EXCAVATION OF AN EARLY MEDIEVAL SITE AT BRENT KNOLL, SOMERSET

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SUMMARY

A series of ditches and gullies excavated on a site in Brent Knoll village represented an initial aceramic phase radiocarbon dated to the 7th–10th century. Thereafter these ditches were sealed by an extensive soil that accumulated into the first half of the 11th century. This was rapidly followed by a short-lived period of Saxo-Norman occupation involving the construction of a sunken-floored building in the north of the site. Further ditch cutting in the early years of the 12th century destroyed the north-western end of the building and a hiatus in activity followed until the post-medieval period.

BACKGROUND TO THE EXCAVATION

The village of Brent Knoll lies on the North Somerset Levels at the base of the ‘knoll’, an outcrop of Lias Limestone that rises to a height of c. 140m above the Wentlooge Series alluvial clays of the surrounding moors. A univallate Iron Age hillfort (SAM 24001) reoccupied during the later Romano-British and post-Roman periods sits atop the knoll, whilst the village occupies sloping ground between the 30m and 6m contours at the junction of the hillfoot and moorland (Fig. 1). This report concerns an excavation (Fig. 2) undertaken over the Christmas period 2006/2007 in advance of the construction of a single dwelling and garage in a small paddock incorporated into the garden of St Michael’s House, the former vicarage (NGR ST 334 507).

An archaeological trial excavation (Hollinrake and Hollinrake 2000) was undertaken in April 2000 as part of the planning process and in advance of residential development of a small paddock. The development site lay within an identified Area of High Archaeological Potential on Sedgemoor Local Plan, c. 25m to the south-west of the medieval parish church of St Michael’s on the footslope of the knoll. The trial excavation recovered abraded pottery sherds dating to the later Iron Age and Romano-British periods and identified structural evidence of medieval occupation dated from the 11th century to the 12th–14th century, this preceded by an initial aceramic phase of activity dated by radiocarbon determination of animal bone from selected features to the late 7th–10th century.

In the wider area, finds scatters of Romano-British and/or later medieval date are not uncommon in the parish, as attested by various entries in the county historic environment record database. These include finds at locations close to the development site, to the north-east, south and south-west of the church (PRNs 10089, 10095 and 10092 respectively), as well as further afield, at Battleborough (PRNs 10086 and 10093) and Smithfield Cottage in fields near the M5 motorway (PRN 10081). The discovery during the evaluation stage of features and finds potentially spanning the late 7th–11th century was highly significant however, as, despite the estate of Brent being granted to Glastonbury Abbey in a charter of AD 693 (Abrams 1996), little or no archaeological evidence of early medieval activity has been located elsewhere in the parish. Indeed,
Fig. 1 Site location
the main evidence is supplied by the adjacent St Michael’s church, which replaced an earlier structure and retains some original 11th-century features including the Norman south doorway, quatrefoil font and reused pillar piscina (Anon n.d.).

In view of the local and regional significance of the activity identified, an archaeological excavation focused on the development footprint (385m$^2$, Fig. 2) was undertaken by Avon Archaeological Unit Limited over a period of five weeks during December 2006 and January 2007. The principal aim of the work, commissioned and funded by the site owner, Mr Gary Cavill, was to fully characterise, date and record the archaeological remains identified during the preceding evaluation stage (Hollinrake and Hollinrake 2000) in accordance with a brief prepared by the Development Control Officer for Somerset County Council (Membery 2006) before their destruction. To that end, the site was carefully cleared of overburden by machine under archaeological supervision and archaeological deposits exposed were cleaned and excavated by hand thereafter.

THE EXCAVATION

**Period I: Romano-British (late 3rd–4th century)**

The earliest activity was represented by a small collection of residual pottery sherds dating to the later 3rd–4th centuries redeposited in the fills of ditches and gullies in the south and west of the site. The pottery sherds were largely unabraded suggesting Romano-British activity in the near vicinity, however the extremely small number of sherds recovered (<1% of the total pottery assemblage) indicate it is unlikely that features and deposits of Romano-British date had been destroyed by subsequent activity within the excavation area.

**Period II: Early medieval (aceramic, pre-11th century)**

The earliest structural evidence was represented by a series of aceramic features, mainly ditches and gullies, that defined two distinct phases of occupation (Figs 2, 5 and 6). In the earlier phase much of the excavation area was enclosed to the north by boundary ditch F236 and by perpendicular ditch F270 to the west (Fig. 7), partly destroying indeterminate features F264 and F266. Internally, gullies F247 and F271, the latter partly redefined by gully F272, appeared to delineate two small plots extending alongside the western boundary ditch (F270). No related features or deposits were identified to the north and west, outside the enclosed area.

Some reorganisation of the landscape was evident during the second aceramic phase with the cutting of a substantial boundary ditch (F273) on a north-west to south-east orientation (Figs 2 and 6), following the natural contour of the site. No related activity was identified on either side of the ditch. Despite the lack of pottery or other readily datable artefacts, the activity recorded during this period is suggested to date to the late 7th–10th centuries on the basis of the site stratigraphy in combination with the radiocarbon determinations (GU-9135 and GU-9136) from two samples of animal bone recovered from aceramic features recorded during the preceding evaluation stage (Hollinrake and Hollinrake 2000, samples 7 and 11). One sample (7) was recovered from the fill of a cut feature (122) in Evaluation Trench 1, subsequently identified as gully F272 during the excavation stage, whilst the second (11) was retrieved from the primary fill of a ditch (308) in Evaluation Trench 3 located outside the excavation area to the south-east. The 2-sigma confidence calibrated ages for the radiocarbon determinations at cal AD 692-942 (GU-9135) and cal AD 778-981 (GU-9136) provide a terminus post quem some time during the late 7th–10th centuries for the aceramic activity.

**Period III: Saxo-Norman (11th century)**

The deposition over much of the site of an extensive soil layer (L276, Fig. 2) that sealed the Period II early medieval ditches and gullies indicated a phase of diminished activity. The layer yielded a collection of 11th-century pottery sherds possibly derived from manuring of land under arable cultivation, suggesting a settlement in the vicinity, but whose focus lay elsewhere. The pottery sherds indicate the soil continued to accumulate during the earlier years of the century and prior to a later shift or expansion of the settlement revealed by several cut features and deposits that yielded similar pottery sherds, reflecting a succeeding phase of 11th-century occupation on the site.

The main focus of this occupation was an earthfast building (186, Figs 2, 4 and 5) with sunken floor, the south-east end of which was located in the north of the excavation area. The building was orientated north-west to south-east and cut soil layer L276 and the underlying early medieval boundary ditches F270 and F273. Whilst the full extent of the building was not defined, as it continued beyond the excavation...
area to the north-west, some internal elements were identified. These included a floor surface composed of some 0.25m of mixed and compacted clays and silty clays, recorded as floor 179 to the north-west (Figs 2 and 3) and floor 209 in the south-east bay (Figs 4 and 6), where it had been laid over a now infilled, internal, large rectangular pit (F262).

A silver penny of Edward the Confessor (1042–1066, SF 312) was recovered alongside a collection of 11th-century utilitarian pottery sherds, and
fragments of iron hammerscale from an extensive ash spread (116) that sealed an oval stone-built hearth (F172, Figs 2, 3 and 4). The hearth was constructed within pit F188 and much of the surrounding floor was resurfaced with clay (170) at this time, sealing a discrete concentration of ash (173, Fig. 3), waste from an earlier hearth set directly on the original floor surface (179).

The building had been remodelled at least once during its use with the erection of a possible partition.
wall in slot F275 separating the north-western bay with hearth from the remainder of the building to the south-east (Figs 2 and 5). A significant proportion of the total 11th-century pottery assemblage was recovered from deposits filling the slot, which cut floor surface 179. Whether the partition was used merely

**Fig. 5 Phase plans**
as an internal feature, a firebreak or dividing wall between internal bays, or perhaps identified an exterior wall erected in order to remodel the building foreshortening the structure, was not clear, but further partitions arranged around the hearth area were indicated by a series of perpendicular gullies or slots F222, F226, F277 and F199. The latter adjoined the north-eastern end of slot F275 and was sealed with masonry remnants 187 (Fig. 4) constructed alongside the hearth.

Stone spread 128 (Figs 2 and 4), bedded in deposit 209 to the south-east of slot F275, possibly defined an entrance threshold at the south-east end of the structure, or was perhaps merely laid as a consolidation layer to provide a more durable surface and prevent subsidence into the earlier infilled pit (F262) at this location. The function of a second smaller stone spread (L122, Figs 2 and 4) that had subsided into the surface of an adjacent shallow pit (F166) sited a further 3m to the southeast was not determined.

Several features contemporary with building 186 were recorded in the south and west of the site. These included a short length of parallel drainage gully (F164) with a pronounced V-shaped profile and three further gullies or slots (F152, F182 and F105) that extended beyond the western edge of the excavation area (Figs 2 and 5).

**Period IV: Medieval (12th century)**

That occupation on the site was relatively short-lived was evident from the retrieval of pottery sherds dating to the 12th century from deposits 127 and 129, which provided a *terminus ante quem* for the abandonment of the Saxo-Norman building (186). The wedge-shaped profile of the deposits, which sealed stone surface 128 and the adjacent ash spread in the building interior, probably resulted from the movement of soil and cultural material downslope and onto the terrace occupied by the former building. The location of a 12th-century boundary ditch (F274) with variable profile that extended along the north-western site boundary also pointed to the building having been abandoned by this time, as the cutting of this ditch and its immediate precursor, ditch F159 (Figs 5 and 6), may well have destroyed the north-western end of the building. Thereafter, evidence of medieval activity on the site was restricted to the cutting of two small pits (F111 and F113) into a stony soil (146) deposited during the later 12th century and sealing the boundary ditch after it fell out of use.
**Undated features**

A scatter of largely aceramic postholes or small pits (Fig. 2) was recorded over the site, some of which, such as F216 cutting the Period II early medieval ditch F273, clearly predated building 186, whilst the majority of the others cut the 11th-century soil deposit (L276). The dating of two features, F143 and F211, the latter representing one of an arrangement of four adjacent pits/postholes in the south of the site, is ambiguous, as they clearly truncated features contemporary with the Saxo-Norman building (186) indicating a 12th-century date, but were sealed by Period IV soil layers.

**Period V: Modern (18th–21st century)**

A prolonged hiatus in activity on the site was evident from the lack of artefacts or structural features dating to the later medieval and post-medieval periods. The land appears to have been unoccupied, although it may well have been used as pasture from the 12th century until at least the 18th/19th century, when it may well have been used as pasture from the 12th century until at least the 18th/19th century, when it was partly enclosed by ditch F268 in the extreme north-east of the site (Fig. 2). The truncation of accumulated hillwash deposits that sealed the archaeological stratigraphy indicated the most recent activity on the site involved some terracing, probably associated with the construction during the 19th century of the former vicarage, St Michael’s House.

