The prehistoric and medieval defences of Malmesbury: archaeological investigations at Holloway, 2005-2006

by Mark Collard and Tim Havard

with contributions by J. Hart, E. R. McSloy, J. Meadows, S. Warman and T. P. Young

Archaeological work associated with the restoration of a section of the town walls of Malmesbury provided further evidence that the medieval wall followed the line of a rampart of an Iron Age hillfort. Radiocarbon dates suggest that the rampart was built in the earlier Iron Age, and it appears that the hillfort defences were subsequently remodelled by the addition of further external ramparts. It is likely that this was associated with the elaboration of the defences around an entrance close to the site adopted for the medieval East Gate. Some extant medieval masonry of the town wall was also revealed.

Introduction

Between October 2005 and January 2006 Cotswold Archaeology (CA) carried out a programme of archaeological recording during the repair, restoration and reconstruction of a section of the town wall of Malmesbury (centred at ST 9356 8733; Figure 1). The work was prompted by the collapse in recent years of a c.15m length of walling in the area between Holloway to the north and a 19th-century railway cutting to the south. The work was conducted under the aegis of North Wiltshire District Council and was grant-aided by English Heritage. Following the completion of the restoration works in May 2006, an excavation trench was dug to characterise the nature of archaeological deposits immediately outside the town wall.

The site lies to the south of East Gate (also known as the Holloway Gate) along a section of the town wall, which at this point is a Scheduled Monument (Wilts. 881). This section of the town wall traverses the crest of the western valley of the River Avon, which surrounds the Malmesbury promontory on three sides. The underlying geology comprises Jurassic Cornbrash with alluvial deposits present towards the Avon (BGS 1970).

The archaeological, historical and topographical context of Malmesbury’s defences has recently been described in detail in a report on the archaeological investigations of 1998-2000 on the line of the town wall at Nun’s Walk, to the south of the present site (Longman 2006; locations shown on Figure 1). In summary, this work concluded that the defences originated as part of an Early Iron Age hillfort. Successive remodelling and enhancement of the defences occurred during the second half of the 1st millennium BC, and a complex sequence of ramparts was recorded during the investigations, along with evidence for external ditches. Documentary evidence
Fig. 1 Site location (1:2500)
suggests that a monastery was founded at Malmesbury in the 7th century AD and it appears that the town had been fortified as an Anglo-Saxon burh by the late 9th century when it is recorded in the Burghal Hidage. The investigations at Nun’s Walk indicated that the burh defences were remodelled in the 10th or 11th century by the addition of a substantial bank and ditch. Further enhancement of the defences occurred during the early 12th century with the construction of a stone wall, attributed to Bishop Roger of Sarum. Following a period of neglect at the end of the medieval period the defences were reconstructed during the Civil War before being slighted by Parliamentary forces in 1646. In the later post-medieval period, the walls were rebuilt and altered on a piecemeal basis by individual property owners.

Methodology

Prior to the start of the repair works, resistivity and ground-penetrating radar surveys were conducted over two areas, one inside and one outside the wall (Figure 1; Archaeological Surveys 2005; Arrow Geophysics 2005). No additional evidence for the development of the defences was revealed by either survey.

Before site clearance, a rectified photographic and survey record was made of the surviving wall fabric between the railway cutting and Holloway. The wall was then cleared of undergrowth and loose rubble under archaeological supervision. Wall fabric was removed by the contractor only where unstable; this included a section of upstanding wall by the railway cutting, but not the length where the wall stood to full height nearest to the East Gate. The approach adopted to the repair programme was to remove sufficient fabric to ensure that the exposed footings were suitable to carry the load of the reconstructed wall; in practice this equated to the level at which solid, in situ wall fabric was encountered. Following clearance of all loose material to that level, the area was cleaned and recorded archaeologically. The major exposures were a large section of rampart behind the wall and the upper surviving courses of the wall itself. Together, these are designated as Area 1 (Figure 2).

Area 2 was excavated at right angles to the outer face of the wall, primarily for engineering purposes. Following the completion of the restoration works, Area 3 was excavated to determine the presence or otherwise of prehistoric or medieval ditches outside the wall. Area 3 measured 12m by 5m at the modern ground surface but was stepped in to allow investigations to proceed to a maximum depth of 3m. Archaeological deposits continued below this level and hand-augering through the base of the central part of the trench identified the level of the underlying bedrock. Following completion of excavation in Area 3, further geophysical surveys were conducted outside the wall but no archaeological anomalies were identified (Archaeological Surveys 2006; Arrow Geophysics 2006). Following completion of the fieldwork an assessment was made of the significance of the findings, and a programme of analysis proposed which has led to the production of this report (CA 2007).

