

# Journal of Material Culture

<http://mcu.sagepub.com>

---

## **Materializing Stonehenge: The Stonehenge Riverside Project and New Discoveries**

Mike Parker Pearson, Josh Pollard, Colin Richards, Julian Thomas, Christopher Tilley,  
Kate Welham and Umberto Albarella

*Journal of Material Culture* 2006; 11; 227


DOI: 10.1177/1359183506063024

The online version of this article can be found at:

<http://mcu.sagepub.com/cgi/content/abstract/11/1-2/227>

---

Published by:

 SAGE Publications

<http://www.sagepublications.com>

**Additional services and information for *Journal of Material Culture* can be found at:**

**Email Alerts:** <http://mcu.sagepub.com/cgi/alerts>

**Subscriptions:** <http://mcu.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>

---

# MATERIALIZING STONEHENGE

The Stonehenge Riverside Project and New Discoveries

◆ MIKE PARKER PEARSON

*University of Sheffield, UK*

◆ JOSH POLLARD

*University of Bristol, UK*

◆ COLIN RICHARDS

*University of Manchester, UK*

◆ JULIAN THOMAS

*University of Manchester, UK*

◆ CHRISTOPHER TILLEY

*University College London, UK*

◆ KATE WELHAM

*Bournemouth University, UK*

◆ UMBERTO ALBARELLA

*University of Sheffield, UK*

## *Abstract*

This article reviews recent interpretations of Stonehenge in terms of contrasting uses of stone and timber in the mid-3rd millennium BC. It explores the relationship of this enigmatic monument with circles of wood at nearby Durrington Walls and Woodhenge, establishing how these various

monuments might have been integrated into a single scheme in which these remarkable structures were linked by artificial avenues and the natural feature of the River Avon. It also investigates the ways in which substances other than wood and stone – turf, earth, chalk and wood ash – may also have had significance for ideas and practices of transformation involving the living and the dead. The results of excavations and fieldwork in 2004 and 2005 are also summarized.

**Key Words** ♦ archaeology ♦ Durrington Walls ♦ early Bronze Age ♦ materiality ♦ Neolithic ♦ ritual ♦ solstice ♦ Stonehenge

In 1998 Barbara Bender published a singular book, *Stonehenge: Making Space*. Unlike any archaeological book before or since, it contained cartoons as well as text and conventional illustrations. This 'Barbara for Beginners' provided not only a potted autobiography of the author and her theoretical perspective in pictures but also an analysis of Stonehenge's socio-politics from the Neolithic to the present day. Barbara's experimentation with different media in print echoed her ways of thinking about the potentially expressive media of stone, wood, earth, air and chalk in the Neolithic. Drawing on Paul Taçon's investigations of stone-working in western Arnhem Land in northern Australia (1991) and Maurice Bloch's study of Zafimaniry woodworking in Madagascar (1995) amongst others, she suggested that different materials may have symbolized and embodied certain qualities of, for example, permanence, transience and gender.

The year before, Alasdair Whittle had also published work on Stonehenge's 'language of stones', suggesting similarly that their hardness and durability might have carried meaning in connection with the dead and the ancestors (1997a: 163). He examined the same analogies in Bloch's (1992, 1993) and Taçon's (1991) work, and concluded that Stonehenge 'united people . . . with their ancestors, spirits and the earth . . . in a timeless frame of reference' (Whittle, 1997a: 163). No one has asked either Barbara or Alasdair exactly when each of them came up with these ideas about Neolithic materiality, although they were probably thinking along these lines by 1996. In 1997 Josh Pollard and Mark Gillings were also thinking about metaphorical associations 'between durable materials and a sacred order, and the non-durable and the transitory state of worldly life' (Pollard and Gillings, 1998: 158–9). Some years earlier, Aubrey Burl had been the first to put forward Stonehenge as a monument to the dead, specifically 'a gigantic mortuary-house for the mighty dead', but for different reasons to do with its earlier use as a cemetery (1987: 172). In February 1998, a Malagasy colleague Ramilisonina and Mike Parker Pearson were asked to contribute to a BBC documentary on Stonehenge.

Barbara's book was not yet published and we were unaware of Alasdair's article or Josh and Mark's draft text. As a result we rediscovered the theory for a fifth time: Ramilisonina's personal experience in Madagascar of constructing in stone for the ancestors whilst building in wood for the living and newly dead made it self-evident to him that Stonehenge and Avebury were monuments to the ancestral dead. Little of this came across in the documentary but a short article in *Antiquity* expressed the message more clearly (Parker Pearson and Ramilisonina, 1998a).

The *Antiquity* article generated a small flurry of responses and debate (Barrett and Fewster, 1998; Parker Pearson and Ramilisonina, 1998b; Whittle, 1998; Whitley, 2002; Pitts, 2003) and was endorsed in popular accounts (Pitts, 2000; Renfrew and Bahn, 2000: 199; Pryor, 2003). Both Barbara's and Alasdair's initial contributions seemed to have been forgotten and the debate ranged across the use of analogy, the appropriateness of Madagascar as an analogy for ancient Britain, the degree to which the theory was ahistorically structuralist without room for human agency and change, the nature of ancestral veneration in prehistoric Britain, and even whether ancestors were at all important. The critiques generated a series of replies and elaborations on the idea of ancestors and the process of hardening expressed in wood and stone as the passage from living to deceased ancestor (Parker Pearson, 2000, 2002, 2004) but, more importantly, the debate highlighted the gaps in archaeological evidence and the need for a sustained field project to investigate the theory and its applicability in practical rather than exclusively theoretical terms. It had thrown up questions about Stonehenge's relationship with timber circles at Durrington Walls and Woodhenge, about the significance of the River Avon which potentially linked them as a single complex (Figure 1), about the use of the river for disposal of human remains, and about the contextually distinct yet contemporary or chronologically overlapping styles of material culture and feasting remains (stone-gritted Peterborough Ware and Beaker pottery associated with cattle and stone monuments on the one hand, and organic-tempered Grooved Ware associated with pigs and timber monuments on the other). It was time to gather new evidence and take a fresh look at the old.

As a result, the Stonehenge Riverside Project was initiated in 2002, its research design being published two years later (Parker Pearson et al., 2004). Josh Pollard, Colin Richards, Julian Thomas, Chris Tilley and Kate Welham were now fellow directors of the project, working with specialists drawn from many different universities and organizations such as English Heritage, Wessex Archaeology and the National Trust. The project is intended to continue until 2009 and its aims are not simply to investigate the wood-stone transition theory but also to generate multiple interpretations of the evidence, and to obtain basic information about the date and character of many of the undated monuments and

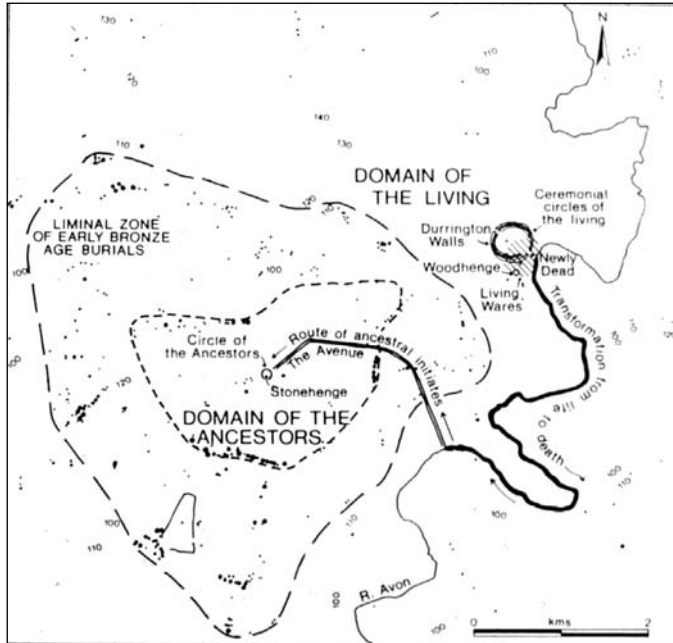


FIGURE 1 The hypothesized link between Durrington Walls and Stonehenge c. 2500–2000 BC.

*From Parker Pearson and Ramilisonina (1998a)*

activity phases within Stonehenge and its landscape. Analysis is concentrated on the fourth, third and early second millennia at three nested geographical scales: the largest of these is the region of central southern England (Figure 2; Field 2004), followed by the zone of Neolithic and Early Bronze Age monuments either side of the Avon on Salisbury Plain (Figure 3), and thirdly within the Stonehenge World Heritage Site starting at the henge enclosure of Durrington Walls (Figure 4).

### PIGS AND PARTIES

The solstice axis of Stonehenge and its Avenue has long been appreciated by antiquarians and astronomers, and William Stukeley's 18th-century reinvention of druidry has ultimately resulted in the success of the Stonehenge midsummer festival, enjoyed peacefully in 2005 by just under 21,000 revellers watching the sunrise on midsummer morning. Barbara suggested in her book that such calendrical parties (archaeologists normally choose to use more formal words such as 'ceremonials') were an important aspect of Neolithic and Bronze Age life and that people might have gathered at Stonehenge at similar moments in the distant past.

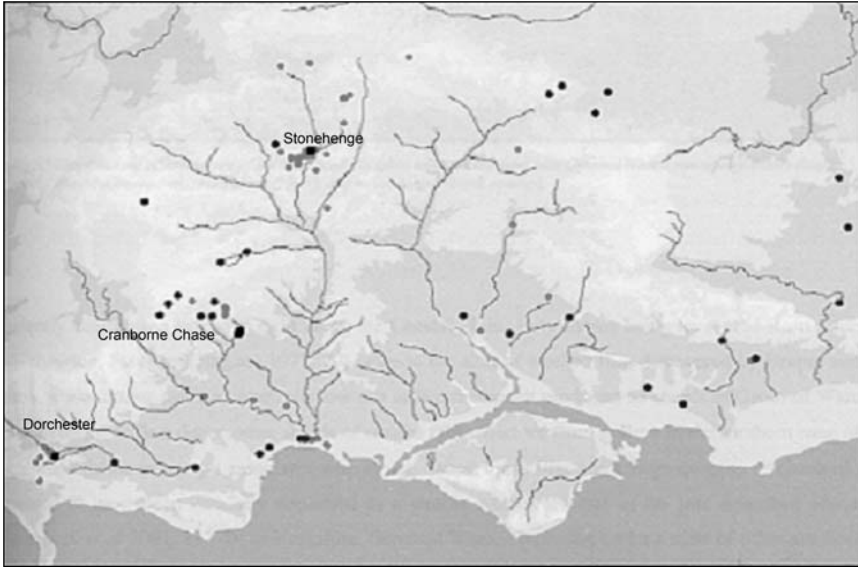
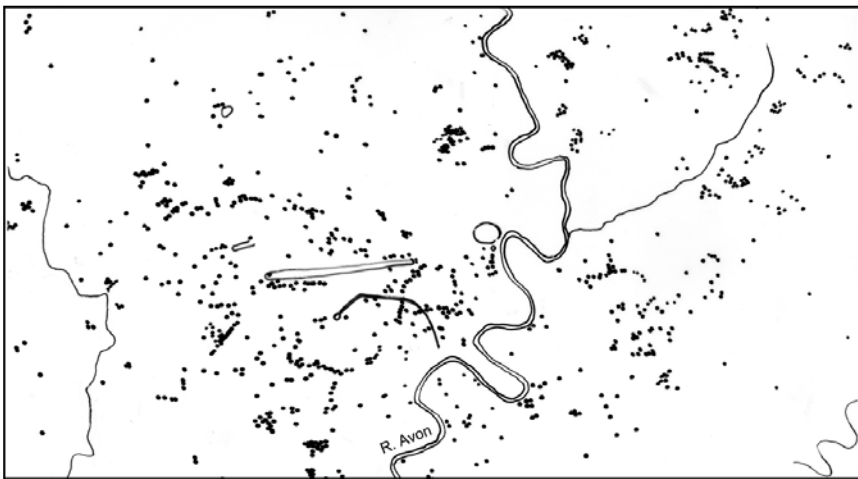


FIGURE 2 The widest geographical scale of the Stonehenge Riverside Project, showing Stonehenge's location on the chalk uplands west of the lowland Hampshire basin.

