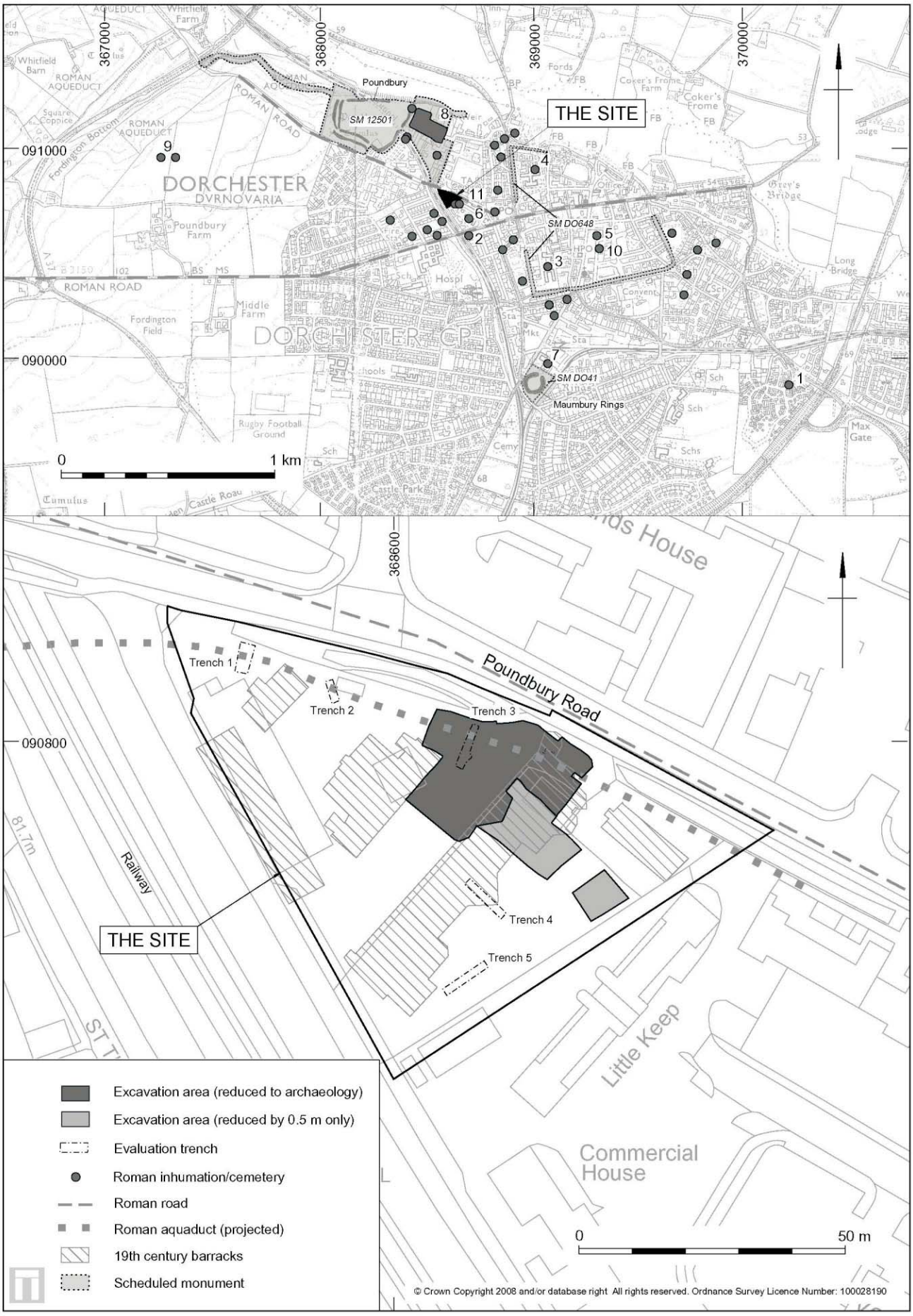
THE SITE
SM 12501
SM DO648
SM DO41
Poundbury
DORCHESTER
DVRNOVARIA
Maumbury Rings
ROMAN ROAD
ROMAN AQUEDUCT
Poundbury Road
Trench 1
Trench 2
Trench 3
Trench 4
Trench 5
Railway
Little Keep
Commercial House
0
1 km
50 m
Excavation area (reduced to archaeology)
Excavation area (reduced by 0.5 m only)
Evaluation trench
Roman inhumation/cemetery
Roman road
Roman aquaduct (projected)
19th century barracks
Scheduled monument
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Figure 1