**The Pottery**

Alejandra Gutiérrez

**Introduction and methodology**

An assemblage of 1933 fragments of pottery (21.3kg) was recovered during the excavation. The pottery was sorted into fabrics with the aid of a microscope (x10 magnification), counted and weighed. Most of the pottery was of medieval date (97% of all sherds) although a handful of Roman sherds (0.6%) and modern wares (2.4%) were also identified. The assemblage is composed almost exclusively of medieval coarsewares, unglazed and undecorated hand-made wares. Sherd s were of medium size (average size being 11g), although some almost complete pots could be reconstructed. These are illustrated and described below (Figs 7–9).

Other than domestic pottery, a fragment of modern brick and two fragments of flat roof tile (Malvern fabric) were also found in the topsoil (context 100).

**Medieval pottery**

A limited range of fabrics was identified. Fabrics 1–3 have been thin-sectioned (Roger Taylor, below).

**Fabric 1** 10th–11th century. Usually grey with buff to brown to grey surfaces. Soft, soapy texture. Abundant (fossiliferous) limestone, poorly sorted, <3mm; moderate rounded voids <3mm; rare glassy quartz, well-sorted <2mm. A couple of sherds contained fragments of ammonite (<10mm). Handmade, but well finished on a turntable; all-over smoothed walls cover the inclusions on the exterior surface. Thin sectioned; possible source in the Blackdowns, south Somerset.

**Fabric 2** 11th century? Grey fabric with light brown surfaces; sometimes light grey interior surface. Soft, soapy texture. Dense fabric with large inclusions of poorly sorted red and grey sandstone <4mm; rare clay fragments. Handmade, but well finished on a turntable, with all-over smoothed walls. Thin sectioned; possible source in the Quantocks area.

**Fabric 3** Grey fabric with light brown surfaces. Hard, smooth. Micaceous matrix. Abundant poorly sorted limestone, rounded, <4mm; angular ?chalk, poorly sorted, <1mm; sparse sparry calcite, poorly sorted, <2mm; sparse white and red sandstone <2mm; sparse white and transparent quartz, some polished grains, poorly sorted, <1mm; very rare black flint, <1mm; sometimes voids on surfaces. Thin sectioned; possible source in the Blackdowns, south Somerset.

Visible variation in the fabric was noted within the same vessel, sometimes showing abundant limestone and calcite in some areas of the pot, such as the rim or the base, whereas these inclusions could be totally absent from the rest of the vessel. Handmade, finished on a turntable; all-over smoothed exterior surface.

**Fabric 4** This is very similar to fabric 3 but much finer. It seems very likely that it is simply a variation of fabric 3. For the purpose of the quantification and discussion below, both fabrics have been considered together under the heading of ‘fabric 3’.

**Fabric 5** South Somerset. Mid 11th–13th centuries. Usually orange surfaces and light grey core and margins, but variation in colour is frequent. Hard, smooth fabric. Abundant, poorly sorted polished quartz <2mm, occasional brown and/or white chert, sometimes limestone is also present. Handmade and finished on a turntable.

**Fabric 6** Late 10th–11th century? Usually grey core and buff/brown to grey surfaces. Soft, soapy texture. Abundant polished quartz, well-sorted <2mm; sometimes with moderate rounded voids <3mm. Handmade, but well finished on a turntable.

**Fabric 7** Grey fabric with dark brown/grey surfaces. Hard, smooth texture. Moderate limestone, poorly sorted <2mm; sparse calcite <2mm; sparse, well sorted quartz, some polished, <0.5mm; some balls of clay <10mm; rare ?red sandstone <0.5mm. Handmade. Only one vessel recovered in this fabric.
Fabric 8 Grey with a light brown exterior surface. Soft and smooth. Abundant finely crushed fossiliferous limestone, poorly sorted, <5mm; well sorted quartz <0.2mm; rare calcareous white/grey sandstone <2mm. Handmade. Only one sherd found.


Fabric 10 Fine grained grey fabric. Hard and smooth. Occasional white and red sandstone <2mm; angular white quartz <1.5 mm; occasional clay relicts <3 mm. Handmade.

Fabric 11 Ham green coarsewares? 12th–13th centuries. Black or red with black exterior surface. Abundant subangular quartz <0.2mm; moderate rounded mudstone <2mm; moderate rounded black ironstone grains <3.0mm. Handmade.

The medieval assemblage consists exclusively of unglazed coarseware jars. The topsoil yielded four sherds of Bristol ware jugs (13th–14th century) together with a single sherd of 16th-century Malvern ware. These are clearly much later than the stratified pottery and do not seem to derive from buried stratigraphy on site.

Fabric 3 is dominant and represents 69% of all the stratified medieval sherds and 65% by weight (ie all those not found in context 100) (Table 1). Two shattered vessels account for 179 of the sherds (SF 321, SF 323; Fig. 7, P4 and P2). Jars in this fabric have sagging bases and rounded walls (MPRG 1998). Very little variation was noted in rim profile, being either simple everted rims or, less frequently, straight necks with a clubbed rim. The latter profile was also found with intermittent thumb impressions.

The remaining fabrics that appear in any quantity do so in similar numbers and weight (fabrics 1, 2 and 5). Of these, fabric 5 is well known in the South West, where similar fabrics have been identified nearby at Puxton and Shapwick in Somerset (fabric U1, Gutiérrez 2006; 2007), but also in Exeter in Devon (fabric 20; Allan 1984), Sherborne Castle in Dorset (Allan 2003) and Launceston Castle in Cornwall (SWCHT; Brown et al. 2006). Recent fabric analyses demonstrate that the likely source for this widely distributed ware is somewhere to the north of the Blackdown Hills in south Somerset (Allan 2003; Brown et al. 2006, 270), some 60km south-west of Brent Knoll. The best chronological evidence for this ware comes from extensive excavations at Exeter, where it is first documented at the beginning of the 11th century and seems to continue to the end of the 14th century; decorated wares being restricted to the 12th century (Allan 1984). Rounded jars with sagging bases and assorted rims are typical of this fabric and at least twelve different rim profiles were found during excavations at Brent Knoll. These are illustrated below. A similar fabric (fabric 6), but softer and with thicker walls, has been quantified separately although this may represent a variation (perhaps chronological) of fabric 5.

Fabric 2 is very distinctive in having coarse temper and almost no quartz. Sandstone inclusions indicate a source around the Quantocks area of west Somerset (below). At least eight vessels were identified, all rounded jars with everted rims in a variety of profiles. A small jar of 110mm high is also present (Fig. 8, P26).

Two very fragmented jars in fabric 1 are illustrated (Fig. 8, P22 and P24). Their profiles were almost complete and can be reconstructed as rounded jars with sagging bases and everted rims. Soft jars with thick, everted rims, tempered with limestone and voids are similar to others found elsewhere in Somerset. Here they have been traditionally dated to the late 10th and early 11th centuries on evidence mainly from Cheddar, where dating is helped by stratified coins (Rahtz 1979). At nearby Shapwick this was the earliest medieval pottery found in the parish, being associated with the dismantling of a building dated by C14 to the 9th–10th centuries (Trench R), but as suggested there and in other recent studies, the end date of this ware is open to discussion as these wares seem to appear associated with others of later dates. Thus far issues of residuality have complicated any resolution of the chronology of the final phases of production (Gutiérrez 2004; 2007).

**TABLE 1: MEDIEVAL POTTERY FROM ALL CONTEXTS EXCEPT 100**

<table>
<thead>
<tr>
<th>Fabric</th>
<th>sherds</th>
<th>weight (g)</th>
</tr>
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<tbody>
<tr>
<td>3</td>
<td>1115</td>
<td>68.4 11707</td>
</tr>
<tr>
<td>5</td>
<td>183</td>
<td>11.2 1826</td>
</tr>
<tr>
<td>2</td>
<td>171</td>
<td>10.5 2006</td>
</tr>
<tr>
<td>1</td>
<td>102</td>
<td>6.3 1984</td>
</tr>
<tr>
<td>6</td>
<td>32</td>
<td>2.0 416</td>
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<tr>
<td>8</td>
<td>1</td>
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<tr>
<td>9</td>
<td>4</td>
<td>0.2 28</td>
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<td>10</td>
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<tr>
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<td>4</td>
<td>0.2 8</td>
</tr>
<tr>
<td>Total</td>
<td>1629</td>
<td>18127</td>
</tr>
</tbody>
</table>

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Fig. 7 Pottery, P1–16: fabric 3, P17: fabric 4.

Fabric 9 is also known as Bath A (Vince 1979) a widely distributed ware stretching from Somerset to Wiltshire and possibly made over several centres (Vince 1988, 265). Its presence at Brent Knoll is very limited (only four sherds were stratified in contexts 115, 110, 149 and 185, the rest from the topsoil). Traditionally dated to the later 11th and 12th centuries, it is found at Cheddar from period 4 onwards (fabric J; Rahtz 1979, 317).

Of the known wares from the site, Fabric 11 (Ham Green coarsewares) is the latest fabric present, in the form of several small, eroded sherds (contexts 146, 147, 149 and 185). It appears from at least the 12th century and it is traditionally associated with glazed jugs (Ponsford 1991, 98).

**Dating**

It is interesting to note that there is an aceramic phase dated to the late 7th–mid 10th century, corroborating once more the absence of local pottery in early medieval Somerset. It is quite possible that this lack of earthenwares continues in the area until the middle of the 10th century, as occurs at Cheddar (Rahtz 1979, with caveat indicated by Gutiérrez 2007, 602).

As for the wares from Brent Knoll, there is no obvious phasing within the excavated assemblage and all the major fabrics appear to be contemporary. Fabrics 1, 2, 3, and 5, for example, appear in contexts prior to the construction of building 186 (context 246); but also in those associated with its occupation, and disuse (contexts 127, 129, 146, for example).

Dated wares identified would place the pottery group in the 11th century onwards. More importantly, the presence of a silver penny of Edward the Confessor (1042-66, SF 312) in context 116 is a reasonable marker of occupation in the latter half of that century. The absence of partially glazed wares, tripod pitchers and Ham Green jugs typical of the 12th century, would help restrict the dating to the 11th century. The lack of any decorated chert-tempered wares (fabric 5), also typical of the 12th century, may be taken as an indication of date, though their absence could be related to the status and rural location of the site. Sherds in fabric 11 are small and restricted in their distribution across the site, but these are the only ones clearly related to the 12th century. As a whole, the majority of the assemblage belongs to the end of the 11th, but stretches into the early 12th century.