*From Field (2004)*

FIGURE 3 The monument complex (mostly Early Bronze Age round barrows c. 2400–1700 BC) either side of the River Avon.

*By permission of English Heritage*



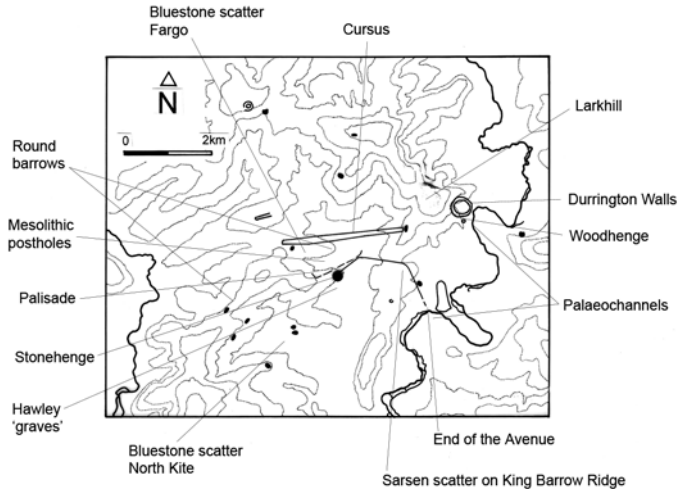


FIGURE 4 The monuments proposed for investigation by the Stonehenge Riverside Project within the World Heritage Site.

*By permission of English Heritage*

Yet the area excavated at Stonehenge is largely devoid of partying detritus. There are considerable quantities of stone-working debris from Phase 3 (c. 2500–2000 BC when the bluestones and sarsens were erected and re-erected) but the small assemblage of mostly Beaker pottery (229 sherds) from this period and the few animal bones do not square easily with such events (Cleal et al., 1995). In its first phase (c. 3000–2950 BC), Stonehenge was merely a circular bank and ditch, possibly with the circle of 56 pits (Aubrey Holes, of which at least seven probably held posts) dug at this time. Phase 2 is undated and consisted of myriad timber posts (which may have formed one or more structures) followed by probably more than 200 cremation burials (Pitts, 2000: 121). The Welsh bluestones were then put up (Phase 3i), taken down and the sarsens put up (Phase 3ii), followed by three more phases of rebuilding (Phases 3iii–3v) before 2000 BC. Finally, two concentric circles of pits (Phase 3vi) were dug outside the stones in the early second millennium BC.

To find evidence of prehistoric partying, one must journey from Stonehenge along the Avenue – a 2.8 km-long, ditched and banked linear monument – and then upstream 3.2 km to Durrington Walls and Woodhenge. Here lies the largest henge in the British Isles, over 17 ha in area and surrounded by a 5 m-deep chalk-cut ditch with a large bank outside (Figure 5). On its south side there is a small henge – Woodhenge – whose bank and ditch enclosed a series of concentric oval arrangements of timber posts (Cunnington, 1929). Rescue excavations through Durrington

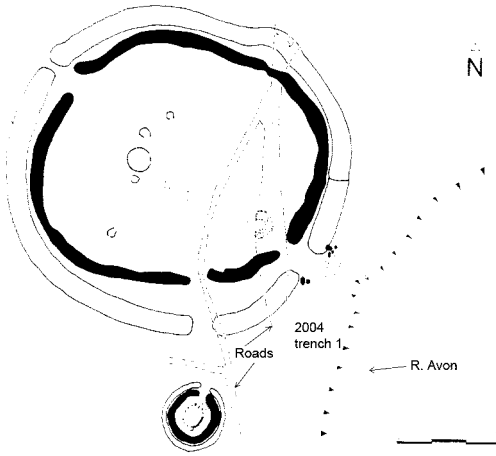


FIGURE 5 Plan of Durrington Walls and Woodhenge.

*Drawn by Irene de Luis*

and stone monuments were in use together and, in the case of the Southern Circle and Stonehenge, were being intermittently rebuilt during the period of c. 2500–2000 BC. Whether the Durrington Walls henge was built at precisely the same time as the stones were erected at Stonehenge is not known but new dating results (see later) suggest that it was. In addition, the juxtaposition of the two sets of monuments at either end of a short stretch of the Avon and the complementarity of the activities carried out within each suggest that they were built within the same programme to form a single interlinked entity. Although ceremonial use of this landscape already went back at least a thousand years by this time, the sheer scale of this work programme suggests a millenarian zeal in which people from across

Walls in 1967 in advance of a new road uncovered two timber circles: the smaller Northern Circle and the 40 m-diameter Southern Circle set just inside the henge's east entrance (Figure 6; Wainwright with Longworth, 1971).

Until the re-dating of Stonehenge's stone phase (Phase 3) in 1995, it was not realized that the Durrington/Woodhenge complex of henges and timber circles was potentially contemporary with the sarsen and bluestone settings at Stonehenge. Both sets of timber

FIGURE 6 The Southern Circle at Durrington Walls, photographed during excavation in 1967.

*With permission from Geoffrey Wainwright*



Britain must have participated in a religiously inspired remodelling of cosmology.

The 1967 excavations at Durrington Walls uncovered enormous quantities of ceramics and animal bones whose minimal breakage patterns have been considered as evidence for large-scale feasting (Wainwright with Longworth, 1971: 232). Most of the bones were of domestic pigs, and more recent work has demonstrated that some of these had been shot with arrows and barbecued (Albarella and Serjeantson, 2002). Albarella has further examined the growth stages of the teeth from over 40 pig jaws to establish that the vast majority were killed between mandibular wear stages 8 and 12, around 9 months old (Figure 7). In these northern latitudes it is most likely that pigs farrowed only once a year, probably in spring, placing the time of their slaughter in the midwinter period (Albarella and Payne, 2005).

The evidence for roasting implies that this killing event was for immediate consumption rather than for salting or curing to provide people with nourishment through the lean months of winter, spring and early summer. The slaughter pattern revealed by the pig teeth also has potentially profound implications for understanding the timing of ceremonies in the Stonehenge landscape. The emphasis on the midsummer sunrise at Stonehenge, when the rising sun shines along the Stonehenge Avenue and into the monument, has obscured the fact that observers looking in the diametrically opposite direction may also observe the sunset on midwinter's day. If Durrington Walls and Woodhenge were indeed part of the Stonehenge complex then the pig teeth offer independent evidence that midwinter was just as significant a time of the year. By embodying our experience of Stonehenge as a monument to be approached *en masse* along the Avenue from the north east (rather than to be appreciated by a select few standing at its centre looking out to the north east), the direction of sight and bodily movement is towards the south west, specifically on the alignment of midwinter sunset.

Woodhenge's timber oval has long been known to share the same solstice axis as Stonehenge and, once again, examination of likely paths of movement suggests that it can best be understood as being approached from Durrington Walls henge (through a subsequently blocked-off south entrance to Durrington Walls), moving from north east to south west, hinting at the significance

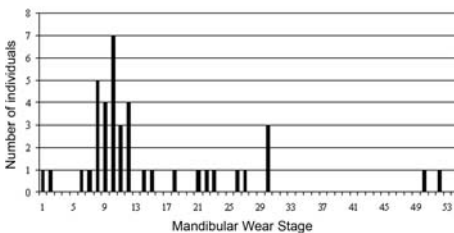


FIGURE 7 Graph of tooth-wear stages of pig mandibles recovered in the 1967 excavations at Durrington Walls.

With permission from Umberto Albarella

of the midwinter sunset in addition to the midsummer sunrise. Inside Durrington Walls, the Northern Circle's entrance faces south-south-west but the Southern Circle faces precisely towards midwinter sunrise; people leaving the henge's east entrance through the Southern Circle, heading for the river, passed through an opening in the timber posts which was aligned on the sunrise on the shortest day.

A similar south east orientation is also shared by the axis of the Northern Circle. Whilst this circle's post-lined avenue leads to the south-south-west (towards the Southern Circle), the Northern Circle's central setting of four posts has a different axis, very close to midwinter sunrise. Outside the henge and to the south of Woodhenge, the timber setting under Durrington 68 (Pollard, 1995a) also shares this south-easterly orientation. This timber monument also had a central rectangular arrangement of four posts, strikingly similar to the Northern Circle and to the first phase of the Southern Circle.

The Southern Circle was a centre of intense and potentially long-term activity. More than 200 postholes were dug at different times to hold circular and linear arrays of timbers whose great size (up to a metre in diameter) makes this a monumental achievement, not only in the erection of such posts but also in hauling them from forests that must have grown many miles away. Re-analysis of the drawings of the postholes excavated in 1967 shows that some posts were inserted after others had entirely rotted; with these massive timbers taking almost 200 years to decay (Wainwright with Longworth, 1971: 225), this points to a long sequence of use over at least three centuries and probably within the same 500-year time frame of stone building at Stonehenge. As is also seen with at least some of the Woodhenge posts, the timbers were left to rot *in situ*.

Outside the Southern Circle's entrance, the 1967 excavations located a gravel and chalk platform on which a large fireplace had been set (Figure 8). This might have been the fire on which pigs were roasted. The Southern Circle had only a small central hearth and the lack of an eaves-drip gully, and the survival of only a few patches of chalk spreads (rather than a uniform floor surface), together with the unusual process of replacing posts with pits, argue for successive arrangements of free-standing posts and against this structure ever having been a roofed building.

