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Mesolithic settlement near Stonehenge: excavations at Blick Mead, Vespasian's Camp, Amesbury

by David Jacques[1] and Tom Phillips[2]
with contributions by Peter Hoare,[3] Barry Bishop,[4] Tony Legge †[5] and Simon Parfitt[6]

A spring at Blick Mead, Vespasian's Camp, close to Stonehenge, has preserved substantial Mesolithic deposits, which potentially transform our understanding of the pre-Stonehenge landscape and the establishment of its later ritual character. This report outlines the recent discoveries and concludes with a review of the site and its wider significance.

Introduction

Evidence for Mesolithic activity in the Stonehenge landscape is both rare and neglected and limited either to the publication of discrete assemblages of material found as by-products of other projects (Leivers and Moore 2008, 14-19; Parker Pearson 2012, 230, 236), or summaries of find spots in the area (Darvill 2005, 62-67; Lawson 2006, 26-36).

The discovery of a potentially nationally important Mesolithic settlement at Blick Mead, in the northeast corner of Vespasian's Camp, Amesbury, Wiltshire (NGR SU146417), c. 2km east of Stonehenge, provides new insights into Mesolithic society in this part of Wiltshire and in Britain more generally. This locale shows many of the characteristics of a periodically occupied 'persistent place' (Barton *et al.* 1995, 81-82). Visited over a period of nearly 3000 years, recent excavations have provided evidence of the communities who built the first monuments at Stonehenge between the 9th-7th millennia BC, and for Mesolithic use of the area continuing into the 5th millennium BC and the dawn of the Neolithic period. Two radiocarbon dates of the 5th millennium BC are the only such dates recovered from the Stonehenge landscape and fill a crucial gap in the occupational sequence for the Stonehenge area at this time as 'Nowhere in the sequence is the Atlantic (late Mesolithic) represented' (Allen 1995, 55 and 471).

The Blick Mead radiocarbon dates include every millennium in the range and present the longest sequence of any Mesolithic site nationally (Table 1). This aspect provokes a series of questions about the extent of Mesolithic activity in the vicinity before the creation of the Stonehenge ritual landscape. Of particular interest is whether the Neolithic and later monuments reflect earlier activity at Blick Mead and in its surroundings.

[1] Senior Research Fellow in Archaeology University of Buckingham:david.Jacques@buckingham.ac.uk; [2] Oxford Archaeology: tom.phillips@thehumanjourney.net; [3] Associate Member AHOB 3: pgh@ventifact.co.uk; [4] Lithics Studies Society: bvfj@tinyworld.co.uk; [5] University of Cambridge; [6] Natural History Museum and Institute of Archaeology, UCL: s.parfitt@nhm.ac.uk

Table 1: Radiocarbon dates from Blick Mead

Context no.	Material	Lab no	Radiocarbon Age BP	Cal.BC (68%)	Cal.BC (95%)
67	Wild pig tusk	SUERC 42525	8542 ± 27	7593-7569	7596-7542
65	Aurochs tooth	SUERC 33649	7355 ± 30	6330-6100	6360-6080
64	Wild pig tooth	SUERC 42341	6396 ± 26	5464-5325	5469-5320
77.1	Animal bone	SUERC 47428	6114 ± 28	5199-4992	5208-4948
76	Aurochs ankle	SUERC 46224	6018 ± 31	4947-4848	4998-4810
67	Aurochs leg bone	SUERC 37208	5900 ± 35	4798-4722	4846-4695

Previous research and the landscape history of Vespasians Camp

Vespasian's Camp, so called by antiquarian William Camden (there is no connection with the Roman Emperor), is an impressive Iron Age promontory fort situated on a chalk spur rising to a height of 102m above OD on Salisbury Plain close to Amesbury. The spur was surrounded by important sites and monuments throughout prehistory and is intervisible with the Stonehenge Avenue, West Amesbury Henge, Coneybury, King Barrow Ridge and the River Avon (Figure 1). The place might have been expected to have had significance for the Plain's early inhabitants on the strength of its location alone. The substantial Iron Age ramparts enclose 16ha, although it is widely assumed that much of the Camp's archaeology was destroyed by the Marquis of Queensberry's landscaping of the area between 1726 and 1778 (Hunter Mann 1999, 39-51) and by modern building work (Lindford 1995). Between 1999 and 2003, however, an examination of 18th century property deeds and estate records of the site and nearby farms (Jacques 2013) revealed that the north-east part of the site had largely escaped landscaping – a view confirmed by a recent survey of the extent of the 18th century landscaping across Vespasian's Camp (Haynes 2012).

On the basis of these prior investigations we chose to target a low-lying waterlogged hollow to the northeast of the Camp, outside of the area of the Scheduled Monument, in an area known by its field name as Blick Mead. Work began there in 2005 after consultations with the site custodian Mike Clarke, whose long-term personal interest and sensitivity to landscape features in the Camp have been pivotal to the project. Initial survey resulted in the hollow being identified as an ancient springhead depression, which contained dumped material around its edges from the widening of the A303 in the late 1960s (Hoare below). We also established that it was the largest of a complex of springs in the vicinity.

Blick Mead springhead: the environmental setting

The spring is situated on the floor of the Avon valley in Amesbury on the southern edge of a deposit mapped as Quaternary 'Head' by the British Geological Survey. Excavations revealed that the sedimentary sequence within the springhead basin consist of a succession of water-lain clays and silts indicative of slow moving and stagnant water (Nick Branch, pers. comm.). The Mesolithic assemblage is both within and sealed by this matrix. Below the clay silts are sands that may have been deposited by fast flowing water indicating a complex hydrology in the past.

Pollen analysis has proved difficult thus far because of high levels of alkaline in the spring area. Preliminary analyses of samples from Mesolithic contexts by Nick Branch suggest alder and dandelion, the latter indicating that the ground in the southern part of the spring had been disturbed. Microscopic particles of charcoal were also found, which may relate to the copious amounts of burnt flint from Mesolithic contexts.

Survey of the topography of the site revealed the modern ground level at the spring to be at c. 77m above OD. An artificially terraced area directly northwest of the springhead (probably a large lynchet) rises c. 1.5m above it. The land then rises to the southwest, dramatically so on the site of the hillfort itself to 102m OD. Southeast of the spring, the land drops to 74m OD at the river. The area is appreciably above the modern sea level and likely to have been an upland setting also in the earlier Mesolithic period when Britain was still joined by land to continental Europe and sea levels were significantly lower.

The excavations

Since 2005, 32 days of archaeological excavation have taken place, with limitations imposed by the

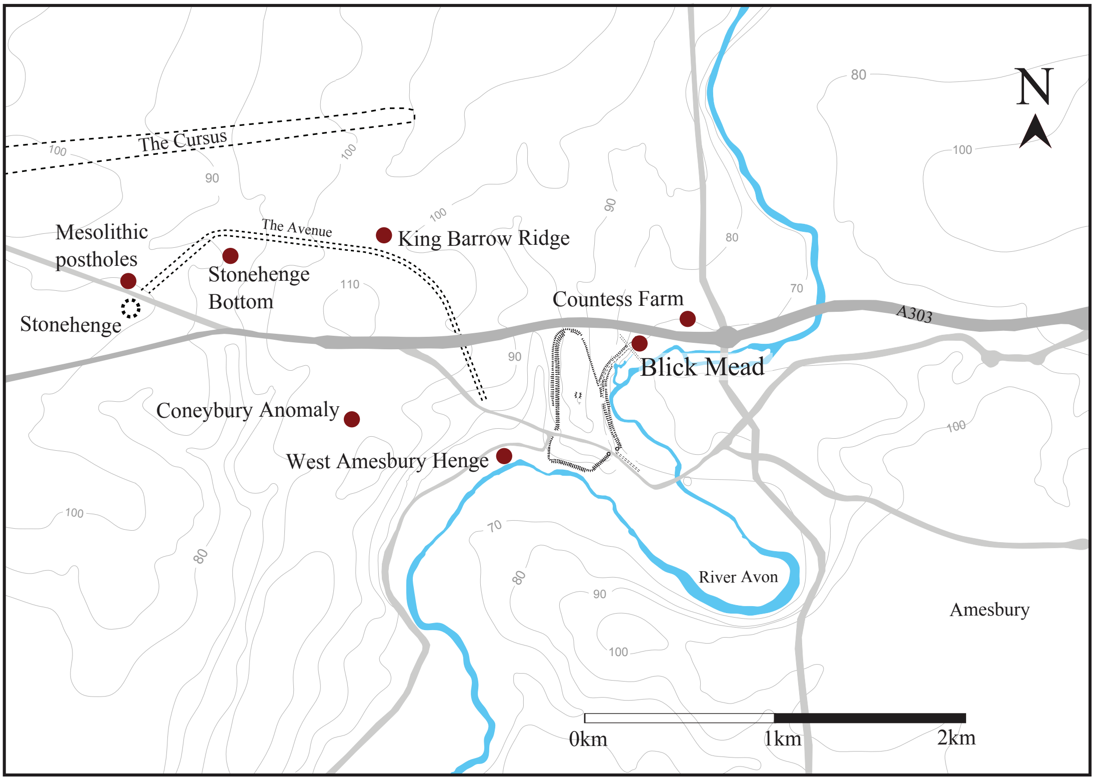

Fig. 1 Site Location Map

landowner and financial concerns. Initially the work was funded by a modest annual average budget of *c.* £2000 per year provided by the Open University and Amesbury Town Council. In 2013, however, funding significantly increased as a result of the University of Buckingham's adoption of the project. In total 23 trenches were excavated, ranging from 1x1m pits, to the three largest trenches which measured 6x3m (Trench 19), 5x2m (Trench 22), and 5x3m (Trench 23) (Figure 2). These cuttings were dug to a minimum of 0.6m depth and revealed well-sealed and waterlogged Mesolithic deposits containing significant amounts of worked flint. Trench 19 yielded a nationally important assemblage of Mesolithic faunal remains (Legge and Parfitt below). The following provides detailed descriptions of the key Trenches with the main focus on the Mesolithic findings.