**Use**

There is nothing obvious to suggest that the vessels have been used in other than a domestic setting. Clear signs of sooting and burning on the exterior or interior of the walls indicate that the jars had been placed near a fire. The obvious function in a domestic setting is cooking or heating foodstuffs; some jars still preserved their last burnt contents on the interior surface of the base. Sooting evidence was consistent throughout the assemblage, and where visible appeared on the similar zones of the external surface of the pot, starting around 20mm high up from the base going up the wall, avoiding the neck and then being heavy again on the exterior of the rim. Clear banding 20mm away from the basal angle may indicate that the pots were placed near the fire but inside another container. The long vertical marks on the pot are consistent with the use of charcoal or wood fuel, rather than coal (Moorhouse 1986, 108). Only in a few cases do enough sherds survive to determine the extent of sooting marks around the pot, but there is sufficient to show that some pots had been heated on one side only, probably placed on the edge of the fire.

Although no marks or evidence of use related to specific industrial processes were noted, a single wall sherd (fabric 1) was found with a secondary hole (Fig. 8, P24). The hole was made after the vessel was fired and has been punctured through from the exterior (the interior surface was damaged during the piercing action). A second hole is incomplete, and was begun on the exterior surface but did not reach the other side of the wall; the wall is fractured at this point and although a possible breakage while making the hole might explain why the hole was left unfinished, this is impossible to ascertain.

Both holes have a circular outline and were carefully made, probably by drilling with a borer or pointed utensil. The jar has some sooting on the exterior walls and burnt residues on the inside of the base. The holes are placed just below the pronounced neck of the jar and their intended function is unknown. Vessels with secondary holes are uncommon finds and they rarely survive intact enough to determine the extent and location of the openings; their function is also seldom identified, although some seem to have been made in order to re-use jars and jugs as lanterns and braziers, for example, whereas others were required in industrial processes, such as in the making of white lead (Moorhouse 1986, 111; 1981, 117).
Fig. 8 Pottery, P18–19: fabric 6, P20–4: fabric 1, P25–31: fabric 2
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Other pottery

A handful of post-medieval and modern wares was recovered from the topsoil (context 100) and from context 268. Stratified fabrics are as follows:

Fabric 12 Staffordshire/Bristol hollow wares. Late 17th-18th centuries. Buff throughout. Moderate iron oxide <0.25 mm. Trailed dark brown slip over white slip under amber glaze.


Other tablewares recovered from the topsoil include post-medieval Malvern wares and local slipwares (fabric 16) and lead-glazed wares (fabric
17) together with modern transfer-printed wares, bone china, black basalt and brown stoneware. The number of modern wares in the topsoil is surprisingly low.

The few sherds of Roman pottery consist mainly of black burnished wares and greywares, and include a flat base of a Samian bowl, a New Forest colour-coat and a Dorset black burnished conical flanged bowl. The more diagnostic sherds suggest a later Roman date (later 3rd–4th century). These were all found residually in contexts of medieval date and although Roman stratigraphy was not excavated at the Vicarage, the preservation of the Samian slip (barely eroded) indicates that Roman contexts must lie nearby.

Discussion

Albeit of modest size, the pottery assemblage from St Michael’s House is of great interest because it is one of the few well-stratified groups in Somerset dating to the end of the 11th century. Because of the relatively short occupation and minimal later disruption of the stratigraphy, problems of residuality are diminished, allowing us to examine a group of contemporaneous wares. The assemblage clearly shows the co-existence of possibly earlier limestone-tempered, soapy fabrics (fabric 1) with South Western chert-tempered wares (fabric 5) and confirms that the former was still in use at the end of the 11th century.

The pottery as a whole shows a monotonous range of forms in a very limited range of sources, which interestingly, do not come from the immediate vicinity, but derive from the Blackdowns area, some 60km south of the site, and from the Quantocks some 40km to the east. The vessels are evidence of domestic occupation and were involved in cooking and preparing foodstuffs. The only form present is the jar, while handled jars, bowls, dishes, lids and lamps are absent, a paucity that may be due to the rural character of the assemblage.

The study of medieval pottery in Somerset continues to present challenges. The lack of material from production centres and the absence of a regional type series or reference collection only underlines the existing difficulties, making it hard to characterise the pottery consistently, especially undecorated coarsewares. Problems of chronology are also evident especially in establishing the date ranges at the start of the sequence. The material from Brent Knoll makes a contribution to resolving some of these issues, especially in our understanding of rural assemblages, which are poorly documented at present. Although the collection is small, it underscores the potential for the recovery of late Saxon material culture in this part of the county.

THIN SECTION ANALYSES
Roger Taylor

Methodology

Selected pottery sherds in fabrics 1, 2 and 3 were examined at magnifications of 10–40x using a Bausch and Lomb binocular microscope and thin sections analysed using a Swift petrological microscope at magnifications of 50–100x.

Thin section 1

Fabric 1. Vessel P22 (Fig. 8). Rim and base angle sherds from soil layer 231
Temper: c. 25%.
Limestone: Micritic fragments irregular and rounded fragments, 0.1–2.25mm
Limestone with quartz silt: Rounded fragment, 1.7mm
Fossil shell: Elongated recrystallised fragments, 0.2–3mm. Also a small echinoid spine seen in the section. An ammonite fragment seen in a 7mm black phosphatic fragment in the smaller section of the cut sherd. This is probably Asteroceras sp. a Lower Lias ammonite.
Quartz: Angular to sub-rounded grains, 0.2–0.75mm. One angular grain, 2.9mm. One well rounded grain, 1.65mm. One rounded polished 2.5mm grain in the cut sherd contained black tourmaline.
Chert: One angular elongated grain, 2.25mm, and a scatter of fragments, 0.1–0.3mm. Three fragments white and pale brown in the cut sherd.
Gypsum: Fibrous white gypsum is present in the cut sherd but was not seen in the section.
Matrix: Much fine-grained carbonate is visible in thin section and some fine-grained quartz. The matrix of the cut sherd is calcareous.
Comment. The calcareous matrix and presence of calcareous shell fragments and ammonite fragment indicates that the clay is derived from the Lower Jurassic Blue Lias with the limestone component of the temper also derived from this source. The chert and the rounded and polished quartz grains are derived from the Cretaceous Upper Greensand with a probable source on the Blackdown Hills to the south. The Lower Lias ammonite fragment indicates a non-local clay source as the Lias around Brent Knoll is from the Middle and Upper parts of the Lias formation.

Fabric 1 has similarities to fabrics seen from other medieval sites. It is considered that the clay is derived from the Lower Lias with an input from the
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Cretaceous Upper Greensand, which yields the polished grains and chert fragments. Not all fabrics of this type contain limestone, but they do contain the Upper Greensand components in a probable Lower Lias clay. Other localities yielding this type of ware are Taunton (some limestone tempered), Castle Neroche (11th century), Haycroft Farm (13th–14th centuries) (some limestone-tempered), Sherborne Old Castle (12th–13th century) (Allan and Langman 2002; Allan 2003). In this case, apart from Castle Neroche, the Brent Knoll wares are earlier.

Thin section 2

Fabric 2. Vessel P30 (Fig. 8). Rim and body sherds from evaluation trench backfill 141.
Temper: c. 25%.
Sandstone: Angular, sub-angular and sub-rounded fragments, 0.55–3mm, with internal grain sizes from less than 0.05 to 0.2 mm. Some fragments with quartz set in a recrystallised and silicified matrix and some fragments with strained and deformed quartz and included mica.
Mudstone: Very fine-grained micaceous sub-angular to rounded fragments, 0.15–1mm.
Siltstone: An elongated, foliated, micaceous fragment, 1.5mm.
Quartz: Angular to single and composite grains, 0.05–0.75mm.
Matrix: Contains some very fine-grained quartz and mica.

Fabric 2 has a fine-grained sandstone and siltstone temper. The nearest source of such material with the apparent degree of internal deformation is from the Devonian sandstones and siltstones of the Quantocks area. The degree of abrasion and rounding of the fragments suggests the use of sand from a stream or river. The clay source is uncertain but could be estuarine clay from the Somerset Levels.

Thin section 3

Fabric 3. Vessel P4 (Fig. 7). Gully fill 238
Temper: c. 25%.
Quartz: Angular to rounded grains 0.04–0.05mm.
Calcite: Angular to sub-rounded grains some showing cleavage, 0.2–0.75mm.
Chert: Angular fragments, some being replaced by calcite. 2mm.
Limestone: Micritic, and very finely crystalline, sub-angular to sub-rounded fragments, 0.2–0.75mm.
Flint: Three angular cryptocrystalline fragments, 0.2–0.75mm.
Sandstone: Angular fragment, 0.75mm, with internal quartz about 0.2mm.
Limonite: Translucent reddish brown rounded grains, 0.05–0.75mm.

Discussion

Fabric 3 reveals some similarities to fabric 1 in the presence of sparse rounded and polished quartz, chert and limestone, but crystalline calcite is more abundant in the thin section and the replacement of chert by calcite is different. This fabric variant does not match the West Dorset and East Devon medieval wares where the quartz and chert are usually drawn from the decalcified facies of the Upper Greensand. This fabric also appears to be more variable between vessels and evidently comes from a different potting location than fabric 1, however it seems unlikely that these wares are local to Brent Knoll.

THE ANIMAL BONE

Lorrain Higbee

Introduction

A total of 1,623 fragments of animal bone were recovered from the site; most of this material (c. 57%) was retrieved during the normal course of hand-excavation and the rest was collected from sample residues. This report is concerned with the animal bone from tightly dated Saxo-Norman (Period III, AD 1050–1100) and medieval (Period IV, 12th century) contexts, approximately 98% of the total assemblage.

Methods

A selective suite of mammalian skeletal elements were recorded as standard and used in counts (after Davis 1992). Countable bones are those that usually show a good survival and recovery rate in most assemblages and also provide useful age and biometric data. Avian bones from the wing and leg were recorded using the zonal method of Cohen and Serjeantson (1996). Ribs, vertebrae (other than the atlas and axis) and long bone shaft fragments were assigned to size categories and small unidentifiable fragments to general taxonomic categories (e.g. mammal, avian etc). This information is presented in order to provide an overall fragment count.

The following standard methods were used to distinguish between related species, and record age, biometric and other relevant information: Grant (1982); Grigson (1982); Halstead (1985); Hambleton (1999); MacDonald (1992); O’Connor (1989); Payne (1973; 1987); Payne and Bull (1988); Silver (1969); Von den Driesch (1976) and Von den Driesch
and Boessneck (1974). Information on gnawing, butchery, pathology and non-metric traits was recorded where present.

Results

Recovery and Preservation

The sieved assemblage includes a large number of very small unidentifiable fragments; indeed only c. 2% of the 695 fragments recovered by this method could be identified to species. The hand-recovered assemblage includes a greater number of large fragments and complete bones, c. 16% of which were identifiable to species.

Bone preservation is generally very good, cortical surfaces are intact and surface details including fine knife cuts are clear and easily observed. Only 1.3% of fragments show signs of deterioration and most are from layers. Edge abrasion was also evident on a small number of fragments and this suggests that some bones might be residual.

Gnaw marks were recorded on c. 11% of identified post-cranial bones. This is a reasonably low incidence and suggests that most bone waste was rapidly buried or that dogs were unable to access it.

