

A BRONZE AGE BURIAL AND BARROW ON BEACON HILL, MENDIP: EXCAVATIONS AND ANALYSIS 2007–8

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INTRODUCTION

Beacon Hill Wood, a high point at the eastern end of the Mendip Hills around NGR ST 638460, lies at the junction of the modern parishes of Ashwick, Doulting and Stoke St Michael, c. 2km north of Shepton Mallet (fig. 1). With its highest point at c. 295m OD the hill commands extensive views north and south. In contrast with most other parts of Mendip, Beacon Hill is formed principally of Devonian Old Red Sandstone rocks (Portishead Beds) that include marl and quartz conglomerate beds among the sandstone formations. These rocks outcrop along the eroded top of an ancient anticline fold, exposed further west on Pen Hill and especially Blackdown. Also exposed within the core of the anticline east from Beacon Hill are older Silurian volcanic rocks – Andesite lava and tuff – still quarried at Moons Hill, Stoke St Michael. Younger Carboniferous shale and limestone occupy lower ground to the north and south, though partly masked by drift deposits. This geology has resulted in poorly drained acidic soils prone to gleying and iron pan formation. The poor soil profile and drainage is reflected in numerous small springs along the foot of the steep escarpment to the south, and some waterlogging even in higher parts of the wood. The escarpment itself is evidently formed by the outcrop of more

resistant conglomerate, being at its steepest below the summit of the hill.

The modern wood covers c. 15.5ha, comprising a mixture of semi-mature plantation trees dominated by beech, with some pine and other scattered deciduous species. It owes much of its character to ownership by the Forestry Commission, from whom it was acquired by Mendip District Council and subsequently the Woodland Trust, its current owner, in 1995. As part of a more sympathetic management regime by the Trust most areas have been thinned of trees and areas of more natural vegetation cover encouraged. Long recognised as an ancient burial site by its prehistoric round barrows, ownership by the Trust also prompted a comprehensive survey of all surface features preserved extensively through the wood (Corney 2003).

This led to a further programme of archaeological investigations, principally by trench excavation sampling, through the auspices of The Beacon Hill Society, with the emphasis upon voluntary local community and other amenity group involvement. Opportunities were taken to investigate ancient stone quarry sites, remains of the Roman Fosse Way road, and other Roman structures (see www.beaconhillsocietymendip.org.uk; Bagwell and Webster 2006; 2007; 2008; and 2009). Excavation of one of the suspected prehistoric round barrows

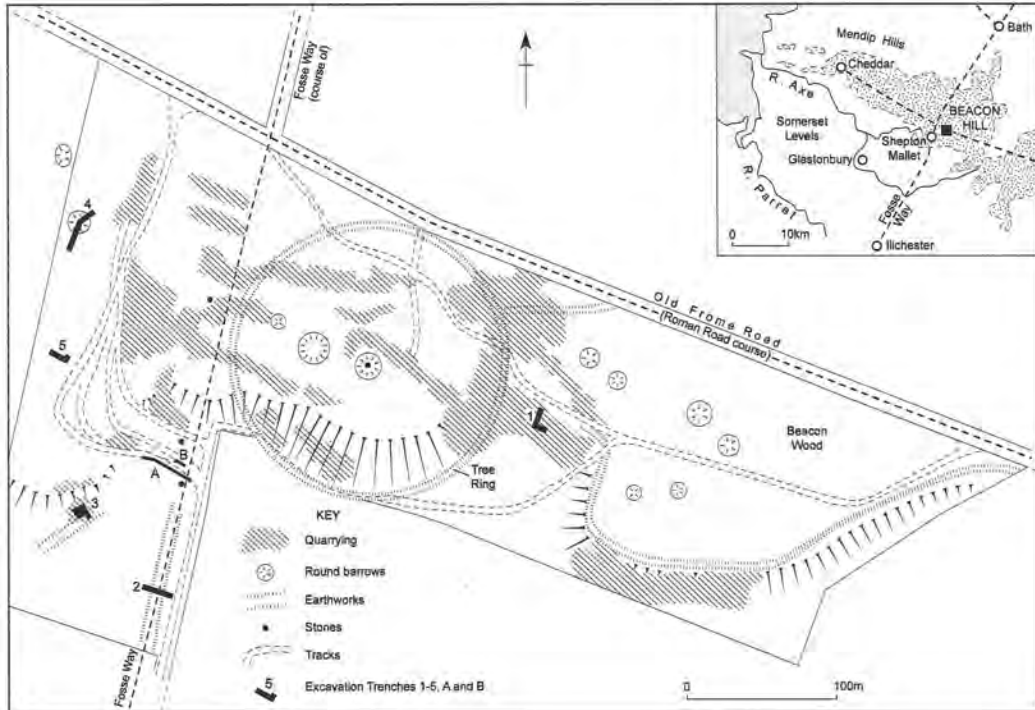


Fig. 1 Beacon Hill Wood, location map, excavation sites and principal features; for details of excavation trenches 1—3, 5, A and B see Leach 2011

is the subject of this report. A section through the barrow yielded a Middle Bronze Age cremation burial and well preserved palaeoenvironmental remains relating to that period which cast new light on the vegetational history of Beacon Hill and its environment. The project fulfilled its objectives in providing management information, opportunities for local participation, education, and a notable enhancement in knowledge and appreciation of the wood.

HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

The earliest evidence of human activity on Beacon Hill is the development of a cemetery of prehistoric round barrows along the crest of the hill. Their form, and discoveries by earlier antiquarians, suggest Early and Middle Bronze dates for construction and use, between c. 2100 and 1500 BC. Up to 14 mounds can be identified – the majority preserved within the wood, though

some have been all but obliterated by successive forestry and antiquarian activity, while four lie within open pasture west of the wood (Grinsell 1971). Several of the more prominent mounds are protected as Scheduled Ancient Monuments and further details of the group and individual barrows are to be found in the County Council’s HER, and in an unpublished desktop survey by Ian Powlesland (1997).

A prominent group of burial mounds such as these probably attracted the attention of treasure seekers, but the earliest recorded antiquarian interest was that of the Revd John Skinner of Camerton, whose visits and excavations into several barrows are recorded in his diaries. From these it is evident that he found several cremation burials, some within urns and others unurned, and the site of at least one funeral pyre. He also recorded two urned cremations placed within small capped sandstone cists, one accompanied by a bronze razor. Regrettably, none of Skinner’s excavated finds appear to have survived, but thanks to his sketches we can identify some of

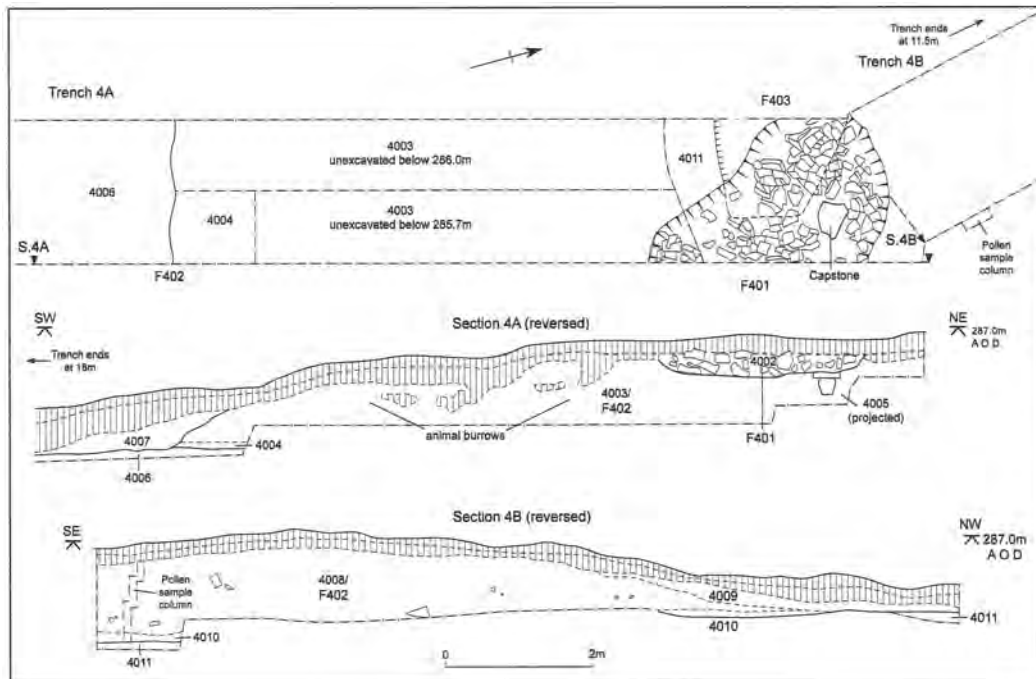


Fig. 2 Barrow excavation, plan and sections

the pottery as Collared Urns of Early Bronze Age types and can associate the razor with a similar date. In 1840 another group of urns was recovered from a barrow in the field west of the wood by the farmer, Mr Rugg. One of these, a Collared Urn, eventually found its way to Birmingham City Museum (Longworth 1984, 147) – unless this was one of the vessels found by Skinner. No other investigations or discoveries are recorded until the mid-20th century, when much of Beacon Hill Wood was replanted by the Forestry Commission. In some areas this was preceded by deep ploughing to facilitate tree planting, a process resulting in further disturbance and destruction of burial mounds and their contents, although the larger barrows were deliberately spared. Some attempt to excavate and salvage material in response to this was made by a local schoolmaster, Max Unwin from Shepton Mallet. Cremation burials and both Early and Middle Bronze Age pottery were evidently encountered, but once again the records are scanty and most of the finds can no longer be traced.

