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Stonehenge, Wiltshire, UK: High Resolution Geophysical Surveys in the Surrounding Landscape, 2011

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An extensive high-resolution geophysical survey covering 2 km^2 was undertaken to the north of Stonehenge in June and October 2011. The survey is important in providing, for the first time, abundant detail on the form and structure of the Stonehenge Cursus, including the recognition of entrances in both of the long sides. Much additional information about the internal form of round barrows in the Cursus Round Barrow Cemetery, the course of the Avenue, the course of the so-called Gate Ditch, and numerous tracks and early roads crossing the landscape was recorded. A series of previously unrecognized features were identified: a pit-arc or cove below a barrow on the west side of King Barrow Ridge, a square-shaped feature surrounded by pits on the east side of Stonehenge Bottom, and a linear ditch on the same solstical axis, and parallel to, the southern section of the Stonehenge Avenue. An extensive scatter of small metallic anomalies marking the position of camping grounds associated with the Stonehenge Free Festival in the late 1970s and early 1980s raise interesting conservation and management issues.

Keywords: Stonehenge, Stonehenge Cursus, the Avenue, round barrows, barrow cemeteries, multi-channel magnetometer, Neolithic, Bronze Age, Stonehenge Free Festival, Gate Ditch, Wiltshire, Salisbury Plain, Cursus Round Barrow Cemetery, King Barrow Ridge Barrow Cemetery, New King Barrows, Old King Barrows

Introduction

Stonehenge lies at the heart of an extensive ceremonial complex situated on the interfluve between the Rivers Till and Avon on the south side of Salisbury Plain in central southern England (Figure 1). Geographically, the complex extends over an area of approximately 25 km^2; chronologically, it spans the eighth millennium cal BC through to the present day with a floruit of activity in the third and second millennium cal BC (Darvill, 2006). It forms the southern component of the Stonehenge, Avebury, and Associated Sites World Heritage Site (C373 inscribed on the World Heritage List in 1986) and is probably the best-known prehistoric site

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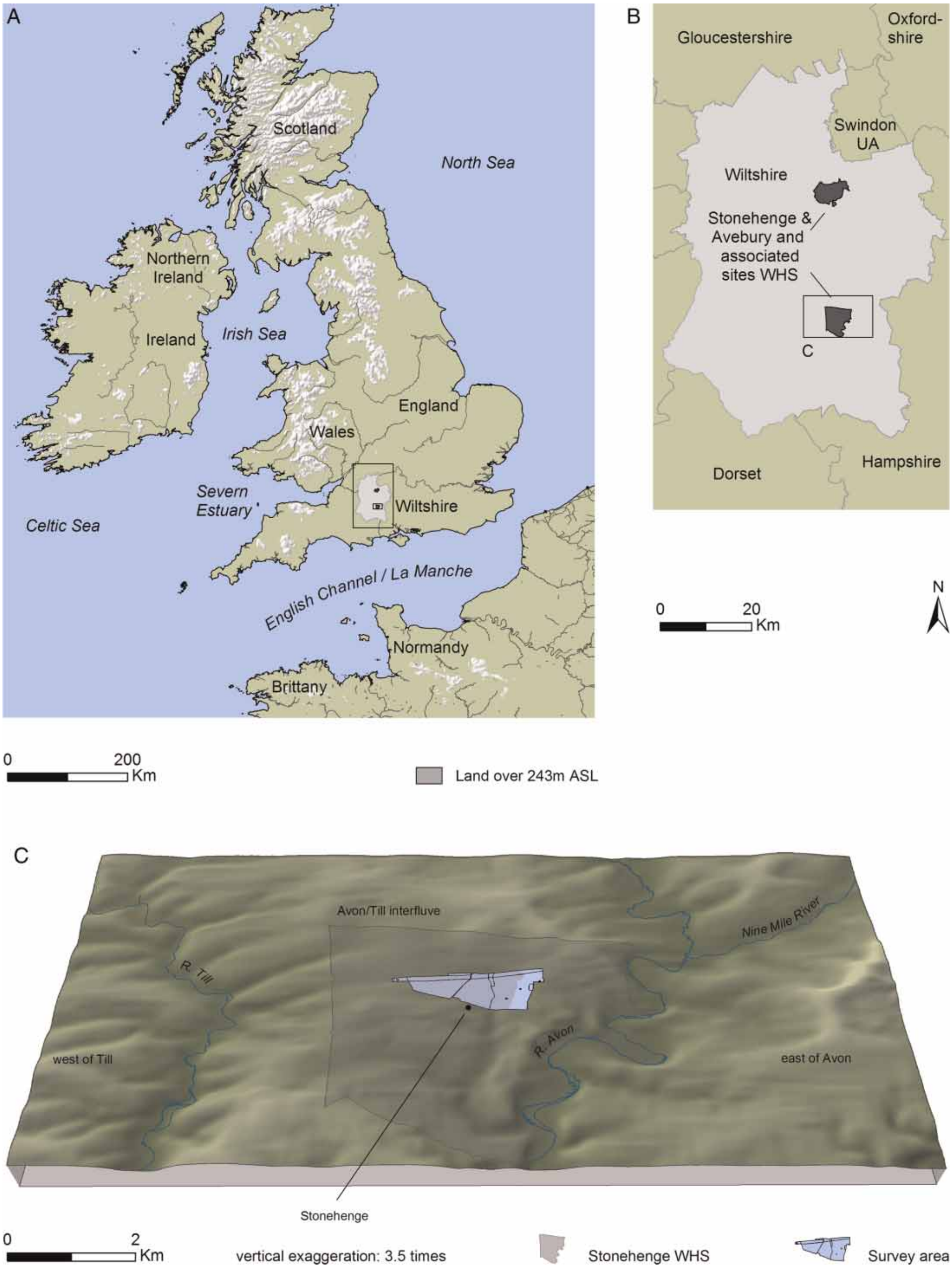