The decay over time of the Southern Circle can be understood as a counterpoint to the permanence of Stonehenge. This is further reinforced by the deposition of different kinds of pottery and animal remains at these two monuments. Only a few Beakers were found among the predominantly Grooved Ware assemblage at the Southern Circle (Wainwright with Longworth, 1971: 71–3) whilst Stonehenge's assemblage was composed mostly of Beaker pottery (Cleal et al., 1995: 350–6). Similarly Stonehenge's animal bones are mostly those of cattle whilst the

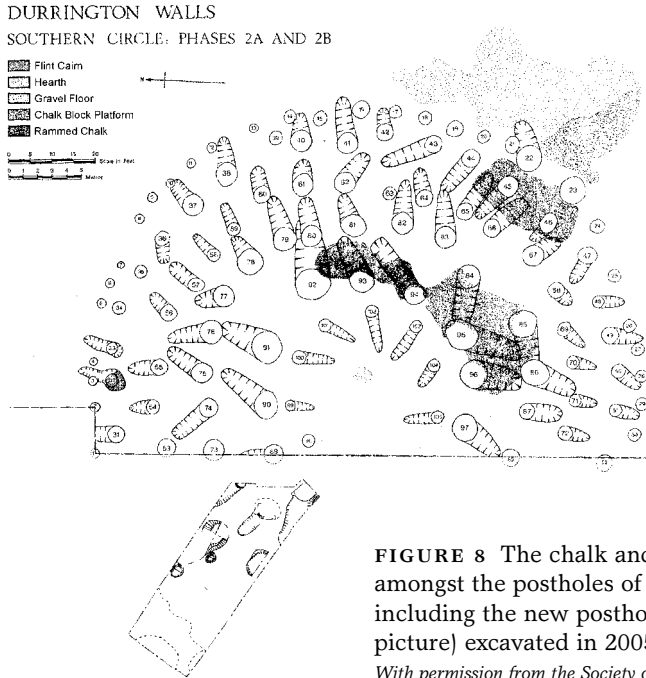


FIGURE 8 The chalk and gravel surfaces amongst the postholes of the Southern Circle, including the new postholes (bottom of picture) excavated in 2005.

*With permission from the Society of Antiquaries of London*

Durrington Walls assemblage is dominated by pig. The same spatial distinction of these contemporary ceramic styles can be seen in the wider landscape between the two monuments, with Grooved Ware finds concentrated to the east of Stonehenge and Beaker pottery (both grave goods and surface finds) clustering around Stonehenge and to its west (Thomas, 1999: fig. 7.4). At Woodhenge this spatial patterning is played out in microcosm, with Beaker sherds and cattle horn cores concentrated within the postholes in the south west of the timber circle, between the axis of midwinter sunset and the two holes that once held standing stones (Mike Pitts pers. comm.; see Cunnington, 1929).<sup>1</sup> Whereas pigs were the primary feasting animal for the transient living, cattle were slaughtered and eaten in remembrance of the ancestral and enduring dead.

We would argue that the relationship between Durrington Walls and Stonehenge is one of funerary rites of passage. At Durrington Walls people held funerary feasts, before disposing of the remains of the dead in the river, and constructed successive post arrays to mark their passing. The memories of individual and community dead might have been materialized in the lifetime of a post. After three to seven generations or so, their commemorative marker would have gone and offerings were then made into the hole dug where the decayed and fallen post had once stood (see later). Downstream lay the permanent monument to the

eternal ancestors, where the dead completed their rites of passage after transformation by water.

## PROCESSIONS AND VISTAS

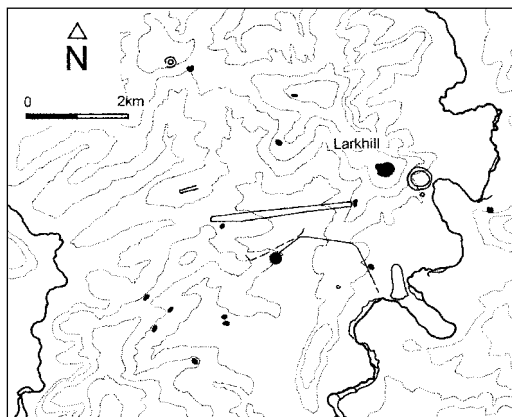
Durrington Walls is situated within a steep dry valley which leads off the flattened summit of Larkhill to the north west. From this summit the entire 'Stonehenge bowl' is visible, as are almost all of the area's earlier Neolithic monuments (at least 16 long barrows, two cursuses and a causewayed enclosure) in a landscape that might well have been largely cleared of trees by the third millennium BC (Cleal et al., 2004 *contra* Allen, 1997: plates 2–3). This panoptical location is further distinguished by its position on the solstice axis of Stonehenge: if one looks towards the midwinter sunset from Larkhill, one is looking along the end of the ditch and bank monument known as the Stonehenge Avenue, directly at Stonehenge (Figure 9).

Whether this hill was a place of gathering prior to ceremonial processions is not known, but it is a distinctive landmark visible from many miles away. For the thousands of people involved in building and celebrating at Stonehenge and Durrington Walls, their temporary campsites or settlements over the winter months could have sprawled across the wider landscape around these monuments (as the density of Late Neolithic–Early Bronze Age flint scatters suggests; Chan, 2003). Larkhill might well have formed the starting point of specific processions towards Stonehenge although excavations and geophysical survey in 2005 revealed no evidence of any earthfast structures on this hilltop. With the monument pinpointed in the far distance by its Avenue, people moving from Larkhill via Durrington Walls to Stonehenge would have had here their only opportunity to see it until, near the end of the route, they emerged onto King Barrow Ridge to confront the megaliths just over half a mile away.

This sense of hiddenness and revelation is a characteristic of that entire journey from Larkhill

FIGURE 9 The siting of the Larkhill 'panopticon' within the Neolithic landscape of Stonehenge.

*Drawn by Irene de Luis*



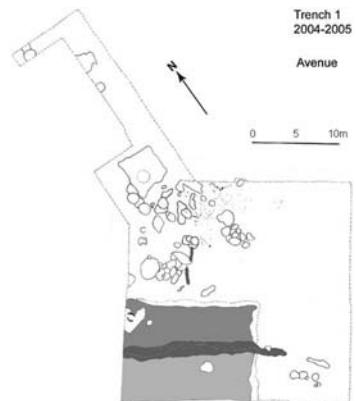
along the river to Stonehenge. Because of the angle of Larkhill's east slope, Durrington Walls – the largest monument in the British Isles at that time – would not have been visible until one was almost upon its west entrance. The monumentality of its outer bank, standing 8 m high on the interior but only 2 m or so on the exterior, could only then be appreciated, from the inside of the monument. For people within the interior of the henge, this high circular wall of chalk blocked out all topographic features except that directly ahead to the east, namely Beacon Hill and its ridge on the far side of the Avon.

### The Durrington Walls avenue

In 2005 a new avenue was discovered, leading from the east entrance of Durrington Walls to the river (as predicted by the wood–stone transition model; Parker Pearson and Ramilisonina, 1998b: 856). Much of the south-eastern part of this avenue's 100 m length has been destroyed by erosion in the last 2000 years but its rammed flint surface (surviving along the south-west side of the avenue) has been traced as far as the riverside by augering. Half of the avenue's width was excavated in 2005 (about 12 m), allowing us to estimate that the road surface was originally about 10 m wide (wider than most A-roads today) and, with a gully and bank on each side, the avenue would have been over 20 m across (Figure 10). Halfway along its 100 m length there was a large pit which probably held a timber post, at about the same distance to the Southern Circle as the Heel Stone is to Stonehenge.

FIGURE 10 The Durrington Walls avenue discovered during excavation of Trench 1 in 2005. (Left) Photograph looking towards the north. (Right) Plan. The avenue consists of a roadway of rammed flint (light grey) flanked on its north-east side by a gully (dark grey) and an external bank (medium grey).

*Stonehenge Riverside Project*



Despite the Durrington Walls avenue's grand size, most Neolithic 'traffic' (pedestrian rather than wheeled carts) was concentrated along the middle of the roadway. This is evident from the smooth surface of the small flint cobbles down its centre and from the better survival of animal bones and Neolithic pottery sherds along its edges where trampling had been less severe. The central road was resurfaced at least twice with rammed layers of small broken flint cobbles. As such, it is one of the earliest 'metalled' road surfaces in the world.

The precise orientation of this new avenue is difficult to ascertain because only a short length of it has been investigated but it does not follow the natural contours of the valley, its south-east end being south of the centre of the valley bottom in which the henge entrance sits. The reason for this appears to have been astronomical. The Southern Circle's entrance faces sunrise on the midwinter solstice, yet the avenue is on a different alignment when looking towards the river. However, when facing up the slope towards the Southern Circle, the avenue is oriented within 1½° or less of sunset on the midsummer solstice (Clive Ruggles pers. comm.). These two orientations of henge and avenue at Durrington Walls are complementary - or oppositional - to the orientations of the Avenue and stone circle at Stonehenge:

STONEHENGE	Looking from Avenue towards stone circle	Facing midwinter sunset
DURRINGTON WALLS	Looking from avenue towards timber circle	Facing midsummer sunset
STONEHENGE	Looking from stone circle along Avenue	Facing midsummer sunrise
DURRINGTON WALLS	Looking from timber circle towards river	Facing midwinter sunrise

This provides further evidence that Durrington Walls and Stonehenge were planned and constructed as a single entity, with sunrise and sunset at both solstices built into the architecture of a single grand scheme.

The Durrington Walls avenue is thus a further indication of the importance of both midsummer and midwinter solstices. It provides a directionality for processions at the two solstices; from Durrington Walls to the river and thence to Stonehenge at midwinter, and conversely from Stonehenge via the river to Durrington Walls at midsummer. If the midwinter passage celebrated the journey into the realm of the ancestors, then perhaps the midsummer reflux brought the ancestors into the realm of the living. It is not hard to accept the case for a connection

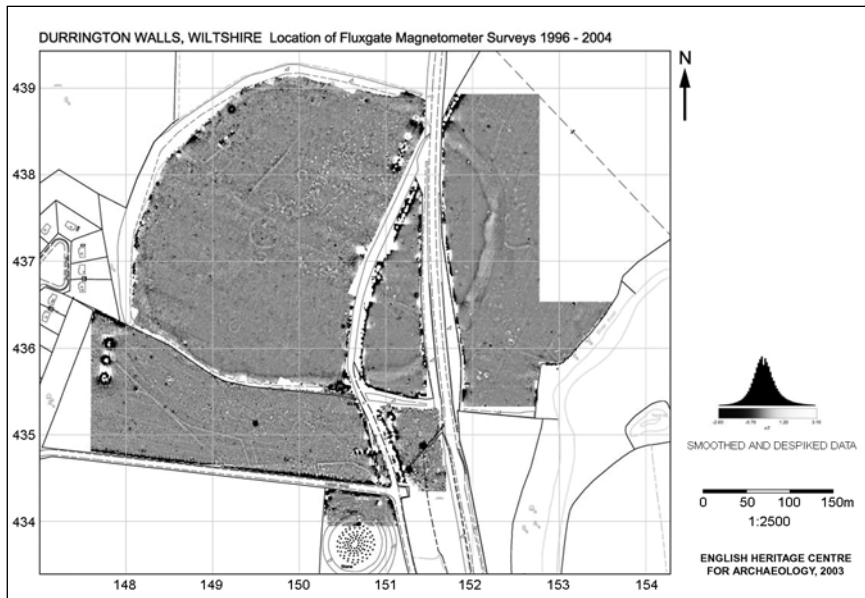
between ancestors and the bestowal of fertility on the living;<sup>2</sup> in this context, the genital-shaped flints from the line of the Durrington Walls avenue (see later) as well as natural phallic nodules from the avenue gully and from the ground surface of the Southern Circle may be significant (see also Pitts, 2000: 266–7 for Stonehenge). If death was the focus for this society at midwinter, perhaps sex flourished at midsummer.