EXCAVATION

The principal focus of interest in 2007–8 was a low circular mound (F402) up to 1m high and 17–18m diameter, close to the western boundary of the wood. This mound is identified as a round barrow (HER PRN 23062; Ashwick 5, Grinsell 1971), and lies at the eastern end of the western group of barrows, most of which lie within open pasture west of the wood (ST 6365 4605). Excavation of the barrow commenced in 2007 with the opening of a trench, Trench 4, 18m x 2m from the centre of the mound that extended down to the south, well beyond its lower edge (4A). Work continued in 2008 with the extension of Trench 4(B) over 11m northwards to encompass the full diameter of the mound (fig. 2). The earliest level exposed was a pale pink/buff-grey silty sand with some grit and small stone fragments (4006/4011), lying at around 285.6m OD to the north and sloping to less than 284.0m OD southwards. At one point this was sampled to a depth of c. 0.15m, merging into soft buff-red sandstone, and is identified as minerogenic subsoil. It was found to be semi-waterlogged at the time of excavation in both



Fig. 3 Turf formation: southern barrow excavation trench, east side (photo P. Leach)

seasons. Approximately 3m from the north end of the trench the subsoil surface was sealed by a thin layer of grey-black, organic-rich sandy soil (4004/4010), rarely more than 0.05m thick and thinning out 20m to the south. This was interrupted at the change of trench alignment by a partly exposed, shallow steep-sided cut into the subsoil (F403), containing similar organic soil (4012). Only an area of 1m x 1.5m of this possibly rectangular feature was seen on the west side of the trench, whose semi-waterlogged fills were not fully excavated.

Sealing this feature and the surrounding organic soil layer was a mound of very mixed buff-pink and grey-black sand and gravel with light scatters of sandstone fragments and occasional larger blocks (4003/4008). Tapering out to the north and south, this banked deposit survived to a maximum of just over 1m thickness near its centre, over a length of approximately 18m (fig. 3). The mottled and strongly banded character of its components identified it as a built turf and soil stack of a type seen preserved elsewhere in acid

anaerobic environments, and here as the remains of a turf-built barrow mound (F402). The lower horizon of this deposit was distinct above the dark underlying buried organic soil layer, but less so above, where it merged into a more disturbed brown humic soil (4001) containing much leaf litter, plant and tree roots. Above the lower sloping sides of the turf mound and spreading 1m or more beyond its edge were lenses of cleaner grey-buff silty sand with some gravel, 4007 to the south and 4009 to the north, representing some weathering or more deliberate spread outwards of material from its upper part. The mound and its capping layers still stands some 1m high above the surface of the wood, though evidently having suffered a degree of truncation in the past, in addition to the mid 20th-century forestry plough grooves that penetrate 0.2m or more into its upper levels, and further disturbance from animal burrowing. An 8m extension of the trench beyond the southern edge of the mound revealed no evidence of an encircling ditch or other external features here. The only artefacts recovered were a total of eight

flint flakes from the body of the turf mound or its weathering deposits. All were of fresh grey-black flint, two with some cortex; the largest a blade with evidence of reworking as a knife on one edge.

Sampling some of these deposits in 2007 showed their potential for containing well-preserved tree and plant pollen, and a fuller programme of sampling and analysis was undertaken by Dr Wendy Woodland, University of the West of England, in 2008, to investigate the content of the turf mound and the underlying buried soil through two sets of column samples taken by her. Results from the pre-barrow soil (4010) indicate a landscape characterised by mixed deciduous woodland within which oak, lime and hazel were prominent, along with some willow and alder, although there were indications of ericaceous heathland nearby. A radiocarbon date from heather charcoal of 2140–1950 cal BC (SUERC 26153) suggests an Early Bronze Age date for its burial. Results from the barrow turves indicate a much greater abundance of grasses, heathers and other open condition species, with hazel as the most common tree species; all of which reflects a more open landscape of heathland and grass with some hazel scrub. Two radiocarbon dates were obtained; one, from heather charcoal in 4012 the fill of F403 of 2290–2120 cal BC (SUERC 26152), should be Early Bronze Age, while another, from heather charcoal in a barrow turf (4008) of 2880–2620 cal BC (SUERC 26154), is somewhat earlier but might have incorporated carbonised material from earlier firing episodes in the locality.

Samples were also taken for plant macro remains and wood charcoal, and analysed by Ellen Simmons, University of Sheffield. Almost no waterlogged material had survived but well-preserved charred plant remains and wood charcoal were recovered from both the buried soil (4010), the turves (4008) and from pit F403 (4012) within the mound. The results complement those obtained from the pollen, suggesting that the environment was predominantly mixed grass and heather heath with occasional trees. The evidence for burning in both the soil beneath the mound and its component turves suggests clearance by fire of the site prior to construction, as well as of the areas of turf, probably nearby, that were stripped to build it. The apparent absence of charcoal within the pollen samples might indicate that the burning was related specifically to preparation of the site and the barrow construction, rather than an indication of longer-term heathland

management for animal grazing, although the earliest radiocarbon date (SUERC 26154) could contradict this. The wood charcoal was dominated by oak, mainly from large branches and logs, with some ash and hazel; a selection which suggests the presence of residues from funerary pyres or other fires connected with the burial rites, rather than wood accidentally burnt in the initial heath clearance, supporting the evidence obtained from analysis of the Middle Bronze Age cremation deposit (McKinley below).

Just south of the centre of the mound its turf stack was cut by a shallow oval or kidney-shaped pit (F401), over 2m wide and long, with a flat base and surviving up to 0.4m deep, although its full original depth had been truncated above (fig. 2). The pit contained an irregular tumble of large and medium sandstone blocks (4002), some evidently affected by the forestry ploughing, although most of the larger blocks were concentrated over and around the largest, an irregular triangular slab up to 0.52m x 0.46m and 0.12m thick placed horizontally on its base. Removal of the slab revealed the damaged rim of a coarse earthenware vessel filled with a mixed grey/white and buff/pink deposit flecked with plentiful charcoal and burnt bone (4005). Identified as a prehistoric cremation burial, the vessel, its contents and the surrounding soil were removed as a single block for excavation and examination in more controlled conditions at the premises of Wessex Archaeology Ltd, Salisbury, the results of which are reported below. The vessel, subsequently restored in the Archaeology Department Conservation Laboratory at Cardiff University, proved to be a Middle Bronze Age barrel-shaped urn of Deverel-Rimbury type, grog-tempered and decorated with simple applied, finger-impressed cordons on the shoulder and neck (figs 4 and 5). The urn contained over 500g of cremated human bone probably representing a young woman aged between 18 and 25, mixed with some of the material used for the funeral pyre – primarily charcoal from oak used for the pyre itself, with some hazel, woody shrubs and grass roots that probably represent kindling. There was no evidence of artefacts or other material deposited with the burial, apart from a single flint flake from the main pit fill, but a radiocarbon determination from the cremated bone gave a date of 1690–1500 cal BC (SUERC 17653).

RADIOCARBON DATES

The four radiocarbon determinations by Gordon Cook at the Scottish Universities Research and Reactor Centre, East Kilbride, were as follows:

Cremated human bone from urned cremation burial 4005/F401 (SUERC 17653) 3310±35BP, 1690–1500 cal BC.

Heather charcoal from pit fill 4012/F403 (SUERC 26152) 3765±30BP, 2290–2120 cal BC.

Heather charcoal from buried soil 4010 (SUERC 26153) 3675±30BP, 2140–1950 cal BC.

Heather charcoal from barrow turf 4008/F402 (SUERC 26154) 4155±30BP, 2880–2620 cal BC.

The dates are consistent with the suggestion of an Early Bronze Age date for construction of the round barrow and a Middle Bronze Age date for the secondary cremation burial, while the earlier date for material incorporated within the barrow turf stack could reflect earlier episodes of clearance or use of the locality from the late Neolithic period (Simmons, below). More refinement in the dating of different episodes would have been possible had resources been available for a larger sample.

PLANT MACRO-REMAINS AND WOOD CHARCOAL

by Ellen Simmons

Sampling and recovery

The flots from ten soil samples, were provided for analysis. Samples 7, 8, 9, 10 and 11 had been collected from the buried soil below the barrow (context 4010). Samples 1, 2, 5 and 12 had been collected from the stacked turves used in the construction of the barrow mound (context 4008) and sample 6 was collected from the fill of a small pit (context 4012). The samples were all of a similar volume (2–4 litres) and had been processed for charred plant remains and wood charcoal using a water separation machine. Two samples from the basal barrow turves were also collected with the aim of recovering waterlogged plant remains (samples 3 and 4, context 4008). These were processed using the wet sieving method, whereby soil is gently washed through a stack of sieves. Material was collected in sieves

of 1mm, 500µm and 300µm mesh and stored in alcohol in airtight glass jars.

Charred and waterlogged plant material was mostly examined using a low power binocular microscope (x7-x45). A sample of the charred heather fragments were identified with reference to Hather (2000) using high power binocular reflected light (episcopic) microscopy (x50, x 100 and x 400). The remaining heather fragments were identified by comparison of gross morphology using a low power microscope. Where straightforward counts of charred or waterlogged plant remains were problematic (eg material other than fruits and seeds), the material was quantified using a scale of abundance (– = 1 or 2 items, + = < 10 items, ++ = > 10 items, +++ = > 30 items, ++++ = > 100 items) (Tables 1 and 2).

Wood charcoal analysis was carried out on material in sample 6 representing context 4012, sample 8 representing context 4010 and sample 12 representing context 4008. The selection of these three samples for analysis was based on the presence of more than 30 fragments of wood charcoal in them, therefore ensuring that the list of identified charred woody taxa would be as representative as possible of that which had been deposited. Wood charcoal fragments >2mm in size were fractured manually and the resultant anatomical features observed in transverse, radial and tangential planes using high power binocular reflected light (episcopic) microscopy (x50, x 100 and x 400). In addition to identification to as high a taxonomic level as possible, a record was made, where possible, of the ring curvature of the wood in order to determine the part of the woody plant which had been burnt. Evidence for vitrification was also recorded in order to provide information concerning the condition of the wood prior to charring and the charring conditions the wood was subjected to (Marguerie 2007, 1421). (For this data see Leach 2011.)