Figure 1. *Stonehenge and its landscape. (A) The position of Stonehenge within northwest Europe. (B) County of Wiltshire with the two sections of the Avebury, Stonehenge and Associated Monuments World Heritage Site marked. (C) Topographic model of the Stonehenge landscape showing the rivers, main landscape zones, and survey area.*
Drawing: Vanessa Constant using ESRI® Data and Maps 2004 for outlines and EDX Engineering Inc. data at 50 m intervals for topography.

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in Europe based on a long history of study. Field-surveys have been undertaken since the eighteenth century (RCHME, 1979) and, in recent decades, geophysical surveys (David & Payne, 1997), aerial photography transcription (Darvill, 2005: End Map C), remote sensing (Bewley et al., 2005), fieldwalking (Richards, 1990), and excavations (Cleal et al., 1995) have been carried out for research purposes, site management, and in connection with planning infrastructure improvements and commercial development. Together, the results of these studies provide valuable insights into the structure and arrangement of the landscape at different periods in its development, but even the most extensive recent studies such as the Stonehenge Riverside Project (Parker Pearson et al., 2004; Parker Pearson, 2012) have tended to focus on a selection of more or less discrete structures that are each relatively small in relation to the overall scale of the complex. The need for high-resolution extensive sub-surface surveys has long been recognized as essential to provide a broad canvas onto which detailed work can be overlaid, and in the recently published Archaeological Research Framework for the Stonehenge component of the World Heritage Site large-scale geophysical survey was seen as one possible solution (Darvill, 2005: 131, Objective 16). With the development of vehicle-towed multi-channel gradiometers, such a possibility can be realized, and the Stonehenge area has continued its long-established role as a proving ground for innovative approaches and new methodologies connected to ongoing research.

Preparations for the survey reported here began in 2008 during excavations at Stonehenge (Darvill & Wainwright, 2009), soon after which it became known that a consortium centred around the Institute for Archaeology and Antiquity in the University of Birmingham (UK) and the Ludwig Boltzman Institute for Archaeological Prospection and Virtual Archaeology in Vienna (Austria) was planning a similar programme that has become known as the Stonehenge Hidden Landscapes Project (SHLP). The aim of the SHLP was to 'tackle current limitations and gaps in our knowledge and understanding of the landscape through a survey of the areas between known monuments' (Gaffney et al., 2012a: 147) over a four-year period. Fieldwork started in 2010, and a series of short reports, methodological statements, and popular accounts have been published (Gaffney et al., 2011, 2012a, 2012b). The survey reported here differs from the SHLP by focusing on expanding understandings of known monuments as well as the areas between, and, in particular, the identification of previously unrecognized features that will give extra texture and depth to the early phases of monument-building in the area. Nationally, such work serves to fulfil objectives set out in the Research Framework (Darvill, 2005: 131); internationally, the programme forms part of a wider interest in the earliest monumental constructions in northwest Europe (Furholt et al., 2011). It is also recognized that in due course there will be important opportunities to compare, contrast, and combine datasets and interpretative overlays from our investigations and those from the SHLP.