Results

Period 1: Defences of the Iron Age hillfort

Dating evidence for this period was based on Iron Age pottery recovered from several rampart deposits in Area 1 and on radiocarbon dates for deposits in Areas 1 and 2. Other contexts were assigned to this period on the basis of their similarity to dated ones or stratigraphic and spatial association. The principal elements revealed of the Iron Age defences were a series of earthen ramparts (here termed A1P1-A3) and a drystone wall 1073 which formed a facing for at least one of them.

Area 1

The removal of undergrowth and unstable stonework exposed rampart deposits to the rear of the town wall. Within the south-western part of Area 1 the rampart deposits lay directly against the rear face of the wall but to the north-west a gap between the wall and the rampart deposits had been backfilled during the medieval or post-medieval periods with rubble 1074. Section AA (Figure 3) illustrates a section through the rampart deposits following the partial removal of the rubble 1074 lay up against the face of the Iron Age rampart. No cross section was available through the Iron Age wall 1073 and the ramparts; consequently the wall does not appear on Section AA.

Four phases of rampart construction were identified, surviving to a total height of more than 1.5m. Rampart A1P1 was the earliest exposed rampart, although the base of the archaeological
Fig. 2 Areas investigated (1:125)
sequence was not reached and earlier phases may have been present. It was constructed using layers of firm brown, grey and orange-brown clay. Although the profile of these deposits suggests that a longitudinal section through a south-west/north-east aligned rampart is represented, this must remain a tentative conclusion since no faces to the rampart were exposed. A small quantity of late Bronze Age/Early Iron Age pottery was recovered from rampart layers 1051, 1049, 1050, 1048 and 1047 and a radiocarbon date of 730–390 cal BC (OxA-18757; Table 1) was obtained from a residue present on one of the sherds from 1051. The upper surface of Rampart A1P1 survived as a distinctive pale clay layer (1046), perhaps a product of the weathering of the upper surface of the rampart. The lowest exposed layers of Rampart A1P1 were abutted along much of their eastern side by the rear face of a dry-built limestone wall 1073 (not visible in section AA). It was not possible to determine whether this wall was contemporary with Rampart A1P1 or was a later addition.

Rampart A1P2 was constructed directly over Rampart A1P1 and consisted of several thin layers of grey and orange-brown clay. The profile of these deposits displayed a steep outer face with a gentler slope to the rear and is suggestive of a cross section through a north-west/south-east aligned rampart. The uppermost layer of Rampart A1P2 was a distinctive, scorched-red clay deposit, which had been cut by a single stakehole.

Rampart A1P3 was built on to Rampart A1P2 and consisted of several similar bulk dumps of sandy clay. Although no outer face of the rampart was exposed, the slope of its rear face was again suggestive of a cross section through a north-west/south-east aligned rampart. Three large stones (3007) set firmly into the outer side of the rampart may be the remains of a drystone wall, which appeared to continue beyond the area of investigation.

Rampart A1P4 had been built on to the rear face of Rampart A1P3, although its full extent did not survive as its inner face had been truncated by the 19th-century railway cutting. A single sherd of late Bronze Age/Early Iron Age pottery was recovered from dump 1053.

**Area 2**

Wall 1073, also observed in Area 1, was again exposed and here was faced with roughly coursed and dressed stones with rubble to the rear (Figures 4 and 5). It was excavated to a depth of 1m, exposing fifteen courses, without its base being reached. A second drystone wall 1027, identified at the south-eastern end of Area 2 was also built from limestone rubble.

A series of rampart deposits abutted the outer face of the wall 1073 and the inner face of wall 1027. These consisted of scorched red clay layers (e.g. 1022, 1024 and 1034) containing charcoal lenses and in one case (1038, not illustrated) 4.3kg of fuel ash slag. Walls 1073 and 1027 showed no sign of burning, suggesting that the clays were scorched elsewhere prior to deposition in the rampart. Fragments of charcoal sapwood from charcoal lenses 1036 and 1037 produced identical radiocarbon dates of 760-400 cal BC (SUERC-18565, 18566 and 18567; Table 1).

**Area 3**

The earliest deposits recorded were clay layers 2038
Period 2: Medieval town defences

Area 1
Wall 3005 was recorded at the south-western end of Area 1 (Figure 2). It consisted of two to three courses of large squared stone blocks with triangular tails laid in horizontal courses and was of distinctly...
This is likely to be medieval work, but whether the remains represent the primary early 12th-century wall or a subsequent rebuild is difficult to determine (cf. similar masonry revealed at Nun’s Walk trench 2; Longman 2006, 113). The upper and outer surfaces of wall 3005 displayed a white patina resulting from an extended period of exposure following the collapse or removal of overlying fabric.