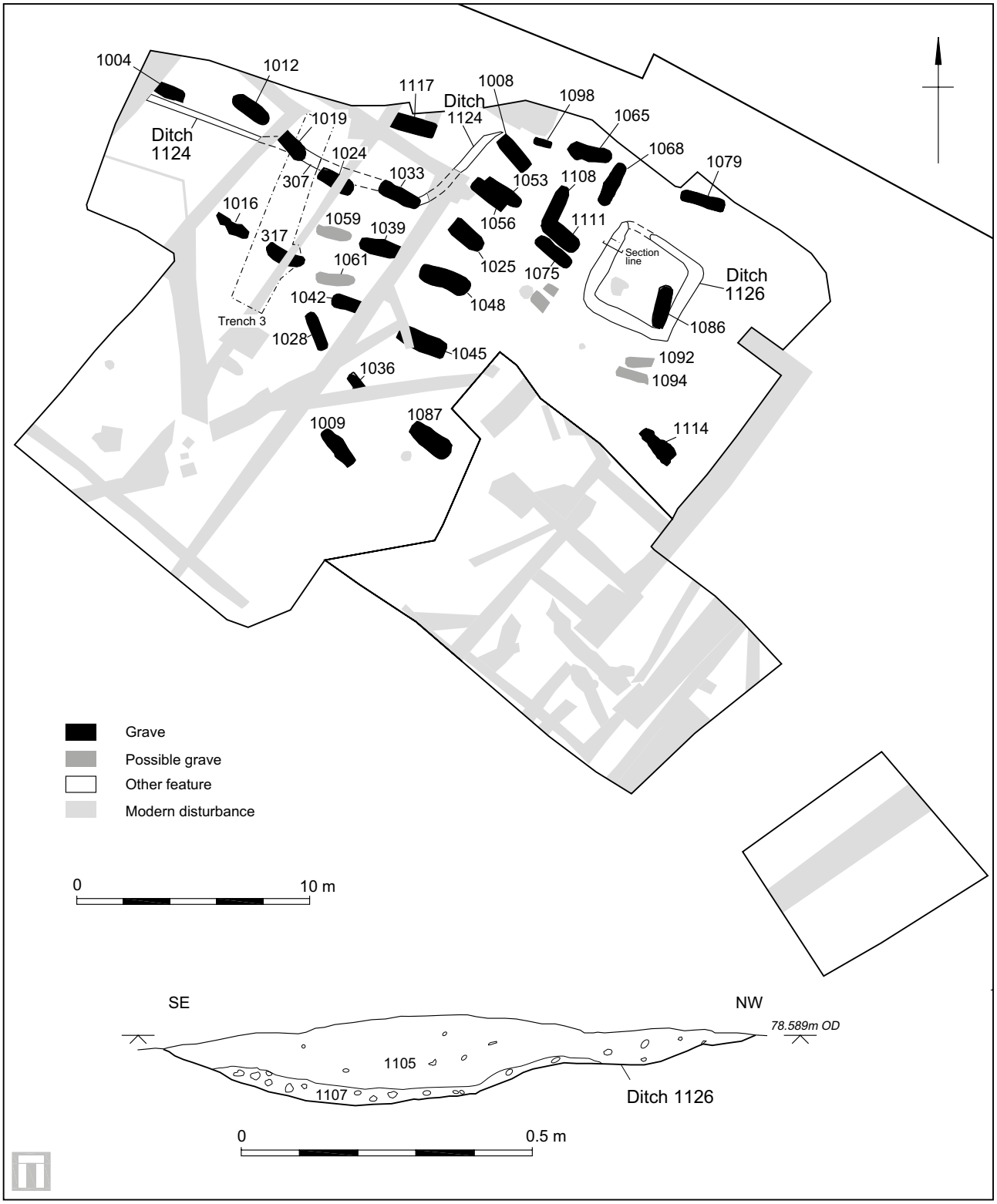
1004
1012
1117
Ditch
1124
1008
1098
1065
1068
1079
Ditch
1124
1019
1024
307
1033
1053
1108
1016
1059
1039
1056
1111
317
Section
line
1061
1025
1075
Ditch
1126
1042
1048
Trench 3
1028
1086
1045
1092
1036
1094
1009
1087
1114
Grave
Possible grave
Other feature
Modern disturbance
0
10 m
SE
NW
78.589m OD
1105
1107
Ditch 1126
0
0.5 m