Trench 19

Trench 19 investigated a sequence of deposits at the south end of the spring and originally measured 3x3m, but the discovery of Mesolithic material 1m below the ground level led to it being extended to 6x3m, with a further 1x3.5m extension to the east (Figures 3 and 4). The earliest recorded layer in the sequence (78) is a pale green sandy silt at least 0.3m thick, with the upper horizon c. 1m below ground level. No finds were recovered, although the deposit was not extensively sampled. Layer (78) was sealed by Mesolithic horizon (59), a viscous dark brown silty clay 0.2m thick, which extended uniformly across the trench without any obvious gradient. This layer was divided into 1m squares so that the distribution of finds could be examined more closely (contexts 59, 61, 62, 63, 65, 66, 67, 76 and 77; Figure 3). The most recently excavated deposit has also been divided horizontally into 5cm spits as a cautious method of recording and control.

Layer (59) sits below the water table, which varies depending on the time of year, but is on average c. 0.5m below ground level. The high water table has hampered excavation, as has the heavy viscous quality of the sediment. So far this layer has yielded 11,727 pieces of Mesolithic worked flint reflecting the entire process of tool production and the tools themselves indicate a wide variety of

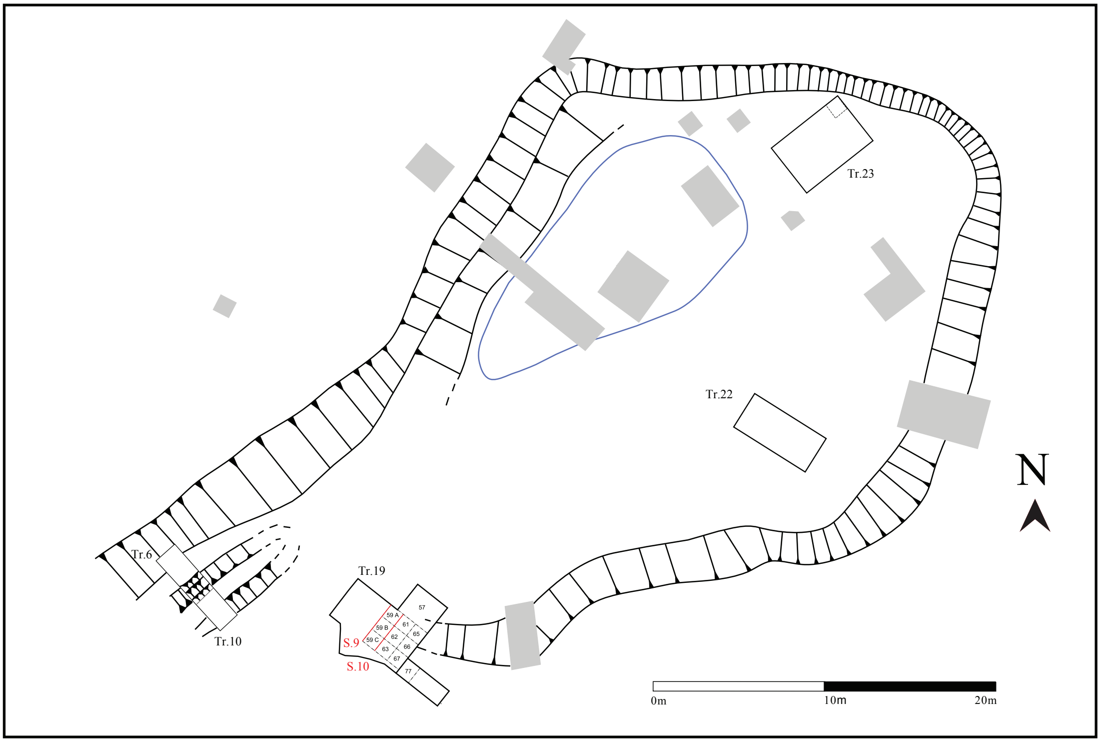

Fig. 2 Blick Mead Trench Plan

tasks being undertaken close to the site across the radiocarbon date range (Figure 5) and with a wide range of retouch types (Bishop below).

The presence of Horsham-type points is unusual in Wiltshire, suggesting that people travelled here. A slate point from context (59) is particularly illuminating in this regard. Slate is exotic for the area and this piece appears to have been closely fashioned in the Horsham Point style (Figure 5, 1 and 2). An exceptionally large amount of burnt flint indicates nearby hearths and possibly large fires (Bishop below and forthcoming).

In addition to the lithics, an important assemblage of 540 animal bones was also recovered from layer (59). The late Anthony Legge examined the first 200 bones to be recovered and, of the 68 bones identified to species, 61% were from aurochs (*Bos Primigenius*). This collection is the largest assemblage of the animal found in England (A. Legge, pers. comm.). These fauna have provided six radiocarbon dates across a 2900 year period in the mesolithic. The earliest date (7596-7542 cal BC, 8542±27 BP; SUERC 42525) indicates activity broadly contemporary with the monumental post structures in the Stonehenge car park (8500-6600 cal BC; Vatcher and Vatcher 1973) and the most recent is the latest 5th Millennium BC date so far from the Stonehenge environs (4846-4695 cal BC, 5900 ± 35 BP; SUERC 37208).

Layer (59) was sealed by layer (58), similar sediment with intriguing and frequent fragmentary unworked flint nodules that appear to have been either consolidated by people or by some natural process. This deposit produced struck flints in a more chipped condition than those in layer (59) and includes Neolithic and Bronze Age pieces (Bishop below), showing that the spring continued as a focal point through successive periods.

Trench 22

Trench 22 was located north east of the spring, *c.* 30m from Trench 19. It measured 5x2m and was excavated by hand to a depth of 1m in a *c.* 1x1m test pit against the western baulk. The earliest recorded deposit was a viscous grey clay (68) measuring 0.1 m thick (not yet fully excavated), which yielded struck flints similar to those from Trench 19, and 100 fragments of burnt flint. This clay was sealed