Wall 1006 was recorded at the north-eastern end of Area 1 and continued at full height to the East Gate. Detailed examination of the fabric of this wall suggested that it had been extensively repaired and rebuilt with little in situ medieval fabric being readily identifiable, although some areas of large squared masonry were present. The inner face of this wall was abutted by a substantial dump of stone rubble, 1074, which had been used to fill the gap between the wall and the face of the Iron Age ramparts during the medieval or post-medieval periods.

**Area 3**
Iron Age wall 2019 was abutted on its outer face by a series of rubble dumps (e.g. 2032 and 2031) probably derived from deliberate demolition of the upper surviving courses of the Iron Age wall. A small quantity of late 13th or 14th-century pottery was recovered from these dumps (layers 2020, 2021 and 2026, not illustrated). The wall was abutted to its rear by a dump of yellow sandy material, 2036, which appeared to derive from the Iron Age ramparts, suggesting that the uppermost part of the rampart was being slighted and the resulting spoil deposited downslope. This was overlain by further clay dumps 2023, which contained four sherds of 12th to 13th-century pottery, and 2009.
Period 3: Post-medieval

Much of the post-medieval town wall had collapsed prior to the commencement of works in 2005 and evidence of repair and re-construction was recorded. A length of post-medieval walling 1007 was recorded at the north-western end of Area 2 where it had been constructed directly on top of Iron Age wall 1073 (Figures 4-5).

Period 4: Modern

A series of stone rubble deposits was either dumped or accumulated in the gap between the collapsing post-medieval wall 1006/1007 and the rampart behind and were sealed by the existing topsoil 1002. The rampart deposits and town wall were severely truncated at the south-western end of Area 1 by the 19th-century railway cutting. Medieval and post-medieval deposits in Area 3, particularly at the south-eastern end, had been severely disturbed by the insertion of a water main in the late 20th century and associated terracing for a site compound (Roy Canham pers. comm.).

Radiocarbon dating, by John Meadows

Five samples from four deposits were submitted for radiocarbon (AMS) dating (Table 1). Two comprised burnt organic residues on sherds of pottery and three samples were taken from large pieces of oak sapwood charcoal up to 50mm in diameter which may have derived from fragmented posts or stakes (identifications by Rowena Gale; report in archive). The samples were dated by Accelerator Mass Spectrometry (AMS) radiocarbon
dating at the Scottish Universities Environmental Research Centre in East Kilbride (SUERC; technical procedures are described by Vandeputte et al. 1996; Slota et al. 1987, and Xu et al. 2004), or at the Oxford Radiocarbon Accelerator Unit at Oxford University (OxA; laboratory methods are given by Bronk Ramsey et al. 2002; 2004). Internal quality assurance procedures at both laboratories and international inter-comparisons (Scott 2003) indicate no laboratory offsets, and validate the measurement precision quoted.

The results reported in Table 1 are conventional radiocarbon ages (Stuiver and Polach 1977), quoted according to the format defined by the Trondheim convention (Stuiver and Kra 1986). The calibrated date ranges have been calculated by the maximum intercept method (Stuiver and Reimer 1986), using the program OxCal v4.05 (Bronk Ramsey 1995; 1998; 2001; 2009) and the IntCal04 data set (Reimer et al. 2004), and are quoted in the form recommended by Mook (1986). The probability distributions have been calculated using the probability method (Stuiver and Reimer 1993), and the same data.

Four samples were successfully dated; the fifth had insufficient carbon. The four positive results are statistically consistent with a single radiocarbon age (T' = 2.1, T'(5%) = 7.8, v = 3; Ward and Wilson 1978), and could therefore be of the same calendar date. As these results fall on the long plateau in the radiocarbon calibration curve during the 1st millennium cal BC however, it is also possible that they represent a longer timespan, sometime between the late 9th and the end of the 5th centuries cal BC. The results of all four samples are consistent with the interpretation of this section of the defences as an Iron Age rampart, and with the typological attribution of the pottery contained in these deposits.