Figure 2


Coffin
Hobnails
Coins
Prone burial
Supine burial
Burial on side
D
Decapitated burial
Possible grave
Female
Male
Infant/Juvenile
Subadult
<30 yr.
30 - 45yr.
>45 yr.
0
10 m

Figure 3

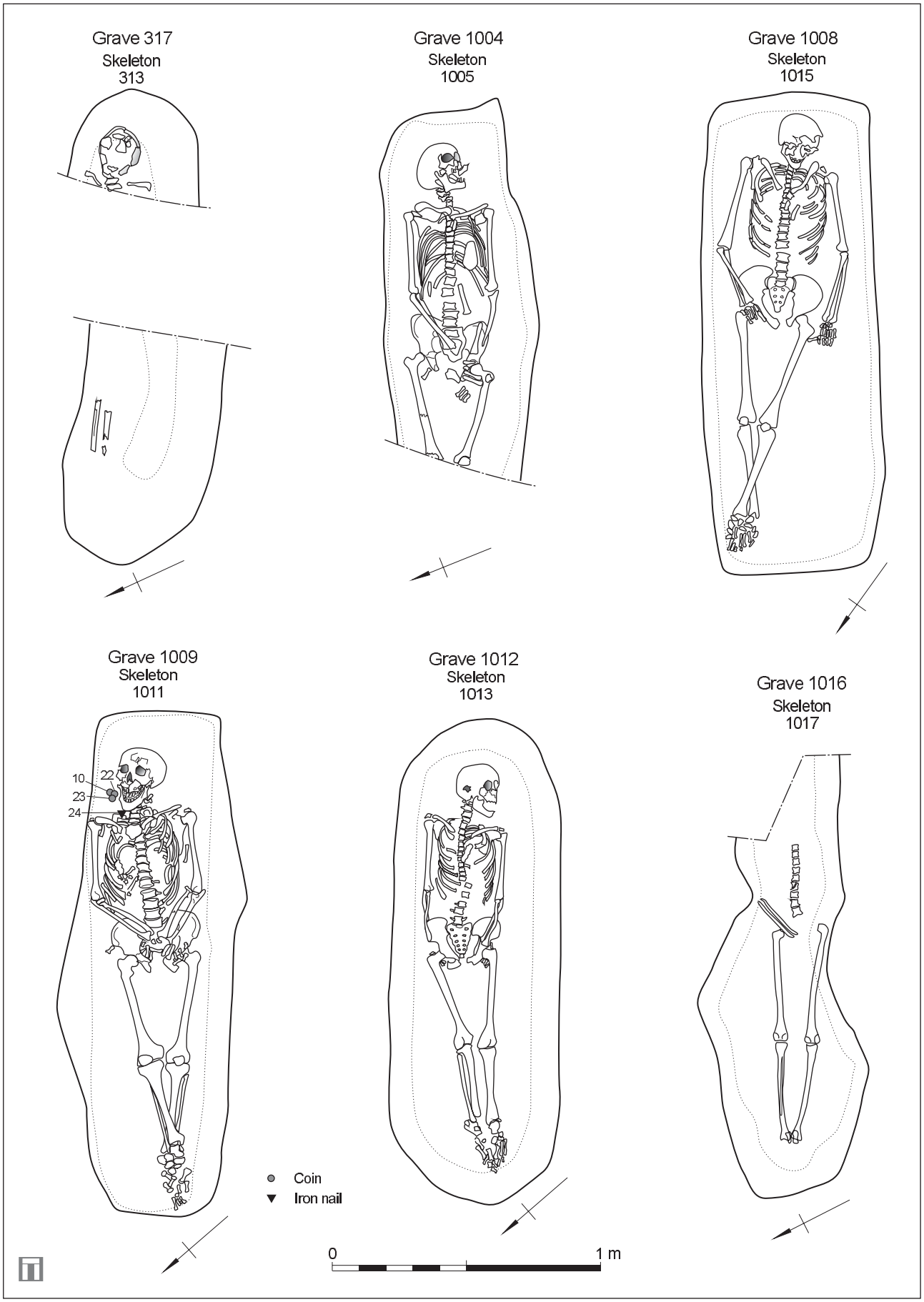
Grave 317
Skeleton
313
Grave 1004
Skeleton
1005
Grave 1008
Skeleton
1015
Grave 1009
Skeleton
1011
10
22
23
24
Grave 1012
Skeleton
1013
Grave 1016
Skeleton
1017
Coin
Iron nail
0
1 m