Extensive high-resolution geophysical surveys covering approximately 2 km^2 were undertaken to the north of Stonehenge on 6–11 June and 22 October 2011, centred on NGR SU 125425 (Figure 1). The area included all of the Stonehenge Cursus together with downland extending southwards to the A344 road and between King Barrow Ridge in the east and Fargo Plantation in the west. Geologically, the survey area lies predominantly on Upper Chalk with small localized patches of superficial deposit comprising Eocene Clay-with-Flints, and derived Plateau Drift. The study area was surveyed using two SENSYS MAGNETO®-MX ARCH (Sensys Gmbh, Bad Saarow, Germany) 16-channel magnetometers mounted on vehicle-drawn carts (Figure 2A). The sensors were set at a spacing of 0.25 m and towed at a speed of approximately 8 kph with a sample rate of 20 readings per second providing xyz data on a mesh of 0.25 m by approximately 0.1 m. An integral GPS system provides real-time locational data. The systems detect ferrous metals as well as structures in the soil exhibiting different magnetic properties, which is ideal for locating and mapping magnetically enhanced archaeological features such as pits, ditches, postholes, and hearths. Four selected areas were also examined in greater detail using a SENSYS AMOS multi-channel time-domain electromagnetic pulse induction system (Figure 2B). This system detects ferrous and non-ferrous metals as well as changes in conductivity in the upper soil and is useful for locating mounds and land-cut features. Full technical details of both systems are given in the Appendix. The survey was realized in individual, more or less straight tracks adjacent to each other. The swathe width for each track was 4 m for the magnetometer systems and 2 m for the electromagnetic system. Some small areas within the survey area were unavailable because of land-use constraints, including a number of upstanding round barrows fenced off for their protection and the containment of specialized grazing regimes. The presence of multi-strand barbed-wire fencing delimiting stock-grazing areas provided some additional practical constraints. The plots included in this report are georeferenced to the universal co-ordinate system UTM 30 N (WGS 84).

Figure 1C shows the general topographic situation of the survey area, Figure 3 providing a more detailed view with Stonehenge, the Stonehenge Avenue, and the Cursus shown in outline. Figure 4A and B show processed plots of results from the magnetometer surveys, a seamless high-resolution version, reproduced as Supplementary Material is available online (http://dx.doi.org/10.1179/1461957112Y.0000000025.S1). Some highly visible anomalies are the products of modern land-use practices. Most obvious are the lines of metal water pipes feeding the drinking troughs used by livestock, tracks and small fenced areas that could not be surveyed, multi-strand wire stock control fences, and the speckling immediately west of Byway 12, representing metallic material incorporated into the topsoil during the free pop festivals held in this area between 1976 and 1984 (Worthington, 2004; Darvill, 2006: 274). In the following sections, attention is first directed towards new insights for a selection of known archaeological features and then towards two groups of anomalies not previously recognized as archaeological features. The locations of the detailed plots referred to in the text are shown on Figure 5.

Stonehenge Cursus

The Stonehenge Cursus is an elongated earthwork enclosure 3 km long by approximately 100–150 m wide, set on an east to west orientation between King Barrow Ridge and Fargo Plantation, some 700 m north of Stonehenge. The Cursus was first recognized as 'a noble monument of antiquity' by William Stukeley in 1723 (Stukeley, 1740: 41). He wrongly believed it was the remains of a Roman racecourse (hence the name). Later surveys confirm Stukeley's observations that the enclosure was bounded on all sides by a bank and external ditch, that a large long barrow lies

Figure 2. *Vehicle-towed geophysical survey equipment used in the 2011 surveys at Stonehenge. (A) Sixteen channel magnetometer. (B) AMOS electromagnetic system.*
Photographs: Timothy Darvill.

parallel to the enclosure outside the eastern terminal 'Amesbury 42', and that a cross-bank subdivided the western terminal. Colt Hoare (1812: 158–59; plan opposite 170) additionally shows a pair of opposing entrances approximately 570 m

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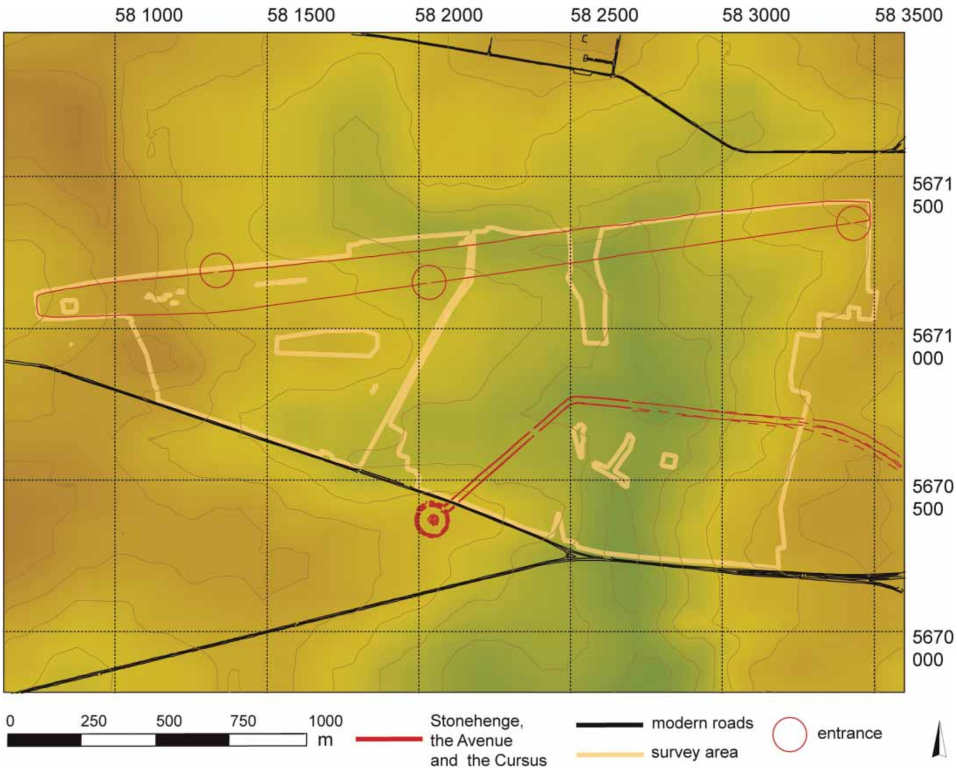