Spatial Distribution

Most of the animal bone assemblage (62%) is from ditches, gullies and layers. There are no obvious differences between individual features and deposits, although the majority of identified bones are from layers, in particular (127), (129), (179) and (209).

Occurrence and Relative Importance of Species

Seventy-nine percent of all identified bones are from livestock species (Table 2). In terms of relative frequency, cattle and sheep/goat bones are common and are present in equal numbers (39% NISP each), whilst pig bones are comparatively rare (22% NISP). A slightly different pattern is suggested by the minimum number of individuals (or MNI see Table 2) method of quantification, this indicates that sheep/goat are the most common species at 42% MNI, followed by cattle (33% MNI) and then pig (25% MNI). However, this method can give a false impression when applied to small assemblages since it counts body parts rather than species abundance and in this instance the body part distribution of sheep/goat is significantly skewed by the over abundance of loose molars relative to other body parts.

No firm conclusions can be drawn about the economy of the site from such a small sample, however a few general statements can be made about animal husbandry regimes during the Saxo-Norman period. Research suggests that rural sites generally have higher sheep bone frequencies than urban and elite sites (Sykes 2006, 60–3; 2007a, 38–9). It is suggested that cattle were preferentially exported to urban sites, which left the rural population with comparatively more sheep to consume. Pig bone frequencies have been shown to increase in the immediate post-Conquest period at rural sites, but at present it is unclear whether this shift reflects an intensive breeding programme to increase pork production or simply a change from free-range to sty husbandry (Sykes 2007a, 38; Albarella 2006, 74).

Cattle

A total of 49 cattle bones were identified and at least four individuals are represented. All parts of the beef carcass are present in the assemblage and this suggests that live animals were brought to the site for slaughter and consumption. Age information suggests that most cattle were culled at the optimum age for prime beef, usually c. 36 months of age.

Mandibles from a calf aged 1–8 months and a senile animal (wear stages B and I after Halstead 1985) were also recorded. Butchery marks were observed on 10% of cattle bones, most notably the anterior distal articulation of several astragali. The marks probably occurred during primary carcass dismemberment to remove the limb extremities.

A mean withers (or shoulder) height estimate of 1.09m (range 1.05m–1.11m) was calculated (after Matolcsi; see Von den Driesch and Boessneck 1974).

Sheep/Goat

Forty-nine sheep/goat bones have been identified and at least five individuals are represented. There are some notable absences of particular body parts (eg bones from the upper hindquarters) that generally survive well in most assemblages. It is likely that this bias is the product of small sample size, although the possibility that good quality joints were exported from the site cannot be entirely ruled out. Most sheep/goat were culled as adult animals, typically at c. 3–4 year old, and this suggests that they were primarily managed for mutton with wool a secondary consideration. A withers height estimate of 0.54m was calculated (after Teichert; see Von den Driesch and Boessneck 1974) from one complete metacarpal.
Pig
Twenty-eight pig bones were identified and at least three individuals are represented. Mandibles and loose third molars are common, whilst bones of high meat value are comparatively rare and bones from the hindquarter are entirely absent. The evidence suggests that pigs were killed locally and the absence of certain body parts is probably a product of small sample size. Four complete pig mandibles were recovered from the site and all are from animals aged 21–7 months of age (stage E after Hambleton 1999, 65). Analysis of the size and morphology of seven canines, two of which were retained in mandibles, indicated that c. 86% of pigs are males. The tight age range and sex ratio is fairly typical for a species reared exclusively for meat. Pigs are a fecund species and reach full body weight relatively quickly; they therefore tend to be culled at a younger age than other livestock species. Furthermore, males that are surplus to breeding requirements are more likely to be selected for slaughter over females.

Other mammals
Seven horse bones were identified. Cut marks were noted on one of the bones, a fragment of proximal femur, and this evidence indicates that horse carcasses were utilised. A small number of dog and cat bones, including one bone from a kitten, were also identified from the assemblage.

A single Roe deer (Capreolus capreolus) bone was identified from F214; the bone is from the right forequarter of an adult animal. During the Saxo-Norman and medieval periods deer hunting was strictly controlled and a privilege of the wealthy. However, lower-status hunt-servants or yeomen often assisted in hunts and were therefore entitled to a share of the venison. According to the Treatise off Huntying, deer carcasses were processed in a ceremonial fashion and following this ‘unmaking’ ritual certain parts of the carcass were gifted to particular individuals based on their social status and role (Sykes 2005; 2006; 2007a; 2007b; Thomas 2007). The right shoulder would have gone to the best hunter or the breaker of the deer.

Three species of small mammal were identified from the sieved assemblage, field vole (Microtus agrestis), weasel (Mustela nivalis) and an unidentified species of mouse. All three species probably lived in close proximity to the building and are therefore part of the general environmental background to the site.

Birds, fish and amphibians
A small number of bird bones were also present in the assemblage; identified species include chicken, duck and goose. A small number fish and amphibian bones were also recovered.

Conclusions
Cattle and sheep/goat bones are common and the majority were culled at the optimum age for the production of prime beef and mutton. These animals were slaughtered and consumed locally. There is a slight suggestion that certain mutton and pork joints may have been exported from the site, however the under-representation or absence of certain body parts could simply be a product of small sample size.

The occupant(s) of the Brent Knoll dwelling assisted in deer hunts and were sufficiently skilled to be awarded the venison joint that is reserved for the best hunter or breaker of the deer.
PLANT MACROFOSSILS
Rosalind McKenna and Allan Hall

Introduction

Plant remains were examined from a series of deposits of medieval date (Periods II – IV). Most of the remains were charred cereal grains or weed seeds and probably arrived in the deposits in the form of ash from domestic hearths. The assemblages are very typical for the medieval period in the broad sense and provide data for an area where there are currently few existing archaeobotanical records. Selected samples from the fills of Period II aceramic early medieval boundary and enclosure ditches (F270, F272 and F273) and from a Period IV 12th-century boundary ditch (F274), as well as various deposits associated with the Period III Saxo-Norman building 186, including hearth deposits 116 and 173, floor layer 179 and the fills of a pit (F262) and beamslot (F275), were examined.

Methodology

A series of ‘flots’ from bulk-sieved samples (sensu Dobney et al. 1992), subjected to flotation by staff at Avon Archaeological Unit Limited, were submitted for an evaluation of their archaeobotanical potential. They consisted largely of charred plant material. The size of the samples initially taken, prior to flotation, ranged from 4kg to 84kg; the flots ranged from 6g to 162g. For the purpose of assessment, they were dry-sieved into convenient fractions (usually 4, 2, 1 and 0.3 mm). A four-point semi-quantitative scale of abundance was used to record the plant remains and other components of the flots, from ‘1’ – one or a few specimens (less than an estimated six per kg of raw sediment) to ‘4’ – abundant remains (many specimens per kg or a major component of the matrix).

For technical reasons related to computer data handling the convention ‘sp(p.)’ to denote that more than one plant species was (or may have been) present, is used throughout, even where only one specimen of the taxon was recorded (and thus only one species could have been present). For plant remains, ‘cf.’ is used to indicate a ‘best guess’ as to the identity of fossil specimens.

At least some remains of plant macrofossils were present in most of the samples examined and in some cases there were sizeable assemblages of identifiable remains of interpretative value. The quality of preservation varied amongst the samples, with the majority of the remains being preserved by charring, although one context produced silicified plant material.

Results

See the project archive for the full version of this report and Table 3 for complete list of taxa identified.

Period II – early medieval (aceramic)

Three features dating to this period (ditch F270, gully F272 and ditch F273) were sampled. Plant macrofossils comprising a few wheat grains were present in only one of the features, ditch F270.

Period III – Saxo-Norman (11th century)

Samples were examined from several features dating to the period including an extensive ash spread (116) that sealed the later stone-built hearth (F172) and surrounding floor area in building 186. This deposit produced the largest and richest assemblage of plant macrofossils. There was a remarkably high proportion of wheat grains, and to a lesser extent (but still in large numbers) oats, as well as oat chaff from processing. Pea cotyledons were also present and arable weeds typically associated with cultivation, such as Brassiceae, Rumex, Anthemis cotula, and Atriplex. It is likely that this sample represents the accidental charring of a crop, and may show the dumping of hearth material. The mixture of wheat and oats possibly indicate a mixed cereal crop (maslin), though equally may reflect accumulation from different crops through a single disposal route. ‘Silicified’ material was also present in the form of Eleocharis palustris exocarps, which are perhaps more likely to have arrived with burnt cut wetland vegetation, such as floor litter or roofing. A single charred fruit of Dipsacus sativus (Fullers’ teasel), a plant commonly used in textile manufacturing was also identified. Further cereals and weeds including a few barley grains were recovered from deposits filling the construction pit for hearth F172.