Fig. 3 Section 9, Trench 19

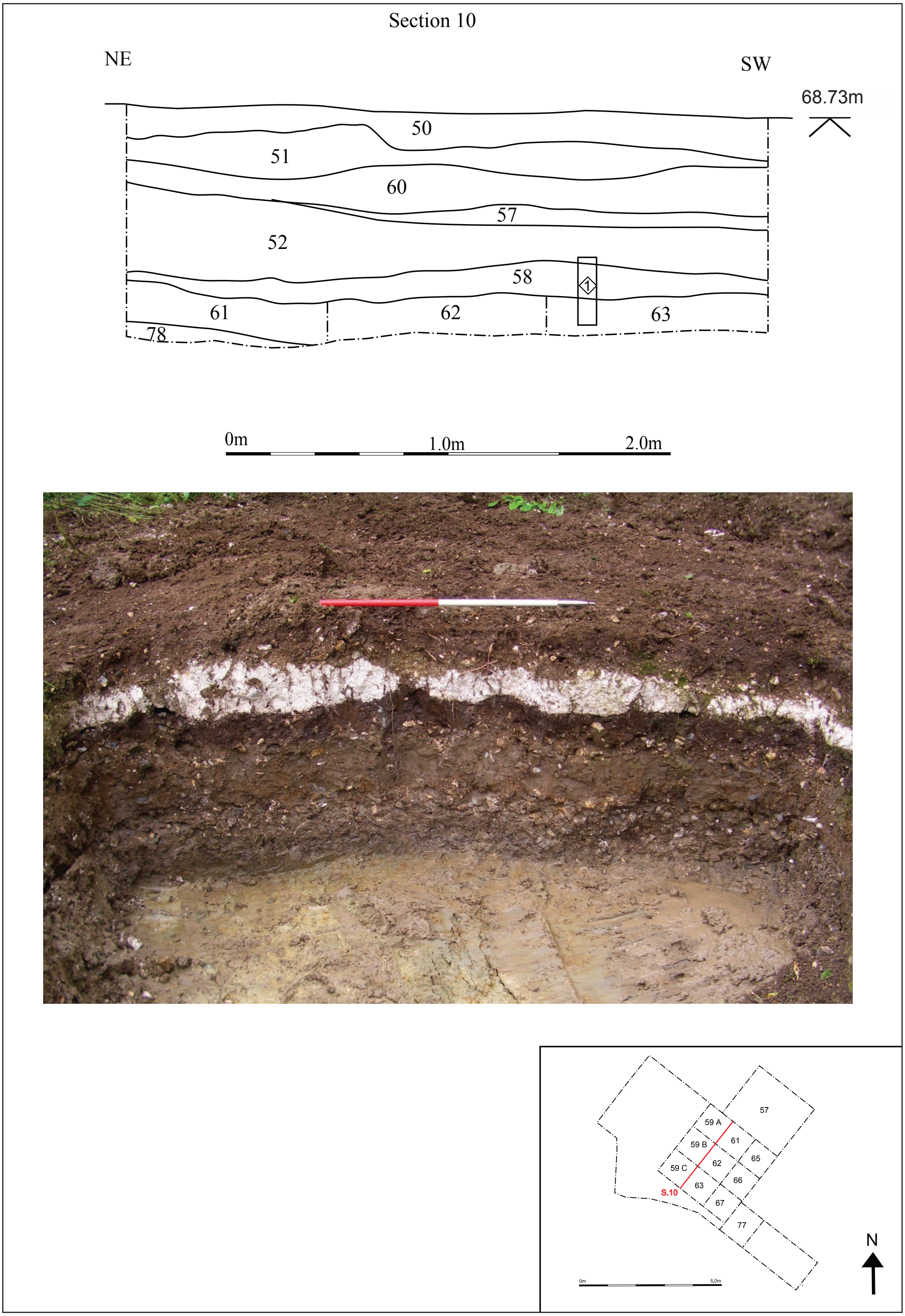

Fig. 4 Section 10, Trench 19

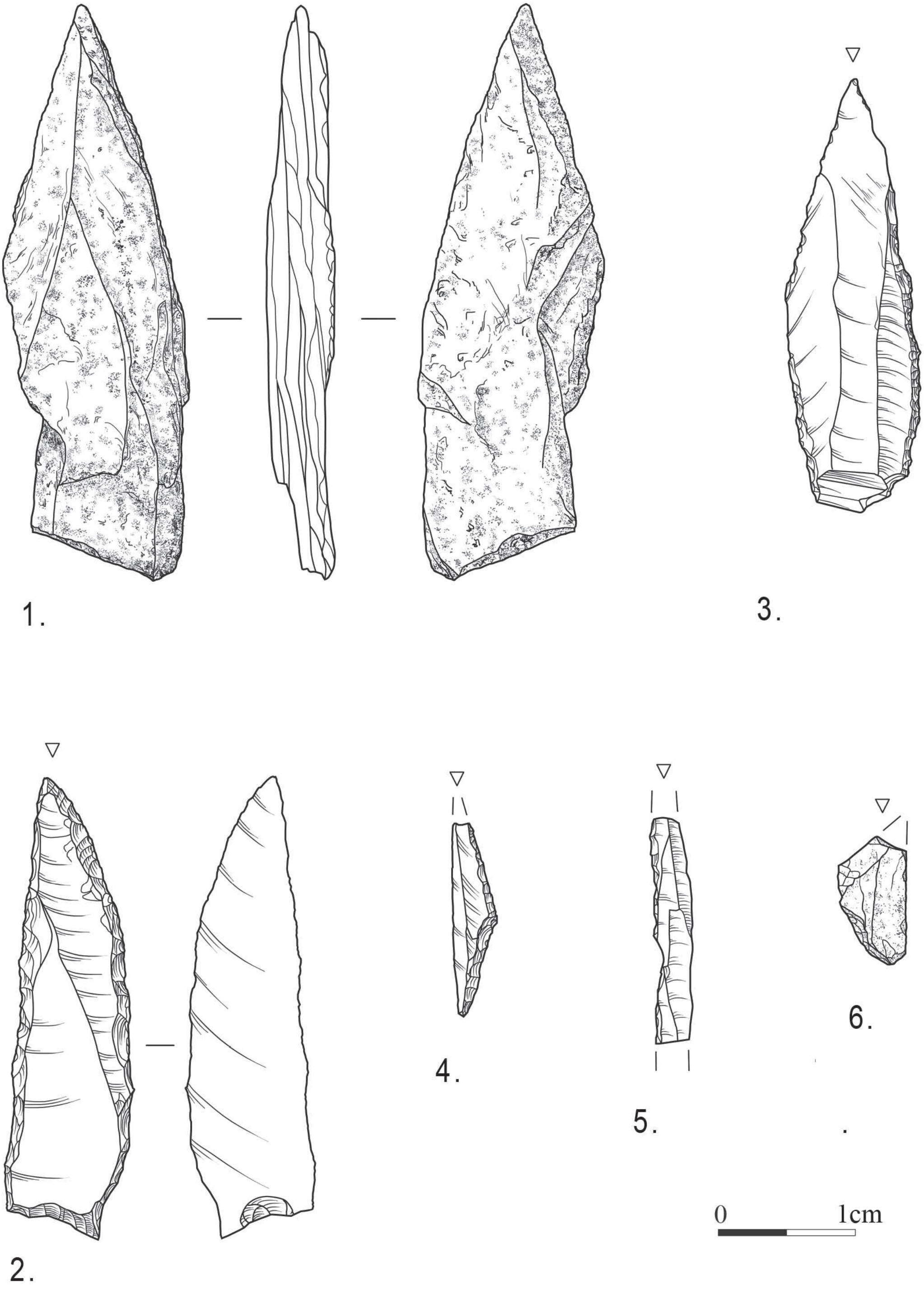

Fig. 5 Mesolithic tools types retrieved from Trenches 19-23 which reflect the site's radio carbon date range. (Illustration by Cate Davies)

by a peat deposit (69), c. 0.3m deep, which yielded 180 Mesolithic struck flints.

Trench 23

Located north of the spring, *c*. 30m from Trench 19, Trench 23 measured 5x3m, and is only partially excavated at the time of writing; its deepest point (a 1x1m test pit against the northern baulk) is 0.6m below ground level. The earliest deposit was a dark grey silty clay (79) at least 0.2m thick. This layer has produced 1018 Mesolithic struck flints (a higher density than any square metre in Trench 19), **1**0 animal bone fragments and two pig teeth. Layer (79) was sealed by grey clay (70), measuring 0.24m thick, which contained *c*. 150 struck flints.

Temporality

An important consideration when accounting for the high density of flints and the long-term use of the site is to understand how the data translate in terms of the frequency, timing and duration of visits. Conneller *et al*. (2012, 1017) argue that '... repeated settlement disguises different occupation signatures...', and at Star Carr, North Yorkshire interval dating of macro and micro charcoal in pollen profiles has been used to gauge how often the site was visited over the span of its use (Mellars and Dark 1998, 210–211). Successive layers of debris from the early Mesolithic house at Howick in Northumberland indicate regular if not continuous occupation (Waddington *et al*. 2003, 11). At present, it is not known whether such evidence exists around the spring at Blick Mead. Water action and possible trampling (see below) - probably minor disturbances in the overall stratigraphic sequence - may have caused spreading and mixing of material making calculations of the length and frequency of visits difficult.

Similar stratigraphy and dating complexities can be found at the early Mesolithic site at Faraday Road, Newbury, west of Thatcham, (Ellis *et al*. 2003, 107-135). The Mesolithic layer there was 0.15 m thick and lay 0.3m below the modern ground level. Two radiocarbon dates, both from the same 1x1m test pit, were *c*. 1000 years apart. The excavators extrapolated from these results that each episode of activity may have been minimal and short lived, though repeated. As the Faraday Road excavations are complete the excavators were better placed to cast a summative judgement than is the case with the incomplete Blick Mead investigations (Ellis *et al*. 2003, 107–135).

The geology and geomorphology of Blick Mead, *by Peter Hoare*

Blick Mead and much of the surrounding area are underlain directly by the Late Cretaceous Seaford Chalk Formation (SCk Chalk Group, White Chalk Subgroup). The lower part of the 60-70m thick SCk consists of relatively hard nodular chalk, the upper part of soft, smooth, blocky chalk. There are abundant, often nearly continuous, bands of large nodular and semi-tabular flint; towards the top of the sequence they are typically black or bluish black with grey mottling and a thin white cortex. A distinctive brown-stained tabular flint up to 0.3m thick is found on field surfaces (Hopson *et al.* 2007, 18). The chalk has been involved in a number of phases of folding leading to a complex structural pattern (Hopson *et al.* 2007, 2). The regional dip at Boreland Hill (NGR SU 112377), 5-6 km south-southwest of Blick Mead, is to the east (British Geological Survey 2005).