Identification of plant material and wood charcoal was carried out by comparison with material in the reference collections at the Department of Archaeology, University of Sheffield and various reference works (eg Berggren 1969; Berggren 1981; Anderberg 1994; Cappers *et al.* 2006; Schweingruber 1990; Hather 2000).

TABLE 1: CHARRED PLANT REMAINS

<i>Sample Number</i>	<i>1</i>	<i>2</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>
<i>Context Number</i>	4008	4008	4008	4012	4010	4010	4010	4010	4010	4008
<i>Context Type</i>	Barrow turf	Barrow turf	Barrow turf	Pit fill	Buried soil	Buried soil	Buried soil	Buried soil	Buried soil	Barrow turf
Volume of sample (litres)	3.5	2.5	3.75	3	3	3	3	3	2.75	2
Non seed material (- = 1 or 2 items, + = < 10 items, ++ = > 10 items, +++ = > 30 items, ++++ = > 100 items)										
Heather (<i>Calluna vulgaris</i>) twigs	++	+	++	++++	++	++++	+++	+++	++++	+++
Monocotyledon root fragments	+	+	+	+	-	+	+	-	++	++
Charred turf / peat	++	++	++++	++++	+++	++++	++++	++	++++	++++
? Sedge / grass (cf. <i>Cyperaceae</i> / <i>Poaceae</i>) plant stems	+	-	-	++		+	+		-	-
Fine woody twigs (<1mm)	-	-	-	-	+	+			-	-
<2mm charcoal fragments	+	++	+++	++++	+++	++++	+	++++	++	++++
>2mm charcoal fragments	-	-	+	+++	+	+++		-	-	++++
Hazel nutshell fragments (<i>Corylus avellana</i>)		1								
Nutshell indet										1
cf. Heather bud fragments (<i>Calluna vulgaris</i>)	1		1							
cf. Seed head indet.									1	
Sugar/ starch rich material indet			2							

TABLE 2: WATERLOGGED PLANT REMAINS

<i>Sample Number</i>	3	4
<i>Context Number</i>	4008	4008
<i>Context Type</i>	<i>Barrow turf, bottom banded sand and organics</i>	<i>Barrow turf, bottom sample</i>
<i>Volume of sample (litres)</i>	3.75	3.5
Non seed material (- = 1 or 2 items, + = < 10 items, ++ = > 10 items, +++ = > 30 items, ++++ = > 100 items)		
Rootlets	+	+++
Moss	-	
Charred heather fragments	+++	++++
Charred monocotyledon root fragment	++	
Wood charcoal > 2 mm	-	+
Wood charcoal < 2mm	++++	

Results

Context 4008 – the barrow turf

Samples 1, 2, 5 and 12 were all collected from the stacked turves which were used in the construction of the barrow mound. All four samples contained varying densities (<10 to >30 items per sample) of charred heather fragments (*Calluna vulgaris*), charred peat or turf (10 to >100 items) and wood charcoal fragments (10 to >100 items). Densities of charred fragments of monocotyledon root material were similar to that in other samples (<10 items). Very small amounts (1 or 2 per sample) of charred grass or sedge plant stems and fine woody twigs were present. Also present in sample 2 was a single fragment of charred hazel nutshell (*Corylus avellana*), and an unidentified charred nutshell fragment was present in sample 12. Charred possible heather buds were also present in samples 1 and 5 and sample 5 contained two fragments of some form of unidentified sugar or starch rich material. A radiocarbon date was obtained from heather charcoal in sample 12 (2880–2620 calBC, SUERC 26154).

Samples 3 and 4, which were collected for the recovery of waterlogged plant remains from the bottom layers of turf used in the construction of the barrow mound, were found to be composed largely of well humified peat with few identifiable plant remains. Rootlets and a small amount of moss were present along with wood charcoal, charred heather fragments and charred grass or

sedge plant stems. Of the 53 >2mm wood charcoal fragments which were present in sample 12, the majority (41) were identified as oak (*Quercus* sp.), 8 were of ash (*Fraxinus* sp.) and 4 were unidentifiable. The majority of the fragments where ring curvature could be recorded exhibited weak or moderate ring curvature. Evidence for vitrification was present in many of the wood charcoal fragments although only at level 1 (low brilliance-refractiveness) or 2 (strong brilliance) with anatomical features still largely visible (Marguerie 2007, 1421).

Context 4010 – buried soil below the barrow

Samples 7, 8, 9, 10 and 11, which were collected from the buried soil below the barrow, contained similar densities to that found in the samples of barrow turf of charred peat or turf (10 to >100 items per sample), wood charcoal fragments (10 to >100 items) and monocotyledon root material (<10 items). Densities of charred heather fragments (>10 to >100 items), grass or sedge plant stems (<10 items) and fine woody twigs (1 or 2 to <10 items) were generally slightly higher than in the samples of barrow turf. A radiocarbon date was obtained from heather charcoal in sample 8 (2140–1950 cal BC, SUERC 26153).

Of the 44 >2mm wood charcoal fragments which were present in sample 8, the majority (28) were again identified as oak, 3 were of ash and 5 were unidentifiable. In addition, however, hazel

was also present at a low density (6 fragments). Ring curvatures were again either weak or moderate and vitrification to level 1 or 2 was also present in many fragments.

Context 4012 – middle of semi-waterlogged pit

Sample 6, which was collected from the middle of a semi-waterlogged pit fill, was found to contain relatively high densities (>100 items) of charred heather, charred peat or turf and wood charcoal fragments. Relatively high densities of charred grass or sedge plant stems (>30 items) were also present while the density of monocotyledon root material was similar to that in other samples (<10 items). A radiocarbon date was obtained from heather charcoal in the sample (2290–2120 calBC, SUERC 26152.). Of the 55 wood charcoal fragments present in sample 6, the majority (38) were again found to be of oak. A small number of ash fragments were also present (5) but no hazel. Fragments of bark, unidentified root or stem, and an unidentified monocotyledon were however also present in this sample. Most fragments again exhibited weak or moderate ring curvatures and many showed evidence of vitrification to levels 1 or 2.

Discussion

A broadly consistent range of charred plant remains were found to be present in soil samples from the Bronze Age round barrow. Samples were collected from the turf used in the construction of the barrow mound, the buried soil beneath the mound and in the fill of pit F403. Charred material, present in all samples, included fragments of heather, peat or turf, grass or sedge plant stems, monocotyledon root material, fine woody twigs and wood charcoal, in varying densities. The similarities in composition of the charred material in these soil samples suggest that the turves used in construction of the barrow were dug from near to the location of the barrow, and were probably contemporary. Evidence that the turves used in the barrow construction were contemporaneous was also demonstrated by the results of pollen analysis of the barrow turves (Woodland, below). The generally slightly higher density of the more delicate classes of charred plant material such as heather fragments, grass or sedge plant stems and fine woody twigs, in the samples from beneath the

mound and from the pit fill may be due to better preservation due to the protection of the barrow turves above.

The charred plant remains of heather, sedges or grasses, and monocotyledon root material, indicate the presence of heath type vegetation at the location where the barrow was constructed and from where the turves were cut. The presence of tree or scrub type vegetation in the vicinity, which included oak, ash and hazel, is also indicated by wood charcoal, fine woody twigs and hazel nutshell. Pollen analysis of soil samples from the pre-barrow soil surface also provide evidence for the presence of oak, ash, hazel and ericaceous heathland in the pre barrow landscape (Woodland, below).

The charred plant material in these samples indicates that burning had occurred at the location of the barrow mound and the location from where the barrow turves were cut. It is difficult to ascertain how long before the construction of the barrow the burning had occurred, or whether burning took place more than once at the site, however the earliest radiocarbon date from charcoal in the barrow turf stack raises the possibility of clearance episodes on the hill several centuries before the mound was built. It is possible that at least some of the charred plant material in these samples represents heath burning, associated with heath management for domestic animal grazing. Heath burning fertilizes the soil, removes shrubs and stimulates growth of new heather shoots which are a nutritious source of grazing fodder for sheep and cattle, particularly during winter when fodder is scarce (Karg 2008, 47). Such land used for grazing would have been a valuable resource, particularly as pastoralism was an important aspect of the economy in early Bronze Age Britain.

At the early Bronze Age grave mound at Skelhøj in Denmark, soil samples from the buried soil beneath the mound and from the turves used in construction, produced a range of well-preserved charred and waterlogged plant remains, which included charred heather. Evidence that the charred heather remains were a result of heathland management by fire included the presence of dodder, a parasite of heather plants damaged by fire, and the remains of a range of plants indicative of disturbance, due to pastoralism, of a dry heath plant community (Karg 2008, 46).

Unfortunately the samples of peat collected from the basal turves of the barrow at Beacon

Hill Wood were found to be well humified. No identifiable waterlogged plant remains were present, which would support an interpretation of heath management by fire at the site. Analysis of pollen from the barrow turves at Beacon Hill Wood does however indicate that the pre-barrow landscape was disturbed and that this was probably a result of pastoral rather than agricultural activity due to the lack of cereal pollen (Woodland, below). Numerous charcoal fragments, indicating repeated burning, were noted in soil profiles collected during ecological studies of calcareous heaths in the south-west including Crooks Peak at the western end of the Mendip Hills in Somerset (Etherington 1981, 288). However no microscopic charcoal was encountered in the pollen samples from Beacon Hill, as may be expected if heath management by burning had been practiced regularly in the near vicinity (Woodland, below). It may therefore be the case that much of the charred plant remains and wood charcoal found here resulted from vegetation clearance just prior to the construction of the mound.