A similar assemblage of arable weeds and cereals, including barley grains and rachis, were recovered from an earlier hearth (173) set directly on the original floor surface (179) of building 186. Pea was again present and Carex nutlets suggested the burning of some cut wetland vegetation. Eleocharis palustris (common spike-rush) and Plantago lanceolata (ribwort plantain) are perhaps most likely
<table>
<thead>
<tr>
<th>Name</th>
<th>Vernacular</th>
<th>Parts</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rumex sp(p).</td>
<td>docks</td>
<td>charred fruit(s)</td>
<td>3</td>
</tr>
<tr>
<td>Chenopodium polyspermum L.</td>
<td>all-seed</td>
<td>charred seed(s)</td>
<td>1</td>
</tr>
<tr>
<td>Chenopodium/Atriplex sp(p).</td>
<td>goosefoot/orache</td>
<td>seed(s)</td>
<td>1</td>
</tr>
<tr>
<td>Atriplex sp(p).</td>
<td>oraches</td>
<td>charred seed(s)</td>
<td>1</td>
</tr>
<tr>
<td>Ranunculus sp(p).</td>
<td>buttercups, etc.</td>
<td>achene(s)</td>
<td>1</td>
</tr>
<tr>
<td>Ranunculus Section</td>
<td>Rumunculus</td>
<td>meadow/creeping/</td>
<td></td>
</tr>
<tr>
<td>Ranunculus Subgenus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Batrachium</td>
<td>water crowfoots</td>
<td>achene(s)</td>
<td>1</td>
</tr>
<tr>
<td>Cruciferace</td>
<td>cabbage family</td>
<td>charred pedicel(s)</td>
<td>2</td>
</tr>
<tr>
<td>Brassica sp./Sinapis arvensis</td>
<td>brassica/charlock</td>
<td>charred seed(s)</td>
<td>1</td>
</tr>
<tr>
<td>Brassicace</td>
<td></td>
<td>charred seed(s)</td>
<td>2</td>
</tr>
<tr>
<td>Rubus idaeus L.</td>
<td>raspberry</td>
<td>charred seed(s)</td>
<td>1</td>
</tr>
<tr>
<td>Potentilla sp(p).</td>
<td>cinquefoils, etc.</td>
<td>achene(s) (charred)</td>
<td>1</td>
</tr>
<tr>
<td>Leguminoseae</td>
<td>pea family</td>
<td>charred cotyledon(s)</td>
<td>2</td>
</tr>
<tr>
<td>Vicia faba L.</td>
<td>field bean</td>
<td>charred seed(s)</td>
<td>1</td>
</tr>
<tr>
<td>Vicia/Lathyrus sp(p).</td>
<td>vetches/vetchlings etc.</td>
<td>charred seed(s)</td>
<td>1</td>
</tr>
<tr>
<td>Pisum sativum L.</td>
<td>garden/field pea</td>
<td>charred seed(s)</td>
<td>2</td>
</tr>
<tr>
<td>Pisum cf. sativum L.</td>
<td>?garden/field pea</td>
<td>charred cotyledon(s)</td>
<td>1</td>
</tr>
<tr>
<td>Trifolium sp(p).</td>
<td>clovers, etc.</td>
<td>charred seed(s)</td>
<td>3</td>
</tr>
<tr>
<td>Umbelliferae</td>
<td>carrot family</td>
<td>mericarp(s)</td>
<td>1</td>
</tr>
<tr>
<td>Aethusa cynapium L.</td>
<td>fool’s parsley</td>
<td>mericarp(s)</td>
<td>1</td>
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<tr>
<td>Atropa bella-donna L.</td>
<td>deadly nightshade</td>
<td>charred seed(s)</td>
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</tr>
<tr>
<td>Hysopocactus niger L.</td>
<td>hembane</td>
<td>charred seed(s)</td>
<td>1</td>
</tr>
<tr>
<td>Plantago lanceolata L.</td>
<td>ribwort plantain</td>
<td>charred seed(s)</td>
<td>1</td>
</tr>
<tr>
<td>Sambucus nigra L.</td>
<td>elder</td>
<td>charred seed(s)</td>
<td>2</td>
</tr>
<tr>
<td>Diplocaulus sativus (L.) Honckeny</td>
<td>fuller’s’ teasel</td>
<td>charred fruini(s)</td>
<td>1</td>
</tr>
<tr>
<td>Anthemis cotula L.</td>
<td>stinking mayweed</td>
<td>achene(s)</td>
<td>5</td>
</tr>
<tr>
<td>cf. Senecio sp(p).</td>
<td>?groundels/ragworts, etc.</td>
<td>charred achene(s)</td>
<td>5</td>
</tr>
<tr>
<td>Onopordum acanthium L.</td>
<td>scotch thistle</td>
<td>charred achene(s)</td>
<td>1</td>
</tr>
<tr>
<td>Juncus sp(p).</td>
<td>rushes</td>
<td>charred seed(s)</td>
<td>1</td>
</tr>
<tr>
<td>Gramineae</td>
<td>grasses</td>
<td>charred caryopsis(es)</td>
<td>4</td>
</tr>
<tr>
<td>Cerealia indet.</td>
<td>cereals</td>
<td>charred caryopsis(es)</td>
<td>8</td>
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<tr>
<td>Triticum sp(p).</td>
<td>wheats</td>
<td>charred caryopsis(es)</td>
<td>6</td>
</tr>
<tr>
<td>Triticum aestivo-compactum</td>
<td>bread/club wheat</td>
<td>charred caryopsis(es)</td>
<td>2</td>
</tr>
<tr>
<td>Hordeum sp(p).</td>
<td>barley</td>
<td>charred caryopsis(es)</td>
<td>5</td>
</tr>
<tr>
<td>Hordeum vulgare L.</td>
<td>six-row barley</td>
<td>charred caryopsis(es)</td>
<td>1</td>
</tr>
<tr>
<td>Avena sp(p).</td>
<td>oats</td>
<td>charred awn fragment(s)</td>
<td>2</td>
</tr>
<tr>
<td>Avena sativa L.</td>
<td>cultivated oat</td>
<td>charred spikelet(s)</td>
<td>9</td>
</tr>
<tr>
<td>Securis sp(p).</td>
<td>?wheats</td>
<td>charred caryopsis(es)</td>
<td>1</td>
</tr>
<tr>
<td>Scirpus maritimus/lacustris</td>
<td>sea club-rush/bulrush</td>
<td>charred nutlet(s)</td>
<td>1</td>
</tr>
<tr>
<td>Eleocharis palustris Sl</td>
<td>common spike-rush</td>
<td>charred nutlet(s)</td>
<td>7</td>
</tr>
<tr>
<td>Carex sp(p).</td>
<td>sedges</td>
<td>charred nutlet(s)</td>
<td>2</td>
</tr>
</tbody>
</table>

TABLE 3: PLANT TAXA RECORDED; TAXONOMY AND NOMENCLATURE FOLLOW TUTIN ET AL. (1964–80); C = NO. OF CONTEXTS IN WHICH TAXON WAS RECORDED
to represent material from wet and dry grasslands respectively, though in the absence of other taxa it is difficult to assess their significance.

The samples from floor 179 and beamslot F275, component parts of building 186, provided further evidence for the cultivation of cereals and, in beamslot F275, vetches. Charred legume cotyledons were associated with indeterminate cereal grains in the base of pit F262, which underlay the floor in the southeast of the building.

**Period IV- medieval (12th century)**

Low concentrations of charred remains representing cultivated plants: wheat grains and barley rachis (ear-stalk) fragments, as well as several arable weed seeds were recovered from the primary fill of ditch F274.

**Discussion**

Very few plant macrofossils were recovered from the Period II early medieval samples providing little or no evidence for the environment or activity of the period. This is in stark contrast to the Period III samples, which provided abundant evidence for arable cultivation in the vicinity of the site during the Saxo-Norman period, this activity apparently continuing into the medieval period (12th century, Period IV).

Cereal grains and associated arable weeds were the most common plant macrofossils recorded. Most of the Period III samples contained charred cereal grains together with a small amount of chaff. Three of the major grain taxa, wheat, barley and oats, were present. There were high concentrations of wheat grains in hearth deposits 116 and 173. Elsewhere however, charred grains were usually present in rather small amounts, the individual taxa rarely scoring more than 1 on the four-point abundance scale used. With the exception of single occurrences of wheat, barley and oat spikelets and oat awns, cereal chaff was conspicuous by its absence. The rarity of charred chaff is a phenomenon repeatedly reported from medieval occupation deposits and suggests that grain was already threshed and winnowed, if not also milled, by the time it reached the site. Due to the prevalence of free-threshing wheat in the period, however, the evidence for crop-processing activities, or lack of them, may not be as obvious.

Another more indirect indicator of cereals is the large proportion of arable weeds found in most of the samples. Among these weeds, some of which are characteristic of cereal fields and rarely found elsewhere, are *Anthemis cotula* (stinking mayweed), which was usually present and represented by very high numbers within the samples in comparison to grains. This plant is often taken to be typical of heavy clay soils and is unlikely to have been out of place in the vicinity of the present site on the alluvial clays to the south-east of the village. *Eleocharis palustris* (common spike-rush) was present in half of the samples and may indicate damp ground; it is also likely to have occurred on these alluvial clays and has been considered by some workers to have grown in cornfields where drainage was poor (eg Jones 1978).

Pulses were also cultivated during the Saxo-Norman period, in the form of peas and the field bean (*Vicia faba*), typical medieval pulse crops exploited prior to the introduction of European legumes, such as lentils and chickpeas.

The identification of *Dipsacus sativus* (Fullers’ teasel) in one sample indicates that this cultivated form of teasel may well have been grown, stored or in use at or near to the site, suggesting evidence of textile working. The heads of cultivated teasel were used for raising the nap on cloth in the latest stages of textile production.

Overall, the samples largely contained burnt material with charred cereal grains and accompanying weed seeds and chaff probably either waste from food preparation or, given the presence of weeds and chaff, from crop processing.
AN EARLY MEDIEVAL SITE AT BRENT KNOLL

to the tip. At Winchester this type dates from 10th to 18th century contexts with a *floruit* in the 13th century (Goodall 1990b, 835-60). L 116mm, W 15mm, Period IV pit fill 108 (107), 12th century, SF 300

2 Knife with whittle tang blade of Winchester Type E (curved back with various edge shapes) dated 10th to 16th century, peaking in the 13th and 14th centuries (Goodall 1990b, 835-60). L 139mm, W 18mm, SF 301, Period III soil layer 117 (276), 11th century. SF 301

3 Swivel hook for use as a chain fitting, see Winchester (Goodall 1990a, 826, no 2592) for similar piece from mid–late 18th-century context. L 75mm, W 45mm, Period IV ditch fill 136 (274), 12th century, SF 305

4 Fragment of curved metal sheet. Period IV pit fill 124 (140), 12th century, SF 306

5 Heavy nail shank fragment, clenched. L c. 70mm, Period III posthole fill 156 (155), 11th or 12th centuries, SF 309

6 Incomplete T-headed nail. L32mm, Period III internal floor layer 158 (209), 11th century, SF 310

7 Bar fragment with oval section. Date and function unknown. L 27mm, section 17mm x 9mm, Period III hearth deposit 116, 11th century, SF 311

8 Heavy nail shank fragment, clenched. L c. 70mm, Period III hearth deposit 116, 11th century, SF 316

9 Structural nail with large round head and square shank. Incomplete. L 34mm, Period III soil layer 117 (276), 11th century, SF 317

10 Nail shank fragment. L 33mm, Period III beamslot fill 238 (275), 11th century, SF 324

11 Incomplete T-headed nail. L 28mm, Period IV clay deposit 129, 12th century, SF 336

12 Heavy nail shank fragment, or possible punch. L 64mm, Period IV soil layer 146, 12th century, SF 329

13 Nail shank fragment, clenched. L 34mm, Period IV soil layer 146, 12th century, SF 330

14 Incomplete object with tapering oval section. Date and function unknown. L 52mm, section 25mm x 15mm, Period III beamslot fill 238 (275), 11th century, SF 331

15 Structural nail with large round head and square shank. Tip missing. L 68mm, Period III pit fill 156 (155), SF 309

16 Arrowhead (see Rubinson and McDonnell below). L 81mm, Period IV clay deposit 127, 12th century, SF 333

17 Nail shank fragment. L 18mm, Period IV clay deposit 129, 12th century, SF 334

18 Nail fragment with round head and square shank. L 25mm, Period II ditch fill 231 (270), SF 328

19 Heavy nail shank fragment, clenched. L 85mm, unstratified, SF 340

*Not illustrated*

Nail shank fragment L 24mm, Period III hearth deposit 116, 11th century, SF 316

**Objects of stone** (Fig. 11)

1 Trough. Worked object of oolitic limestone, incomplete, with two smaller, non-joining fragments. It seems to be a square or oblong trough with a flanged edge at each end. The object is well made, with no signs of wear. Maximum extant dimensions 295mm x 205mm x 140mm, Period III stone spread 128, 11th century, SF 326