### THE WOODEN WORLD

Stonehenge in 2400 BC was a masterpiece of stoneworking, whereas the banks and ditch of Durrington Walls were an immense earth sculpture in chalk. As noted earlier, its builders selected a steep dry valley and, despite the sloping ground, imposed a symmetrical, oval feature upon it, in the form of a massive chalk bank, parts of which still stand to about 5 m. The ditch for this bank was, like most henges, dug on the inside. Its scalloped edges reveal that it was gang-dug in 40 m sections to over 5 m deep (Figure 11; Payne, 2003). Curiously, the ditch was not symmetrical in plan: for reasons unknown, there was a 30 m-wide berm<sup>3</sup> on the south side, astride the entrance towards Woodhenge. There had already been activity within the dry valley before the mid-third millennium BC

FIGURE 11 Results of the magnetometer surveys of 1996 and 2003, showing the 'gang-dug' sections of ditch along the east side of Durrington Walls.

*With permission from English Heritage*



and deeply stratified layers of ash middens beneath the bank on the east side, excavated in 2005, attest to considerable activity shortly before the henge was built. The henge bank and ditch and the Northern and Southern Circles inside it were built around 2500–2400 BC.

Two new radiocarbon dates (from contexts excavated in 2004 and 2005) provide an indication of the period of activity at Durrington Walls and its close synchronicity with construction at Stonehenge. One is from an antler pick within one of the postholes of the Southern Circle (OxA-14976;  $3966 \pm 33$  bp; 2580–2400 cal BC at 89.1% probability). The other is from articulated pig bones within a pit in the east entrance (OxA-14801;  $4036 \pm 32$  bp; 2630–2470 cal BC at 93.4% probability). These accord well with the date of 2618–2470 cal BC (UB-3821;  $4023 \pm 21$  bp) for an antler pick within the stonehole of Sarsen 1, dating the erection of the sarsen circle (Phase 3ii) at Stonehenge (Cleal et al., 1995: 524–5).

We still know very little about the organization of space within the henge's interior. A large circular feature inside the west entrance may be a ditch around an as yet undiscovered timber circle (David and Payne, 1997: fig. 11A). The henge also has topographic qualities akin to a theatre in that its centre has the appearance of a stage, a level area from which the ground slopes up on three sides. The Northern Circle is located on that sloping ground and may conceivably be one of a number of such features on this sloping ground, as suggested by magnetometry (David and Payne, 1997: fig. 11B–E).

From Wainwright's excavations we do, however, have a wealth of information about the construction and appearance of two of the timber circles within the henge interior. Many of the postholes excavated by Wainwright, such as those in the Southern Circle, were enormous, up to 2 m deep and over 1 m wide. The posts, presumably whole tree trunks, were set in the ground and then left until they rotted. At this point, between 90 and 195 years later (Wainwright with Longworth, 1971: 225), people returned to dig pits into the top of these postholes and deposit offerings of pig bones, flint and bone tools and broken pottery before filling in the pits. In 2005 *Time Team* built a full-scale timber replica of Phase 2 of the Southern Circle (Figure 12), as part of the Stonehenge Riverside Project's fieldwork programme.<sup>4</sup> This demonstrated that the construction was no small engineering achievement and gave some idea of the height and density of the concentric arrangements of posts. Although the reconstruction displayed many more posts than were probably standing at any one time, it provided a sense of being within a forest and highlighted the funnelling effect of the posts in leading people in a sunwise direction on entering the circle (Thomas 1991: fig. 3.7; Pollard, 1995b: fig. 13).

It was formerly thought that the pits dug into the decayed posts were weathering cones formed in the tops of the rotted posts into which



FIGURE 12 The reconstruction of the Southern Circle (Phase 2) at Durrington Walls.

artefacts and animal bones had fallen. We suspected, however, that the asymmetrical positioning of some of the recut pits (notably those into postholes 76, 83 and 95; Wainwright with Longworth, 1971: 396–401) was inconsistent with their interpretation as weathering cones, a rethinking reinforced by the unweathered condition of the pottery and bone in their bases. The identification of these 'weathering cones' as recuts was confirmed during excavations in 2005 by the Stonehenge Riverside Project of the previously untouched north-west sector of the Southern Circle. The depressions in the top of each posthole can now be interpreted as pits dug once the respective posts had decayed. The artefacts and bones within these pits have long been considered as ritually structured depositions (Richards and Thomas, 1984) and this new interpretation suggests that the leaving of the posts to decay was itself deliberate and intentional, a process of rotting whose culmination was marked by the digging of a pit to deposit offerings as a 'closing' ritual.

The posthole sequences provide an interesting elaboration on the wood-stone theory since they support the notion of the transition as a metaphor of the life passage. The timbers had to be seen to decay, to the extent that their passing was marked by the digging of an offering pit. As metaphors of the post-mortem process of corruption, these tree trunks also embodied the memorialization of the dead. The pits dug into the rotted post bases to receive closing offerings were refilled not with the extracted chalk rubble and rotten wood but with fine topsoil, a medium intermediate between living and dead things, between growing substances and chalk. In their transitory bodily form the individual dead, represented by the rotting wood, would eventually be forgotten. Downstream their collective, ancestral memory would live for ever as Stonehenge.

## FIRE AND WATER: FOLLOWING THE RIVER

Stonehenge is the largest single cemetery known for the third millennium in the British Isles. Between 3000 BC and 2400 BC there appear to have been, to our knowledge, very few burials at all in these islands. Most known burials are cremations and the majority are from Stonehenge and from a group of small henges and other monuments at Dorchester-on-Thames (Atkinson et al., 1951; Whittle et al., 1992). Numerous finds from this period of unburnt human bones from rivers (Bradley and Gordon, 1988; Garton et al., 1997) and from caves (Chamberlain, 1996; Edmonds and Seaborne, 2001: 99–108) indicate that there were options other than interment below ground. After 2400 BC inhumation burial became more common, in both flat graves and round barrows, but this remained a minority rite. The vast majority of Britain's dead in the third millennium have left no trace. River disposal is a strong possibility and the two-mile stretch of the River Avon between Durrington Walls and Stonehenge might have been a sacred place for these funerary practices. It lies at the centre of the largest and densest group of round barrows (c. 2400–1700 BC; Figure 3) in Britain if not in the whole of Europe, within a wider landscape packed with Early Neolithic tombs. There may, indeed, be more Neolithic and Early Bronze Age human remains within this locality than any other in Britain.

Perhaps midwinter was the time when the remains of the dead (as cremated ashes, disarticulated bones or even as decaying corpses) were brought to a mortuary festival and deposited into the river so that their ancestral forms might flow downstream and live for eternity at Stonehenge. The funereal associations of midwinter include not only the waning of the sun to its lowest arc but also the progressive deadening of vegetation. It may be said that the dark world of the dead was closest to the world of the living at this point, with midwinter being the liminal time when access was possible between the two. As inhumation became more popular towards the end of the millennium, so people chose specific locations in the river's vicinity, constructing their burial mounds according to rights of access established for different kin groups over previous centuries. These round barrows were concentrated within an area of about 70 km<sup>2</sup> either side of an 8 km stretch of the River Avon; although immediate proximity to the river was not evidently important in their location, this stretch was at the centre of this large burial zone of over 750 barrows.

As Chris Tilley and Wayne Bennett discovered in 2004, the river journey from Durrington Walls to the beginning of the Stonehenge Avenue takes about four hours drifting on the current. Although the river system was probably braided in the Neolithic and Early Bronze Age, the water flow in this stretch was most likely fast and concentrated in a single channel as it coursed between narrow chalk cliffs. The river also

winds in a series of spectacular meanders, disorienting those moving along the valley bottom or valley side as it twists and turns. Perhaps this served to confuse the spirits of the dead and prevent them from returning to haunt the living.<sup>5</sup> The valley bottom also presented Neolithic people with a dramatic floodplain landscape which contrasted with the solid chalk downland through which the River Avon flowed. Pollen and snail evidence indicates that this floodplain was a treeless, wet, sedge fen, a more or less permanent swamp whose unsteady surface contrasted with the surrounding chalk (Evans, 2003: 80; Cleal et al., 2004: 234). Flowing past Durrington Walls, the Avon entered a gorge-like setting, lined on its west side by a high ridge, before turning westwards at the chalk cliff of Ratfyn. High up on these river cliffs on both banks, people dug pits, not to hold posts but to deposit some unusual materials, including wood ash and charcoal.

We have no idea how many ash pits were dug along the cliff tops of the river – the chance nature of the discoveries suggests that there are many more to be found. Eight are known from the west bank – four at Woodhenge (Cunnington, 1929: 39) and four south of Woodhenge at Woodlands (Stone and Young, 1948; Stone, 1949) – and another was found on the east side of the river further downstream at Ratfyn amongst a group of three other prehistoric features (Stone, 1935a). Often more than a metre wide and half a metre deep, these steep-sided, flat-bottomed pits were filled with wood ash and/or charcoal; single-episode dumps, which must have been scooped up from extinguished fires (Figure 13). Unburnt artefacts and animal bones had been mixed in, including flint tools and flakes, lumps of sarsen and flint, marine shells, wafer-thin, poorly fired and highly decorated pottery and (in the Ratfyn pit) a bear's scapula. To accumulate wood ash in sufficient quantity to fill such pits requires the burning of many tons of wood and these fills seem to be the product of large and long-lasting outdoor fires. One pit contained only a small deposit of wood ash and charcoal, dumped into a chalk dust and rubble fill. However, the shape of the deposit indicates that it had been carried in a flat-based basket (Parker Pearson, 2004: 77–9).

It seems most likely that the ash pits are the residues of practices along the river cliffs involving the setting of huge fires, possibly as calendrical or funerary celebrations and involving special ceramics important for their appearance and not their use as containers.<sup>6</sup> This 'Woodlands' sub-style of Grooved Ware is unusually thin – its coarse fabric being too fragile to withstand use in cooking – and its applied ribs are elaborately decorated rather than being plain as in most other Grooved Ware. Furthermore, although this part of the Avon is 50 km from the sea, the most common temper added to the Grooved Ware found within Durrington Walls was marine shell (Cleal, 1995). On a utilitarian plane, shell has excellent thermal properties as a ceramic temper, yet its inclusion in

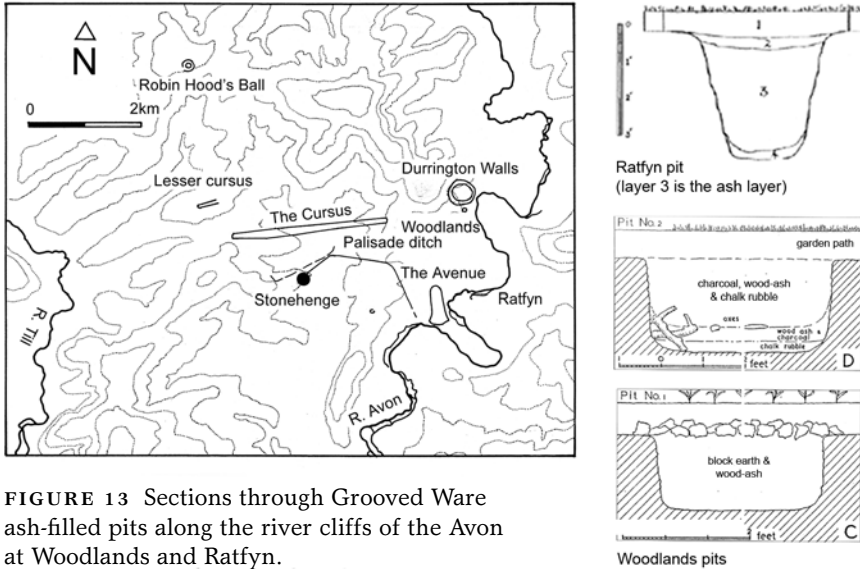


FIGURE 13 Sections through Grooved Ware ash-filled pits along the river cliffs of the Avon at Woodlands and Ratfyn.