Figure 3. *The 2011 Stonehenge survey area in relation to the Cursus and the Stonehenge Avenue over contoured terrain model. Circles show the position of identified entrances. Georeferencing: UTM 30 N (WGS 84).*
Drawing: DAI.

from the eastern terminal (described by Stukeley, but not shown on his drawings) and a pair of round barrows (Amesbury 56 and Winterbourne Stoke 30) in the western terminal. Prehistoric and Roman fieldsystems revealed by LiDAR survey overlap the western third of the Cursus and no doubt caused some early denudation (Bewley et al., 2005: Figures 2 and 3), but it was not until the early nineteenth century that serious damage from agriculture, and vehicles using a track across the monument in Stonehenge Bottom, began to take its toll (RCHME, 1979: 15). Over this same period, excavations and surveys have been relatively few, are mainly confined to the boundary earthworks, and in total involve sampling a tiny percentage of the monument as a whole (Stone, 1948; Christie, 1963; Richards, 1990: 93–96; David & Payne, 1997: 87; Thomas et al., 2009; Pearson & Field, 2011).

Figure 4 shows the overall extent of the Cursus within the survey. As expected, the western end is heavily disturbed with numerous magnetic anomalies with an intensity suggesting modern metal within the ploughzone. Buildings were erected and then dismantled during the First World War (Stone, 1948: 9), and shell-craters recorded by Christie (1963: Figure 1) betray the probability that some of the metallic material is shrapnel. The line of Byway 12 and the former sewage-works outfall area in Stonehenge Bottom could not be surveyed. Various old field boundaries and agricultural infrastructure extant as recently as 1943 (Darvill, 1996: Figure 137) is visible in the magnetometer plots. About a dozen round and ovoid positive anomalies along the length of the Cursus, but slightly concentrated in the middle section, can be interpreted as pits or shafts, although their dating is quite unknown. Even if broadly contemporary with the construction and use of the monumental enclosure, this small number of internal features suggests that the internal space was uncluttered in its prime. Pearson and Field (2011: 14) report that excavations within the Cursus by the Stonehenge Riverside Project to explore geophysical anomalies revealed by earlier surveys showed that all were of no archaeological interest.

At a broad scale, the magnetometry confirms the basic shape and form of the Stonehenge Cursus as rectangular in plan with squarish ends and rounded corners allowing classification as a Type B cursus (Loveday, 2006: 203). The relative straightness of the northern boundary earthwork compared with the southern boundary is clear, the latter having three sections and two distinct changes of angle to its line (RCHME, 1979: map 1). These changes in angle coincide with the points where the principal solstical axes projected outwards from Stonehenge would intersect the earthwork (Darvill, 1997: Figure 7), although that assumes the Stonehenge Axis was already established well before the stone phases of Stonehenge were built. An alternative explanation is offered by Thomas et al. (2009: 51), who suggest that different sections were sighted onto dominant topographic features such as Beacon Hill.

At a detailed level, the new surveys reveal important structural evidence. Looking first at the earthwork boundaries, it is clear that even the supposedly straight northern side is actually rather bendy. Figure 6 shows in detail an approximately 80 m length of boundary earthwork to the east of Fargo Plantation. Differences in magnetic intensity suggest it is probably causewayed here, as on the south side where investigations by Stone in 1947 revealed two ditch terminals separated by a bedrock causeway 0.6 m wide. The presence of pits defining the boundary for at least part of this monument is significant because of Thomas' finding that the earliest cursus monuments in the British Isles are the pit-defined examples in southern Scotland (Thomas, 2006).