Figure 4

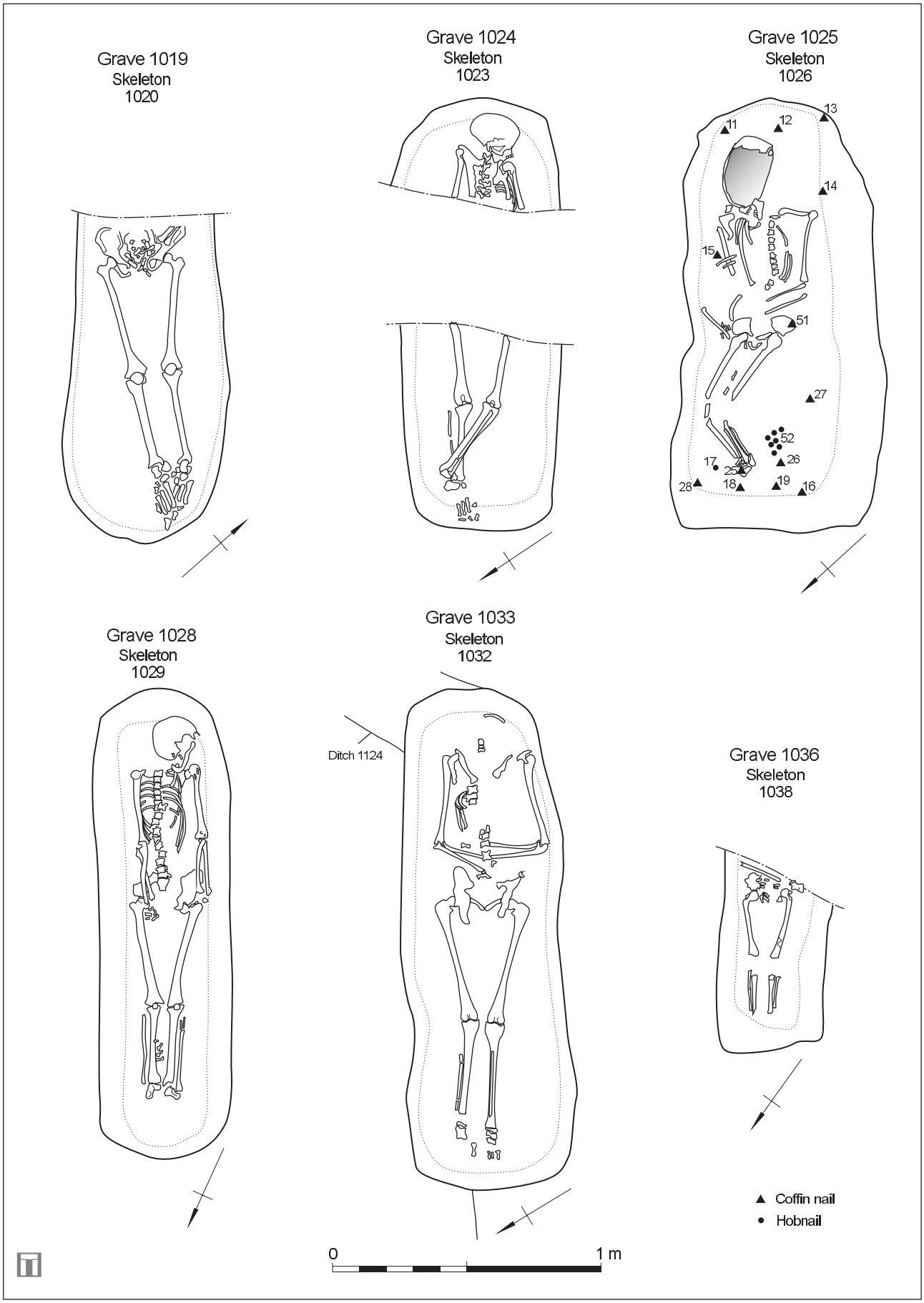
Grave 1019
Skeleton
1020
Grave 1024
Skeleton
1023
Grave 1025
Skeleton
1026
11
12
13
14
15
51
27
52
26
17
25
18
19
16
28
Grave 1028
Skeleton
1029
Grave 1033
Skeleton
1032
Ditch 1124
Grave 1036
Skeleton
1038
Coffin nail
Hobnail
0
1 m