Table 1: Radiocarbon dates

<table>
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<tr>
<th>Laboratory number</th>
<th>Sample number</th>
<th>Context description</th>
<th>Material dated</th>
<th>$\delta^{13}C$ (%o)</th>
<th>Radiocarbon age (BP)</th>
<th>Calendar date (95% confidence)</th>
</tr>
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<td>P21999</td>
<td>MTW05104903</td>
<td>1049</td>
<td>Rampart A1P1</td>
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<td>failed</td>
<td>insufficient carbon</td>
</tr>
<tr>
<td>OxA-18757</td>
<td>MTW05105104</td>
<td>1051</td>
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<td>730–390 cal BC</td>
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<td>MTW05103601</td>
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<td>1036</td>
<td>Charcoal lens in Rampart A2</td>
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<td>2440 ± 35</td>
<td>760–400 cal BC</td>
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<td>SUERC-18567</td>
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<td>1037</td>
<td>Charcoal lens in Rampart A2</td>
<td>-23.8</td>
<td>2450 ± 35</td>
<td>760–400 cal BC</td>
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Finds, by E.R. McSloy

Pottery

A small assemblage of pottery amounting to 44 sherds (877g) was recovered. The larger part of the assemblage dates to the late prehistoric period and derived from rampart deposits exposed in Area 1. Additional quantities of medieval, post-medieval and modern pottery came primarily from Area 3. The assemblage has been fully recorded and a fuller version of this report is contained in the archive.

Late Prehistoric

A total of 17 sherds (454g) of late prehistoric pottery was recovered from nine deposits (Table 2). With the exception of two residual sherds, all the pottery came from the rampart dumps exposed behind the dismantled town wall. Five Iron Age pottery fabrics were defined on the basis of inclusion type and size. With the exception of one sherd in a fine sandy fabric (type Q), residual in Area 3, the fabrics comprise calcareous (fine limestone type LSf and coarser LSM) and fossil shell-tempered types (type SHc and finer type SHm) comparable with larger assemblages known from Malmesbury and part of a wider tradition covering the Cotswold region (Brown 2006).

All material is hand-made, with sherd thickness in the range 8–9mm. One sherd in fabric SHc from dump 1049 in Rampart A1P1 was notably thicker (13mm) and probably comes from a large storage vessel. Internal carbonised residues indicative of cooking were recorded on four vessels from Rampart A1P1. Identifiable vessel forms are restricted to Figure 8 no. 1, a globular-bodied jar with a high upright rim, which is carefully formed with an internal bevel. It is decorated with a row of fingertip impressions to its shoulder region. This vessel, although unstratified, is represented as several large joining fragments and is very likely to have derived from one of the rampart deposits. Of the two other rim sherds, Figure 8 no. 2 probably represents a bowl, possibly of bi-partite (carinated) profile. In common with no. 1, its rim is well formed and flattened/bevelled. Figure 8 no. 3 is a small sherd, possibly from a bi-partite bowl or jar and with simple rim.

One further vessel features decoration in the form of vertical scoring (Figure 8 no. 4). Such decoration is uncommon in the late prehistoric period in western Britain, although a vessel from Bub with regular vertical grooves or scoring suggests that similar treatments were used on occasion. The light and irregular scoring to no. 4 is, however, more in the tradition of Middle to Late Iron Age ‘scored wares’ common in central and eastern England (Eldon 1992).

A programme of radiocarbon dating utilising material from Period 1 deposits, and incorporating one determination from a carbonised residue on a potsherd from Rampart A1P1 (dump 1051), returned consistent dates in the range 760 to 390 cal BC (Table 1). Overall the radiocarbon dating is consistent with the dating indicated on typological grounds by the pottery, which suggests that elements (at least) of the assemblage relate to the period spanning the late Bronze Age/early Iron Age transition. The use of fingertip decoration of the type seen with vessel no. 1 is common with assemblages of the period, including Potterne (Lawson 2000) and the hillforts at Battlesbury (Every and Mepham 2008, figs. 4.5–4.6) and Bub (Wainwright 1970). The high neck and bi-partite profile of vessel no. 2 are also characteristics of this transitional period and continue into the early/middle Iron Age.

Evidence for activity of middle/later Iron Age date, present in the 1998-2000 excavations, could not be demonstrated from material associated with the rampart deposits in Area 1 (Brown 2006, 134). The residual sherd reminiscent of East Midlands ‘scored-wares’ may representative activity of this date in the area.