Three previously unknown entrances were noted on the survey plots (Figure 4). In the north side, an approximately 4 m wide gap in the ditch can be seen about 200 m from the western terminal. Figure 7 shows the presence of slightly swollen terminals on either side, and the ditch here is seemingly slightly causewayed. On the south side a small gap approximately 3.5 m wide can be seen about 1200 m from the western terminal. As Figure 8 shows, the ditch terminals are again swollen. A second gap approximately 400 m to the east coincides with a major area of interference and is probably modern in origin. The third seemingly original gap lies in the southern boundary about 75 m west of the eastern terminal. This is a busy area in terms of magnetic anomalies (Figure 9). The entrance through the Cursus earthwork is again about 4 m wide and the flanking terminals are swollen as if to emphasise the significance of the opening. The profile along a section of the Cursus ditch (Figure 9C) shows the position of the causeway at 45 m with relatively high anomalies on either side. A series of linear anomalies on a southwest to northeast axis are the remains of trackways crossing this section of landscape (see below); it is notable that most of the cultivation marks within the Cursus stop more or less on the line of

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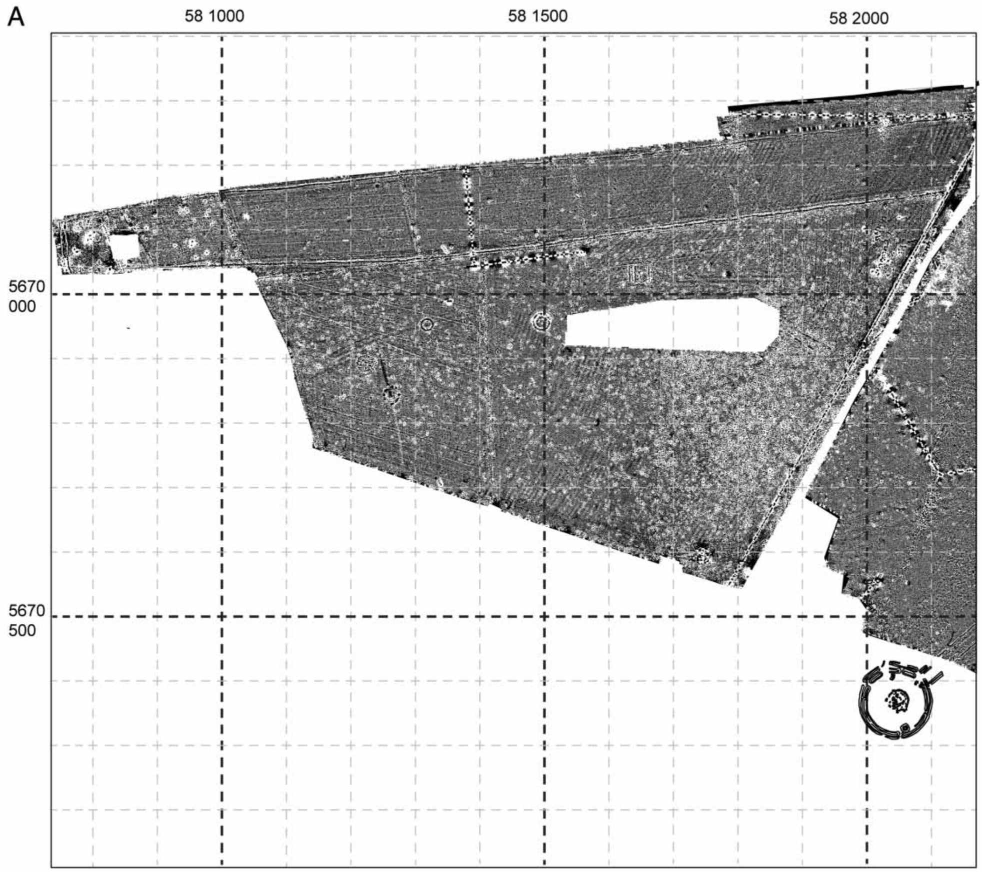

Figure 4. *(A) Plot of results from the magnetometer survey over the western part of the survey area. Georeferencing: UTM 30 N (WGS 84). Drawing: DAI. (B) Plot of results from the magnetometer survey over the eastern part of the survey area. Georeferencing: UTM 30 N (WGS 84).*
Drawing: DAI.

these anomalies. A short linear feature on a slightly different orientation passes immediately east of the Cursus entrance and may somehow be related. Pits and slight indications of circular features within and around the Cursus indicate activity in the area, but it cannot be determined whether this pre-dates or post-dates the Cursus. Curiously, none of the entrances identified here match the two pairs of opposed gaps recorded by Colt Hoare (1812: plate I). Equally, at approximately 583 m west of the Amesbury 42 long barrow, Colt Hoare's gaps do not show on the geophysical survey, thereby supporting what is already suspected from aerial photography (RCHME, 1979: 14). The presence of gaps in the long sides near the terminals has been recorded at other cursus sites and seems to be a common arrangement (Harding & Barclay, 1999: 3; Loveday, 2006). At Springfield, Essex (Buckley et al., 2001), there was a concentration of activity in the form of pits, postholes, a circular post-setting, and fire-scoops in the eastern terminal, but how common such patterns are is uncertain as very few terminals have been excavated. Following Loveday's (2006: 126–30) suggestion that