After Stone (1935a, 1949); Stone and Young (1948); reproduced with permission of the Wiltshire Archaeological and Natural History Society

Grooved Ware is unusually prominent at Durrington Walls. The deliberate inclusion of marine shell strikes a chord with the finds at Durrington Walls of numbers of oyster shells (Harcourt, 1971: 338).

The presence of seashells in pits and other deposits at Durrington Walls and elsewhere along this stretch of the Avon, together with their use as temper in the Grooved Ware pottery from this site, may perhaps be explained by their referencing human bones, particularly cremated bone. The contrast between shell-tempered, basketry-imitating Grooved Ware and stone-tempered Peterborough Ware and funerary Beakers (Boast, 1995; Cleal, 1995) may indicate a cultural selection linked to transformation of the human body to bone and ash. If the physical vestiges of the dead eventually flowed out to sea then their end product might have been identified as the calcareous shells of sea creatures. The evidence for avoidance of eating marine fish in the British Neolithic (Richards and Hedges, 1999; Parker Pearson, 2003) perhaps becomes more understandable if seen in such terms.

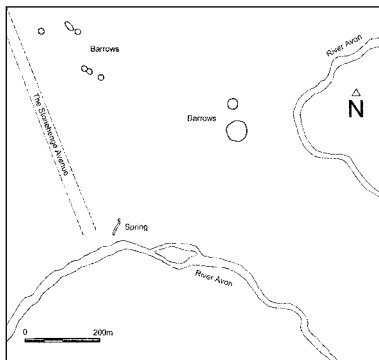
On one level, the burial of wood ash in circular, cylindrical pits might have been pragmatic since wood ash's high calcium carbonate content increases the alkalinity of chalk soils to a level harmful for cultivation. But on another level, some of the items discarded with the ash in the pits – complete and broken flint axes, and the elaborately decorated 'Woodlands' Grooved Ware (Stone, 1935a, 1935b; Stone and Young, 1948; Stone, 1949) – are not casual discards. They may even have been

linked to funerary rituals since the range of artefacts deposited within the pits (arrowheads, axes, polished-edge tools, boar's tusks, bone pins) is not dissimilar to that associated with individual burials of the third millennium in East Yorkshire and elsewhere (Kinnes, 1979: stages D-F).

The likely focus of ceremonial activities at midwinter, as indicated earlier, makes the human experience of such events a far cry from the invented summer solstice gatherings of recent years. At a dark, cold, wet and even snow-covered time of year, enormous and continuous bonfires, burning wood brought from many miles away, would have been foci for large gatherings. To reiterate, the ash pits seem to contain single-episode dumps, produced by burning many tons of timber at a short-term event, rather than collected from years of accumulated ash in domestic hearths. The areas under the east bank of Durrington Walls and outside its east entrance, excavated in 2005, also produced deep deposits of large middens which were principally composed of wood ash, indicating that fires burned around the east side of the henge, close to the riverside. When we consider that the entire local landscape at this time was largely or wholly devoid of trees, the provisioning of huge quantities of firewood must have been a considerable logistical arrangement over long distances, on a par with the transport of timbers to build the wooden circles.

The Stonehenge Late Neolithic landscape is generally thought not to have included an enormous mound like Silbury Hill at Avebury. Yet there is a possible contender, occupying a similar riverine location. On a low cliff within the largest meander here on the Avon, just before the river meets the beginning of the Avenue, there stood two round mounds (both of which were truncated probably in the Iron Age when a large hillfort, *Vespasian's Camp*, was built here; Figure 14). One of these mounds is surprisingly large, about 57 m in diameter (RCHME, 1979), and is comparable in size to the two earliest phases of Silbury Hill (Whittle, 1997b). An Early Bronze Age dagger dating to after 2000 BC was found within it in 1770, suggesting that it might have been built

half a millennium too late for it to have been analogous to Silbury but we cannot rule out the possibility that this find was part of a cremation burial inserted into the mound's edge long after its construction.



**FIGURE 14** The riverside end of the Stonehenge Avenue and the large circular mound whose base survives within *Vespasian's Camp*.

*Drawn by Irene de Luis*

South east of this large meander the ground rises to the west-sloping plateau of Boscombe Down on which Europe's best-equipped burial of the late third millennium BC has been found. This is the Amesbury Archer, an inhumation with five Beaker pots, three copper daggers, gold 'earrings' and around 100 grave goods in all (Fitzpatrick, 2002). Dubbed the 'King of Stonehenge', he spent his childhood probably in the foothills of the Alps and died at around the age of 40, having lived with a painful leg injury for many years. He lived in the period c. 2475–2200 BC and could therefore have been present for some of the rebuilds at Stonehenge and Durrington Walls Southern Circle, although he was probably not born when these stone and timber circles were first initiated.

### FROM THE RIVER TO STONEHENGE: THE PATH OF THE DEAD?

The linear monument known as the Stonehenge Avenue is a central part of this interwoven landscape of the living and the dead, linking as it does the River Avon to Stonehenge. It is formed by two parallel ditches and banks set about 30 m apart; its 2.8 km length can be walked in an hour at a leisurely pace. As proposed earlier, its role in the landscape is most satisfactorily explained as part of a processional route (Barrett, 1994: 43–7). From just west of the largest meander on this section of the River Avon, the Avenue heads north west, running in a straight line before curving westwards to ascend King Barrow Ridge. From the barrow ridge, it descends into the Stonehenge bowl before turning sharply south west to head for Stonehenge, oriented on the midwinter sunset. It physically joins the bank and ditch which encircles Stonehenge, and might have been built around 2300–2200 BC, when Stonehenge had its sarsens and repositioned bluestones in place and Durrington Walls' Southern Circle was in its later stages of post arrays.

The Stonehenge Avenue's precise terminus and character at the riverbank is not known but it is located immediately downstream from a spring which marks the end of a former water course that once rose on Larkhill. The spring was probably higher up this small valley in the Neolithic but the link with Larkhill may be deliberate rather than fortuitous. This water course, insignificant today, may have been an important feature of the sacred landscape of the Neolithic: as well as rising on Larkhill, it also flows past the east end of an important earlier monument, the Greater Cursus, which crosses the Stonehenge bowl from east to west. This cursus is another linear monument, consisting of parallel ditches and internal banks running for over 2.5 km; it has not been firmly dated by excavation but is accepted on the available evidence to have been built around 3400–3000 BC, the Middle Neolithic. This class of linear monuments is found throughout Britain (J. Harding and Barclay,

1999). Their purpose is unclear although they are recognized to have had ritual and ceremonial significance. Their most important feature is their relationship with the surrounding landscape, particularly water: most cursuses are positioned with water courses running perpendicular to them, either at their ends or through their middles, and the Greater Cursus is no exception.

### **EARTH, CHALK AND TURF: THE ROUND BARROWS OF KING BARROW RIDGE**

As well as wood and stone, two other substances were of immense practical concern to Neolithic society: cultivation and monument construction brought people into regular contact with earth and chalk. Close examination of the complex of monuments surrounding Stonehenge and Durrington Walls suggests that these fundamental aspects of the material world may also have been invested with meaning beyond the purely functional.

In the period after 2400 BC until about 1700 BC the dead (or at least some of them) began to be retained within the landscape, their remains often being marked by round barrows. On Salisbury Plain these barrow mounds are often formed largely or entirely from earth and chalk derived from the upcast of the circular ditches dug around them, heaped over a core of soil or turf (Ashbee, 1960: 44).

Stonehenge is ringed by linear cemeteries of round barrows, the most famous of which are the Normanton Down group with their gold-provisioned burials; the most spectacular of these is Bush Barrow (Ashbee, 1960: 76–8; Parker Pearson, 2005: 87). These barrow cemeteries occupy positions at some distance from the monument, towards the edges of its 'envelope of visibility' (Batchelor, 1997: 71). Importantly, there is a largely barrow-free zone between these encircling barrow cemeteries and Stonehenge (Woodward and Woodward, 1996) which suggests that human remains were mostly excluded from a 'buffer zone' around the monument at this time.

The large round barrows on King Barrow ridge occupy an important position within the Stonehenge environs. On ascending onto the ridge along the line of the Stonehenge Avenue from the riverside, people passed through three linear barrow groups which formed monumental facades through which processions must necessarily have moved when walking along the Stonehenge Avenue (Figure 15). A first facade of barrows sits astride the Stonehenge Avenue 600 m from the riverside. A second line of six round barrows lies 350 m further on. On gaining the ridge 500 m further on, from where Stonehenge finally becomes visible, people passed through the most impressive facade, with 11 barrows on the left-hand side and 11 barrows on the right-hand side. The six to the south of the Stonehenge Avenue's route, the New King Barrows, are

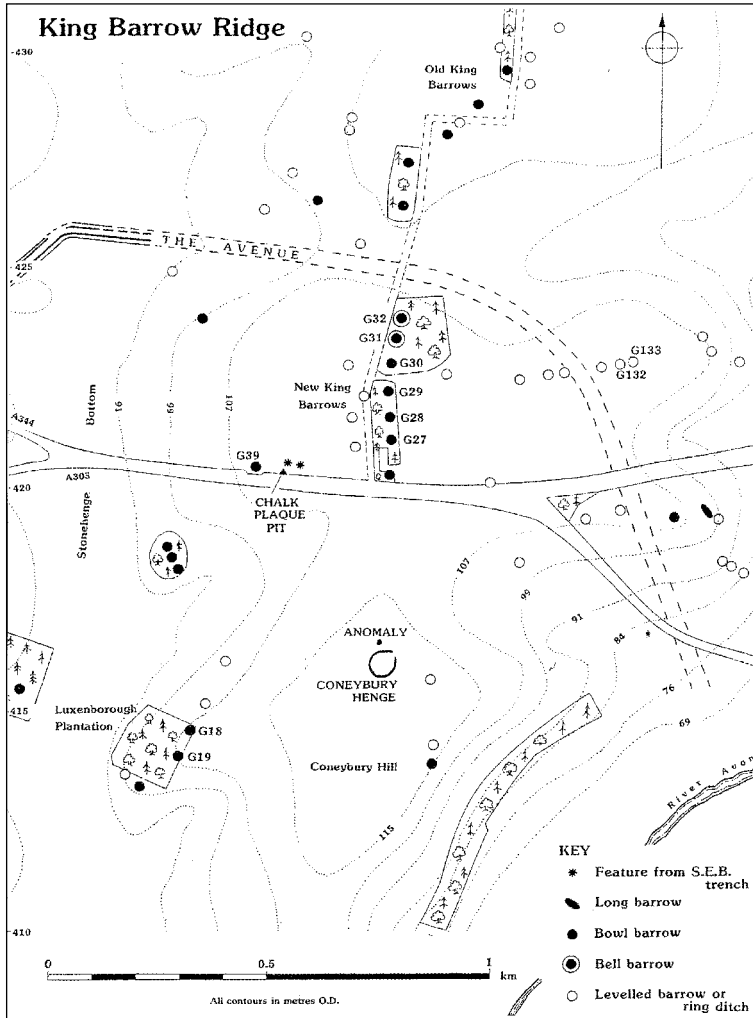


FIGURE 15 The Stonehenge Avenue as it passes over King Barrow Ridge. From Cleal and Allen (1994); drawn by Liz James and reproduced by permission of Wessex Archaeology

among the largest on the Plain. Each facade was grander than the previous one and the largest, on the ridge top, had these biggest barrows on the left (Figure 16), the side to which those walking the Stonehenge Avenue would look towards the monument.