Table 2: Late prehistoric pottery: summary by context (quantification by count/weight in grammes)

<table>
<thead>
<tr>
<th>Deposit</th>
<th>Fabric</th>
<th>Us. 1032</th>
<th>1045</th>
<th>1047</th>
<th>1048</th>
<th>1049</th>
<th>1050</th>
<th>1051</th>
<th>1053</th>
<th>2006</th>
<th>Total</th>
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<td>LSf</td>
<td>1/161</td>
<td>1/4</td>
<td></td>
<td>1/14</td>
<td>1/10</td>
<td>4/50</td>
<td>1/50</td>
<td>7/265</td>
<td>3/114</td>
<td>4/32</td>
<td>1/19</td>
</tr>
<tr>
<td>LSM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SHc</td>
<td>1/2</td>
<td>1/4</td>
<td></td>
<td>1/40</td>
<td>1/72</td>
<td>4/32</td>
<td></td>
<td></td>
<td>1/19</td>
<td>1/19</td>
<td>17/454</td>
</tr>
<tr>
<td>SHm</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Q</td>
<td>1/161</td>
<td>1/2</td>
<td>1/4</td>
<td>1/14</td>
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<td>5/104</td>
<td>1/10</td>
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<td>4/50</td>
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<td>1/19</td>
<td>17/454</td>
</tr>
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</table>
Illustrated sherds (Figure 8)
1. Area 1, unstratified. Fabric LSm. Globular jar with upright/internally-bevelled rim.

Medieval and later
The small quantities of medieval and later pottery were recovered primarily from dumped deposits in Area 3. The medieval component amounts to 15 sherds (265g) and the post-medieval and modern material a further 12 sherds (159g). Unglazed oolitic limestone-tempered ‘cooking pot’ fabric OOL LI corresponds to a type known across the Cotswold region and typically dates between the 11th and 13th/early 14th centuries (Ireland 1998). A single vessel form, a jar with simple everted rim, is represented (Period 2 layer 2023).

Sherds in a more even-fired oolitic limestone-tempered fabric, with a sparse lead glaze, are identifiable as Minety-type ware (Musty 1973). Dating for the majority of the unfeatured Minety ware sherds is broad, the result of the longevity of this material, with production extending between the 12th and 15th centuries. A large jar sherd from Period 2 layer 2021 and bodysherds from 2023 (Period 2) and 2005 (Period 3) are wheel-thrown and exhibit sparse use of glaze. As such they date to the later phases of production, probably in the 14th or 15th century. Three bodysherds occur in a sandy buff-firing glazed fabric and are probably products of the Lacock/Nash Hill industry, 12km to the south of Malmesbury (McCarthy 1976). A sherd from 2003 features contrasting (brown) strip decoration suggesting an early to mid 14th-century date.

Worked flint
Three worked flints weighing 25g were retrieved: a chip or broken flake, a further flake and a small multi-platform core. The core is probably middle/late Neolithic or Bronze Age.

Ceramic building material and fired clay
Seven fragments of ceramic ridge tile of medieval type were recovered from Area 3. Two fragments from Period 2 deposits feature applied (luted-on) and knife-stabbed crests and occur in a coarse sandy

Fig. 8 Late prehistoric pottery (1:3)
fabric with dark olive glaze. These are very likely products of the Nash Hill (Lacock) tiley (Eames 1976, 131-2) and probably date to the later 13th or 14th centuries. Similar dating is likely for the other fragments in Minety ware (Musty 1973).

Small quantities of fired or burnt clay (130g) were recovered from Area 3. One fragment from a Period 2 deposit exhibits clear organic (?straw) impressions and might represent burnt daub. The remainder consists of largely amorphous fragments in a buff-orange, slightly sandy fabric.

Iron

Three iron nails or nail shaft fragments and a single fragment of iron sheet were recovered from Period 2 deposits. None are closely dateable.

Worked and utilised stone

One stone tile and one stone object were recovered from Period 2/3 deposits. The stone tile is of local oolitic limestone and probably dates to the post-medieval period. The object consists of part of a partially burnt stone slab of grey-brown slightly micaceous Pennant sandstone (L. 122mm, W. max. 45 mm, D. max. 18 mm, 188g) and has been kindly examined by Fiona Roe. Its two main surfaces are smoothly worn and slightly glossy from use as a polisher or whetstone. Although from a post-medieval context, in light of its association with prehistoric and medieval remains, an earlier date should be considered. Pennant sandstone could have been obtained without difficulty from the Bristol area, at a minimum distance of about 24km. This Carboniferous sandstone was much used for whetstones and indeed for other artefacts and there are precedents for its use during the Iron Age, since whetstones made from it were taken to sites as far distant as Danebury, Hampshire (Laws et al. 1991, 385) and Yarnton, Oxfordshire (Roe in prep.). However the slightly glossy flat surfaces on this artefact suggest that it may in fact have been a polisher, possibly for leather working or else as a smoother for pottery. Such tools with worn, glossy surfaces are also common on Iron Age sites, where whetstone materials were typically utilised, as for instance at the Glastonbury Lake Village (Roe 1995, 162). Attribution to the medieval period is possible and Pennant whetstones of this date are known, for instance, from St Bartholomew’s Hospital, Bristol (Good 1998, 164; fig. 67). The irregularity of this item and utilisation of only its flatter faces argue against a medieval date and on balance, a late prehistoric date and use as polisher or smoother is preferred.