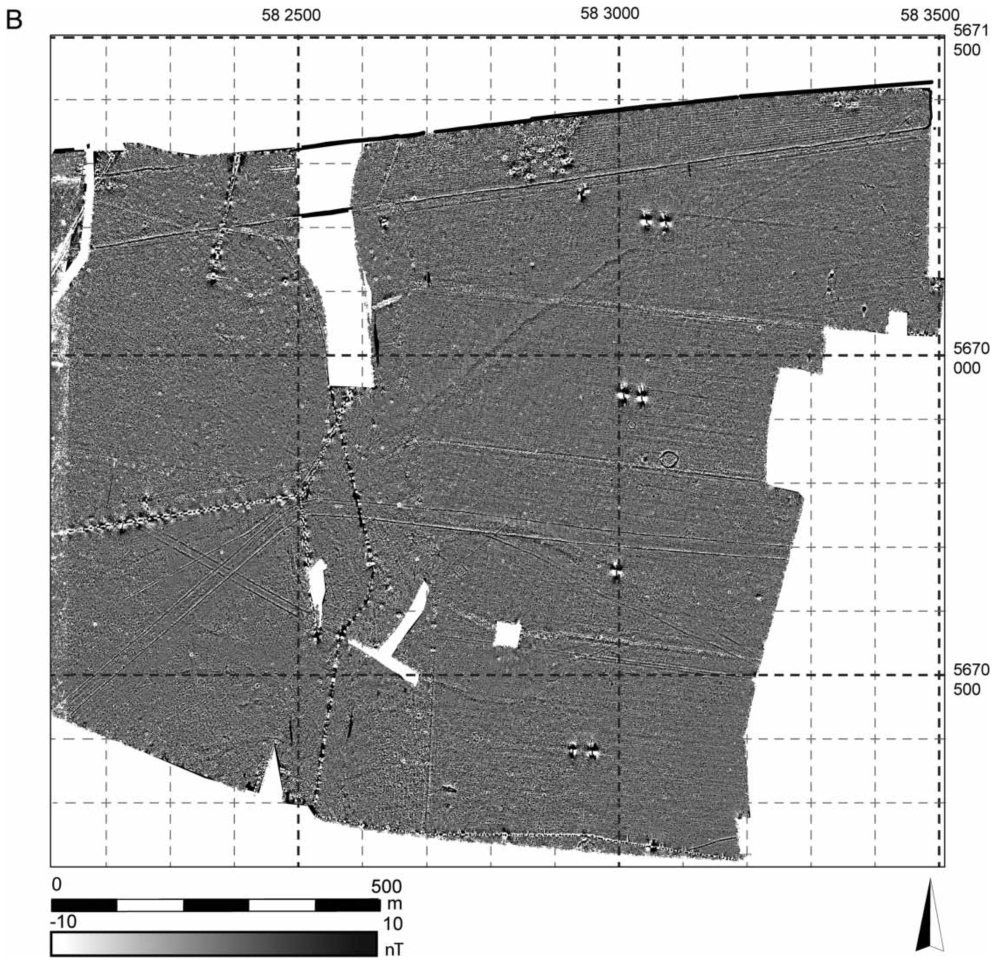

Figure 4. *Continued.*

elongated mounds and enclosures symbolically represent the form of the European longhouse, or at least the underlying cosmologies of their layout and use, the eastern end of a cursus could perhaps be related to the vestibule or entrance area of the house (cf. Hodder, 1984). Looking in a wider context, Darvill (2010: 117–21) has drawn attention to the parallel elongation of long barrows (to become bank barrows) and long enclosures (to become cursuses) during the middle centuries of the fourth millennium cal BC across Britain. A source grounded in the structure of earlier Continental and British long-houses would apply to both in terms of their symbolic representations and the social use of space, but the closed form of the barrows might suggest an association with the dead and the underworld below, while the open form of the enclosures could relate to the activities of the living and the sky-world above.

The Avenue

Like the Stonehenge Cursus, the Avenue was first recognized archaeologically by William Stukeley during his fieldwork

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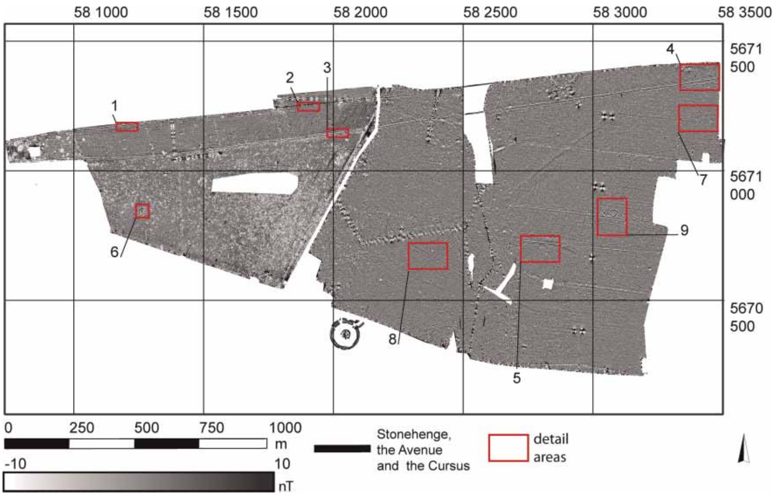