The barrows on this ridge are the gatekeepers of Stonehenge and it is quite possible that the graves that they mark are those of the most important lineage or dynasty associated with the monument. Antiquarian excavations were carried out in the 18th and 19th centuries in most of

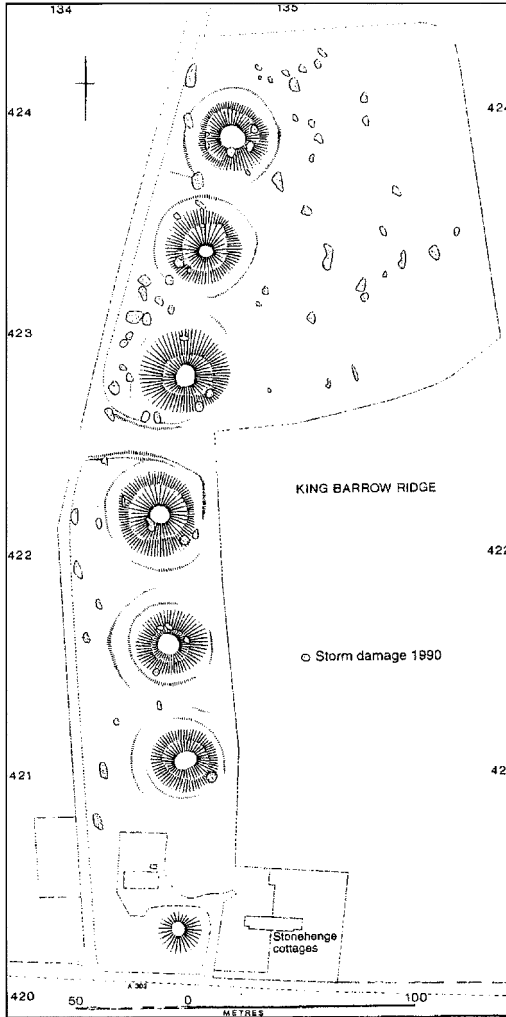


FIGURE 16 The larger round barrows at the south end of King Barrow Ridge.

*Crown copyright; reproduced by permission of the Secretary and Commissioners of RCHME*

in this instance because of the number of barrows built in this fashion. This construction method also had significant consequences for land use. Like much of the Stonehenge environs around this period, the vegetation on the barrow ridge was lightly grazed grassland, perhaps with some shrubs. The turves accumulated into each barrow originally covered an area of at least a hectare and probably much more. The decommissioning of grazing land covering well over 10 ha (and possibly nearer 30 ha

the linear cemeteries but the mounds on King Barrow Ridge, perhaps the most significant cemetery of all, have remained untouched and their burials uninvestigated because trees growing on top of them prevented excavation. In 1987 and 1990, fierce storms brought down some of the trees and archaeologists had an opportunity to find out how six of the barrows on the south side of the Stonehenge Avenue were built (Cleal and Allen, 1994: 57–60). Four were constructed by creating a soil and turf stack capped with chalk rubble from the surrounding ditch. The other two were built solely of soil and turf (Figure 17). In addition, another four ploughed-out barrows in the group also had turf and soil cores.

The King Barrow Ridge barrows are by no means the only ones in the Stonehenge area, let alone within Britain, to have been built predominantly or entirely with turf. However, this is a relatively rare method of construction that is unusual

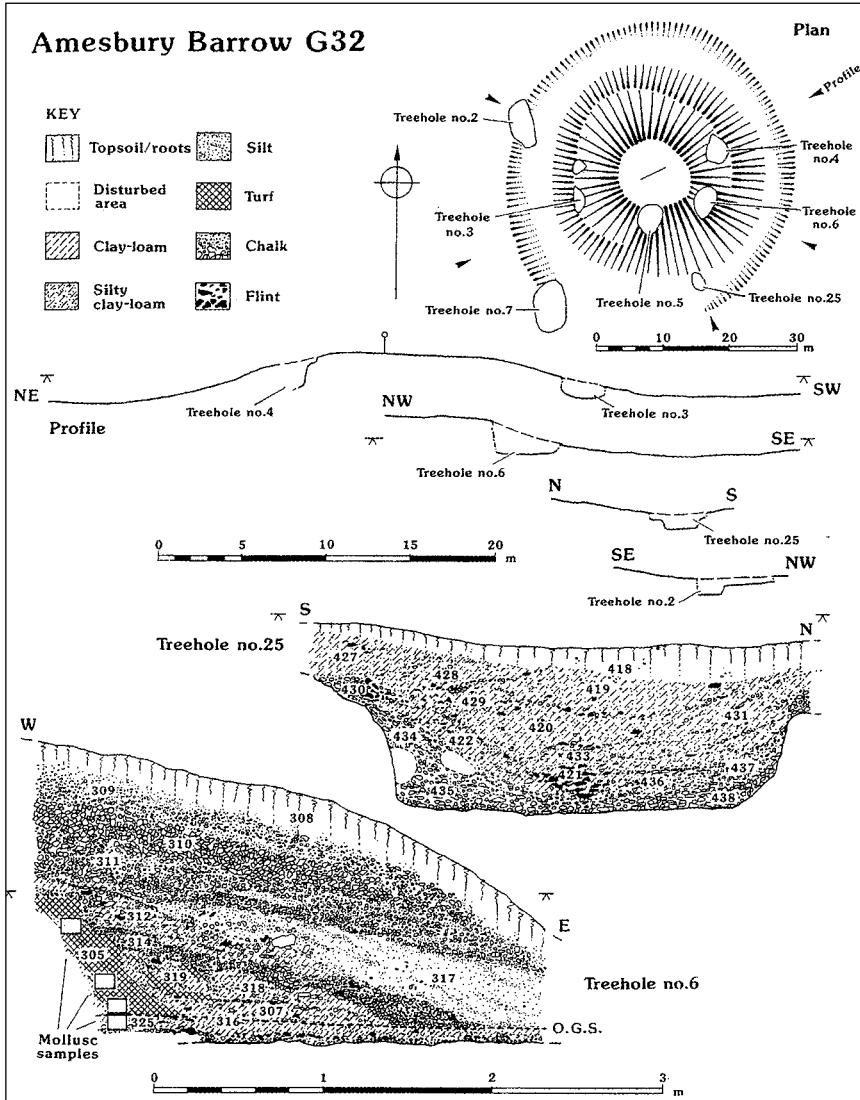


FIGURE 17 Sections through one of the turf barrows (Amesbury G32) on King Barrow Ridge. The section at the bottom left shows a turf core, covered by loam and silt and capped with chalk.

From Cleal and Allen (1994); drawn by Liz James and reproduced by permission of Wessex Archaeology

if all the barrows on the ridge had turf cores) would have had a dramatic visual impact, revealing a stark white chalk surface, as well as depriving herders of grazing land. If the turves came from the immediate vicinity of the barrows then their removal for barrow building would

have laid bare a great swathe of land through which the Stonehenge Avenue crossed.

How can we explain this wasteful stripping of turf? It might have been a form of conspicuous consumption, destroying pasture that formerly fed cattle, and echoing the destruction of the cattle herds themselves, a practice revealed by the cattle bones heaped upon round barrows in eastern England at this time (Davis and Payne, 1993; Deighton, 2005). If cattle were to be destroyed in their hundreds during the funerary rituals then why not destroy the pastures at the same time, thereby also providing sustenance for the slaughtered herds in the after-life? Ann Woodward has asked whether these presumably successive acts represent a drastic change in land use or, alternatively, were symbolic acts: 'the claiming and subsequent sealing or "hiding" of the whole land surface of an important sacred space' (2000: 52). John Evans speculated that the removal of turf was an end in itself: 'it is as if people wanted to create visibility or monumentality not just by constructing mounds but by changing the whole distribution of fertility within the land' (2003: 84).

The reversed stratigraphy of the four barrows – earth or turf capped with chalk – presents an inversion of the natural order. These sequences are not simply the result of piling the layers of an excavated ditch-fill on top of each other, since the earth and turf derive from a much more extensive area than the chalk rubble which came out of the surrounding ditch. Instead, this is more akin to funerary rites of reversal in which the world is 'turned upside down' within moments of liminal time (Parker Pearson, 1999: 26).

These acts of landscape transformation during barrow construction might also have signified the transition from death into ancestorhood, mingling the dying grass with soil (that intermediate substance between living things and chalk) and revealing the bare chalk beneath, the bones of the land. The topographical position of these barrows, midway between the riverside and Stonehenge, is also intriguing in this respect as a liminal space in which the semi-permanence of earth might have been contrasted with the permanence of chalk and stone and the transitory properties of formerly living things. This juxtaposition of materials soft and solid is further highlighted by the placing of an unusual deposit on King Barrow Ridge. In the central pit of one of the disc barrows there were no human bones but a collection of oddly shaped natural flints, 'each chosen apparently for its curious projecting knobs and legs', which 'must have taken years to bring together' (Passmore, 1940). Perhaps these unusual flint nodules were perceived as bones of the most ancient ancestors, transformed into the flint which made daily work possible. A find of a flint phallus and flint balls (Figure 18) in a pit outside the east entrance of Durrington Walls in 2004, together with a pelvis-shaped



FIGURE 18 (Left) The flint phallus and flint balls from the fill of a pit outside the east entrance of Durrington Walls.

*Photograph by Shane Eales*



FIGURE 19 (Above) The natural flint 'vagina' embedded in the pit containing the flint phallus at Durrington Walls.

*Photograph by Mike Parker Pearson*

nodule with a hole suggestive of a vagina (Figure 19), show that flints similar to fleshier human appendages were also curated.

There are other barrows in the Stonehenge area where the stripping of soil to reveal the chalk was an important aspect of the ritual sequence. The curious pond and disc barrows on Salisbury Plain might have exposed large expanses of bare chalk, surrounded by a circular ditch (Ashbee, 1960: 24–6). New barrows would certainly have appeared as strikingly white monuments, with their chalk cappings (Ashbee, 1960: 45), as would the banks of the henge monuments such as Durrington Walls.