Whilst Blick Mead and parts of the immediately adjacent area are shown as drift-free on Sheet 298 (British Geological Survey 2005), it should be noted that some superficial deposits are not recorded because they are thin (usually <1 m thick) and discontinuous (Reid 1903, 65; Hopson *et al.* 2007, 25–26, 35; see below). Colluvial and alluvial deposits with a variety of ages crop out within a short distance of Blick Mead (See British Geological Survey, 2005, and Hopson *et al.* 2007 for descriptions of these sediments).

The chalk landscape is dissected by numerous dry valleys that were probably eroded when the chalk, highly permeable under temperate conditions, was rendered more or less impermeable by permafrost (Figure 6). Springs are found in the lower reaches of otherwise dry valleys at points where the water table intersects the ground surface.

Blick Mead is a small natural basin probably resulting from groundwater sapping; headward erosion, a combination of solution and undermining of the gentle chalk slope, has taken place at a more or less stable spring position. Spring action is at present very feeble (springs are more evident several hundred metres downstream of Blick Mead), but discharges are likely to have been greater in the past. A relatively restricted and shallow body of water is trapped periodically within the springhead depression; the basin is open to the south, and thus the extent and depth of the water body has always

Fig. 6 Rendered Environment Agency 3D LiDAR image of Vespasian's Camp, with Blick Mead and environs to the north east abutting the A303. Two narrow north–south dry Chalk valleys, ca 400–600 m apart (A and B), contain Head deposits (British Geological Survey 2005). The lower reaches of valley A appear to have been utilised as the western fossa *of Vespasian's Camp, the Iron Age hillfort. A third, less sharply defined, valley (C) might represent the short abandoned headward extension of the Blick Mead valley*

been severely limited.

The deposits in the Blick Mead basin, including those containing archaeological material, are overwhelmingly but not exclusively fine grained. Sediment sources include sandy beds that mask parts of the western slopes of the basin; insoluble residues from solution of the chalk (but unlikely to be significant); and the soil cover. Transport processes are thought to have included hillwash within the basin and much more widespread wind action. Soils will have been laid bare when the Bronze Age field systems were established to the west of the basin. Two thin discontinuous beds of angular-subangular flint cobbles that occur within the fine-grained succession may have been derived primarily by slope wash from the Head Gravel that crops out immediately to the north of Blick Mead. Prehistoric inhabitants of the site may have placed some of the cobbles in the spring sediments (see Bishop below).

Three further beds are clearly *ex situ*. They appear to have been quarried during work to add a second carriageway to the A303 in the late-1960s, possibly during the excavation of a shallow cutting immediately north of Blick Mead (Peter Goodhugh, pers. comm.). A crisp packet found beneath the dumped material was of a design employed by Walker's between 1967 and 1969 (D. Jacques, pers. comm.). The bed of Chalk rubble seen in the southeast corner of Trench 19 is less easily accounted for. However, since it thickens towards the southeast it might be connected with the 18th-century landscaping of Amesbury Park (Dr Chris Green will be leading the University of Reading's QUEST team's auger survey of the basin area and its surrounds from the autumn 2013).

Assessment of the lithic material, *by Barry John Bishop*

Assemblage size, distribution and depositional context

The assemblage comprises 11, 727 pieces of struck flint and one slate microlith. The bulk of the material is from Trench 19 and the majority of this is from the lowest silt-clay layers. Further struck flint of similar character was recovered from Trenches 22 and 23, indicating that Mesolithic activity may cover many hundreds of square metres.

Within Trench 19, struck flint from the basal layer (59) totals *c.* 10, 000 pieces and is all of Mesolithic date as demonstrated by its technological traits and typological character. The material is in good, often sharp, condition (Figure 7) and was either knapped *in situ* or discarded shortly after manufacture/use. In Trench 22, 338 struck flints similar to those from Trench 19 were revealed in the earliest recorded deposit (68), with a further 180 pieces of Mesolithic flintwork from the layer sealing it (69). To the north of the site, *c.* 35 m distant from trench 19, Trench 23 produced 1018 Mesolithic struck flints from the earliest deposit (79), a remarkably high density, and indeed higher than any single metre in Trench 19. In layer (70), the layer sealing it, 150 further pieces were recovered.

The presence of knapping waste and used and discarded tools from Trenches 19, 22 and 23 suggests that the assemblage results from being gathered up and placed into these marshy areas/ponds. This might have been done for practical considerations, but such discard might also have

Fig. 7 A Mesolithic blade in typically sharp condition from Trench 19. (Photo by Andy Rhind-Tutt)

involved metaphorical motivations. Large quantities of unworked flint nodules in layer (58) in Trench 19 and layer (69) in Trench 23 appear to represent an attempt at consolidating this wet area. Layer (58) contains 370 pieces of struck flint which, although still dominated by Mesolithic pieces, are in a notably more chipped condition and include material characteristic of the Neolithic or Bronze Age. This situation suggests that 'cobbling' was laid down during or after this time with continued interest in this spot long after the Mesolithic.

The findings from Trenches 22 and 23 in relation to the depositional context of the site are intriguing. Both trenches revealed intense Mesolithic activity, and in both the flintwork is from a grey clay deposit similar to layer (59) in Trench 19. Is this representative of a continuous spread across 35m or of separate pockets of activity? It is worth noting that Trenches 6 and 10, under 10m to the west of Trench 19, yielded no Mesolithic material despite excavation to an equivalent depth and the presence of a similar grey clay to layer (59). In the other direction, however, a cache of 260 pieces of late Mesolithic worked flint just northeast of the site at Countess Farm, which shares the river terrace with Blick Mead (Leivers and Moore 2008), suggests that the picture is complex and that Mesolithic activity extends for a considerable distance from the springhead.

Raw materials

The struck flint was predominantly rendered from large nodular shaped cobbles of at least 100mm diameter. Some items retain their nodular shape and often thick cortex, but many show varying degrees of thermal flawing, weathering and abrasion, including some that are rounded and smooth-worn, typical of heavily rolled alluvial cobbles. The colour and texture of the flint is variable and hints at a number of sources being used. Local sources include nodules eroded out of the hill upon which the hillfort sits and weathered flint nodules from the ancient channels that form the focus of the springs, these being displaced by receding of the spring and the westward meandering of the present River Avon. River terrace deposits, also probably containing displaced flint nodules, are also present a short distance upstream and to the west of the site and may also have been a source for raw materials. Given that this is a flint-rich landscape, much of the material from Blick Mead was likely gathered close-by. Mesolithic mobility, however, might dictate that some pieces come from further afield, and is perhaps supported by the wide variety of flint types present.

Technology

Unworked burnt flints are mostly fire-shattered to a uniform grey-white. Deliberate heating of stone is common on later prehistoric sites, but there are few parallels from Mesolithic contexts. Over 35kg has been recovered from the site, the majority from the lower clay horizons in Trenches 19, 22 and 23, with Trench 19 providing nearly 1400 fragments weighing *c*. 20 kg, Trench 22 100 fragments and Trench 23 250 fragments.

Struck flint

Struck flint represents the full reduction sequence, the bulk consisting of waste pieces. A large portion of the assemblage is primary working waste produced from turning nodules into cores and the cores themselves. Sufficient cortical flakes indicate that cores were being shaped and reduced to produce blades. Retouched pieces constitute 3% of the assemblage, with a wide variety present. Microliths, the most common type, contribute only a fifth of the implements, with a wide variety of scrapers, piercers, backed and truncated blades, burins, denticulates and other types present. Numerous micro-burins indicate on-site manufacture of microliths. Also present are seven transverse axe/adzes, four from the basal layer of Trench 19, two from those in Trench 23, and one from Trench 22. These finds are greater in total than those found previously on Salisbury Plain. The only retouched implement undeniably later is the single transverse arrowhead of later Neolithic date from Trench 19 (64).

It is significance that the struck flint assemblage is atypical of the majority of Mesolithic sites, not least those from Wiltshire, which tend to produce small numbers of finds of limited variety, which are often interpreted as task-specific, for example as representing hunting camps. The Blick Mead material demonstrates that, in addition to intensive flint-working, a variety of other activities were being pursued. Such sites are often termed 'home-bases' or residential sites - where people either stayed for longer periods or returned to repeatedly to conduct a range of domestic activities.

The microliths include roughly equal proportions of early 'broad blade' simple retouched types and later 'geometric' types, indicating that the site was visited over a considerable period, as is consistent with the radiocarbon results (Figure 5). Also present are hollow-based 'Horsham' points, dateable to the middle of the Mesolithic (Figure 5: 2). These types concentrate in the Wealden districts of Sussex, Kent, Surrey and Hampshire and may represent longer distance movement.

One of the most intriguing finds from the excavations is a small piece of light greenish slate, 42mm long, 13mm wide, 4mm thick and weighing 2g, formed into a basally retouched Horsham Point from Trench 19, context (59) (Figure 5: 1). Slate does not fracture conchoidally, thus it is difficult if not impossible to determine whether this piece was deliberately shaped. Several factors, however, suggest that it may have been consciously formed. Its shape is typical for this type of microlith, with the right side gently curved from base to tip. The left side continues flaring from the point to about half way down where it turns inwards, forming a slight shoulder. The base is slightly curved and at a slight oblique angle to the main axis of the piece. A small part of its edge is broken following natural cleavage planes, but mostly the edges are formed by steep snapping from the ventral side, although snapping at the base is bifacial, initially from the ventral face and then also inversely from the dorsal face, resulting in a concave bevelled edge. All edges are fresh with little evidence of rolling or abrasion. If this object is indeed a slate microlith it is, as far as this author can establish, unique in Britain.