Figure 5

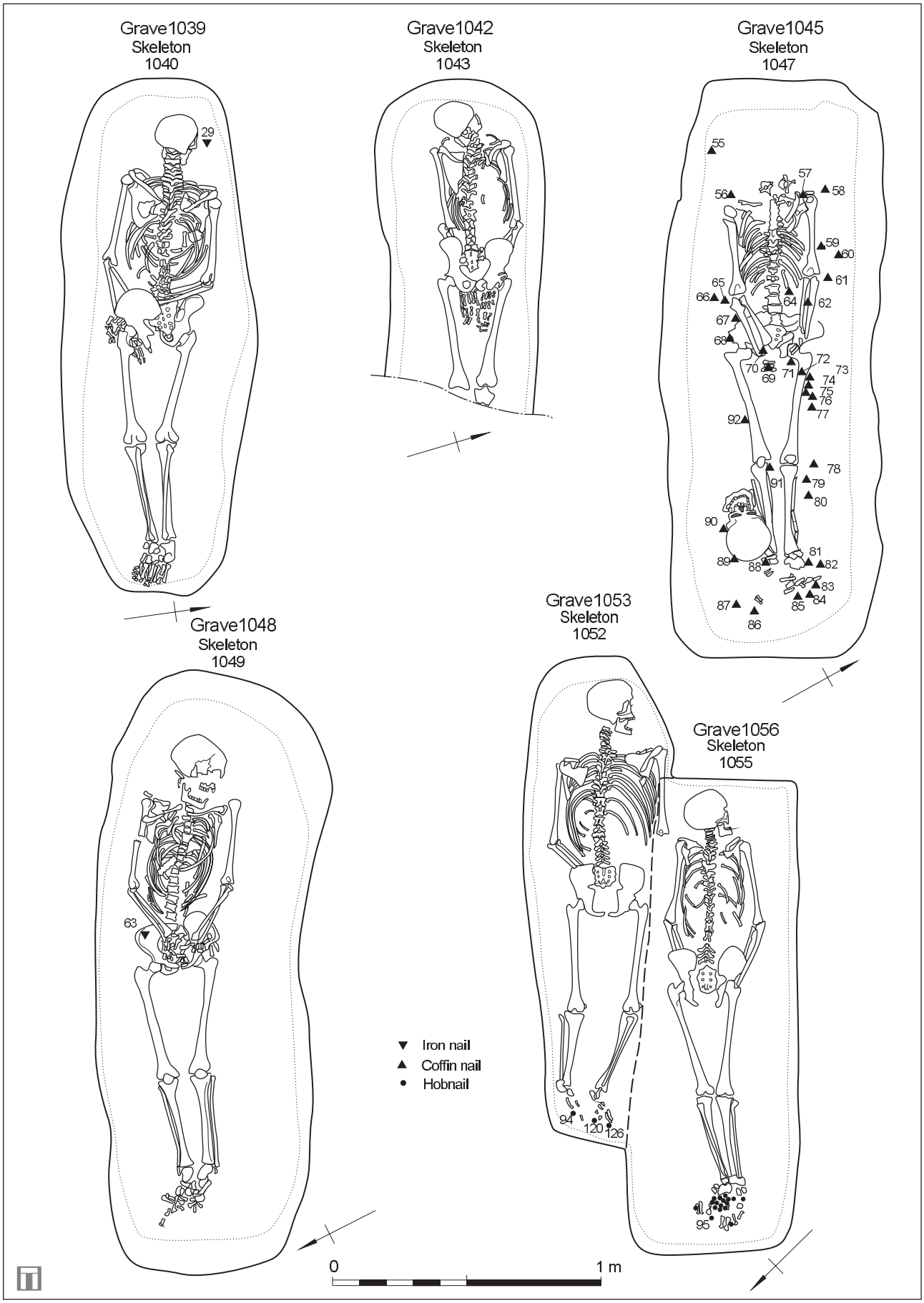
Grave1039
Skeleton
1040
Grave1042
Skeleton
1043
Grave1045
Skeleton
1047
Grave1048
Skeleton
1049
Grave1053
Skeleton
1052
Grave1056
Skeleton
1055
Iron nail
Coffin nail
Hobnail
0
1 m