Such evidence for vegetation clearance by burning is not uncommon in buried soils beneath round barrows (Ashbee 1960, 58). In a detailed study of the Bronze Age barrows of the South-West, Owoc (2000; 2001) discusses a number of examples of early Bronze Age barrows where pre-mound or pre-burial rituals included burning and fires (Owoc 2001, 195). Later activities at existing barrows also included lighting of fires and spreading of charcoal (Owoc 2001, 196). At the Early Bronze Age site of Davidstow 1 on Davidstow Moor in Cornwall, for example, turf was stripped before the construction of the mound and charcoal deposited beneath and within the mound. Later activities on the mound surface also included fires and the deposition of charcoal, which were then covered by a further layer of earth over the mound (Christie 1988, 50–1). Evidence for the deposition of, apparently, deliberately sorted charred pyre fuel material has been noted at a number of Bronze Age round barrows (McKinley 1997b, 137). It has also been suggested that selected domestic debris, perhaps associated with feasts or ceremonies, was brought from settlements and deposited beneath and within Bronze Age barrows (Woodward 2002, 51).

It may therefore be the case that at least some component of the wood charcoal and other charred material from beneath and within the barrow at

Beacon Hill Wood, was brought to the site and deliberately deposited. This material may have been charred as a component of pyre fuel or burnt on fires as part of funerary rites associated with the construction of the barrow. The dominance of oak charcoal in the sample from the barrow turf, the buried soil beneath the barrow and the pit fill would support an interpretation that the charcoal may in part, represent pyre fuel. Oak is commonly the sole or dominant charcoal type found in samples from Bronze Age barrows, particularly of pyre debris (Ashbee 1960, 38). This may be partly due to the prevalence of oak in the environment but may also relate to its suitability as fuel wood. That the ring curvature of the wood charcoal was either moderate or weak indicates that the charcoal originated from large branches or logs. The presence of vitrification in many of the fragments possibly indicates burning rapidly at high temperatures, which would be consistent with a pyre. The presence of hazel nutshell and charred sugar or starch rich material in sample 5 from the barrow turves may represent food remains, although, due to the small amount of material present, it is equally possible this material was charred accidentally.

Conclusions

Systematic sampling of both the buried soil preserved beneath the Bronze Age round barrow and of the turves used in the mound's construction, has yielded significant information regarding the pre-barrow environment and possible human interaction with that environment. The pre-barrow environment included heath-type vegetation such as heather, grasses and sedge, along with stands of trees which included oak, ash and hazel. Burning appears to have taken place at the site of the barrow mound and at the location from where the barrow turves were cut, which it seems was likely to have been close to the site of the barrow. The evidence for burning, particularly charred heather, plant stems, root material and peat or turf, suggest heath management by fire may have been carried out at the site in order to provide valuable grazing for domestic animals. If repeated burning had taken place at the site, however, it may be expected that microscopic charcoal would have been present in pollen samples from the pre-barrow soil surface. It may be that much of the charred plant material represents vegetation clearance by fire prior

to the construction of the mound. Vegetation clearance by burning may have been related to rituals associated with the construction of the mound. The wood charcoal in particular, which is dominated by oak and mostly from large branches or logs, may represent the deliberate deposition of fuel from pyres or fires associated with funerary ceremonies, as also suggested by some of the content of the cremation urn (McKinley, below).

POLLEN by *Wendy Woodland*

Introduction

Fossil pollen identified during excavations in 2007 prompted higher resolution sampling in 2008 of the barrow turf stack sequence (context 4008) and the pre-barrow buried soil (context 4010). Sampling for pollen analysis was therefore targeted to reconstruct:

- the pre-barrow landscape
- the palaeoenvironmental context of the turves used to construct the barrow

This report presents the results of the pollen analysis, and attempts to reconstruct the contemporaneous landscape setting of the barrow. Additional unpublished tables and figures can be found in Leach 2011. All cores sampled during fieldwork, together with photographs and associated material, are currently stored by The University of the West of England BS16 1QY.

Methods

Sampling for pollen analysis was conducted in September 2008 during the excavation of Trench 4B. Two samples of the pre-barrow land surface were collected; one from the buried soil at the base (285.65mOD) of the east face (context-4010) and one from the base (285.70mOD) of the west face, beneath the stacked turves. The stacked turf sequence (context-4008) in the east face of the trench was sampled (fig. 2), using monolith tins to permit the collection of a large volume of material (especially important in minerogenic deposits which may be less fossiliferous than organic counterparts) and to preserve the structural integrity of the turf stack.

Stratigraphy

Repeated sequences of organic-rich sands and minerogenic sands were encountered in the turf stack to 285.68mOD. The layers were clearest between 286.46mOD and 286.12mOD (fig. 3). This represents three stacked turves that were targeted for higher-resolution pollen analysis. Detailed stratigraphic records were made using the Troels-Smith (1955) classification scheme, which is a consistent and formal framework for describing the physical components of sediments (Leach 2011: appendix Tables 1 and 2).

Pollen analysis

In addition to the two pre-barrow samples, twelve sub-samples from the turf stack were analysed for pollen. Sampling was targeted towards the organic and minerogenic layers of the three stacked turves (at 286.43mOD, 286.42mOD, 286.39mOD, 286.38mOD, 286.37mOD for turf 3; 286.35mOD, 286.34mOD, 286.31mOD, 286.29mOD for turf 2; 286.22mOD, 286.19mOD, 286.14mOD for turf 1). For the organic-rich sediments (286.43mOD, 286.35mOD and 286.22mOD) pollen preparation followed standard techniques including potassium hydroxide (KOH) digestion, hydrofluoric acid (HF) treatment and acetylation (Moore *et al.* 1991). The remaining minerogenic samples, however, required prolonged HF treatment to generate a concentrate that was sufficiently clear for pollen to be identified and counted. At least 300 total land pollen grains (TLP) excluding aquatics and spores were counted for each sample.

Results

The organic-rich layers in the turves contained abundant, well-preserved pollen; the minerogenic layers yielded lower pollen counts, and more than one slide was traversed for each sample to ensure a sufficient count was achieved. The buried soil sample from 285.66mOD was particularly poor, yielding insufficient grains on which to base a palaeoenvironmental interpretation. The sample from 285.70mOD is therefore used to set the pre-barrow landscape context.

Approximately 15% of the pollen grains and spores in the samples were damaged, but this did not appear to be species-related. For example, *Corylus avellana*-type, *Alnus* and *Betula* are

particularly susceptible to corrosion (principally by microbial attack in a dry environment) yet, despite some corrosion of *Alnus* grains, there were abundant well preserved grains from these species. Some thinning of Gramineae grains was apparent, probably caused by desiccation in an aerobic environment; additionally some grains had been mechanically damaged (either broken or crumpled). Damage to grains was more common in the minerogenic samples, probably due to the lack of anaerobic conditions during and after deposition. This was especially so for the buried soil at 285.66mOD.

Interpretation

Pre-barrow landscape (context 4010 – 2140–1950 cal BC, SUERC 26153)

The pre-barrow landscape was characterised by mixed deciduous woodland. Attendant species such as *Polypodium* (Polypody fern) indicate a moist, humid environment typical of sheltered woodland. A small ericaceous heathland was also nearby.

Alnus (alder) and *Salix* (willow) may be derived from lower-lying ground to the west of Beacon Hill, but may also be from the more immediate vicinity; drainage is poor on the relatively impermeable Old Red Sandstone that underlies Beacon Hill and pockets of wet woodland may have persisted here. The ecological compatibility of the taxa suggests that *Alnus* formed the canopy, with *Salix* as the understorey.

Tilia (lime) is known to prefer fine-textured clay soils over limestone (Clapham *et al.* 1981) and it would have been well-suited to the soils developed in the drift deposits overlying limestone in the local region. The *Fraxinus* (ash) pollen probably derives from the same location; *Fraxinus* prefers soils of high base status such as those forming over calcareous parent material (Clapham *et al.* 1981).

Quercus (oak) is characteristic of acid soils and was probably growing on the Old Red Sandstone in the immediate vicinity of the barrow. Modern ecological studies show that oak requires open ground in which to regenerate and requires grazing animals to maintain these open areas, regenerating in the thorny scrub which protects it from browsing. If left unmanaged, *Quercus* will eventually be suppressed by species such as *Tilia* except on poor soils or exposed sites. *Rumex* (dock)

supports the notion of disturbance activities in the area (Behre 1986) favourable to the persistence of *Quercus*. The lack of cereal pollen recovered suggests that this disturbance was pastoral rather than arable.

The pollen assemblage for this sample is dominated by *Corylus avellana*-type, but it is difficult to attribute a sole cause for this high count. It may be due to the proximity of the pollen source (*Corylus avellana* (hazel) is commonly found in the understorey of damp oakwoods: Rodwell 1991), or due to the tendency for this taxa to produce large amounts of pollen which may be carried from more distant locations (*Corylus*, together with *Tilia*, *Alnus* and *Betula*, is one of the larger pollen producers in deciduous woodland: Moore *et al.* 1991). It may also be an indication of disturbance, to which *Corylus* reacts favourably.

Palaeoenvironmental context of the barrow turves (context 4008 – 2880–2620 cal BC, SUERC 26154)

The turves in the barrow should represent an Early Bronze Age landscape. The pollen spectra for all three turves are very similar, which indicates that they are contemporaneous, although the one radiocarbon date may indicate a more complex story as suggested by Simmons (above).

The minerogenic subsoil for the three turves contains pollen from a relatively open landscape in which *Corylus* scrub is dominant and canopy tree species (*Alnus*, *Tilia*, *Quercus* and *Fraxinus*) are relatively sparse. Thick *Corylus* scrub may have created suitably shaded and damp conditions for *Polypodium*, which is an important component of the assemblage. Abundances of Gramineae pollen and Ericaceae spores are relatively balanced, suggesting a mixture of grassland and heathland, and herbs such as *Ranunculus* type and *Plantago lanceolata* are also indicative of open conditions.