Significance and potential

The lithic assemblages from the basal layers of Trenches 19, 22 and 23 are of early to late Mesolithic date and, along with finds Downton (Higgs 1959), are exceptionally large for the region, and one of the largest from Wiltshire, which is generally poor in Mesolithic remains. Only a small area has so far been examined (*c*. 15m2) and material may be present across much of the spring area and beyond, possibly extending to hundreds of square metres. If this indeed the case, this would make Blick Mead one of the largest and densest accumulations of Mesolithic flintwork in the country. The depositional history of flintwork from the basal silt-clay layers is complex, but it appears to represent material discarded into open but slow moving or stagnant water, probably from habitation areas located on the higher ground nearby (cf. Thatcham; Wymer 1962; Healy *et al*. 1992).

The importance of the assemblage is clear in terms of its size, high proportion and range of retouch types and longevity of occupation. Material from the West Amesbury Henge excavations (*c*. 500 pieces; Ben Chan, pers. comm.) suggest dense occupation along this part of the Avon. Also from a Wiltshire perspective, Blick Mead is perhaps most comparable to the site at Downton, also set on the edge of the River Avon, suggesting intense movement up and down the river valley, with more intense occupations at intervals. At such locales, dispersed groups could meet up, exchange genes, resources, knowledge and obligations and engage in feasting. The flint raw materials are interesting in this regard, mostly mottled and cherty, but including other distinct types. Given the mobile nature of Mesolithic communities, a circulatory flow of raw materials across the landscape might be expected.

The assemblage is of national importance with the potential to address key research themes, including landscape use, patterns of mobility, settlement organisation, the social significance and roles of flintworking and flint tool use, raw material selection and concepts of materiality, domestic and ceremonial practice. None of these concerns are currently well understood in this region.

Faunal Remains

Mammal remains, *by A. J. Legge*†

(Note: Since Tony Legge's death in February 2013, two more bones have been identified to species. One is a tusk from a large wild boar, and the other an aurochs astralagus (Figure 8). Both identifications were by Peter Rowley-Conwy. Both have been radiocarbon dated (Table 1)).

The mammal bones from Blick Mead show the typical preservation found in other chalk land sites in the region (Legge 2010), with eroded surfaces and the loss of much surface detail. Finer details, such as cut marks and dog gnawing, will be largely obscured. However, the importance of the material is such that the identifications are individually listed in Table 2.

Table 1: Radiocarbon dates from layer (59) in Trench 19

Context no.	Material	Lab no.	Radiocarbon Age BP	Cal. BC (68%)	Cal. BC (95%)
67	Wild pig tusk	SUERC 42525	8542 ± 27	7593-7569	7596-7542
65	Aurochs tooth	SUERC 33649	7355 ± 30	6330-6100	6360-6080
64	Wild pig tooth	SUERC 42341	6396 ± 26	5464-5325	5469-5320
77.1	Animal bone	SUERC 47428	6114 ± 28	5199-4992	5208-4948
76	Aurochs ankle	SUERC 46224	6018 ± 31	4947-4848	4998-4810
67	Aurochs leg bone	SUERC 37208	5900 ± 35	4798-4722	4846-4695

Table 2: Species identifications from Blick Mead

Number	Trench	Context	gm	SC	identification	Bone
1	19	67	19.5	3	*Bos primigenius*	angle of right mandible
2	19	67	4.5	3	*Cervus*?	mental foramen of mandible
3	19	67	24.0	4	*Bos primigenius*?	distal calcaneum?
4	19	67	63.0	3-4	15 frgs. *Bos* size	Fragments
5	19	68	19.0	4	*Cervus elaphus*	right astragalus. GL1>52.0
6	19	68	94.5	3	*Bos primigenius*	distal part of left metacarpal, with lateral condyle
7	19	68	6.5	4	*Cervus elaphus*	proximal left metatarsal
8	19	68	78.5	4	*Bos primigenius*	3 fragments cervical vertebra
9	19	68	95	4	fragments	mostly *Bos*?
10	19	68	6.5	1	*Cervus elaphus*	left M_2, slight wear cusp 2
11	19	67	71.5	3	*Bos primigenius*	2 horn core fragments
12	19	67	9.5	3	*Bos primigenius*	fragment proximal part phalanx 3
13	19	67	13.5	4	*Bos primigenius*	phalanx 2, fused
14	19	67	23.0	4	*Bos primigenius*	ulnar carpal, left
15	19	67	45.5	4	fragments	3-4 *Bos* size
16	19	64	58.0	3	*Bos primigenius*	glenoid of scapula, right fused
17	19	64	13.5	4	*Sus scrofa*	astragalus, right GLI=47.9
18	19	64	10.5	4	*Sus scrofa*	calcaneum, right
19	19	64	32.0	4	*Bos primigenius*	left metacarpal, proximal, lateral
20	19	64	14.5	4	*Bos primigenius*	phalanx 2 GL>48.0
21	19	64	17.0	4	*Bos primigenius*	proximal phalanx 1, fused, large, percussive breakage
22	19	64	14.5	4	*Bos primigenius*	distal phalanx 1, frag.
23	19	64	16.5	4	*Bos primigenius*	distal phalanx1, Bd=38.7, old break mid line probable
24	19	64	20.0	4	*Bos primigenius*	proximal metatarsal, right, percussion.
25	19	64	21.5	4	*Cervus elaphus*	distal humerus, medial, fused, gnawed?
26	19	64	10.5	4	*Cervus elaphus*	distal humerus, lateral, fused.
27	19	64	35.5	4	*Bos primigenius*	certical vertebra framgents (2)
28	19	64	4.5	4	*Cervus elaphus*	right radial carpal
29	19	64	9.5	4	*Cervus elaphus*	navicular-cuboid, medial
30	19	64	40.0	4	*Bos primigenius*	distal metatarsal, fused. Percussion
31	19	64	26.0	4	*Bos primigenius*	carpals 2+3, right
32	19	64	42.0	3-4	*Bos primigenius*	cervical vertebra fragment
33	19	64	8.0	4	*Cervus elaphus*	carpals 2+3, left
34	19	64	24.0	4	*Bos primigenius*	proximal metatarsal fragments (2) percussive breaks
35	19	64	13.0	4	*Cervus elaphus?*	distal metapodial fragment
36	19	65	229.5	3	*Bos primigenius*	axis, proximal, fused. BFCr=>125.0
37	19	64	170.5	4	*Bos primigenius*	3rd cervical vertebra
38	19	64	395.5	4	fragments	mainly *Bos*
39	19	64	50.5	4	*Bos primigenius*	proximal femur DC>53.8
40	19	64	39.5	4	*Bos primigenius*	proximal femur DC>52.0
41	19	64	9.0	4	*Bos primigenius*	phalanx 2, fused
42	19	64	6.5	4	*Sus scrofa*	calcaneum frag, left
43	19	64	9.0	4	*Bos?*	frag, radial carpal, right
44	19	64	12.0	2	*Cervus elaphus*	left M^3, full wear
45	19	64	20.0	2	*Bos primigenius*	right M^3, very worn
46	19	64	46.5	4	*Bos primigenius*,	proximal radius left lateral
47	19	64	216.0	4	Mainly *Bos*	Fragments
48	19	62	51.5	4	*Bos primigenius*	lateral left proximal radius
49	19	62	101.5	3	*Bos primigenius*	radius shaft fragment