Figure 6

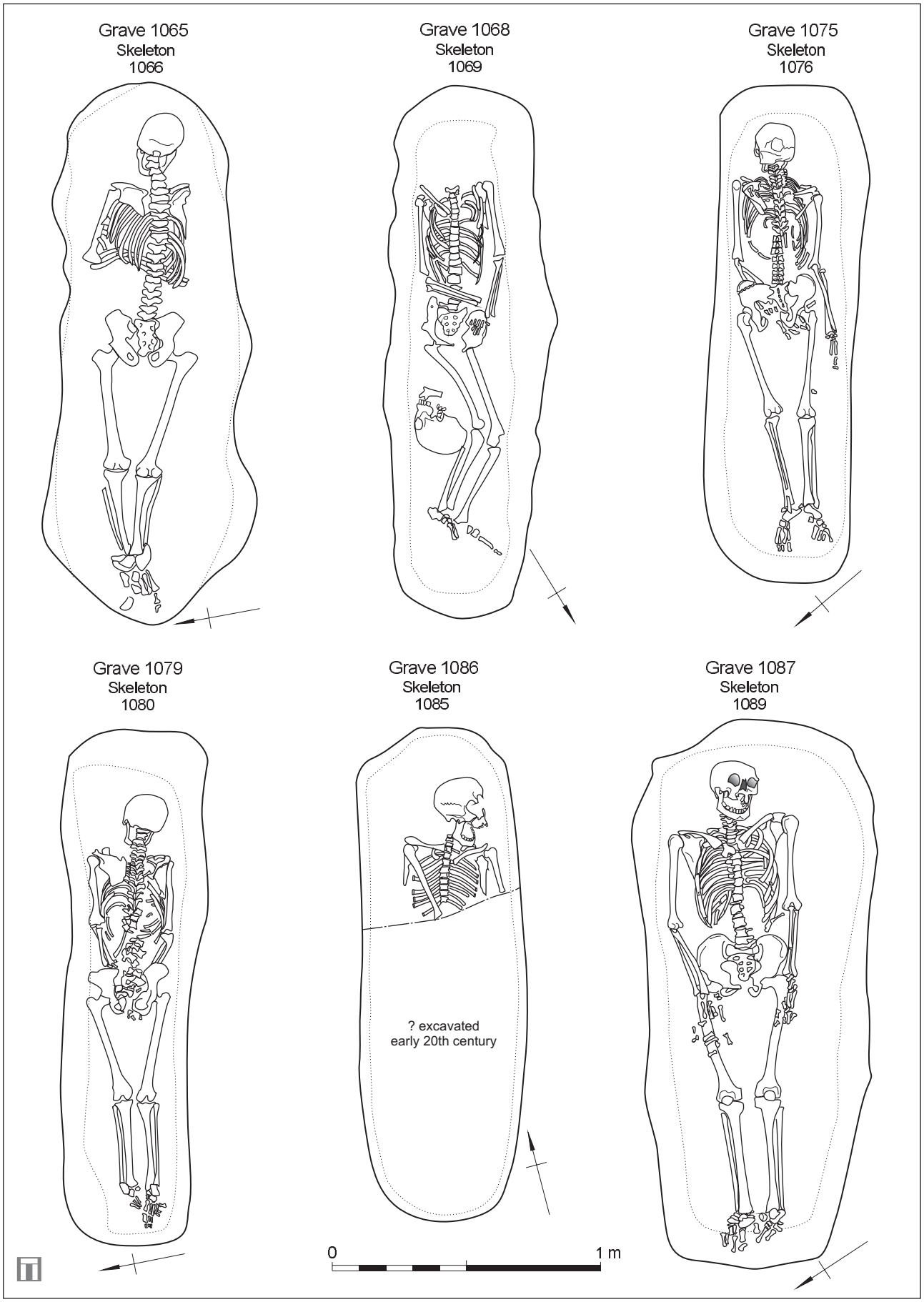
Grave 1065
Skeleton
1066
Grave 1068
Skeleton
1069
Grave 1075
Skeleton
1076
Grave 1079
Skeleton
1080
Grave 1086
Skeleton
1085
? excavated
early 20th century
Grave 1087
Skeleton
1089
0
1 m