Finally, chalk was a suitable medium for inscribing geometric designs and other motifs. There are interesting Neolithic and Early Bronze Age examples of this from Folkton, Yorkshire, and from elsewhere in Wessex such as Flagstones, Dorset; a fragment of carved chalk plaque was found during the 2005 excavations at Durrington Walls. One of the best examples is a pair of incised chalk plaques found in a pit 200 m west of King Barrow Ridge (Vatcher, 1969; P. Harding, 1988; Cleal and Allen,

1994: 60–2). In other parts of Britain, stone was occasionally used for such motifs but, other than Grooved Ware ceramics, no other media such as bone or antler seem to have been decorated. Of course, we have no idea whether textiles or skins were similarly decorated but the absence of bone or antler carving potentially singles out chalk and other inorganic materials as special in this respect (cf. Thomas, 1996: 150).

### **EXPERIENCING STONEHENGE – ERECTING 'FOAMHENGE'**

At midsummer 2005 a live television broadcast was made by Channel 5 from a polystyrene replica of Stonehenge erected at Stockton, about 10 miles east of the real Stonehenge. Under the expert guidance of Mike Pitts, the monument was reconstructed as it might have looked when almost new and complete in Phase 3v (c. 2000 BC), with the sarsen circle and trilithons and the bluestones arranged into an outer circle and inner horseshoe (Figure 20). The weather was kind and the 'stones' did not blow away. Pitts' replica gave archaeologists the chance to experience something of the 'real thing' in terms of its physicality, its coloration (honey and pink sarsens and dark green/grey bluestones), its orientation and its spatial layout. Strangely enough, its impact on viewers was less 'real' because it appeared on the screen more like a computer-generated virtual image or backdrop.

Amongst those archaeologists lucky enough to visit 'Foamhenge', several aspects of the experience generated much discussion. Approaching the monument along the Avenue, the impact of the two sets of stone portals (the Heel Stone and its twin, and the Slaughter Stone and its two associated stones) is profound. Archaeologists have traditionally thought about this axis in terms of the two sets of stones forming 'gun sights' through which the midsummer sunrise was viewed from the centre of the circle. Yet the reconstruction allowed better appreciation of how these two portals directed and restricted movement into the henge, especially with the Slaughter Stones controlling access through the narrow entrance through the bank and ditch.

Visibility into or out of the reconstructed sarsen circle was surprisingly difficult; those inside could see little of what was going on outside the circle and those outside could get almost no idea of activities taking place within. The gaps between the sarsens in the outer circle, just over 1 m across, not only inhibited vision but could also be easily blocked off by individuals standing within them. The even narrower gaps between the uprights of each of the five trilithons made human passage almost impossible. The central trilithon was the tallest megalithic structure of its age and, reconstructed to its original height of almost 8 m, draws the eye of anyone approaching or entering (Figure 21). It is through this



FIGURE 20 'Foamhenge'; a view of the polystyrene monument erected at Stockton for the summer solstice of 2005.

*Photograph by Kate Welham*

trilithon that the setting midwinter sun was framed, essentially 'capturing' it on its final shortest arc of the year. It is the single most impressive feature within Stonehenge and gives substance to this calendrical event having been the most important ritual moment of Stonehenge and its river-linked monument complex.

FIGURE 21 'Foamhenge'; the giant trilithon as it may have looked c. 2400–2000 BC.

*Photograph by Kate Welham*



Yet it would be incorrect to play down the significance of the midsummer solstice at Stonehenge. The Station Stones, four sarsen stones forming a rectangle on the edges of the henge bank, are undated but are thought to belong to Phase 3 (although they could date to Phase 2 – the phase of timber posts and cremations when several significant lunar orientations have been claimed for the monument). The Station Stones' short alignment to the north east and south west is on the solstice axis. Their long alignment to the south east coincides closely with the southern limit of full moon rise, a phenomenon that occurs only every 19 years at midsummer (Ruggles, 1997: 215–16). By serendipity in timing, on the evening of the midsummer television broadcast, the full moon rose on the long alignment of the Station Stones. Conversely, the other direction of these stones' long alignment, to the north west, is that of the northern limit of full moon setting at midwinter, although the alignment is less precise. Owing to the lunar parallax phenomenon, the alignment is slightly out by a few degrees from the precise direction of this moonset, suggesting that midsummer was more significant than midwinter. The significance of the midsummer solstice is also clear elsewhere in this complex ritual landscape: as described earlier, the Durrington Walls Avenue is orientated within  $1\frac{1}{2}^\circ$  of midsummer sunset along its approach to Durrington Walls' Southern Circle.

'Foamhenge' also prompts some final thoughts on materiality as magnified through the lens of 21st-century virtuality. To construct a full-sized replica of the most solid and enduring monument of prehistoric times in the most flimsy and fragile materials of our own age is an act of almost artistic intent in a manner equivalent to the paradoxical Turner prize-winning concrete house interior (*House*) of Rachel Whiteread or the trompe-l'oeil cast statue of a black bin liner (*Bag 9*) by Gavin Turk. It also speaks of the ephemerality and disposability of contemporary life, inadvertently foregrounding the impressive materiality and permanence of Stonehenge itself. It might be said that, in past millennia, humans rendered in permanent form those things which are by their nature formless and intangible – beliefs and institutions which are imaginary and wished for, made real by a material manifestation.

Archaeologists have talked about Stonehenge in terms of its creation of memory about the past as well as its creation of the future by suspending the past (Whittle, 1997a: 163). Stonehenge is, on the one hand, a marker that 'we were here, we once lived, this we achieved', a mark made in the sands of time to define a moment after which nothing would ever be the same. On the other hand, it was also an incontrovertible statement about duration and transience, brought into being by juxtaposition of materialities of stone and wood as well as intermediate materials such as turf, earth and chalk. By linking its eternal presence to the endless cycle of solar and lunar movement, its builders were also

constructing the concept of eternity and perhaps eternal afterlife. It was among the last great megalithic monuments of European and West Asian prehistory, at the end of a tradition in which the places of the ancestral dead were set apart from the living and given a massive, permanent presence in stone.

### Acknowledgements

Authorship of this article belongs to all members of the Stonehenge Riverside Project; MPP prepared and presented the article and any errors are his. We thank those who provided useful comments to the paper at the conference for Barbara Bender – Barbara herself, Richard Bradley and Howard Morphy in particular. Many of the ideas in this work have developed over several years and we thank Mike Allen, Richard Bradley, Amanda Chadburn, Andrew Chamberlain, Ros Cleal, Tim Darvill, Mark Edmonds, David Field, Charly French, Chris Knüsel, Neil Linford, Andy Payne, Mike Pitts, Francis Pryor, Ramilisonina, Julian Richards, Clive Ruggles, Geoff Wainwright and Alasdair Whittle for debating and discussing many of these ideas, as well as providing help and advice.

### Notes

1. Cunnington's report needs to be treated with some care since her details do not always match those of Wilfred Jackson's more reliable notes, made during excavation. For example, most of the cranial bones of cattle were concentrated in the south east of the timber oval, thus the distribution of horn cores was not the same as that of cattle skulls.
2. For an overview of the connection in many societies past and present between ancestors and fertility, see Parker Pearson (1999: 26–7).
3. A berm is the gap between a ditch and its upcast bank.
4. The circle was temporarily erected with tree trunks of poplar (rather than oak) at North Newnton, about 8 miles north of Durrington Walls.
5. This disorientation of the dead is a common factor in many parts of the world for ensuring their successful separation from the living (Huntington and Metcalf, 1979; Parker Pearson, 1999: 25). It often takes the form of moving the dead across water or carrying the corpse on a winding journey along an indirect route.
6. Other small groups of pits, containing Beaker sherds, with at least one layer of charcoal dust or ash have been found on 14 published sites over a 400 km<sup>2</sup> area around Stonehenge (Heaton and Cleal, 2000: 79). At least one of these groups, three ash pits from Easton Down, contained substantial quantities of ash (Stone, 1935b: 74).

### References

- Albarella, U. and Payne, S. (2005) 'Neolithic Pigs from Durrington Walls, Wiltshire, England: a Biometrical Database', *Journal of Archaeological Science* 32(4): 589–99.
- Albarella, U. and Serjeantson, D. (2002) 'A Passion for Pork: Meat Consumption at the British Late Neolithic Site of Durrington Walls', in P. Miracle and N. Milner (eds) *Consuming Passions and Patterns of Consumption*, pp. 33–49. Cambridge: McDonald Institute.

- Allen, M.J. (1997) 'Environment and Land-use: the Economic Development of the Communities who Built Stonehenge (an Economy to Support the Stones)', in C. Renfrew and B. Cunliffe (eds) *Science and Stonehenge*, pp. 115–44. Proceedings of the British Academy 92. Oxford: Oxford University Press.
- Ashbee, P. (1960) *The Bronze Age Round Barrow in Britain*. London: Phoenix House.
- Atkinson, R.J.C., Piggott, C.M. and Sandars, N. (1951) *Excavations at Dorchester, Oxon*. Oxford: Ashmolean Museum.
- Barrett, J.C. (1994) *Fragments from Antiquity: An Archaeology of Social Life in Britain, 2900–1200 BC*. Oxford: Blackwell.
- Barrett, J.C. and Fewster, K. (1998) 'Stonehenge: Is the Medium the Message?', *Antiquity* 72: 847–52.
- Batchelor, D. (1997) 'Mapping the Stonehenge World Heritage Site', in C. Renfrew and B. Cunliffe (eds) *Science and Stonehenge*, pp. 61–72. Proceedings of the British Academy 92. Oxford: Oxford University Press.
- Bender, B. (1998) *Stonehenge: Making Space*. London: Berg.
- Bloch, M. (1992) 'What Goes Without Saying: the Conceptualisation of Zafimaniry Society', in A. Kuper (ed.) *Conceptualizing Society*, pp. 127–46. London: Routledge.
- Bloch, M. (1993) 'Domain-Specificity, Living Kinds and Symbolism', in P. Boyer (ed.) *Cognitive Aspects of Religious Symbolism*, pp. 111–19. Cambridge: Cambridge University Press.
- Bloch, M. (1995) 'People into Places: Zafimaniry Concepts of Clarity', in E. Hirsch and M. O'Hanlon (eds) *The Anthropology of Landscape*, pp. 63–77. Oxford: Clarendon Press.
- Boast, R. (1995) 'Fine Pots, Pure Pots, Beaker Pots', in I. Kinnes and G. Varndell (eds) *Unbaked Urns of Rudely Shape: Essays on British and Irish Pottery for Ian Longworth*, pp. 69–80. Oxford: Oxbow.
- Bradley, R. and Gordon, K. (1988) 'Human Skulls from the River Thames, Their Dating and Significance', *Antiquity* 62: 503–9.
- Burl, H.A.W. (1987) *The Stonehenge People*. London: Dent.
- Chamberlain, A.T. (1996) 'More Dating Evidence for Human Remains in British Caves', *Antiquity* 70: 950–3.
- Chan, B. (2003) 'The Inhabitation of the Stonehenge Environs: the Interpretative Potential of Lithic Scatters in a Monumental Landscape', PhD thesis, University of Sheffield.
- Cleal, R.M.J. (1995) 'Pottery Fabrics in Wessex in the Fourth to Second Millennium BC', in I. Kinnes and G. Varndell (eds) *Unbaked Urns of Rudely Shape: Essays on British and Irish Pottery for Ian Longworth*, pp. 185–94. Oxford: Oxbow.
- Cleal, R.M.J. and Allen, M. (1994) 'Investigation of Tree-Damaged Barrows on King Barrow Ridge and Luxenborough Plantation, Amesbury', *Wiltshire Archaeological and Natural History Magazine* 87: 54–84.
- Cleal, R.M.J., Allen, M. and Newman, C. (2004) 'An Archaeological and Environmental Study of the Neolithic and Later Prehistoric Landscape of the Avon Valley and Durrington Walls Environs', *Wiltshire Archaeological and Natural History Magazine* 97: 218–48.
- Cleal, R.M.J., Walker, K.E. and Montague, R. (1995) *Stonehenge in its Landscape: Twentieth-Century Excavations*. London: English Heritage.
- Cunnington, M.E. (1929) *Woodhenge*. Devizes: Simpson.
- David, A. and Payne, A. (1997) 'Geophysical Surveys within the Stonehenge Landscape: A Review of Past Endeavour and Future Potential', in C. Renfrew and B. Cunliffe (eds) *Science and Stonehenge*, pp. 73–113. Proceedings of the British Academy 92. Oxford: Oxford University Press.
- Davis, S. and Payne, S. (1993) 'A Barrow Full of Cattle Skulls', *Antiquity* 67: 12–22.