2 Whetstone in buff, fine-grained, micaceous sandstone. Boat-shaped, possibly broken at both ends, utilised and worn smooth on all four long sides with concave upper and lower surfaces. L 125mm, W 33mm, D 35mm, Period IV ditch fill 133 (274), 12th century, SF 303

3 Whetstone in buff, fine-grained, micaceous sandstone. Roughly worked and boat-shaped. Worn smooth on the upper face and slightly worn on one side. L 148mm, W 52mm, D 54mm, Period III beamslot fill 253 (275), 11th century, SF 322

4 Whetstone – bar-shaped, grey, fine-grained, micaceous sandstone. Rectangular section, tapering at one end with four or five notches on each corner – possibly to secure a binding for suspension. The other end is missing. L 123mm, max section 18mm x 13mm, unstratified, SF 304

5 Whetstone in pinkish-buff, fine-grained, micaceous sandstone. Boat-shaped with a rectangular upper face, parallel sides and a curved base. The upper surface has been well used and is now concave. There is slight utilisation on one side. L 117mm, W 30mm, D 24mm, Period III stone structure 187, 11th century, SF 313

*Not illustrated*

Spindlewhorl in calcareous siltstone/mudstone with a rounded, conical profile and decorated with concentric grooves. A common type, examples from
Fig. 10 Selected metal objects

London date from the second half of the 11th century till the 14th century (Egan 1998, 258). Incomplete.
H 23mm, Diam (estimated) 35mm, Period IV clay deposit 129, 12th century, SF 302

Whetstone in pennant sandstone. Small, irregular rectangular fragment with three rough sides, worn smooth on one surface and one edge only. There is evidence of burning before use as a hone. Extant
Dimensions 60mm x 47mm x 20mm, Period IV clay deposit 127, 12th century, SF 307

Whetstone in buff, fine-grained, micaceous sandstone. This is the re-used quadrant of a larger stone worn by rotary action creating a wedge-shaped profile. Utilised on both planes and one edge. Extant dimensions 75mm x 65mm x 48mm, Period III gully fill 163 (182), 11th century, SF 314

Whetstone in pennant sandstone, burnt on one edge and worn concave on the upper surface. Dimensions 150mm x 125mm x 20mm, Period III hearth stones 172, 11th century, SF 325

Whetstone in pennant sandstone, probably a re-used (?Roman) roof tile, as one corner is perforated. Now of roughly rectangular shape, slightly worn on the upper surface only. Extant dimensions 175mm x 110mm x 15mm, Period III stone spread 128, 11th century, SF 327

Whetstone in pennant sandstone. Small, irregularly shaped fragment, possibly with 2 original edges, worn smooth on one surface only. Extant dimensions 75mm x 47mm x 8mm, Period IV ditch fill 136 (274), 12th century, SF 337

Whetstone fragment in buff, fine-grained, micaceous sandstone utilised on 3 faces. Extant dimensions 32mm x 23mm x 23mm, Period III hearth deposit 116, 11th century, SF 339

**Fig. 11 Selected stone objects**

Metallurgical analysis of iron artefacts provides a deep insight into the technology of early societies. The iron technology of the Saxo-Norman period is
not well understood although the detailed studies from Coppergate, York (McDonnell 1992) provide a basic understanding of iron technology in the broadly contemporary Anglo-Scandinavian period. The number of artefacts studied for the medieval period is fewer (Tylecote and Gilmour 1986; Wilthew 1987; McDonnell et al. 2002), hence the Saxo-Norman artefacts from Brent Knoll provide an excellent opportunity to further research into the iron technology of the 10th–12th centuries. Further, the location offers an opportunity to widen the geographical distribution of iron artefact analyses. The nearest comparable analyses derive from Saxo-Norman Worcester (Dalwood and Edwards 2004) and Saxon Southampton, Hampshire (McDonnell 1987a; 1987b).

The aims of the analysis were firstly, to determine the manufacturing technology of the Brent Knoll Saxo-Norman iron artefacts, secondly, to place the iron artefacts in the context of the site and finally, to place the Brent Knoll iron assemblage in the wider framework of the iron technology of the period. Artefacts were selected using the x-radiographs that were provided with the objects. From these it was possible to determine the extent of corrosion and the amount of remaining metal, facilitating sampling location. All artefacts were recorded digitally, weighed and the dimensions measured before sampling. The shape of each of the knives was ascribed to a typological group defined by Blakelock and McDonnell (2007). The artefacts were sampled by removing one or more sections from the artefacts using a Microslice diamond wafering blade. The sections were mounted in cold-setting resin and then ground and polished to a one-micron diamond finish using standard archaeometallurgical techniques.

The samples were examined using a Nikon Optiphot Reflected Light microscope fitted with E-Rec Electronics digital camera with Fire-I imaging software. A complete photographic schematic of each sample section was created as well as higher magnification photography of any areas of interest. The sections were recorded in the ‘as-prepared’, in what is called the ‘unetched’ condition, to determine slag inclusion distribution and corrosion penetration. They were subsequently etched in Nital (4% nitric acid in alcohol) and subsequently re-examined using the optical microscope. Grain sizes were recorded using an ASTM grain size standard at 100x magnification using the optical microscope. Grain size analyses were recorded adjacent to the hardness tests.

The elemental composition of the metal was determined using an FEI Quanta 400 scanning electron microscope (SEM) with an Oxford Instruments Inca-Sight energy dispersive x-ray system (EDS), calibrated with a cobalt reference standard. Spectra were collected at 0-20keV for 50 live seconds and the working distance was 10mm. The spectra were then quantified using the Oxford Instruments SEMQuant software system. The resulting microstructures, hardness values, grain size measurements and elemental composition data were used in interpreting the composition and construction of the iron artefacts. This allowed for comparisons to be made between different types of iron artefacts.

In Britain during the 10th–12th centuries blacksmiths used three iron alloys: ferritic iron, phosphoric iron, and steel. Ferritic iron is the softest as it has no alloying elements. Phosphoric iron is slightly harder and has two highly identifiable features, a ghosting or watery effect in the microstructure and etch resistance due to the alloy being slightly corrosion resistant. The carbon content in steel makes it the hardest of the alloys. The vast majority of ironwork from the 10th-12th centuries was constructed using different combinations of these alloys. For this study each artefact was hardness tested with a load of 200g for 15 seconds. Areas selected for hardness testing included areas with different alloys present and any other significant microstructural features identified and recorded earlier using the optical microscope. Grain sizes were recorded using an ASTM grain size standard at 100x magnification using the optical microscope. Grain size analyses were recorded adjacent to the hardness tests.

Figure. 12. Knife manufacturing typology based on blade cross-sections (adapted from Tylecote and Gilmour 1986)

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>all ferrite (or phosphoric iron) with no steel cutting edge</td>
</tr>
<tr>
<td>1</td>
<td>steel core flanked by ferritic or phosphoric iron</td>
</tr>
<tr>
<td>2</td>
<td>steel cutting edge butt-welded to the iron back</td>
</tr>
<tr>
<td>3</td>
<td>piled or banded structure throughout the section</td>
</tr>
<tr>
<td>4</td>
<td>steel forms a jacket around an iron core</td>
</tr>
<tr>
<td>5</td>
<td>all steel blade</td>
</tr>
</tbody>
</table>
sectioned once or twice to determine how these alloys were combined and treated in construction of the object. The knife typologies (Fig. 12) provided a means to compare such artefact construction from site to site.

Results

The following list provides a summary of the results of the metallurgical analysis, evaluating the usage of these alloys in the eleven artefacts sampled for this study. The objects are listed here under their illustration number (Fig. 10).

The detailed results of the metallurgical analysis are available in the fully illustrated version of this report deposited in the site archive.

Fig. 10

1 Knife (SF 300). This Type 1 (Fig. 12) iron knife, Typological Group D (Blakelock and McDonnell 2007) was complete, with its tang and tip still intact. The x-radiograph confirmed that it was well preserved and sections were taken from the cutting edge and back. The knife was unusual due to the presence of spherodised carbides, which form when steel is heated at a relatively low temperature (600°C) for an extended period of time. It is probable that this heating occurred after the artefact was constructed and was not part of the manufacturing process. The steel, before the extended heating, would have had a potentially good cutting edge. The phosphoric iron was clean lacking a high concentration of slag inclusions. This indicates that the knife would have been of good quality on manufacture if it had been successfully heat-treated.

2 Knife (SF 301). This Type 4 knife (Fig. 12), Typological Group D (Blakelock and McDonnell 2007) was complete and well preserved from tang to tip. The x-radiograph confirmed that there was metal remaining and the cutting edge was clear. Two sections were taken, one from the cutting edge and the other from the back of the knife. The knife has a high carbon steel outer shell welded on a ferritic core. This steel has undergone quenching during its construction. During its life the knife was mis-sharpened as evidenced by the preferential loss of the steel on one side of the blade, and heavily used as indicated by the loss of steel at the cutting edge, only partly due to corrosion.

3 Hook (SF 305). This hook had a round ball at one end and tapers to a sharp point at the other. The x-radiograph showed that the hook was still intact and was well preserved, with good survival of iron. Two sections were taken, one as a cross-section of the ball (305A) and the other from the tapered tip, which was cut from the hook, mounted whole and ground until a cross-section was visible (305B). The hook was constructed mostly of ferritic iron except at the tip where a steel piece had been welded on. The addition of the high quality steel piece suggests that the tip was intended for sharpening.

6 Nail (SF 310). Oval head and bent tip. The x-radiograph revealed a break just above the bent tip, but the object retained a large amount of iron and was well preserved. The cross-section was taken from the tip. The nail was constructed from a heterogeneous composite bar that derived from an arsenical bearing ore.

7 Bar (SF 311). The x-radiograph showed a well-preserved wedge-shaped object with tapered point. The cross-section was taken from the wide end (311A) and a longitudinal section was taken from the tapered end (311B). This artefact was constructed from a high carbon steel band welded to a ferritic core and was probably an edged tool to be sharpened at the tapered end. The lack of heat treatment to the high carbon steel suggested that iron object was an unfinished tool that needed further work by the smith.

9 Nail (SF 317). Very thick body and flat oval head. The x-radiograph indicated the nail still retained a large amount of iron and a cross-section was taken from the tip. The nail was made from a heterogeneous composite bar that displayed the natural variation in alloy composition of medieval iron.

10 Small nail or pin (SF 324). Slightly tapered long cylindrical bar. The x-radiograph indicated a large amount of remaining metal and a cross section was taken of the tapered end. The object was constructed using a single phosphoric iron bar. The x-radiograph and the deformation of the ghosting suggested that this metal was draw-out to construct the pin. The hardness values were slightly elevated from the normal phosphoric iron value of around Hv0.2 160, which would support deformation through cold working. A section was removed from the head end of the nail and a longitudinal section was taken of the tapered end. The nail was constructed from a heterogeneous composite bar that derived from an arsenical bearing ore.