Figure 7

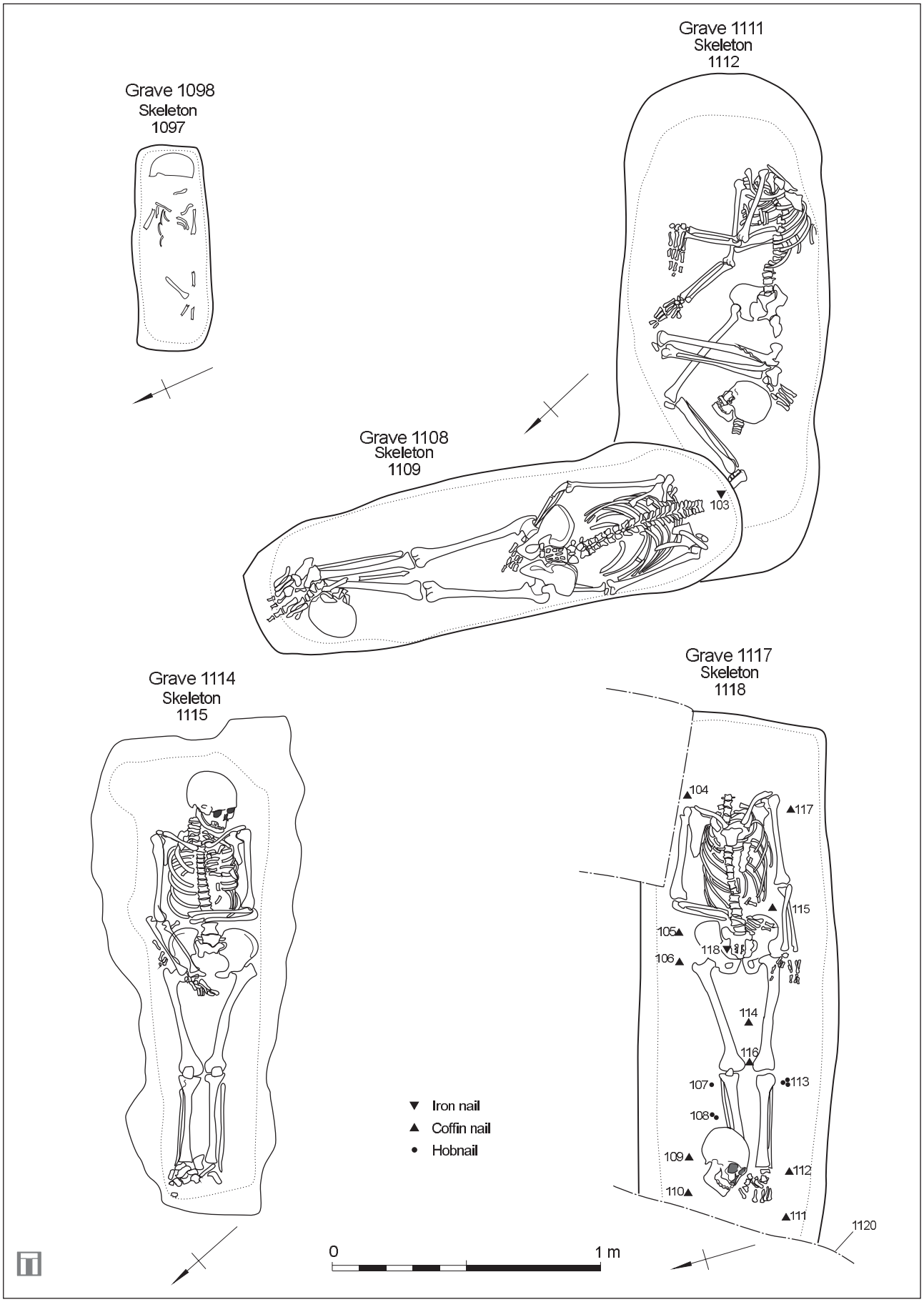
Grave 1098
Skeleton
1097
Grave 1111
Skeleton
1112
Grave 1108
Skeleton
1109
103
Grave 1114
Skeleton
1115
Grave 1117
Skeleton
1118
104
117
115
105
118
106
114
116
107
113
108
109
112
110
111
1120
Iron nail
Coffin nail
Hobnail
0
1 m