By the time the turves were cut, heathland and *Corylus* scrub were important components of the landscape. The organic topsoil for all three turves is dominated by *Corylus avellana*-type and Ericaceae, with secondary contributions from *Alnus*, Poaceae and *Polypodium*. Anthropogenic disturbance is indicated by the ruderals *Rumex* and *Plantago lanceolata*. *Plantago lanceolata* produces large amounts of pollen and it is viewed as a reliable indicator of open areas, waste ground or pasture in pollen diagrams (University of London 2001).

Heathland is strongly associated with human activity (Gimingham 1992), especially woodland clearance and the use of fire. Although charcoal was not encountered in the pollen samples, the presence of ruderals and the strong Ericaceous signature suggest that disturbance events were favouring the persistence of heathland in the vicinity. *Corylus* may also have benefited from local disturbances. The productivity of *Corylus* is stimulated by fire (Moore 2000) and by coppicing – it produces pollen from the second year onwards after cutting (Rackham 1990). The preservation of hazel rods in the wooden trackways of the Somerset Levels (Beckett and Hibbert 1979) shows that it was favoured for coppice locally, and it may have been managed in a similar way in the vicinity of Beacon Hill.

Wider context and significance

The palynological record from the Beacon Hill turves is of regional significance due to its location on one of the drier uplands surrounding the Somerset Levels and Moors. Drainage conditions on the Mendip plateau tend to inhibit the formation of fossiliferous deposits such as peat (Davies *et al.* 2006), and pollen preservation tends to be poor in the calcareous soils that typify the plateau (Dimpleby and Evans 1974). Traditionally, inferences about the drier uplands in the region have been drawn from the pollen records for the nearby wetlands of the Somerset Levels and Moors (eg Beckett and Hibbert 1979), since they probably contain a wind-blown component from the uplands. However, despite Beckett and Hibbert's (1979) work, the provenance of this pollen remains relatively poorly constrained.

Beckett and Hibbert's studies (1978; 1979, and modified by Wilkinson and Straker 2008), provide a regional framework for Beacon Hill (Table 3). The turf assemblage matches zone D of Wilkinson and Straker (2008), and zone C of

Beckett and Hibbert (1979), placing it within the Early Bronze Age.

The Beacon Hill turves are contemporaneous with some of the pollen records from peats containing the earlier prehistoric wooden trackways of the Abbotts Way and the Sweet Track, where they match Beckett and Hibbert's (1979) regional pollen assemblage zone (RPAZ) C (*Ulmus*, *Quercus*, *Alnus*), spanning 4300 to 4000BP. In this zone arboreal pollen is dominated by *Alnus* (50%) with *Quercus* (20–30%) and *Ulmus* (10–20%). This postdates the *Ulmus* decline of 5500 to 5000BP, and it probably accounts for the low pollen values for the taxa on the Levels and Moors and at Beacon Hill.

Beckett and Hibbert (1979, 587) describe shrub pollen (*Corylus/Myrica* and Ericaceae) in RPAZ C as 'plentiful'. It is likely that their component is in fact *Myrica*, originating from the growth of *Myrica* on the developing raised bog in the wetland at this time. The abundance of Ericaceae matches the record from Beacon Hill and the family's tendency to self or cross-pollinate (Clapham *et al.* 1981) suggests that it is a local component of the pollen record at both sites.

Beckett and Hibbert (1979) interpreted their three Somerset Levels profiles as indicators of prehistoric human activity on the drier land of the area and identified a series of episodes of forest clearance that could be traced through the Neolithic, Bronze Age and later. Forest clearances were indicated by declines in *Ulmus* and *Tilia*, an increase in Gramineae (Poaceae) and in the weed species *Plantago lanceolata*, *Rumex* and *Pteridium*, the latter indicative of a pastoral economy. This type of economy does appear to be present in the vicinity of Beacon Hill, although the turves from Beacon Hill span too short a timescale to make conclusive observations about phases of clearances. However, the increases in values for *Rumex* and *Plantago lanceolata* towards the top of Turf 3 appear to corroborate

TABLE 3: NEOLITHIC AND EARLY BRONZE AGE VEGETATION CHANGES IN THE DRYLAND AREAS SURROUNDING THE SOMERSET LEVELS (Wilkinson and Straker 2008, 71)

Zone	Start–End	Characteristics	Notes
A	4350 BC–3450 BC	Elm, oak, lime	Very few herbs, closed woodland
B	3450 BC–2900 BC	Oak	Elm decline and expansion of herbs
C	2900 BC–2550 BC	Elm, oak	Elm recovers, herbs reduced
D	2550 BC–1950 BC	Oak, hazel	Second elm decline, hazel fills in, few herbs
E	1950 BC–1700 BC	Hazel	Oak and elm also plentiful, very few herbs

Beckett and Hibbert's (1979) thesis of a pastoral economy in the drier uplands. They may also support their suggestion that as human activity in the wetlands declined and forest regeneration occurred, Bronze Age populations focused their activities upon the drier uplands, as represented by the contemporaneous landscape activity at Beacon Hill (Simmons, above).

By the time of the buried soil horizon (2140–1950 cal BC, SUERC 26153), pollen spectra from the lowland wetlands indicate more extensive woodland clearance in the region following a short-lived phase of forest regeneration (Beckett and Hibbert 1978; 1979). Sea level rise was affecting the wider basin of the Somerset Levels and Moors, as indicated by peat-clay transitions in Holocene sediment sequences at Nyland Hill, for example (Haslett *et al.* 1998). The increase in flooding associated with this would have made the drier uplands more favourable sites for occupation.

THE MIDDLE BRONZE AGE URNED
CREMATION BURIAL by C. Barnett,
Jacqueline I. McKinley, L. Mephram and
C. Stevens

Introduction by Jacqueline I. McKinley

The remains of a Middle Bronze Age urned cremation burial (4005), lifted as a block together with remnants of the grave fill immediately above and around the vessel (4002), were received for processing and analysis of the various archaeological components at Wessex Archaeology Ltd., Salisbury. The grave (F401) had been cut through the centre of an earlier barrow mound (F402), and sealed by a large stone slab and a small cairn (fig. 2).

On investigation, the vessel proved to be complete but damaged. The fill was excavated (under the writer's supervision) in a series of spits to allow the details of the deposit's formation process to be investigated. The upper 0.12m of the vessel fill (spit 1) comprised a charcoal-rich deposit containing relatively little bone, largely concentrated in the lower 0.02m and towards one side. The next 0.06m depth of the fill was removed in 0.02m spits (spits 2–4) and showed an even horizontal distribution of bone. During removal of spit 4 the vessel, which was badly cracked, collapsed, the fill on one side falling out

of the vessel. Consequently, despite the remaining 0.03m depth of fill being collected as separate spits (spit 5 and 6), in analysis it was decided to amalgamate the two since the integrity of the deposit had been compromised. Spits 1a and 2a represent the upper 0.10m charcoal-rich depth of material removed from outside the vessel. Spit 4a represents the small amount of material recovered from below the vessel.

Processing of the whole-earth samples thus recovered followed the standard process of wet-sieving to 1mm fraction-size and floatation using a 500 micron mesh for recovery of charred plant remains and charcoal. The sieve residues >5mm mesh size were sorted and all non-osseous material removed; the <5mm sieve residues were retained and subject to a rapid scan by the writer for the recovery of identifiable skeletal elements. For details of the fill spits and individual skeletal elements see Leach 2011.

Cremated bone by Jacqueline I. McKinley

Methods

Osteological analysis followed the writer's standard procedure for the examination of cremated bone (McKinley 1994a, 5–21; 2000a). Age was assessed from the stage of skeletal and tooth development (Beek 1983; Scheuer and Black 2000), and the general degree of age-related changes to the bone (Buikstra and Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (*ibid.*). The sub-contexts created during excavation of the burial were maintained in analysis to enable details of the burial formation process to be ascertained.

Results

The grave (F401) had survived to a depth of c. 0.26m. Although most of the rim of the vessel had not survived and the rest of the vessel was badly cracked, none of the contents had been disturbed within this sealed deposit. The upper 0.10m of the vessel fill comprised redeposited pyre debris, the same material being recovered to a similar depth on the outside of the vessel (at least on one side). The pyre debris was clearly deposited subsequent to the burial having been made and the grave partially backfilled, possibly functioning as a 'closure' deposit over the burial prior to the grave being sealed by the large stone slab. The depth

of pyre debris may have originally been slightly greater than that which survived, but the capping stone appears to have been laid almost directly over the rim of the vessel, so any further depth of deposit can only have been by millimetres.

The bone is worn and slightly chalky in appearance indicative of an acidic burial environment. Although a few fragments of trabecular bone were recovered, relatively little of the axial skeleton survived (*c.* 3% of identifiable skeletal elements); trabecular bone has been demonstrated to suffer preferential loss in acidic soil condition (McKinley 1997a, 245; Nielsen-Marsh *et al.* 2000). The 509.4g of cremated bone recovered represent the remains of an adult, *c.* 18–25 years of age, probably a female. No pathological lesions were observed and no pyre goods were recovered.

Pyre technology and cremation ritual

The bone is almost uniformly white in colour, indicative of full oxidation (Holden *et al.* 1995a; 1995b). It should, however, be noted that less well-oxidised bone may have been subject to preferential loss in the acidic burial environment which clearly existed at Beacon Hill. The weight of bone recovered represents *c.* 32% of the average weight of bone expected from an adult cremation (McKinley 1993) and falls within the median range of weights recovered from burials of this date (McKinley 1997b). The surviving weight undoubtedly represents a minimum, however, since most of the trabecular bone has probably disintegrated post-depositionally. The maximum fragment size recorded was 71mm and the majority of the bone (*c.* 62%) was recovered from the 10mm sieve fraction. There are a number of factors which may affect the size of cremated bone fragments (McKinley 1994b) the majority of which are exclusive of any deliberate human action other than that of cremation itself. There is no evidence here to suggest deliberate fragmentation of the bone prior to burial. Elements from all four skeletal areas are represented within the burial, with the expected low proportion of axial skeletal elements reflective of the acidic burial environment. Tooth roots (nine) and the small bones of the hands and feet (three) are fairly well represented. These elements are fairly common within burials of Bronze Age date and may be reflective of a collection procedure which,

rather than being undertaken via hand collection of individual fragments, involved raking-off the upper levels of the burnt-out pyre to recover the bone which would enhance the ease of recovery of such small bones (but see below).