Table 2 continued

50	19	64	317.0	4	Mainly *Bos*	60+ fragments
51	19	64	59.0	4	*Bos primigenius*	right distal tibia, fused, Dd>52.1
52	19	64	42.0	4+	*Cervus elaphus*	right distal tibia, fused. Bd>47.6 Dd>32.3 worn
53	19	64	12.5	4+	*Bos primigenius*	phalanx 2, fused. Impact scar
54	19	64	30.0	4+	*Bos primigenius*	distal metacarpal diaphysis fragment, percussive break.
55	19	64	13.0	4+	*Bos primigenius*	distal metapodial condyle fragment
56	19	64	45.5	4+	*Bos primigenius*	proximal right metacarpal shaft
57	19	64	24.5	4+	*Cervus elaphus*	right proximal radius, medial
58	19	64	4.5	4+	*Sus scrofa*	calcaneum, mid corpus
59	19	64	10.5	4+	*Bos?*	right distal radius fragment
60	19	64	27.0	4+	*Bos primigenius*	glenoid of scapula
61	19	64	6.5	2	*Cervus elaphus*	left M_3, light wear cusp 3
62	19	59c	45.0	1	*Bos primigenius*	right M_3, early wear, cusp3 is J
63	19	59c	33.9	2	*Bos primigenius*	left M_3, full/late wear
64	19	59c	10.5	1	*Cervus elaphus*	upper left M^3 early wear 5066
65	19	61	23.0	4	*Cervus elaphus?*	left distal humerus medial, ht=43.6
66	19	61	26.5	4	*Cervus elaphus?*	left distal humerus lateral
67	19	61	50.0	4+	*Bos primigenius*	phalanx 1, large GL>80.0
68	19	61	18.5	4	*Sus scrofa*	left distal humerus, medial. ht=>38.9
69	19	61	10.0	4+	*Sus scrofa*	right astragalus GLI>44.0
70	19	61	8.0	4+	*Cervus elaphus*	right proximal metacarpal fragment
71	19	61	12.5	4+	*Cervus elaphus?*	left intermediate carpal
72	19	52	58.0	2	*Bos taurus*	right proximal scapula. GLP=62.5 LG=53.2 BG=43.3
73	19	52	9.5	2	*Cervus?*	fragment proximal right radius
74	19	64	24	4	*Cervus elaphus*	left astragalus Glm=51.1 GLI=54.7E BD=33.4E
75	19	64	44	4	*Bos primigenius*	right proximal metatarsal, probable chops below artic.
76	19	C14	10.5	3	*Bos primigenius*	Single pillar of lower molar (6250 BC)
77	19	63	20.0	4	*Bos primigenius?*	Fragments distal metapodial
78	19	63	17.0	4	*Bos primigenius?*	Fragment cervical vertebra
79	19	63	46.5	4	*Bos?*	Fragments
80	19	67	5.0	3	*Bos*	Molar fragments
81	19	59B	2	4	?	Molar fragment
82	19	63	9.5	4-	*Cervus??*	Glenoid of scapula, small
83	19	63	15	4-	?	Fragments
84	22	69	31	1	*Bos Taurus*	Lumbar vertebra, unfused

(gm)=weight in grams
SC=surface condition. This is assessed on a 5 point scale in which: 1= perfect or nearly so; 2 = some surface erosion; 3 = erosion has obscured detail; 4 = erosion severe, but bone identifiable; 5 = amorphous fragment. Identifications marked by a query are those thought to be probable, usually on the basis of size where erosion or fragmentation is severe.

The Fauna

Sixty-eight specimens can be identified with confidence on the basis of morphology and/or bone size (Table 3).

Table 3: Species identified with confidence

Species Identified	Number	Percent of Total
Aurochs *Bos primigenius*	43	61%
Red Deer *Cervus elaphus*	19	27%
Pig *Sus scrofa*	6	8%
Domestic Cattle *Bos Taurus*	2	3%

The percentages are given as a guide to abundance, based only on bone or tooth identifications. The bone representation suggests the presence of seven to eight animals, so that only 4% to 5% of the bones are preserved.

Fig. 8 An aurochs astralagus, plus tool, freshly found from Trench 19. (Photo by Del and Jo Derrick)

Aurochs: Bos primigenius

While the poor preservation and fragmentation of most bones allows few measurements, those available confirm that the cattle bones are mainly from *Bos primigenius*. Comparative data on the size range of Mesolithic *Bos primigenius* is taken from Degerbol and Fredskild (1970) and Legge and Rowley-Conwy (1988). This species is known to exhibit a high degree of sexual dimorphism, so that most bones can be assigned to their sex. Two first phalanges (numbers 21 and 67) are both from male cattle while numbers 39 and 40 (proximal femur) are both within the size range of females. A distal tibia (51) is also probably female, while the very large axis vertebra is certainly male. The two lower M3 come from animals of quite different ages, one in early maturity and one fully mature. The teeth are the least sexually dimorphic structures, so that sex cannot be accurately defined from two specimens. Bone 84 (T22 69) is an unfused but well-preserved vertebra of *Bos*, probably lumbar. This vertebra is stained brown, typical of deposition in peat. It may have been split with a metal cleaver. This is from a small animal (domestic), and is probably derived from later intrusion. This small cattle bone is also notably well preserved compared with the majority of the sample, also suggesting a later date. It is probable that three and possibly four cattle are minimally represented in the sample.

Red deer: Cervus elaphus

Here too the measurable bones are from a population of large body size, rather larger than those found in Scotland now and comparable with the population of Star Carr (Legge and Rowley-Conwy 1988). Red deer exhibit moderate sexual dimorphism, so that distinction between the sexes is not absolute. However, astragali number 5 and 75 fall at the lower end of the red deer measurements from Star Carr, as does tibia 52, and are probably female, while humerus 65 is very large, and probably male. At least two red deer are represented by these bones.

Pig: Sus scrofa

The distinction between wild and domestic pigs is problematic, and their size varies according to environmental circumstance more than the other mammalian species in the sample. Two measurable right astragali (numbers 17 and 69) are from wild pigs on the basis of their large size (Rowley-Conwy *et al*., 2012, fig. 6a). Two animals are represented.

Bone representation and the depositional environment

The bones in the sample are those having high density, and showing early bone fusion, two related factors in bone survival. Late fusing bones such as proximal humerus, tibia and distal radius are not found, excepting the rather unusual find of two *Bos* femur heads. Metacarpal and metatarsal fragments, the glenoid of scapula, proximal radius, astragalus and distal humerus, are all bones of high density. This confirms the evidence shown by the degree of surface erosion on the bones, showing rather harsh preservation conditions.

Fractures and cut marks

There is little doubt that the majority of the bone fragments are from human activity and many show evidence of fracture by percussion. A distal metacarpal of *Bos primigenius* can be reassembled from fragments in Trench 19 (68), though it is not certain that the breaks were ancient. The bone at mid-shaft shows a jagged broken surface typical of breakage by human agency, requiring very considerable force in so robust a bone. In spite of severe erosion, a probable chop mark can be identified on the lateral margin of the shaft. Putative chops can be seen on other fragments, probably where very great force has been applied to break the bones using a stone chopping tool. A second phalanx of *Bos* Trench 19 (64) has a definite depressed fracture about 9mm in the middle of diaphysis.

The small vertebrate remains, *by Simon A. Parfitt*

Introduction

The small vertebrates come from two samples in Trench 19 collected in October 2012, from the fill of the springhead hollow at Blick Mead. One sample (12 kg) came from a gritty dark brown silty clay (horizon 77.1), rich in artefacts, *c*. 1 m below the ground surface. A second sample (15.5 kg) was taken from an overlying deposit (74) containing Mesolithic flint artefacts and later prehistoric pottery.

Methods

The samples were soaked a dilute solution of hydrogen peroxide to facilitate disaggregation and gently washed over a nest of hand-sieves (10 mm, 1 mm, 0.5 mm). The sample from horizon

(74) required a longer period of soaking to effect disaggregation. Lumps of clay-rich material were noted during the sieving process and these may account for the greater difficulty in processing this sample. After drying, the residues were examined under a low-power binocular microscope and all small vertebrate remains >1 mm were extracted. These were identified by direct comparison with modern reference material at the Natural History Museum, London. The list of small vertebrates, together with observations on other organic remains and flint artefacts found in the bulk samples is contained in Table 4.

Results

The majority of the small vertebrate remains present are rodent incisors and molars along with bones of an amphibian and a fish. Although identifiable specimens are limited to a few highly fragmented and degraded elements, nevertheless, they provide tantalising insights into the local environment contemporary with the use of the site by Mesolithic hunter-gatherers.

The most abundant rodent is the bank vole (*Clethrionomys glareolus*), which is represented by one tooth fragment from layer (74) and a further eight specimens from layer (77.1). Today, the bank vole is extremely common and widespread in the Britain, where it occurs abundantly in scrub and amongst the undergrowth of brambles in broad-leaf and mixed forests. A similar environment is indicated by the mouse *Apodemus* sp., remains of which were found in both samples. A murid upper incisor from layer (77) is referred with some confidence to yellow-necked mouse (*A. flavicollis*) on the basis of size. Although not fully grown (the tooth tapers towards the chewing surface) and somewhat degraded, the anterior-posterior diameter of the incisor (> 1.45 mm) is larger than those of British wood mouse (*A. sylvaticus*) measured by Fielding (1966). In her sample, the modal value for the anterior-posterior diameter of *A. sylvaticus* incisors is 1.25 mm, with a range of 1.10-1.40 mm; for *A. flavicollis* the same dimension is 1.50 mm (mode) and a range of 1.30-1.65 mm.

The presence of yellow-necked mouse *A. flavicollis* in an early Holocene context is particularly noteworthy given the scarcity of records for this species from archaeological sites (Yalden 1983). According to Yalden (*ibid*.), previously published early Holocene records of yellow-necked mouse are questionable or based on poorly stratified specimens. The Blick Mead record would appear to constitute the earliest securely dated Holocene record for Yellow-necked mouse in Britain.