Figure 5. *(A and B) Index plot showing the position and extent of the details shown in Figures 7–14 in relation to results from the magnetometer survey. Georeferencing: UTM 30 N (WGS 84).* Drawing: DAI.

around Stonehenge in 1723 (Stukeley, 1740: 35–40), although both he and Colt Hoare (1812: 157–58) only traced its course as far east as King Barrow Ridge. Both also believed that the Avenue forked in Stonehenge Bottom, one branch heading north towards Larkhill, while the other headed east towards King Barrow Ridge. It has long been recognized that the first straight section of the Avenue from Stonehenge to Stonehenge Bottom fixed the principal solstical axis of Stonehenge in the landscape with its alignment towards the rising midsummer sun, but the eastwards extension of the Avenue from King Barrow Ridge to join the River Avon at West Amesbury was only recognized through aerial photography in the 1920s (Crawford, 1924). A total of 20 excavations within the Avenue were carried out during the twentieth century (Cleal et al., 1995: 291–330) with further trenches cut as part of the Stonehenge Riverside Project in 2007 to 2009 (SRP, 2007, 2008; Parker Pearson et al., 2009). Detailed topographic surveys have been undertaken on the earthwork sections (RCHME, 1979: Figure 5) and there have been a number of geophysical surveys on the section between Stonehenge and Stonehenge Bottom (Cleal et al., 1995: 506–10; David & Payne, 1997: 82–83), and where the Avenue meets the River Avon (Parker Pearson et al., 2010: 16).

Little has been found within the Avenue, although a small round mound, known as Newall's Mound, has been recognized immediately outside the south-eastern side of the Avenue earthwork in Stonehenge Bottom (RCHME, 1979: Figure 5), and excavations within the Avenue earthworks along the straight stretch between Stonehenge and Stonehenge Bottom have consistently recorded deeply cut wheel-ruts from the time when a well-used track ran northeastwards towards Durrington (Cleal et al., 1995: 295). It is now recognized that this track was the earthwork that Stukeley, Colt Hoare, and others saw as the northern branch of the Avenue (Cleal et al., 1995: 312–14). The Avenue was initially constructed about 2400 cal BC (Parker Pearson et al., 2010: 16), although there

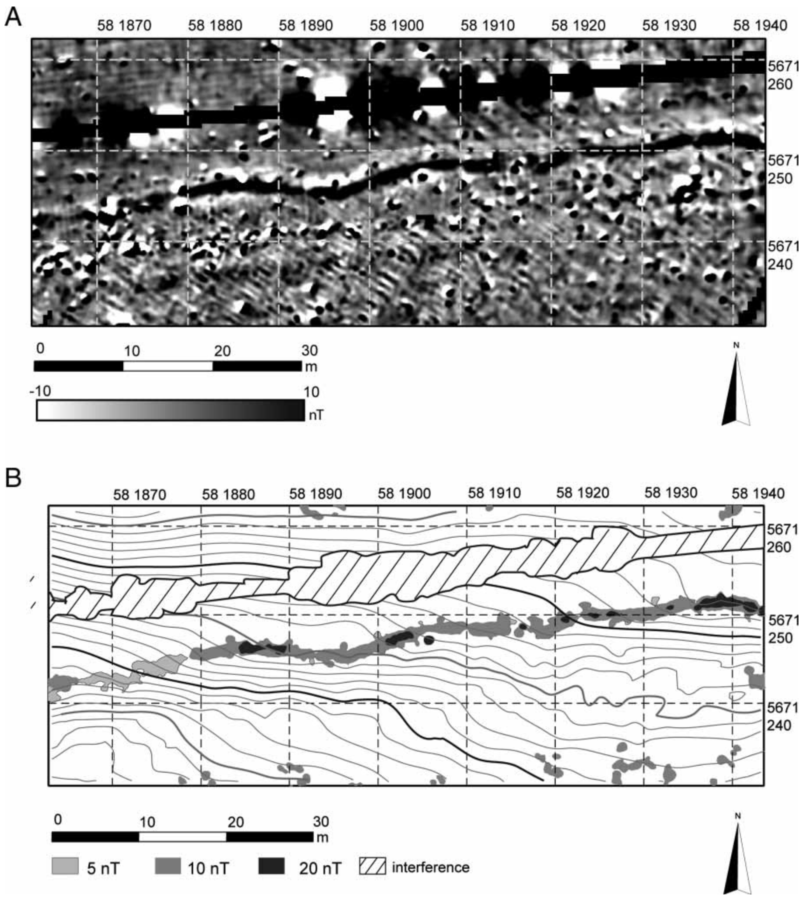

Figure 6. *Details of anomalies recorded by magnetometer survey on the northern boundary of the Stonehenge Cursus. (A) Magnetometry. (B) Filtered positive anomalies over local topography. See Figure 5 Area 2 for location. Georeferencing: UTM 30 N (WGS 84).*
Drawings: DAI.