Figure 8

Plate 1: Coalition defect (os triganom) in ankle of Sk 1040

Plate 2: Sk 1109. Healed nasal fracture

Date:	06_07_09	Revision Number:	0
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Plate 3: Sk 1118. Healed trauma to right frontal (blunt force?)

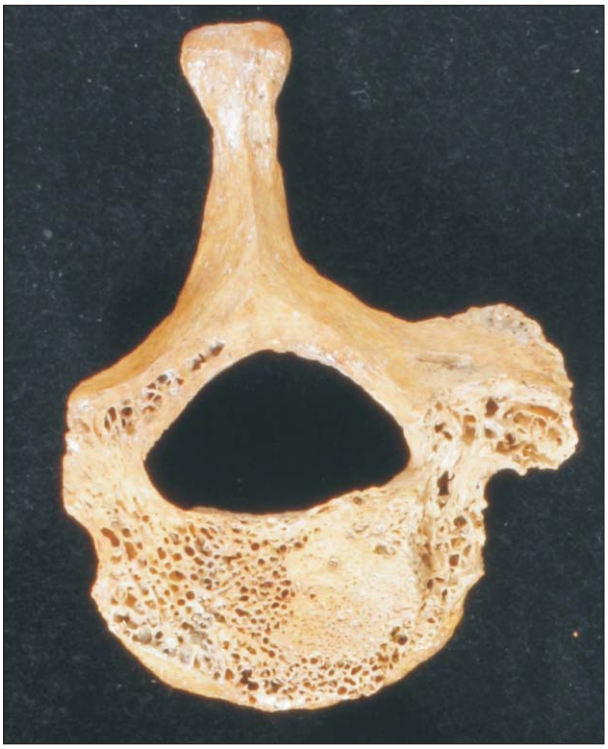

Plate 4: Sk 1112. cuts on 7th cervical vertebra

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Plate 5: Sk 1112. right clavicle, cut marks associated with decapitation process

Plate 6: Sk 1118. ridged cut mark, with missing flake (post-deposition) above mastoid (skull)

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Scale:	N/A	Illustrator:	KMN
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