In terms of habitat, the yellow-necked mouse is closely associated with mature mixed and deciduous woodland, inhabiting the woodland floor to the highest canopy of forest trees. Only two identifiable small vertebrate bones were recovered from the samples, both from layer (77.1). A small fish vertebra is probably from trout or salmon (Salmonidae). The bone shows signs of burning and is likely to have been food waste deposited in a camp fire. Intriguingly, the humerus of a toad (*Bufo bufo*) also appears to have been burned, displaying the same patchy white/grey/blue colour as other calcined bones from the site. The fact that these bones are calcined has probably contributed to their survival in the harsh burial condition at the site. This is due, in part, to the greater stability of burned bones in chemically aggressive burial environments (Storck and Spiess 1994). Although preservation conditions are far from ideal, further bulk processing of the sediments can be expected to add to the list of smaller vertebrates.

Notes on bulk samples from Blick Mead, collected October 2012

The contents of each sample are listed with relevant comments:

Layer (77.1)

The coarse fraction contained abundant fire-cracked flint nodules and numerous flakes and bladelets. A single 'Janus' flake was picked from the <10 mm residue. Occasional small pieces of wood charcoal were encountered during sorting and several charred hazel nutshell fragments were extracted. Shells and slug plate are likely to be modern contaminants. Large mammal bones are invariably amorphous and rounded; several show signs of burning. The tooth fragments are probably from ungulates; the relatively thin enamel would rule out aurochs. (Table 4).

Layer (74)

The coarse residue contained much nodular flint (cobbles and pebble-sized), some of which are fire-crazed. Occasional chalk pebbles were also noted. Artefacts are less abundant in this sample, but include two cores, several flakes and bladelets (not picked) and a sherd of prehistoric pottery. Burnt organic remains are represented by small pieces of wood charcoal and a few pieces of charred/calcined bone.

Table 4: Small vertebrates

Species	Element
Fish	
Salmonidae? (trout/salmon family)	Vertebra (calcined)
Amphibian	
Bufo bufo (toad)	Humerus (distal end, calcined)
Mammal	
Clethrionomys glareolus (bank vole)	R m1 (length = 2.28 mm), L m3 frag., R M1 frag., R M3 frag., 5 molar frags. (at least 2 individuals)
Apodemus flavicollis (yellow-necked mouse)	R upper incisor
Apodemus sp. (mouse)	Lower incisor frag.
Indeterminate rodent	5 incisor frags.

Table 5: Small mammals

Mammal	Element
Clethrionomys glareolus (bank vole)	R M1 frag.
Apodemus sp. (mouse)	Upper incisor frag.
Indeterminate rodent	3 incisor frags.

Note: All residues were retained together with a small 'grab' sample of the unprocessed sample.

Discussion, *by David Jacques*

The investigation at Blick Mead provokes a number of fundamental questions: i) why was this locale such a 'persistent place' for nearly 3000 years during the Mesolithic period?; ii) what was its relationship with other Mesolithic sites in the vicinity?; and, iii) is there evidence for the Neolithic ritual landscape of Stonehenge being a response to earlier activity? The observations that follow are particularly informed by Mike Clarke's insights about the area gained during his 35-year period of working at Vespasian's Camp.

Ascertaining what was advantageous for people and animals in terms of the environment at Blick Mead is a useful way to approach the first question. Richard Bradley, for example, has argued that natural places which were long-term *foci* for particular activities had qualities that distinguished them from other locations (Bradley 2000, 97-115).

The springhead and springline water temperature is a steady 10-13 °c all year. The experiments that confirmed this observation were conducted by Pete Kinge of QinetiQ using fixed thermal imaging cameras and by Tim Roberts. The formation of the spring complex appears to belong in the early Holocene, from which time it would have provided accessible fresh spring water all year for millennia (Hoare above). Such resources are scarce in the high chalklands, and indeed this is the nearest to Stonehenge (the spring immediately adjacent to West Amesbury Henge, on the western side of Vespasian's Camp, is likely to have provided a smaller source). Furthermore, the River Avon would have been much wider and wilder in early prehistoric times, measuring c. 60 m wide in the early Mesolithic close to the study area, and its banks less defined and stable (Parker Pearson 2012, 156-157). The Blick Mead spring would thus have provided easier access to water for animals and people than the river. The spring basin is also shielded by the hill of Vespasian's Camp and the spring line similarly protected from the prevailing south westerly wind by the steep eastern scarp of the Camp. The sheltered position and constant water temperature around the springs would have created an extended growing season: indeed, vegetation emerges earlier and persists here. This aspect would have attracted fauna, which in turn may have influenced the movement of people and given the place particular associations.

Dandelion from Mesolithic contexts at the spring and indications of large-scale animal trampling close to the water's edge at the late Mesolithic Countess Farm site, which shares the same river terrace as Blick Mead (Leivers and Moore 2008), reveals large animals in the vicinity. The potential impact of wild animals, in terms of their movement, resource value and symbolic associations, is under researched in the Stonehenge landscape. Phenomenological approaches tend to privilege the topographical sight-line experiences of people, but usually lack attention to the 'experience' of wild animals and how they might influence human behaviour. Wild fowl, eels, beavers and varieties of fish were also likely to have been abundant at the site, and would have contributed to the varied and year-long food supply (Tony Brown, pers. comm).

Blick Mead and its surrounds were likely to have been abundantly wooded in the Mesolithic (French *et al.*, 2012, 30) and therefore rich in fuel and building material for shelters and log boats. The present spring line joins the River Avon directly. If it was similarly directed in the Mesolithic, Blick Mead would have been connected to locales up and down the Avon. The large mid- to late Mesolithic site at Downton (Higgs 1959), for example, would have been about four hours away down river by canoe (Mike Clarke, pers. comm.). A likely lagoon, suitable for canoe, has recently been identified along the spring line, close to where the spring stream meets the Avon (Peter Rowley-Conwy, pers. comm.).

The springhead basin provided an easy and accessible supply of flint nodules for making tools (Bishop above). The discovery of seven tranchet axes/azdes suggests either that the raw material for such prestige tools was found and fashioned here or imported as a result of visits of people from elsewhere. Moreover, the red algae *Hildenbrandia Rivularis*, present in the water along certain parts of the spring line, turns red oxidised flint into a bright magenta pink within two days of it being removed from the water. This change is permanent and a rather magical and special effect, even to twenty-first century eyes. *Hildenbrandia* is an algae which only grows in certain conditions: shaded light, a constant 10-14°c water temperature and where no other algae exists in the area. This transformative phenomenon, likely to be present in the past, is likely to have been noticed by hunter gatherer groups and perhaps contributed in some way to the site's potentially 'special' associations (David John, pers. comm.). This phenomenon has not been previously recorded at an archaeological site in the British Isles.

The above observations provide a basis for the identification of the site as a homebase, a problematic term that has a connotation of a single and relatively 'fixed' location. The environmental and social advantages noted above appear to have led to the area being utilised for thousands rather than hundreds of years, so it is likely that there were a series of similar 'places' at different times in the area. The Blick Mead discoveries, namely the well preserved worked flint, burnt flint and faunal remains in a sealed water lain clay deposit, potentially provide evidence of at least one such homebase. This assemblage may have originally been homebase debris, middened around the edges of the spring. The homogeneous waterlain deposit containing the finds may be the result of such material spreading out by slow moving water. This assemblage could also have been influenced by cultural factors, bearing in mind the visibility and accessibility of the spring and the numerous intact microliths found in the assemblage. These latter are not in a condition to merit being discarded and are also too light to have been carried an equal distance if thrown with the much heavier pieces of knapping debitage, as per Binford's 'throwing zone' model (Binford 1978, 330-361; and see Mellars 2009, 507). One of these microliths is the possible slate point. With slate exotic to the area, and the artefact seemingly in the style of a Horsham Point, this find may reflect people from different places meeting at the site.

Feasting

Worked flint, intensely fired burnt flint and the remains of aurochs, wild boar and red deer indicate that hunting, butchery, cooking and food consumption took place close to a base at the spring. The cooking of salmon/trout and toad points to intensive use of food resources in the area, and hints at lengthy stays here. In terms of the larger animals, it is difficult to escape the conclusion that the quantities of meat produced by them, as well as the efforts needed to kill and render them, created an opportunity for structured social rituals, such as large scale feasting.

Conneller's ideas about potential symbolism in the composite nature of Mesolithic weapon design might usefully be extended to feasting occasions (Conneller 2008, 160-176). She argues that composite material culture can actively project biographies of individuals involved in their creation. In this way, people who found flint nodules or pebbles in a particular place, others who created cores from it in another place, the blade maker, the microlith and barb shaper, the shaft maker, the people who attached the tools to the shaft, the people who threw the weapons into the animal, and those that butchered it, processed it, displayed it and cooked it, and those who ate it, could all be connected and have aspects of their identities evoked. Artefacts, then, can be argued to stress active connections, rather than separateness. Many pre-literate societies materialise narratives as *aide memoire* (Ong 1982, 31-72) and, at Blick Mead, all of the stages of tool making are present, alongside evidence for large-scale fires, hunting and eating. Rather than simple dumping of material, such artefact collections may have served as a 'record' of event(s). There is no evidence so far of structured deposition at the site, but perhaps of active connections and 'entanglements' (Hodder 2012) being foregrounded.