The deliberate inclusion of pyre debris in the fill of Bronze Age cremation graves is frequently observed. Generally these deposits were made after the burial, around or – as in this case – above it (McKinley 1997b). As has been observed elsewhere (McKinley 1997b; 2000b; Walker and Farwell 2000), its inclusion is likely to indicate the close proximity of the pyre site to the place of burial even where no evidence for the pyre site survives. In this instance a substantial proportion of the bone from the grave (*c.* 26%) appears to have derived from the pyre debris outside the vessel rather than the burial itself. Cremated bone is a frequent inclusion within pyre debris, and while such relatively large quantities are not common they are not unknown (McKinley 1997b). The range and proportion of skeletal elements from this material is similar to that from the burial itself, though it is noteworthy that most of the tooth roots (five of the nine) were recovered from the pyre debris. The maximum fragment size (40mm) is substantially smaller than that from the burial, and a smaller proportion of the bone (*c.* 55%) was recovered from the 10mm sieve fraction. These observations may simply demonstrate the known additional protection offered to the very brittle cremated bone by deposition within an urn (McKinley 1994b) and/or the higher levels of manipulation of the pyre debris compared to the bone collected for burial and its consequent greater degree of fragmentation. The surviving bone was fairly evenly distributed throughout the vessel fill, though its preference for one side in the upper-most spit may indicate the vessel was laid/tipped slightly to one side during deposition of the bone within it. The proportion of skull in spit 4 is particularly high but this is not believed to be of any significance. Skeletal elements from all areas of the skeleton were distributed throughout the fill indicating no particular ordered deposition.

The pottery by Lorraine Mepham

Introduction

All the pottery recovered from the grave (F401) appears to derive from a single vessel, a cremation

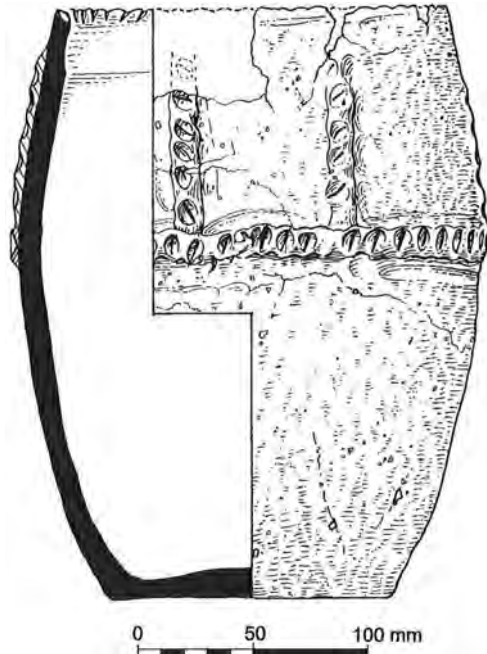


Fig. 4 Middle Bronze Age Deverel-Rimbury style cremation urn from pit F401

urn of Middle Bronze Age date. In total there are 87 sherds (2360g), which includes, apart from the main part of the vessel, a small quantity of sherds subsequently recovered from the vessel fill and from the charcoal-rich grave fill immediately around the vessel (4002) collected as a soil sample. The vessel appears to have been deposited intact, although the very top of the rim around most of the circumference had been removed or abraded away, possibly due to the placing over the top of a large stone slab. Some fragmentation had occurred in antiquity, probably due to pressure of soil and the weight of the overlying stones, combined with the friable nature of the clay fabric of the vessel. After lifting, during controlled excavation of the vessel fill, the vessel disintegrated. Many of the sherd breaks appear worn, and abrasion has also affected raised decorative elements on the body. The vessel had not, at this stage, been reconstructed, but sufficient sherds were identified in order to recreate a full profile (fig. 4). It was subsequently conserved and reconstructed for display purposes by Phil Parkes at the School of History and Archaeology Conservation Laboratory, Cardiff University (fig. 5).



Fig. 5 Middle Bronze Age urn reconstructed and conserved

Fabric and form

The vessel is in a coarse, grog-tempered fabric with a soft, soapy texture (grog inclusions <5mm in a coarsely wedged clay matrix). The exterior of the vessel is fairly evenly oxidised, to a pale orange-brown colour; the internal surface is patchily oxidised, and the core is unoxidised (dark grey-brown). The vessel is between 255 and 260mm in height and is of gently convex form, with a rim diameter slightly larger than the base. The maximum girth is c. 200mm and the (external) rim diameter c. 170mm. Vessel wall thickness averages c. 10mm, but the rim has a slight internal bevel, reducing wall thickness here to c. 8mm. The vessel is relatively well finished, and traces of finger wiping and smearing are visible, particularly on the external surface of the upper part of the vessel. Decoration is simple, consisting of a finger-impressed cord, applied at the point of maximum girth, with several vertical cordons, also finger-impressed, extending upwards from the shoulder cordon towards the rim, but apparently terminating just short of the rim (although surface abrasion may account for this). At least seven of the vertical cordons were identified, and they appear to be arranged at approximately equal intervals around the rim. It was apparent that they had

been applied before the horizontal girth cordon. In addition, the top of the rim carries finger nail impressions.

Discussion

The Beacon Hill Wood vessel finds its closest parallels, in terms of form and decorative traits, within the Middle Bronze Age Deverel-Rimbury tradition of Wessex and areas to the east (eg Annable and Simpson 1964, nos 570–80). In this it is unusual, since most Middle Bronze Age pottery hitherto recovered from Somerset belongs to the Trevisker style of south-west England. The use of grog temper might be considered to be a ‘cross-over’ trait, since Trevisker assemblages from Somerset are frequently dominated by this fabric type, for example, at Norton Fitzwarren and Brean Down (Woodward 1989; 1990), while the Deverel-Rimbury vessels of Wessex are more commonly flint-tempered. However, grog temper is commonly used for Deverel-Rimbury style vessels in southern Dorset (Cleal 1997, 88), where the Beacon Hill Wood vessel finds parallels for form and decoration amongst the cemetery assemblage from Simons Ground (White 1982). It has also been identified within assemblages of a stylistically mixed nature (displaying traits of both Deverel-Rimbury and Trevisker styles) from the Dorset/Somerset border, for example at Chard Junction, Thorncombe (Machling 2004; H. Quinnell pers. comm.). The Beacon Hill Wood vessel therefore serves to reinforce the picture of Somerset (and the neighbouring parts of Devon and Dorset) as a cultural crossroad, incorporating ceramic influences from more than one area.

Charcoal by Catherine Barnett (née Chisham)

Introduction

Three samples were retrieved from the grave (F401) including one from within the remains of the urned burial (4005) and two from the grave fill immediately adjacent to the urn (4002). All proved rich in charcoal and probably derive from the same cremation pyre debris

Methods

Fragments >2mm were prepared for identification according to the standard methodology of Leney and Casteel (1975, see also Gale and Cutler 2000). Each was fractured with a razor blade so that three planes could be seen: transverse section (TS), radial longitudinal section (RL) and tangential longitudinal section (TL). The pieces were mounted using modelling clay on a glass microscope slide and examined under bi-focal epi-illuminated microscopy at magnifications of x50, x100 and x400 using a Kyowa ME-LUX2 microscope. Identification was undertaken according to the anatomical characteristics described by Schweingruber (1990a) and Butterfield and Meylan (1980). Identification was to the highest taxonomic level possible usually that of genus; nomenclature is according to Stace (1997).

Results

As shown in Table 4, the three samples were all heavily dominated by or comprised solely oak (*Quercus* sp.) charcoal. That the three are consistent in terms of species composition suggest they are from a single deposit as

TABLE 4: WOOD CHARCOAL IDENTIFICATIONS

Context	4002	4005	4003
Sample	1	2	3
Weight (of unextracted flot)	76g	108g	100g
Comments	Rooty, large fragments. Material from above/ immediately around urn)	Rooty, medium-small fragments. Vessel fill	Clean, larger fragments. Material from immediately around urn
<i>Quercus</i> sp.	98	62	146
<i>Corylus avellana</i>	-	-	1

suggested stratigraphically. Oak is perhaps the most commonly identified pyre fuel from British archaeological deposits of all periods including the Bronze Age (see for instance Late Bronze Age Stotfold, Barnett 2007, Bronze Age/Iron Age West Malling, Chisham forthcoming). Not only is it a readily available fuel source but the wood is dense and produces the prolonged high temperatures necessary for cremation.

Assuming the single piece of hazel (*Corylus avellana*) wood charcoal from sample 3 is not intrusive, it may represent a placed object or kindling used to help ignite the pyre.

Charred plants by *Chris Stevens*

Charred plant remains were observed (scanned under a x10–x40 stereo-binocular microscope) in all three samples from the grave (Table 4). Those from samples 2 and 3 contained some modern roots, while that from sample 3 contained generally few modern roots. Such roots are generally indicative of the degree of soil disturbance. All three flots contained several fragments of roots and tubers. Several could be seen to be from the basal culm rootlets of large grass, although no tubers of false-oat grass (*Arrhenatherum elatius* var. *bulbosum*) were recorded. Several of the other tubers were much larger c. 10mm long by 5mm wide and must have come from more woody herbaceous species. No other plant remains were recovered other than these. Most of the tubers came from the pyre debris within the grave fill with lesser amounts from the upper urn fill. Such a distribution is consistent with the pyre debris being incorporated within the grave fill after the burial had been made.