Animal bone, by Sylvia Warman

A total of 57 fragments from 44 bones weighing 460g was recovered from 12 deposits ascribed to Periods 1-3. The animal bone is in good condition with little modern breakage and no signs of weathering, indicating rapid burial at the time of deposition. Four Period 1 deposits (1032, 1047, 1049 and 1050) contained animal bone; the latter three comprising dumps of Rampart A1P1. The Iron Age assemblage comprised a sheep/goat distal tibia, a female pig skull, cow-sized vertebra, sheep-sized rib and long bone. Evidence of butchery was noted. This small assemblage shows similarities with that, of a comparable date, from Nun’s Walk where sheep/goat, cattle, pig, horse and cat were identified (Sykes 2006).

Most of the animal bone came from medieval (Period 2) rubble deposits in Area 3 and included a wider range of species than that represented in Period 1; cattle, sheep/goat, pig, rabbit and fish (probably salmon family), cow-sized, sheep-sized and chicken-sized. The presence of rabbit, bird and fish remains within the Period 2 assemblage is consistent with the broader range of species consumed at this time. The medieval assemblage from Nun’s Walk includes a similar (but wider) range of species to that seen here.

Possible archaeometallurgical residues, by T.P. Young

All materials were examined visually, using a low-powered binocular microscope where necessary. All significant materials were summarily described and recorded to a database. The materials were not subjected to any high-magnification optical inspection, nor to any other form of instrumental analysis. A fuller report is contained in the archive.

Fuel ash slag

The ‘fuel ash slags’ from Period 1 Rampart A2 layer 1038 comprise 31 pieces (4.3kg) of an extremely
low density, vesicular, slag-like residue of frothy appearance. They were associated with several pieces of apparently baked stone. The overall form of the original slag mass is not known. Several pieces show a curved lower contact, suggesting an origin within a bowl-shaped feature (although the curvature might conceivably have resulted from deformation of the slag if removed from its originating feature when hot and soft). Some pieces show a crude internal stratification with aligned vesicles (and moulds of charcoal?). Approximately one third of the material shows a smooth surface, bearing moulds of large charcoal or wood pieces. The thickest blocks indicate an original maximum thickness of at least 150mm.

Materials such as this are commonly (although probably frequently erroneously) described as fuel ash slag. A fuel ash slag is one in which the slag is dominated by material derived from the inorganic component of the fuel. The intensely vesicular nature of the material examined is suggestive of significant gas release from the precursor material, rather than just the inclusion of burning fuel particles. The volatiles most likely to be involved are water (from a wet precursor or more likely from structural water within the minerals) and carbon dioxide (from breakdown of carbonate minerals such as calcite). Included with the specimens is an adhering matrix of strongly calcareous clay soil and limestone weathering debris; this is exactly the sort of material the heating of which might have generated these residues.

There are two strong possibilities to explain how this material was formed. One is that the material originated through combustion of a wattle-and-daub structure. The second, which is attractive given the morphology of the fragments, is that the slags originated within a hearth. There are circumstances in which the moderate temperatures in a large hearth can cause slagging of the hearth margins, particularly where the margins are highly calcareous, and therefore capable of generating a melt at a low temperature. The bowl shape apparently indicated by some of the slag might also support an origin in a hearth cut into the calcareous soil/subsoil.

The so-called fuel ash slags have been rather neglected in the past and there are extremely few published analytical investigations of them. Fuel ash slags in thick sheets, as in this instance, are particularly commonly found in Middle to Late Iron Age contexts, where they have been informally dubbed ‘Iron Age grey slag’ (Cowgill 2000; 2008; Cowgill et al. 2001; Swiss and McDonnell 2001). The Malmesbury material may have originated in a large domestic hearth, or possibly in a kiln, and a metallurgical origin for the material seems unlikely. Although similar material elsewhere has been interpreted as fired daub, the sense of ‘way-up’ (rough lower? face, smooth upper? face with wood impressions) strongly suggests an origin within a hearth for this assemblage.

Ironworking slags

Small quantities (92g) of iron smelting slags were recovered from Period 2 and 3 deposits in Area 3. All consisted of dense lobes of slag that have been tapped from a bloomery iron smelting furnace. The use of slag-tapping furnaces may have started in this region in the middle Iron Age and they continued in use until the Middle Ages; the current pieces are not indicative of age. There are no iron resources close to Malmesbury, so any smelting would have been of ores imported from outside the area, possibly from southern Wiltshire, but more likely from the Forest of Dean or possibly the Bristol area.