Spielman (2002, 195-207) argues, in another context, that feasting events are crucial for small, dispersed communities in terms of the structured 'exchange' events they offer. They can be drivers for economic efforts to provide food, rather than the other way round. Blick Mead, with excellent communication links via the river, hunting grounds and evidence for long term cohesive groups, may have been ideally suited as a feasting place where traditions and acts of memory were played out.

Aurochs

The percentage of aurochs from the identified remains (61%) is the highest found nationally from a Mesolithic site and deserves its own discussion, both in terms of the site and the uses of the landscape around it. Physically, these animals were the most powerful in the landscape, and may also have been so in symbolical terms: the comments below are very much informed by conversations with Tony Legge and later discussions with Peter Rowley-Conwy.

Rather than moving through densely wooded areas, aurochs herds more likely preferred routes with long sight lines in order to observe predators. They ate prodigiously, thus open places frequented by them would have had generally lower levels of vegetation. Their eyes, like modern cattle, were positioned to the side to spot predators from the flanks. Remains from Blick Mead show them to be more than twice the size of modern cattle. They were probably ferocious fighters, fast and agile, and so tracking and killing them would have been extremely dangerous, relying on teamwork and a sensitive knowledge of terrain. The aurochs from Blick Mead are likely to be local animals.

The aurochs could have been killed at Blick Mead, or forced into the nearby river and killed from canoes (Peter Rowley-Conwy, pers. comm.). Their migratory movements might have been tracked from the springs, perhaps onto nearby Salisbury Plain. Mike Allen points out the area around Stonehenge in the early Mesolithic would have looked like 'open woodland…and open country', and have been 'certainly ... visible from higher ground' (Allen 1995, 55 and 473) from vantage points like Coneybury Hill and King Barrow Ridge, where a concentration of Mesolithic worked flint has been found (Darvill 2005, 66). Elsewhere, the area around Stonehenge is described as 'cleared' in this period (Allen 2002, 149). Was the vegetation low here partly because of the regular presence of aurochs?

King Barrow Ridge slopes down to Stonehenge Bottom (Figure 1) which, in Mesolithic and later times, may have been a water course draining close to Lake and then the River Avon (Mark Bowden, pers. comm.). A fording point exists here where a natural funnel, possibly created by a palaeochannel, forms a side valley and takes one's line of sight hundreds of metres westwards, directly to the area where the Mesolithic posts in Stonehenge car park were situated. This funnel, running straight from the fording point, could have potentially herded aurochs moving towards this open vista or, if they were coming the other way, in the direction of the ford. Long funnel shapes prevent cattle from seeing potential predators from the flanks and can create panic. Straight high-sided funnels used to be a standard part of traditional abattoir design to increase cattle bunching and movement towards the area where they would be killed (Gonjor 1993, 16-17). Rather than the Mesolithic posts establishing a line of sight to Beacon Hill on the eastern horizon (Parker-Pearson 2012, 137), perhaps they were set up to mark east-west/west-east movement of aurochs, and probably other large herbivores, through a relatively open landscape. Perhaps they functioned in part as 'time' markers to predict when the animals would be at certain places? These markers could have been seen from higher ground on the northern, eastern and western ridges encircling the Stonehenge landscape, but not the southern part. Viewed in this way, this part of the landscape would have been a place of advantage for hunting groups with long sight lines across the Plain, a predictable side valley route where large herds of aurochs and other animals could be observed entering or departing the area, and places to hide. The likely water course at Stonehenge Bottom - at certain points in the year draining into the Avon - potentially provided a route back to the homebase to take the remains of large animals away.

Blick Mead and the first monuments at Stonehenge

The earliest radiocarbon date from Blick Mead makes it broadly contemporary with the 8th millennium BC Mesolithic post-built monument 1.8km away at Stonehenge car park. We suggest that the posts should be seen as fixed points in the Mesolithic cultural landscape of the 8th-7th millennia BC. At Blick Mead, it is likely that we have found a locale used by people who made, placed and used the Stonehenge posts (Joshua Pollard, pers. comm.; Peter Rowley-Conwy, pers. comm.). The two places were possibly linked as this was an unusually open part of Salisbury Plain, especially suitable for hunting. Both Plain and spring may have become redolent with myths and traditions associating them with special, perhaps sacred, hunting grounds over a long period by hunter-gatherer groups.

After the Mesolithic

In addition to linking the earliest monumental structures at Stonehenge with Blick Mead, the radiocarbon dates also potentially connect late Mesolithic uses of the landscape with the construction of the first Neolithic monuments. The Coneybury Anomaly, a ceremonial pit and the earliest Neolithic place in the landscape (3950-3790 cal BC, 5050 ± 100 BP; OxA-1402; Richards 1990), is situated on Coneybury Hill, to the east of Stonehenge. It would have been intervisible with the western flank of Vespasian's Camp, the River Avon and the future site of Stonehenge. The 'Anomaly's' pit was filled with apparently structured deposits from a large butchery event, including wild and domesticated animal bone, charcoal, cereal grain, early Neolithic pottery and an assemblage of tools. Some of the material may have been chosen to evoke Mesolithic life paths, for example, the wild fauna, some of it directly associated with river valleys, such as beaver, and broad blade tool types (the principal type found); while others project early Neolithic ones, for example, in the choices of cereal grain, domesticated fauna, pottery and tools, such as the two leaf shaped arrowheads and the fragment of a polished stone axe. Rather than just viewing this deposit as debris from a large one-off party (Parker-Pearson 2012, 24-25), perhaps it was deliberately chosen to signify different material cultures. The prominent location for this event on the high ridge is also suggestive of a high-profile display; the amount of meat produced for the feast could have fed hundreds (*ibid*., 25). Taken together, the assemblage from the Coneybury Anomaly and the activities associated with it, seem to freeze-frame a transition between the late Mesolithic and early Neolithic in a way suggestive of a moment of cultural appropriation or assimilation.

The only radiocarbon date from the Coneybury Anomaly deposits suggest that this interchange was happening rather later than the period usually ascribed to the end of the Mesolithic, though Whittle *et al.* argue that the Neolithic did not begin in this part of Wessex until the 39th century BC (Whittle *et al.* 2010, 204). Interestingly, the later Coneybury 'Henge' enclosure monument was later built close to this spot between the early 4th-mid 3rd century BC (OxA-1408: 4200±110BP 3100-2450BC). It would have been intervisible with West Amesbury Henge and the River Avon to the southeast, Vespasian's Camp to the east and the ditch and bluestone arrangement in the Phase One development of Stonehenge to the northwest.

Christie's discovery of a pit containing pine charcoal at the western end of the Greater Cursus (Christie *et al.* 1963, 370-82) is also suggestive of Mesolithic activity incorporated into a relatively early Neolithic structure. Pine was part of the pre-boreal Stonehenge landscape and was absent in the area in the Neolithic (a radiocarbon date from this charcoal is required). The Greater Cursus is a monumental east-west raised inter-valley route which runs down-slope across Stonehenge Bottom to reach the western terminus: both direction and topography parallel the suggested route taken by aurochs posited above. Thomas *et* al. (2009, 44) also wonder if the Greater Cursus might reflect earlier Mesolithic routes between the Rivers Avon and Till interfluves. Closer to Stonehenge, the Stonehenge Riverside Project recently discovered a Mesolithic hunting camp west of the site (Parker-Pearson 2012, 234-236), with a hint of late Mesolithic to early Neolithic activity in the form of a bovine bone in the packing of sarsen 27 at Stonehenge radiocarbon dated 4340-3980 BC (Darvill 2005, 66). Of related interest is the wild animal bone curated with domestic cattle remains in the foundation deposits for the Phase One ditch at Stonehenge (Allen and Bayliss 1995, 511-535). Was an older symbolism attached to these different human-animal lifeway choices? Again, as at the Coneybury Anomaly, wild and domestic seem to be chosen as active signifiers.

Sharing the same river terrace with Blick Mead is the Mesolithic site west of Countess Farm. Wessex Archaeology's report on the cache of 216 late Mesolithic worked flints, plus 180 pieces of burnt flint (Leivers and Moore 2008, 14-17) highlights the scarcity of late Mesolithic material in the area and the significance of the finds in those terms. There can be little doubt that this site is part of the same settlement nexus as Blick Mead.

Until now, earlier find spots have been described in isolation, but they can now be tentatively brought together with Blick Mead to reveal potential patterns of use in the landscape. The evidence suggests hunting groups foraying out from sheltered locales at Blick Mead up on the nearby ridge and the Plain in search of animals. Later Mesolithic occupation in the area seems particularly dense, especially if the sites at West Amesbury, Countess Farm, Blick Mead, and perhaps even the Coneybury Anomaly, are drawn together. There is also the possibility of transportation links with nearby sites like Downton and others further afield.

In conclusion, the Blick Mead discoveries are of great importance and the later Mesolithic may well emerge as a new starting point for the better known archaeology of the Stonehenge landscape.

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