- Deighton, K. (2005) 'Gayhurst: Reconstructing the Burial Rite of an Early Bronze Age Lord', *Current Archaeology* 195: 114–18.
- Edmonds M. and Seaborne, T. (2001) *Prehistory in the Peak*. Stroud: Tempus.
- Evans, J.G. (2003) *Environmental Archaeology and the Social Order*. London: Routledge.
- Field, D. (2004) 'Use of Land in Central Southern England during the Neolithic and Early Bronze Age', PhD thesis, University of Reading.
- Fitzpatrick, A.P. (2002) "'The Amesbury Archer": a Well-Furnished Early Bronze Age Burial in Southern England', *Antiquity* 76: 629–30.
- Garton, D., Howard, A. and Pearce, M. (1997) 'Archaeological Investigations at Langford Quarry, Nottinghamshire, 1995–6', *Tarmac Papers* 1: 29–40.
- Harcourt, R. (1971) 'The Animal Bones', in G.J. Wainwright with I.H. Longworth, *Durrington Walls: Excavations 1966–1968*, pp. 338–50. London: Society of Antiquaries.
- Harding, J. and Barclay, A. (1999) 'An Introduction to the Cursus Monuments of Neolithic Britain and Ireland', in A. Barclay and J. Harding (eds) *Pathways and Ceremonies: the cursus Monuments of Britain and Ireland*, pp. 1–8. Oxford: Oxbow.
- Harding, P. (1988) 'The Chalk Plaque Pit, Amesbury', *Proceedings of the Prehistoric Society* 54: 320–7.
- Heaton, M. and Cleal, R.M.J. (2000) 'Beaker Pits at Crescent Copse, Near Shrewton, Wiltshire, and the Effects of Arboreal Fungi on Archaeological Remains', *Wiltshire Archaeological and Natural History Magazine* 93: 71–81.
- Huntington, R. and Metcalf, P. (1979) *Celebrations of Death: the Anthropology of Mortuary Ritual*. Cambridge: Cambridge University Press.
- Kinnes, I. (1979) *Round Barrows and Ring-Ditches in the British Neolithic*. London: British Museum.
- Parker Pearson, M. (1999) *The Archaeology of Death and Burial*. Stroud: Sutton.
- Parker Pearson, M. (2000) 'Ancestors, Bones and Stones in Neolithic and Early Bronze Age Britain and Ireland', in A. Ritchie (ed.) *Neolithic Orkney in its European Context*, pp. 203–14. Cambridge: McDonald Institute.
- Parker Pearson, M. (2002) 'Placing the Physical and the Incorporeal Dead: Stonehenge and Changing Concepts of Ancestral Space in Neolithic Britain', in H. Silverman and D.B. Small (eds) *The Space and Place of Death*, pp. 145–60. Arlington, VA: Archaeological Papers of the American Anthropological Association Number 11.
- Parker Pearson, M. (2003) 'Food, Culture and Identity in the Neolithic and Early Bronze Age: An Introduction and Overview', in M. Parker Pearson (ed.) *Food, Culture and Identity in the Neolithic and Early Bronze Age*, pp. 1–30. Oxford: BAR (International series) 1117.
- Parker Pearson, M. (2004) 'Earth, Wood and Fire: Materiality and Stonehenge', in N. Boivin and M.-A. Owoc (eds) *Soils, Stones and Symbols: Cultural Perceptions of the Mineral World*, pp. 71–89. London: Berg.
- Parker Pearson, M. (2005) *Bronze Age Britain* (second edition). London: Batsford.
- Parker Pearson, M. and Ramilisonina (1998a) 'Stonehenge for the Ancestors: the Stones Pass on the Message', *Antiquity* 72: 308–26.
- Parker Pearson, M. and Ramilisonina (1998b) 'Stonehenge for the Ancestors: Part Two', *Antiquity* 72: 855–6.
- Parker Pearson, M., Richards, C., Allen, M., Payne, A. and Welham, K. (2004) 'The Stonehenge Riverside Project: Research Design and Initial Results', *Journal of Nordic Archaeological Science* 14: 45–60.
- Passmore, A.D. (1940) 'A Disc Barrow Containing Curious Flints near Stonehenge', *Wiltshire Archaeological and Natural History Magazine* 49: 238.

- Payne, A. (2003) 'Durrington Walls Henge, Wiltshire. Report on Geophysical Surveys, January 1996 and April 2003', Centre for Archaeology Report Series 107/2003. Portsmouth: English Heritage.
- Pitts, M. (2000) *Hengeworld*. London: Arrow Books.
- Pitts, M. (2003) 'Don't Knock the Ancestors', *Antiquity* 77: 172-8.
- Pollard, J. (1995a) 'The Durrington 68 Timber Circle: A Forgotten Late Neolithic Monument', *Wiltshire Archaeological and Natural History Magazine* 88: 122-25.
- Pollard, J. (1995b) 'Inscribing Space: Formal Deposition at the Later Neolithic Monument of Woodhenge, Wiltshire', *Proceedings of the Prehistoric Society* 61: 137-56.
- Pollard, J. and Gillings, M. (1998) 'Romancing the Stones: Towards a Virtual and Elemental Avebury', *Archaeological Dialogues* 5: 143-64.
- Pryor, F. (2003) *Britain BC: Life in Britain and Ireland Before the Romans*. London: Harper Collins.
- RCHME (1979) *Stonehenge and its Environs: Monuments and Land Use*. Edinburgh: Edinburgh University Press.
- Renfrew, C. and Bahn, P. (2000) *Archaeology: Methods, Theories, Practice* (third edition). London: Thames & Hudson.
- Richards, C. and Thomas, J. (1984) 'Ritual Activity and Structured Deposition in Later Neolithic Wessex', in R. Bradley and J. Gardiner (eds) *Neolithic Studies: a Review of Some Current Research*, pp. 189-218. Oxford: BAR (British series) 133.
- Richards, M.P. and Hedges, R.E.M. (1999) 'A Neolithic Revolution? New Evidence of Diet in the British Neolithic', *Antiquity* 73: 891-97.
- Ruggles, C. (1997) 'Astronomy and Stonehenge', in C. Renfrew and B. Cunliffe (eds) *Science and Stonehenge*, pp. 203-29. Proceedings of the British Academy 92. Oxford: Oxford University Press.
- Stone, J.F.S. (1935a) 'Some Discoveries at Ratfyn, Amesbury and Their Bearing on the Date of Woodhenge', *Wiltshire Archaeological and Natural History Magazine* 47: 55-67.
- Stone, J.F.S. (1935b) 'Excavations at Easton Down, Winterslow, 1933-1934', *Wiltshire Archaeological and Natural History Magazine* 47: 68-80.
- Stone, J.F.S. (1949) 'Some Grooved Ware Pottery from the Woodhenge Area', *Proceedings of the Prehistoric Society* 15: 122-7.
- Stone, J.F.S. and Young, W.E.V. (1948) 'Two Pits of Grooved Ware Date near Woodhenge', *Wiltshire Archaeological and Natural History Magazine* 52: 287-306.
- Taçon, P.S.C. (1991) 'The Power of Stone: Symbolic Aspects of Stone Use and Tool Development in Western Arnhem Land, Australia', *Antiquity* 65: 192-207.
- Thomas, J. (1991) *Rethinking the Neolithic*. London: Routledge.
- Thomas, J. (1996) *Time, Culture and Identity: an Interpretive Archaeology*. London: Routledge.
- Thomas, J. (1999) *Understanding the Neolithic*. London: Routledge.
- Vatcher, F. de M. (1969) 'Two Incised Chalk Plaques near Stonehenge Bottom', *Antiquity* 43: 310-11.
- Wainwright, G.J. with Longworth, I.H. (1971) *Durrington Walls: Excavations 1966-1968*. London: Society of Antiquaries.
- Whitley, J. (2002) 'Too Many Ancestors', *Antiquity* 76: 119-26.
- Whittle, A.W.R. (1997a) 'Remembered and Imagined Belongings: Stonehenge in Its Traditions and Structures of Meaning', in C. Renfrew and B. Cunliffe (eds) *Science and Stonehenge*, pp. 145-66. Proceedings of the British Academy 92. Oxford: Oxford University Press.

- Whittle, A.W.R. (1997b) *Sacred Mound Holy Rings: Silbury Hill and the West Kennet Palisade Enclosures: A Later Neolithic Complex in North Wiltshire*. Oxford: Oxbow Monograph 74.
- Whittle, A.W.R. (1998) 'People and the Diverse Past: Two Comments on "Stonehenge for the Ancestors"', *Antiquity* 72: 852-4.
- Whittle, A.W.R., Atkinson, R.J.C., Chambers, R. and Thomas, N. (1992) 'Excavations in the Neolithic and Bronze Age Complex at Dorchester-on-Thames, Oxfordshire, 1947-1952 and 1981', *Proceedings of the Prehistoric Society* 58: 143-201.
- Woodward, A.B. (2000) *British Barrows: A Matter of Life and Death*. Stroud: Tempus.
- Woodward, A.B. and Woodward, P.J. (1996) 'The Topography of Some Barrow Cemeteries in Bronze Age Wessex', *Proceedings of the Prehistoric Society* 62: 275-91.

◆ THE AUTHORS are directors of a new archaeological project, The Stonehenge Riverside Project, which commenced in 2003 and is programmed to end in 2010. They teach at the universities of Sheffield, Manchester, Bristol, London and Bournemouth. Several of them are well known for their work on the British Neolithic and have published extensively on many aspects of archaeology, anthropology and social theory.

---