Fired clay

Two pieces of fired and vitrified red ceramic from Period 1 rampart dump 2027 and seven pieces of vitrified and reddened clay from Period 2 dump 2023 were examined. These pieces are intensely oxidised and show evidence of vitrification and the development of vesicles. They might be fragments derived from metallurgical hearths, but are not specifically identifiable.

Discussion, by Jonathan Hart

The small worked flint assemblage reported on here is further indication that the Malmesbury promontory was occupied in the Middle/Late Neolithic or Bronze Age, and complements the assemblage recovered from Nun’s Walk (Longman 2006, 135-6). The investigations of the Iron Age defences took place along the north-eastern length of the town wall, just to the north of the excavations at Nun’s Walk (Figure 1). The results of that work are necessarily ambiguous, coming as they do from a number of dispersed trenches. The 1998 investigations focused on the line of the town wall and revealed that the earliest defences comprised an earth rampart, possibly with a timber revetment, and
an outer ditch, the latter containing the collapsed remains of a possibly contemporary stone revetment wall. Together, these were referred to as the outer defences. A single sherd of Early Iron Age pottery, dateable to c.800–600 BC, was recovered from the secondary fill of the ditch, and charcoal from the same fill provided radiocarbon dates of 800–250 and 700–400 cal BC. Work in 2000 took place on the inner (western) side of these defences and identified an earthen rampart, possibly with a timber revetment, and an outer ditch. Pottery associated with the possible revetment dated to c.400 BC. Together, these were referred to as the inner defences. Subsequent phases saw the inner rampart heightened, with indications that a possible timber palisade had been added. The latest development of the inner defences occurred during the Middle Iron Age when a substantial limestone wall was constructed on top of the existing rampart.

The current investigations have provided further evidence for the Iron Age defences. An interpretation of their development is presented below but is based on limited exposures and is hampered by a lack of stratigraphic relationships between the three areas investigated. This interpretation should not therefore be regarded as definitive. The earliest defences exposed consisted of Rampart A1P1, which appeared to run parallel to the rear of the existing town wall. Wall 1073 also followed this alignment and is probably best seen as a front revetment for the rampart. Together, these early defences probably extended south-west towards Longman’s outer defences and north-east along the line of the existing town wall. No further ramparts or ditches were identified during the geophysical surveys inside or outside of the medieval wall line, although the results from trench 3 show that this should not be regarded as conclusive proof of their absence.

A major remodelling of the defences is seen with the construction of Rampart A1P2, which apparently turned inwards at the point indicated approximately on Figure 2. As was the case with Longman’s inner defences, Rampart A1P2 was successively raised in height by the dumping of further earthen layers. The earlier revetment wall remained at least partially standing and was butted on the outside by Rampart A2, which was itself revetted by wall 1027. Although no direct relationship was present between Ramparts A1P2 and A2, both included notable deposits of scorched-red clay not seen in any of the other rampart deposits and this might suggest that they were contemporary.

Rampart A2 and its revetment, however, did not appear to turn inwards to follow Rampart A1P2 and instead seemed to run parallel to Rampart A1P1. If Ramparts A1P2 and A2 were contemporary, this suggests that the remodelling was designed to provide multiple lines of defence, at least along this part of the circuit. Although no stratigraphic relationships were present, it is possible that the rampart deposits and wall in Area 3 represent further outer works associated with these remodelled defences, with wall 2019/2034 revetting the face of Rampart A3. At Uley Bury, Gloucestershire, a smaller outer rampart appeared to be a later addition to the eastern entrance, although the extent to which concentric defences were constructed around the entire length of the hillfort remains unclear (Saville 1983). A similar situation might pertain at Malmesbury, with a possible entrance close to Holloway delineated by multiple lines of defence. If this was so, then the inner defences identified in 2000 are likely to represent the primary defensive line associated with this putative entrance.