The finding of plant tubers is commonplace within Bronze Age cremation burials (eg Godwin 1984). In the case of tubers of false-oat grass they are usually regarded as potentially having been used as tinder, as they are readily uprooted (Robinson 1988; Moffett 1999), while finds of pignut (*Conopodium majus*), that must be dug up, have led to the suggestion that they may represent food offerings (Moffett 1991). The finds of many of the roots and tubers here, being neither of false-oat grass or pignut, are best interpreted as material removed and used as tinder during the creation of a fire-break. This would require the breaking of the ground and so the loosening and removal of the whole plant including the roots from the soil (Stevens forthcoming). That many of the tubers

probably came from more woody herbaceous stems, may indicate that the ground was relatively overgrown prior to clearance, although no seeds were found that might provide clearer indication of the specific species present. Such an absence may be due to taphonomic reasons; for example charring, or that the vegetation may have been cut prior to breaking of the ground and removal of the basal part of the plant, or that the pyre was constructed in winter or early spring when seeds and fruits are often absent.

DISCUSSION

The opportunity to investigate one of the prehistoric burial mounds in the wood has not only extended our understanding of its Bronze Age context and the significance of earlier discoveries here, but has given a unique glimpse into the environment of Beacon Hill four millennia and more ago and its wider importance. The palaeoenvironmental history of the Somerset Levels region through much of the Holocene period is relatively well known, thanks especially to the preservation of pollen in the peats there (Straker 2000; Wilkinson and Straker 2008). This is in marked contrast to information from the surrounding uplands, notably the Mendip Hills, where such preservation is almost unknown. The Beacon Hill barrow pollen profiles from the turf mound and buried soil, combined with the plant macro-remains, the wood charcoal, and the radiocarbon results suggest that relatively open mixed, deciduous woodland covered the hill around the middle of the 3rd millennium BC. Some Late Neolithic human interference may already be detected but by the end of that millennium the process had intensified, resulting in mixed heath and grassland with scattered trees, probably maintained as rough grazing land by livestock. This conforms to the pattern of intensified clearance, land use and a growing population from the Early Bronze Age onwards in southern Britain, combined with fundamental social and economic changes. One of these changes was the prevalence of single burial and the siting of burial mounds on marginal land or in prominent locations, as demonstrated by the Beacon Hill barrow cemetery. Although most of the group are now concealed by woodland it is clear from the few barrows still located in open ground to the west that they were sited to be visible on the skyline from lower ground on

the southern flanks of the hills. The earliest radiocarbon date from the barrow turf hints that some clearance was underway by at least the middle of the 3rd millennium BC. The recent excavation of Early, Middle and Late Bronze Age remains near Shepton Mallet provides a glimpse of local populations and context (Leach 2009).

The round barrow selected for sampling by excavation in the wood was probably raised around the turn of the 3rd and 2nd millennium BC, approximately 18m in diameter, surviving up to 1m high and built of turves stripped from surrounding heathland that had been recently burnt off. Its present height and somewhat flattened profile indicate truncation not least by 20th-century forestry ploughing. The best-preserved barrows within the wood survive to almost 2m high, which could have been the original size of this mound. There was no evidence of a surrounding ditch or other contemporary structures, excepting a suspected central pit (F403). Regrettably, ground water and unfavourable weather conditions prevented full investigation of the latter, but previous discoveries suggest the possibility of a single primary cremation burial within an Early Bronze Age Collared Urn, perhaps enclosed within a small stone cist of the type recorded by Revd Skinner, which might still survive intact here. Collared Urns are recorded from several barrows further west on Mendip, notably around Charterhouse and Blackdown (Longworth 1984), apart from those apparently found by Skinner on Beacon Hill. Indirect evidence of cremation pyres, and possibly other activities involving fires occurring nearby, came from charcoal recovered from the turves and buried soil.

The Mendip Hills have one of the densest concentrations of Bronze Age burial mounds in Britain, many of them found in barrow cemeteries like Beacon Hill (Lewis 2007; Mullin 2011). So far this is only the second from which a radiocarbon date has been obtained – Pool Farm, West Harptree, with early 2nd millennium BC dates being the first (Coles *et al.* 2000). There is nothing to indicate that the Beacon Hill barrow was the primary monument in its group, but the evidence recovered gives us a glimpse of eastern Mendip towards the end of the 3rd millennium BC. This was surely a special and sacred hilltop, its importance perhaps enhanced by unusual rock formations, and already part of the semi-open upland landscape of the hills created by its Neolithic inhabitants and maintained by livestock,

that persisted here until the time of its 18th-century enclosure. Ceremonies around death and remembrance involving cremation and barrow-building can only now be hinted or guessed at, but were evidently underway successively for several centuries either side of 2000 BC.

Several centuries later the barrow was reused for another cremation burial, though not necessarily representing any real break in use or sanctity of the cemetery as a whole. This was introduced through the excavation of a substantial pit close to the centre of the mound, into the base of which was inserted the upright, decorated barrel-shaped urn containing perhaps a third of the cremated remains of a young woman. The vessel was then filled to the top with pyre ash and charcoal before its sealing with a flat sandstone slab and burial beneath further stone blocks and rubble. From its condition the urn had seen previous use, probably in a domestic context. Secondary burials of this character are a widespread phenomenon in Britain, representing the continuing use and sanctity of Early Bronze Age burial sites by their later Bronze Age descendants, as in this case. This may well not be the only later insertion into the mound, while further burials in areas beyond its immediate bounds are another possibility. The discovery in 1840 of at least 15 urned cremations in one of the barrows in the field west of the wood could represent another cemetery of secondary Middle Bronze Age burials, though none of the material appears to have survived. The radiocarbon date and Deverel Rimbury style of the urn excavated in 2007 place it firmly in this period. Stylistically the vessel has affinities with Wessex and Dorset, which may be some reflection of the cultural/political affinities of this area. Elsewhere in the county Trevisker-style pottery of this period suggests stronger links with the south west, and it appears, as Lorraine Mephram suggests, that Somerset was something of a cultural cross-roads at this time.

Given the scale of previous investigations or disturbances, and the quantity of material recovered from this ancient burial ground, it is a matter of regret that so little has survived. Fortunately, most of the barrows and the site as a whole are now safely preserved for the future, and this project has gone some way towards reinstating and highlighting its importance and remaining potential. Relative to neighbouring regions in southern Britain much of Mendip's

prehistory has been a neglected topic. Recent surveys and research are beginning to remedy this, for example new radiocarbon dates from the Priddy circles suggest contemporaneity with the primary monument at Stonehenge (Lewis, pers. comm.; Lewis 2011). The results reported here from Beacon Hill make a further key contribution.

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REFERENCES

- Anderberg, A.L., 1994. *Atlas of Seeds and Small Fruits of Northwest-European Plant Species with Morphological Descriptions, Part 4: Resedaceae-Umberliferae*, Stockholm.
- Annable, F.K., and Simpson, D.D.A., 1964. *Guide Catalogue of the Neolithic and Bronze Age Collections in Devizes Museum*, Devizes.
- Ashbee, P., 1960. *The Bronze Age Round Barrow in Britain*, London.
- Bagwell, T.S., and Webster, C., 2006. 'Somerset Archaeology 2005' *SANH* 149, 162.
- , 2007. 'Somerset Archaeology 2006' *SANH* 150, 208–9.
- , 2008. 'Somerset Archaeology 2007' *SANH* 151, 228.
- , 2009. 'Somerset Archaeology 2008' *SANH* 152, 266.
- Barnett, C. (né Chisham), 2007. Stotfold Wood Charcoal Analysis, Wessex Archaeology client report (project ref 61900).
- Beckett, S.C., and Hibbert, F.A., 1978. 'The influence of man on the vegetation of the Somerset Levels—a summary', *Somerset Levels Papers* 4, 86–90.
- , 1979. 'Vegetational change and the influence of prehistoric man in the Somerset Levels', *New Phytologist* 83, 577–600.
- Beek, G.C. van, 1983. *Dental Morphology: an Illustrated Guide*, Bristol.
- Behre, K-E. (ed.), 1986. *Anthropogenic Indicators in Pollen Diagrams*, Rotterdam.
- Berggren, G., 1969. *Atlas of Seeds and Small Fruits of Northwest-European Plant Species, with Morphological Descriptions, Part 3: Cyperaceae*, Stockholm.
- , 1981. *Atlas of Seeds and Small Fruits of Northwest-European Plant Species, with Morphological Descriptions, Part 3: Salicaceae-Crucifera*, Stockholm.
- Buikstra, J.E., and Ubelaker, D.H., 1994. *Standards for data collection from human skeletal remains*, Arkansas Archaeological Survey Research Series 44.