12 Nail or punch (SF 329). Subrectangular cross section with tapered point. The x-radiograph indicated a large amount of metal remaining and a cross-section was taken at the point. The possible punch tip was made of clean steel and then heated to approximately 600°C for an extended period of time to alter the steel microstructure to spherodised carbides. Whether this occurred during manufacture or post-manufacture cannot be determined.

16 Arrowhead (SF 333). This artefact was originally classified by Bircher as a nail shank, but examination of the radiograph clearly showed that it was a socketed artefact and can be paralleled with arrowheads from Coppergate, York (Ottaway 1992, 713, cat. no. 3926). A section was removed from the head end of the arrowhead. It was constructed from heterogeneous phosphoric/ferritic iron. In contrast, the arrowhead analysed from York (McDonnell 1992, 714) was of Type 1 manufacture (Fig. 12) with a steel core, however as a potentially disposable item it is more likely that arrowheads would be constructed more simply, without steel inserts, as the Brent Knoll example shows.

17 Nail (SF 334). Square shaped bar tapering to a point. The x-radiograph showed some metal was still present. From this object the tip was removed and mounted
lengthwise, and then ground till a longitudinal section of the tip was visible for analysis. The nail came from a bar of heterogeneous phosphoric/ferritic iron with a notable arsenic concentration. The lack of weld-lines in the etched section supports the theory that this diversity in composition was natural and that the steel component is the result of carburisation occurring during either the smelting or smithing processes. The phosphoric grains remain uncarburised due to the presence of the phosphorus acting as an inhibitor to carbon diffusion.

19 Clenched nail shank or bent bar (SF 340). The x-radiograph showed a large of amount of iron was still retained and a cross-section was taken from the unbent end. The phosphoric iron was not of high quality, probably made directly from the bloom, and would be used for non-speciality items.

Discussion

The analysis has demonstrated that the smiths either based at Brent Knoll or supplying the Brent Knoll site were utilising the full range of iron alloys available in the preceding Saxon period and at contemporary sites such as Coppergate, York. The analysis has provided improved artefact identification and is evidence for artefact manufacture on the site.

Two bars were present in the assemblage, of which the first (Cat. no. 19) was composed of phosphoric iron and could be considered stock iron, similar to bars found at Coppergate, York (McDonnell 1992, 511). Due to the unstratified nature of this find further conclusions will not be drawn, however its metallurgy was typical of the other artefacts from the site and was therefore almost certainly contemporary and hence informs the discussion of site formation processes and site damage.

The second bar (Cat. no. 7) was an object in the process of manufacture, stock iron similar to Cat. no. 19 may have been used as part of the construction this object. Considering the composite nature of this artefact the stock iron used would have been a composite bar containing phosphoric, ferritic and steel parts for the back which tapers into a ferritic band that has had a very high carbon steel bar (>1.0% C) welded to it, to construct the tapered cutting edge of a specialized tool. On completion of the shaping of the artefact the high carbon steel may have been subjected to heat treatment that would greatly increase its hardness and ability to be sharpened.

Two knives were present in the assemblage; knife Cat. no. 1 is ascribed to manufacturing Type 1 and knife Cat. no. 2 to Type 4 (Fig. 12). The Type 1 form was the commonest manufacturing type utilised at Coppergate in the later phases, whereas Type 4 knives were rare (McDonnell 1992, 598). Despite the post-manufacture heating of knife Cat. no. 1, both knives show a high quality of construction, containing metal with few slag inclusions and the different irons carefully welded together. The high quality of manufacture could also be seen in the use of high carbon steel in knife Cat. no. 2, where the steel has been welded on either side of a ferrite band and the carbon has diffused into that band. Beyond that, the knife has been quenched creating a very hard outer shell. This heat treatment is not present in all sites from the period. Analysis of knives from Worcester, Deansway, showed no evidence for heat treatment (Rubinson forthcoming).

The metallurgy of artefact Cat. no. 12 supports the theory that this was indeed a punch. It was made of clean steel before post-manufacture heating reduced the steel to spheroidal carbide in ferrite.

The hook, artefact Cat. no. 3, was of high quality, made with clean ferritic iron with a high carbon steel welded into its tip, in the form of Type 1 manufacturing typology (Fig. 12).

The pin, artefact Cat. no. 10, was composed completely of phosphoric iron with heavy ghosting. The increase in hardness values and deformation in the ghosting supported the use of cold working in shaping the artefact. The use of phosphoric iron for a pin may be evidence of alloy selection for colour/decorative purposes, because the alloy is etch resistant and hence would be tarnish resistant.

The analysis of Cat. no. 16 showed that this was an arrowhead that could be paralleled at Coppergate York. Unlike the Coppergate example that was manufactured with a steel core similar to a Type 1 knife, the Brent Knoll arrowhead was made of phosphoric iron. The tarnish resistance, mentioned above, would benefit an arrowhead because it would be less susceptible to developing corrosion (rust), minimising maintenance.

There were three nails included in this analysis, Cat. nos 6, 9 and 17, and all contained high carbon steel in different quantities. Cat. no 17 may have undergone carburization to harden its exterior, while the evidence for Cat nos 6 and 9 indicated that the existence of high carbon steel in their microstructures was not deliberate and the nails were manufactured from either heterogeneous ‘bloomery’ iron or from recycled scrap that incorporated steel. High carbon steel was rare in the few nails analysed from this period, there was steel present in only two of the
nine nails analysed from Coppergate, York (Rubinson forthcoming) and in only one of the six nails from Deansway, Worcester (Rubinson forthcoming). It should also be noted that in Cat. no. 6 there was also a band with a significant amount of arsenic present with enrichment at its edges and that Cat. no 17 had a notable arsenic content throughout its microstructure. As the role of arsenic in early iron is not understood, it cannot be argued strongly that this was evidence of preferential selection of an alloy or source of iron for nail manufacture, but it may be the first tantalising evidence of such selection. The presence of arsenic in several of the artefacts is significant. Its presence must derive from an ore containing arsenic; hence its presence indicates that the Brent Knoll iron is being sourced from different ore deposits. Its role in early iron metallurgy is poorly researched, but it has one significant difference in the formation of characteristic white weld lines (Castagnino 2008).

The use of steel at Brent Knoll was more widespread than seen at other sites from the Saxon and Saxo-Norman period such as Deansway, Worcester (Rubinson forthcoming) and Wharram Percy (Blakecock et al. forthcoming). The steel either occurred as a clearly deliberate component, as in the case of the two knives, or as part of a composite/heterogeneous iron in the case of nail Cat. no. 6. The use of the steel in the edged tools is typical of the period (eg Coppergate, York – McDonnell 1992), however it seemed unusually widespread in the utilitarian items indicating that the composite heterogeneous iron being utilised for Brent Knoll had a higher carbon content, or that there was a significant use of recycling of scrap iron that incorporated steel components.

A key factor to note was the use of all dominant alloy types in the Brent Knoll assemblage. These alloys, individually or combined in a composite artefact, were used by the smith specifically for their differing properties, including their physical properties e.g. the use of steel for cutting edges, or for colour/decoration in the preferential use of phosphoric iron for the pin (Cat. no. 10). They are also used in combination, as seen in the combination of steel and phosphoric iron in artefacts such as knife Cat no. 1, where the phosphoric iron’s ability to inhibit carbon diffusion prevents the carbon from the steel insert diffusing into the back of the blade. In two cases spherodised carbides are present, which derive from prolonged heating of steel at about 600°C, this in contrast to the Coppergate study of over 100 artefacts in which only one case of spherodisation was noted. This is indicative of either poor smithing technique during artefact fabrication, or post-fabrication use heating. The former is unlikely in the light of evidence of alloy selection and welding quality. Post-fabrication heating is the most likely and would either have occurred accidentally, e.g. an artefact left in a hearth or caught in a fire, or as a deliberate attempt to soften the knife prior to recycling, but was continued for too long a period of time.

Conclusions

The presence of stock iron in the form of bars and an unfinished object is strong evidence for a working smithy on or close to the site. The purposeful use of all alloy types, good quality welds and heat treatment of steels shows that the smiths either working at Brent Knoll and/or supplying the site had a full range of smithing skills available to them. The data is comparable to that from the same period at Coppergate, York. The smiths had access to the full range of different stock irons of different compositions, and the presence of arsenic in some alloys is clearly indicative of iron deriving from different sources. This is evidence for a vibrant iron economy in Somerset in the Saxo-Norman period.

DISCUSSION

Period I: Romano-British (later 3rd–4th centuries)

No structural features were identified relating to the earliest phase of activity indicated by the small assemblage of residual pottery sherds dating to the later 3rd–4th centuries AD however, their unabraded condition suggested Romano-British activity nearby. This evidence is consistent with the reuse of the adjacent hillfort during 3rd–4th centuries as a possible temple site and with numerous findspots in the vicinity of St Michael’s church and elsewhere in the village.

Collectively, the evidence recorded in the parish suggests both the upland areas and low-lying ground were extensively settled during the Romano-British period. This is supported by palaeoenvironmental indicators from buried soils identified during pipeline construction near Lympsham and along the route of the M5 motorway, which show that from at least the mid 3rd century the Romano-British landscape around Brent Knoll consisted of a
freshwater environment, free from tidal inundation. This suggests a considerable investment of resources towards land management in order to achieve the reclamation of the wetlands surrounding the knoll, which would have required at the very least, the construction of a seawall at the coast and the embanking of local rivers, the Axe and now extinct Siger to the south (Rippon 2000a; 2000b).

**Period II: Early medieval (aceramic, pre-11th century)**

The first structural features recorded on the site were a series of aceramic ditches constructed during two distinct phases of activity. The earlier ditches were angled across the slope and appeared to define a larger plot, possibly a field, with smaller internal enclosures, whilst the later boundary ditch denoted a change in the organisation of the local landscape, as it separated two possible fields or plots aligned on the natural contour of the hillside.

No ceramics or other typologically datable artefacts were recovered from the ditch fills making the close dating of the early medieval field systems problematic. The absence of such artefacts may be due to the fields having been located some distance from the focus of associated settlement, reducing the likelihood of cultural material being carried onto the site, either accidentally or during manuring of fields under arable cultivation. This apparent lack of cultural material is contradicted somewhat however, by the recovery of a moderate animal bone assemblage from the ditch fills, the composition of which clearly illustrated that animal husbandry was important to the early medieval population. All three major livestock species, cattle, sheep/goat and to a lesser extent pig, were present in the assemblage, as well as goose and chicken, domesticated fowl commonly found on a farmstead. This and the lack of cereals or associated arable weeds identified amongst the very few plant macrofossils present in environmental samples from the ditches, pointed to a predominantly pastoral economy.