Malmesbury’s situation on the naturally defensive and visually prominent limestone promontory is comparable to that of a number of other Cotswold hillforts, such as Uley Bury, Crickley Hill and Leckhampton Hill. At Uley Bury a terrace was cut into the steep natural slope and the resulting spoil was cast forwards against a stone revetment to create an earthen bank capped with limestone rubble (Saville 1983). This created an extended terrace rather than a true rampart, but had the effect that the front face of the ‘rampart’ increased the steepness of the natural slope. The construction methods at Crickley Hill and Leckhampton Hill, both located on the crest of the Cotswold scarp, appear to have been somewhat different, with ramparts strengthened by timber lacing and revetted with drystone walls (Dixon 1994; Champion 1976). Since the base of the ramparts was not reached at Malmesbury, it is difficult to be conclusive, but it would seem that the best interpretation of walls 1073, 1027 and 2019/2034 is that they were revetment walls comparable to those at Uley Bury rather than high standing curtain walls similar to the Middle Iron Age inner defence at Nun’s Walk (Longman 2006). The stakehole cut into the top of Rampart A1P2 might represent part of a palisade, but in the absence of further substantial postholes this remains unclear.

The scorched-red clay layers of ramparts A1P2 and A2 are worthy of some discussion. The absence of scorching on walls 1073 and 1027 indicates that these deposits were not burnt in situ and it is possible that they were deliberately laid to contrast with the
pale limestone revetments. If this were the case, then it seems unlikely that a sufficient quantity of red clay could be provided as an incidental by-product of domestic hearths, raising the possibility that these deposits, including the slags within dump 1038, were the result of a deliberate process designed to manufacture large quantities of red-scorched clay. Although no comparable deposits were observed during the 1998–2000 excavations, red-scorched clay and vitrified slag-like material were recorded as inclusions within both in situ and slumped Iron Age rampart deposits (Longman 2006, 115). ‘Burnt red earth and limestone’ formed the upper surface of part of the eastern rampart at Leckhampton but this was not the case elsewhere along those defences (Champion 1976, 183).

Radiocarbon determinations obtained from Ramparts A1P1 and A2 at Malmesbury (730–390 cal BC and 760–400 cal BC respectively) provide only very broad date ranges for the hillfort’s origins. The small assemblage of pottery dating to the later part of the Late Bronze Age to Early Iron Age transition recovered from the ramparts provides a terminus post quem for their construction, although the absence of Middle and Late Iron Age material supports Longman’s suggestion that the defences originated during the Early Iron Age. Crickley Hill and Leckhampton Hill also date to the Early Iron Age, while Uley Bury may be somewhat later (Dixon 1994, 217-20; Champion 1976, 187-8; Saville 1983, 23).

No evidence, either stratigraphic or artefactual, was found for the late 9th-century burh defences in the present work, which matches the results from Nun’s Walk where the only possible trace was a bank outside the Iron Age rampart which produced a few sherds of 10th or early 11th-century pottery (Longman 2006, 115, 160). This absence of obvious evidence for the burghal phase is an emerging feature of Wessex burhs (A. Reynolds pers. comm.). The medieval defences survived as wall 3005 and masonry fragments within wall 1006, which continued to form part of the eastern bastion of East Gate. Wall 3005 might be original fabric of the early 12th-century defences, or else a medieval rebuild.

Outside the medieval town wall, the outer defences had apparently been landscaped by grading off the Iron Age ramparts and partially demolishing Iron Age wall 2019, with the resulting spoil and rubble dumped to create a smooth profile. The small quantity of pottery recovered from this landscaping in Area 3, particularly the 14th or 15th-century wheel-thrown Minety-type wares from layers 2021 (not illustrated) and 2023, and the 14th-century strip-decorated Lacock/Nash Hill sherd from layer 2003 suggest that the landscaping occurred during or after the 14th century. The smooth profile would have removed dead ground and provided clear lines of fire from the wall top. Given the date of these improvements, it is tempting to link them to the increasing adoption of gunpowder weapons at this time, although it has been suggested that gunpowder artillery stimulated few changes upon castle architecture in England (Thompson 1987, 35). How far this assumption can be extended to the town defences is unclear but it is possible that the landscaping here had an aesthetic purpose as well as, or instead of, a purely military one. No evidence of an outer ditch was identified. The mid 17th-century ‘Bird’s Eye View’ of Malmesbury shows the town and its defences as they appeared in the earlier post-medieval period as seen from the west (reproduced in Longman 2006, fig. 4). The illustration seems to depict an outer ditch, but this does not appear to be continuous around the full visible circuit. How far this can be taken as reflecting the medieval defences is unclear however, and in any case, the outer defences at the site itself are not visible.

Overall the new work provides further evidence for the Iron Age hillfort and suggests that although it may have originated as a single univallate enclosure, more complex defences were added around a possible entrance located close to the site adopted for the medieval East Gate. It has also provided further indication that these defences originated during the earlier 1st millennium BC. Some evidence for the 12th-century walls was also identified, along with new evidence of landscaping outside the town wall as part of later medieval defensive improvements.

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The site archive will be deposited at the Wiltshire Heritage Museum, Devizes.

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