- Butterfield, B.G., and Meylan, B.A., 1980. *Three-Dimensional Structure of Wood. An Ultrastructural Approach*, London and New York.
- Cappers, R.T.J., Bekker, R.M., and Jans, J.E.A., 2006. *Digital Seed Atlas of the Netherlands*, Eelde.
- Chisham, C., forthcoming. 'The charcoal', in *A228 West Malling and Leybourne Bypass, West Malling, Kent: Archaeological Evaluation, Excavation*, Wessex Archaeology Monograph (project ref 59562).
- Christie, P., 1988. 'A barrow cemetery on Davidstow Moor, Cornwall: wartime excavations by C.K. Croft-Andrew', *Cornish Archaeology* 27, 27–169.
- Clapham, A.R., Tutin, T.G., and Warburg, E.F., 1981. *Excursion Flora of the British Isles*, 3rd edn, Cambridge.
- Cleal, R.M.J., 1997. 'Earlier prehistoric pottery' in R.J.C. Smith *et al.*, *Excavations Along the Route of the Dorchester Bypass 1986-1988*, Wessex Archaeol. Rep. 11, 86–102.
- Coles, J., Gestsdottir, H., and Minnitt, S., 2000. 'A Bronze Age decorated cist from Pool Farm, West Harptree', *SANH* 144, 25–30.
- Corney, M. 2003. *Beacon Hill. An Archaeological Survey 2002-3*, Woodland Trust client report.
- Cox, M., and Mays, S. (eds.), 2000. *Human Osteology in Archaeology and Forensic Science*, London.
- Davies, P., Haslett, S.K., Lewis, J., and Reeves, E.S., 2006. 'Tufa deposits and archaeology in the Mendip Area, Somerset', in C.O. Hunt and S.K. Haslett (eds), *The Quaternary of Somerset*, QRA/INQUA Fieldguide, 57–66.
- Dimbleby, G.W., and Evans, J.G., 1974. 'Pollen and land-snail analysis of calcareous soils', *Journal of Archaeological Science* 1(2), 117–33.
- Etherington, J.R., 1981. 'Limestone heaths in South-West Britain: their soils and the maintenance of their Calcicole-Calcifuge mixtures', *Journal of Ecology* 69 (1), 277–94.
- Gale, R., and Cutler, D., 2000. *Plants in Archaeology*, Westbury and Kew.
- Gimingham, C.H., 1992. *The Lowland Heathland Management Handbook*, English Nature, Peterborough.
- Godwin, H., 1984. *History of the British Flora* (2nd edn), Cambridge.
- Grimm, E.C., 1991. *TILIA and TILIAGRAPH*, Illinois State Museum, Springfield.
- , 2004. *TGView Version 2.0.2*, Illinois State Museum, Springfield.
- Grinsell, L. V., 1971. 'Somerset barrows Part II, north and east', *SANH* 115, 44–137.
- Haslett, S.K., 1998. 'Evaluating late-Holocene relative sea-level change in the Somerset Levels, southwest Britain', *The Holocene* 8(2), 197–207.
- Hather, A., 2000. *The identification of the North European Woods: a guide for archaeologists and conservators*, Archetype, London.
- Holden, J.L., Phakley, P.P., and Clement, J.G., 1995a. 'Scanning electron microscope observations of incinerated human femoral bone: a case study', *Forensic Science International* 74, 17–28.
- , 1995b. 'Scanning electron microscope observations of heat-treated human bone', *Forensic Science International* 74, 29–45.
- Karg, S., 2008. 'Direct evidence of heathland management in the early Bronze Age (14th century B.C.) from the grave-mound Skelhøj in western Denmark', *Vegetation History and Archaeobotany* 17, 41–9.
- Leach, P., 2009. 'Prehistoric ritual, landscapes and other remains at Field Farm, Shepton Mallet', *SANH* 152, 11–68.
- , 2011. *Beacon Hill excavations, 2005–9*, unpub client report Beacon Hill Society.
- Leney, L., and Casteel, R.W., 1975. 'Simplified procedure for examining charcoal specimens for identification', *Journal of Archaeological Science* 2, 153–9.
- Lewis, J.P., 2007. 'The creation of round barrows on the Mendip Hills, Somerset', in J. Last. (ed.), *Building Complexity: New Perspectives on Round Barrows*, Oxford.
- , (ed.), 2011. *The Archaeology of Mendip: 500,000 Years of Continuity and Change*, Oxford.
- Longworth, I., 1984. *Collared Urns of the Bronze Age in Great Britain and Ireland*, Cambridge.
- Machling, T., 2004. 'Pottery' in A. Taylor and S. Preston 'The excavation of a Middle Bronze Age settlement at Hodge Ditch, Chard Junction Quarry, Thorncombe, Dorset', *Procs Dorset Natur Hist Archaeol Soc* 126, 32–6.
- Marguerie, D., and Hunot, J-Y., 2007. 'Charcoal analysis and dendrology: data from archaeological sites in north-western France', *Journal of Archaeological Science* 34, 1417–33.

- McKinley, J.I., 1993. 'Bone fragment size and weights of bone from modern British cremations and its implications for the interpretation of archaeological cremations', *International Journal of Osteoarchaeology* 3, 283–7.
- , 1994a. *The Anglo-Saxon cemetery at Spong Hill, North Elmham Part VIII: The Cremations*, East Anglian Archaeology No. 69.
- , 1994b. 'Bone fragment size in British cremation burials and its implications for pyre technology and ritual', *Journal of Archaeological Science* 21, 339–42.
- , 1997a. 'The cremated human bone from burial and cremation-related contexts' in A.P. Fitzpatrick, *Archaeological Excavations on the Route of the A27 Westhampnett Bypass, West Sussex, 1992 Volume 2*, Wessex Archaeology Report No. 12, 55–72.
- , 1997b. 'Bronze Age 'barrows' and the funerary rites and rituals of cremation', *Proceedings of the Prehistoric Society* 63, 129–45.
- , 2000a. 'The analysis of cremated bone', in Cox and Mays 2000, 403–21.
- , 2000b. 'Human bone and funerary deposits', in Walker and Farwell 2000, 85–119.
- Moffett, L.C., 1991. 'Pignut tubers from a Bronze Age cremation at Barrow Hills, Oxfordshire, and the importance of vegetable tubers in the prehistoric period', *Journal of Archaeological Science* 18, 187–91.
- , 1999. 'The prehistoric use of plant resources', in A. Barclay and C. Halpin (eds.), *Excavations at Barrow Hills, Radley, Oxfordshire. Volume 1 The Neolithic and Bronze Age Monument Complex*, Oxford, 243–7.
- Moore, P.D., Webb, J.A., and Collinson, M.E., 1991. *Pollen Analysis*. 2nd edn, Oxford.
- Moore, J., 2000. 'Forest fire and human interaction in the early Holocene woodlands of Britain', *Palaeogeography, Palaeoclimatology, Palaeoecology* 164, 125–37.
- Mullin, D., 2011. 'Barrows and bronzes: the Bronze Age of Mendip', in Lewis 2011, 119–37.
- Nielsen-Marsh, C., Gernaey, A., Turner-Walker, G., Hedges, R., Pike, A. and Collins, M., 2000. 'The chemical degradation of bone', in Cox and Mays 2000, 439–54.
- Owoc, M.A., 2000. *Aspects of Ceremonial Burial in the Bronze Age of South-West Britain*, unpublished PhD thesis, Univ Sheffield.
- , 2001. 'The times they are a changin': experiencing continuity and development in the Early Bronze Age funerary rituals of southwestern Britain', in J. Brück (ed.), *Bronze Age Landscapes Tradition and Transformation*, Oxford, 193–206.
- Powlesland, I., 1997. *Beacon Hill, Somerset, An Archaeological Survey*, unpub MA dissertation, Univ Bristol.
- Rackham, O., 1990. *Trees and Woodland in the British Landscape*, 2nd edn, London.
- Robinson, M., 1988. 'The significance of the tubers of *Arrhenatherum elatius* (L.) Beauv, from site 4, Cremation IS/II', in G. Lambrick (ed.), *The Rollright Stones; megaliths, monuments and settlements in the prehistoric landscape*, HBMC Archaeological Report 6, London, 102.
- Rodwell, J.S. (ed.), 1991. *British Plant Communities, Volume 1: Woodlands and Scrub*, Cambridge.
- Scheuer, L., and Black, S., 2000. *Developmental Juvenile Osteology*, London.
- Schweingruber, F.H., 1990a. *Anatomy of European Woods*, Berne.
- , 1990b. *Microscopic Wood Anatomy*, 3rd edn, Birmensdorf.
- Stace, C., 1997. *New Flora of the British Isles*, 2nd edn, Cambridge.
- Stevens, C.J., forthcoming. 'Cereal agriculture and cremation activities' in M.J. Allen *et al.* forthcoming, 'Neolithic causewayed enclosures and later prehistoric farming: duality, imposition and the role of predecessors at Kingsborough, Isle of Sheppey, Kent, UK', *Proceedings of the Prehistoric Society*.
- Straker, V., 2000. 'A consideration of Somerset's Holocene environments' in C.J. Webster (ed.), *Somerset Archaeology: Papers to Mark 150 years of the Somerset Archaeological and Natural History Society*, Taunton, 59–66.
- Troels-Smith, J., 1955. 'Karakterisering af løse jordater (characterisation of unconsolidated sediments)', *Denmarks Geologiske Undersøgelse*, Series IV/3, 10, 73.
- University of London, 2001. POPWEB. Available: <http://www.geog.qmul.ac.uk/popweb/html/species.htm> [Accessed: 1.11.08].
- Walker, K.E. and Farwell, D.F., 2000. *Twyford Down, Hampshire. Archaeological Investigations the M3 Motorway from Bar End to Compton, 1990–93*, Hants Field Club Monograph 9.

- White, D.A., 1982. *The Bronze Age Cremation Cemeteries at Simons Ground, Dorset*, Dorset Natur Hist Archaeol Soc Monograph 3.
- Wilkinson, K., and Straker, V., 2008. 'Neolithic and Early Bronze Age environmental background', in C.J. Webster (ed.), *The Archaeology of South West England*, Taunton, 63–74.
- Woodland, W., 2008. *Palaeoenvironmental Reconstruction for a Bronze Age barrow at Beacon Hill, Mendip, based on pollen evidence*, unpublished client report, Beacon Hill Society.
- Woodward, A., 1989. 'The prehistoric pottery', in P. Ellis 'Norton Fitzwarren hillfort: a report on the excavations by Nancy and Philip Langmaid between 1968 and 1971', *SANH* 133, 39–53.
- , 1990. 'The Bronze Age pottery', in M. Bell *Brean Down Excavations 1983-1987*, English Heritage Archaeol Rep 15, 121–45.
- , 2002. *British Barrows A Matter of Life and Death*, Stroud.