The presence of animal bone deposits in the ditches suggested that chance might not have been the major factor influencing the unsuccessful retrieval of pottery sherds or other artefacts during the excavation. Rather the lack of such finds, particularly pottery, in the ditches may reflect an absence of such objects in the economy of the early medieval community at Brent Knoll. There is a tradition in Somerset and in the wider South West region of an aceramic culture in the early medieval period, particularly before the 10th century when local (eg Ilchester Type A and Taunton Type 41) and regional (Cheddar E) pottery types reappear in the archaeological record. This corresponds well with the radiocarbon determinations (GU-9135 and GU-9136, Hollinrake and Hollinrake 2000) obtained during the preceding evaluation stage of the project, which indicated the early medieval activity at Brent Knoll dated to this aceramic period, between the late 7th and mid 10th centuries.

The landscape of the Somerset Levels underwent major changes during the post-Roman period, when the previously reclaimed wetlands were again inundated. The chronology for and causes of the inundation are not yet clearly understood, although studies suggest that the flooding of most areas had recommenced by the third quarter of the 4th century (Rippon 2006), coincident with an observed decline in the fortunes of highly Romanised sites in the wider South West region. At Brent Knoll, the inundation would have resulted in the contraction of settlement back onto higher ground, in this instance the lower slopes of the knoll. This contraction is perhaps reflected in the linear plan of the village today, where settlement has developed alongside the roads that encircle the base of the outcrop at the margin with the former wetlands (Fig. 1). The early medieval activity probably reflects a community deliberately sited on viable agricultural land fringing the marshes in order to exploit a diverse range of available dryland and wetland resources.

Direct comparanda for the activity at Brent Knoll elsewhere in the county have proved elusive. The archaeological evidence for much of the early medieval activity in Somerset and indeed, the wider South West region, is often poorly dated and indirect in nature, eg from documentary sources or placename evidence, rather than excavated remains. The ditch-cutting activity at Brent Knoll, which provides an incomplete, but tantalising glimpse of rural life and economy, is very much in line with the wider pattern of archaeological evidence for the period, where a continuum of rural settlement from the late Roman to early medieval periods is evident through agricultural and landscape features rather than from domestic sites or artefacts.

**Period III: Saxo-Norman (11th century)**

Two distinct episodes of Saxo-Norman activity were recorded on the site. An initial phase of low intensity was suggested by the accumulation of an extensive soil layer that yielded two iron artefacts, a knife and
a nail (SF 301 and SF 317 respectively) alongside several sherds of 11th-century pottery, and sealed the now infilled early medieval ditches. This was followed later in the same century by a phase of more intensive activity, during which a sunken floored building and associated features were established, cutting the earlier soil.

The building as recorded comprised two parts, a paved area, possibly an entrance threshold, and adjoining bay with central multiphase hearth. The overall extent of the structure was not revealed however, and the evidence for its function is ambiguous. The species range and quantities of ecofacts recovered are typical of rural domestic occupation, as is the composition of the well-stratified pottery assemblage, which consists almost entirely of jars, some of which had carbonised food residues in the base, whilst many were sooted internally and/or externally, indicating these had been used for cooking foodstuffs on or near an open fire. A domestic function for the building would appear also to be supported by the majority of the small finds, which included a spindlewhorl, several whetstones and a restricted range of metal objects, largely iron nails, but also including a knife and hook. Metallurgical analysis of selected iron artefacts was useful in identifying other possible objects, a punch (SF 329) and a socketed arrowhead (SF 333), formerly recorded as nail shanks, but, more importantly, contradicted the domestic interpretation for the structure. The analysis revealed that the iron objects were formed from a range of composite alloys and included an unworked bar (SF 340) ready for manufacture into a tool or other object as required and an unfinished object (SF 311). The presence of stock iron and the use of the full range of alloys in the manufacture of the various objects recovered pointed to a skilled smith operating on or near the site, as did the significant quantity of hammerscale extracted from the extensive ash spread associated with the later stone-built hearth. It would seem possible therefore that the building may have functioned as a domestic structure and as a smithy at differing times during its use. This change in function may have been coincident with the cutting of the series of slots that defined the later ash spread on three sides. The slots may have held partitions subdividing the building interior, or could represent the foundations for external walls of an entirely remodelled, smaller structure. This structure may have been comparable with those identified on the Mound, Glastonbury (Carr 1986) at a furnace site providing ironwork for Glastonbury Abbey during the 10th-12th centuries. There, the accompanying quantities of animal bone and other artefacts implied associated domestic occupation despite the absence of substantial buildings, the limited structural remains recorded suggested only flimsy structures such as temporary shelters or windbreaks.

Brent was an estate attached to Glastonbury Abbey as early as the late 7th century and was described as one of its most ancient properties in an early cartulary (Abrams 1996). This suggests the likelihood that the area was continuously exploited in some form from that time in order to provide resources or tithes for the abbey. The manner of this exploitation undoubtedly changed over time, particularly so by the 11th century when much of the Levels was again reclaimed (Rippon 2006), implying previously exploited wetland resources were no longer required. Such a change may well be reflected in the phase of diminished activity on the site, when the early medieval pastoral economy was abandoned and the extensive soil layer accumulated. The duration of this apparent hiatus is not clear and, given that the previous activity on the site was aceramic, it is not unusual that only 11th-century pottery sherds were recovered from the deposit, which could easily have accumulated since the 9th or 10th centuries. Indeed, the phase of diminished activity at Brent may reflect wider changes in the organisation of the Church during the 10th century reformation by St Dunstan, forbidding the direct exploitation of their estates by monks and perhaps resulting in a prolonged period of upheaval until alternative management schemes or personnel were introduced. Whatever the cause, the period of diminished activity had ceased by the middle years of the 11th century when the site was reoccupied and an earthfast building with sunken floor erected.

The ecofacts collected from 11th-century deposits at Brent Knoll indicated the site was part of a probable farmstead or hamlet with a diverse economy based on mixed agriculture. All three major livestock species, cattle, sheep/goat and pig, had been raised on the site, whilst bones from domesticated fowl, horse, dog and cat were also present, alongside a few fish and single roe deer bone suggesting some limited exploitation of wild resources available in the environs. It is noteworthy that, whilst the majority of the beef and mutton carcasses were represented and, by implication, consumed on site, pig bones with high meat value were rare and those of the hind limb entirely absent, suggesting this meat was traded and consumed elsewhere, probably at Glastonbury Abbey. Pea and bean were cultivated, possibly as...
fodder for the livestock, as well as wheat, oats and barley. Common arable weeds were noted amongst the plant macrofossils, including stinking mayweed, usually prevalent on heavier clay soils, and spike rush, a wetland plant species that could have grown in poorly drained arable fields. Evidence for cloth production was also provided by the identification of Fullers’ teasel, a cultivated form of the plant exploited for this purpose. Overall, the picture is of a self-sufficient 11th-century settlement, perhaps administered by the abbey, with a successful broad-based economy and specialising in selected products at a surplus.

The founding of the farmstead may have been coincident with the appointment of Thurstan, the first Norman abbot, to Glastonbury Abbey after the Conquest. Surviving abbey documents from the period indicate Thurstan was an able administrator with a keen eye for a profit, as, at Domesday, Glastonbury had quickly become the wealthiest abbey in England (Harrison 1997). This is reflected in the marked increase in value of the estate at Brent at Domesday, from £15 to £50 (Morris 1980), an increase which Harrison suggests resulted from the introduction by Thurstan of more efficient methods of exploitation of the combined arable and pastoral economies, particularly in meat production (cattle and pigs) and possibly also cash crops (wheat and beans).

Comparable rural settlement sites in the county include the dispersed hamlet of Eckweek, Peasedown St John, surveyed and excavated in 1988–9 prior to its destruction during road building. Evidence of two distinct foci of contemporary 11th-century settlement, probably farmsteads (Young forthcoming Areas A and H) was identified. A single large earthfast timber hall and associated smaller ancillary structures of varying function had been constructed at both locations, the hall in Area H possibly having an upper storey, whilst that in Area A had deep internal storage pits sunk into the floor. Here, the farmstead had been constructed over a mid-late 10th-century precursor and was in turn replaced by a stone-built farmhouse dated c. 1250. The plentiful artefacts and ecofacts recovered indicated that, like Brent Knoll, both farmsteads were involved in mixed agriculture, whilst, in Area A, a series of fulling pits demonstrated that cloth was also being produced.

A similar sequence was revealed at the hamlets of Pykeash and Ash Boulogne (Graham 2005), dispersed farmsteads agglomerated into the modern village of Ash, south-west of Ilchester. The earliest medieval pottery recovered at both sites dated a series of ditches and gullies to the later 12th and 13th centuries, although the primary phase of land division was defined by a number of earlier undated ditches. At Ash Boulogne the aceramic ditches postdated 10th-century pit-cutting activity, suggesting a possible 11th–early 12th-century date for the initial land division. Further similar evidence for the Saxo-Norman antecedents of 12th century farmsteads have been recorded at Bickley, Cleeve (Ponsford 2003) in North Somerset and at Easthams, near Crewkerne (Faxon and Roberts 1999) in the south of the county.

Period IV: Later medieval (12th century)

Evidence for later medieval activity was restricted to a recut ditch extending downslope on the north-western site boundary and a few small pits and postholes that truncated Saxo-Norman features. The cultural material recovered from the feature fills and from the colluvium that accumulated over the sunken-floored building indicated it had been abandoned by the 12th century and that locally, the settlement focus may have shifted upslope from the excavation area.

The lack of significant structural features suggests the site had reverted to agricultural use, with the recut ditch probably defining one side of a field or enclosure. No noticeable change in the economy of the medieval population was recognised from the small collection of artefacts and ecofacts recovered, save for the increasing importance of pig in the animal bone assemblage, a species known to have been intensively farmed for meat at Brent during the 12th–early 14th centuries (Harrison 1997). The lack of typical diagnostic glazed wares in the pottery assemblage suggests the activity recorded was restricted in date to the early years of the 12th century and consequently, the Saxo-Norman occupation of the site was relatively short-lived.

Period V: Modern (18th–21st centuries)

The subsequent history of the site is unclear from the archaeological record. The land was possibly used for pasturage, but remained otherwise undeveloped for an extended period from the later 12th century up to at least the late 17th century, when artefacts begin to reappear in the stratigraphy. Thereafter, the site was enclosed and landscaped during 18th-19th centuries and the adjacent former vicarage, St Michael’s House, erected.
ACKNOWLEDGEMENTS

Alejandra Gutiérrez wishes to thank Jane Timby for her advice on dating of the Romano-British pottery sherds and Rosalind McKenna wishes to acknowledge the assistance of English Heritage in enabling her to undertake the environmental assessment. The author would like to thank Andrew Young, Principal Archaeologist at Avon Archaeological Unit Limited (AAU) for his advice and comments during the writing of this report and Dr Chris Gerrard and Professor Mick Aston for their helpful comments on the text. Finally, special thanks are also due to Andrew Young (AAU) and Steve Membery, Development Control Officer for Somerset County Council, for their enthusiastic work as excavation site tour guides during a visit from the local school, and to the site owner, Mr Gary Cavill, for his various kindnsses during the fieldwork stage of the project.

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