are unresolved debates about whether or not it was built in two phases (the 585 m straight stretch on the Solstical alignment from Stonehenge to Stonehenge Bottom followed later by the 2 km curved section from Stonehenge Bottom to the River Avon: cf. RCHME 1979: 11; Cleal et al., 1995: 326; Darvill, 2006: 122) and whether or not there was a watercourse of any kind in Stonehenge Bottom when the Avenue was in use (cf. Darvill, 2006: 123).

The 2011 geophysical survey covered the Avenue from just outside Stonehenge on the north side of the A344 through to King Barrow Ridge (Figure 4). The well-defined earthwork boundary comprising ditches (positive anomalies) and banks (negative anomalies) is sharply defined, as too the slightly shaky curve at the 'elbow' in Stonehenge Bottom. Between Stonehenge Bottom and King Barrow Ridge the interior space defined by the earthworks of the Avenue is remarkably free of anomalies and the survey results serve to confirm the seemingly open character of the corridor defined by the earthworks. Between Stonehenge Bottom and the A344,

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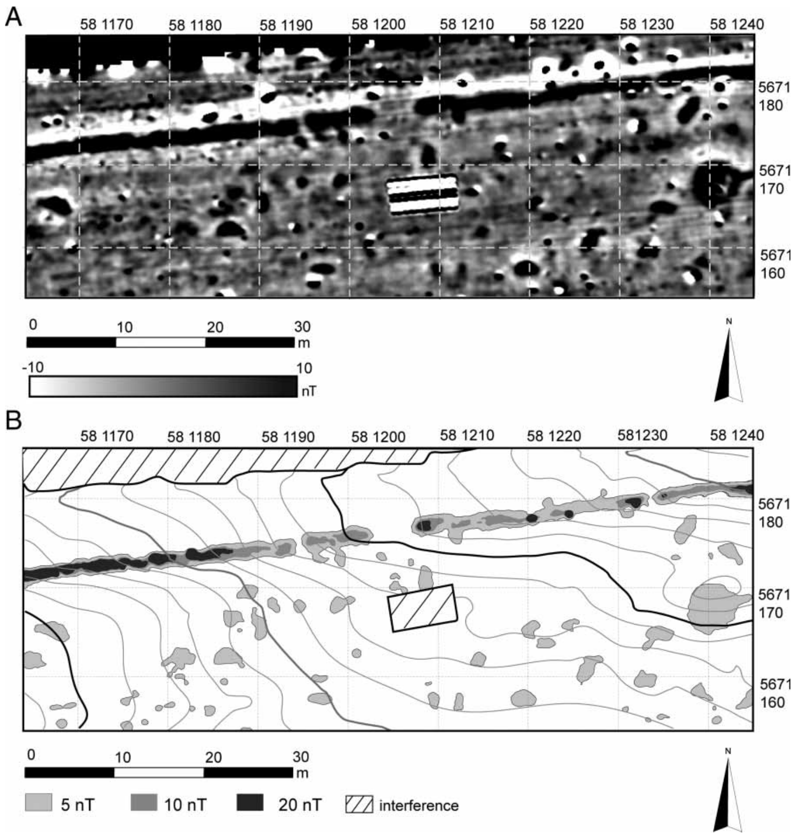

Figure 7. Details of an entrance in the northern boundary of the Stonehenge Cursus. (A) Magnetometry. (B) Filtered positive anomalies over local topography. See Figure 5 Area 1 for location. Georeferencing: UTM 30 N (WGS 84).
Drawings: DAI.

numerous narrow linear anomalies visible in pairs can be interpreted as wheel-ruts from vehicles using the Stonehenge to Durrington track (see below). Figure 10 shows a typical section of the Avenue at the point where it is crossed by a trackway on a southeast to northwest course that is part of what the Royal Commission on the Historical Monuments of England (1979: xxii) consider to be a mid-eighteenth century realignment of the Amesbury to Market Lavington road. Parallel linear anomalies within the earthworks defining this road are similar in form to those within the Avenue, albeit at a slightly lower magnetic intensity. In both cases, the putative wheel-ruts swing from side to side and, looked at in the wide view, occasionally cross each other and spill outside the corridor defined by the earlier earthworks. The profile (Figure 10C) shows the regular pattern of rutting between the two boundary earthworks whose ditches are marked by high positive anomalies.

Palisade Ditch/Gate Ditch

A linear boundary identified in three small excavations tentatively joined together by features visible on aerial photographs and

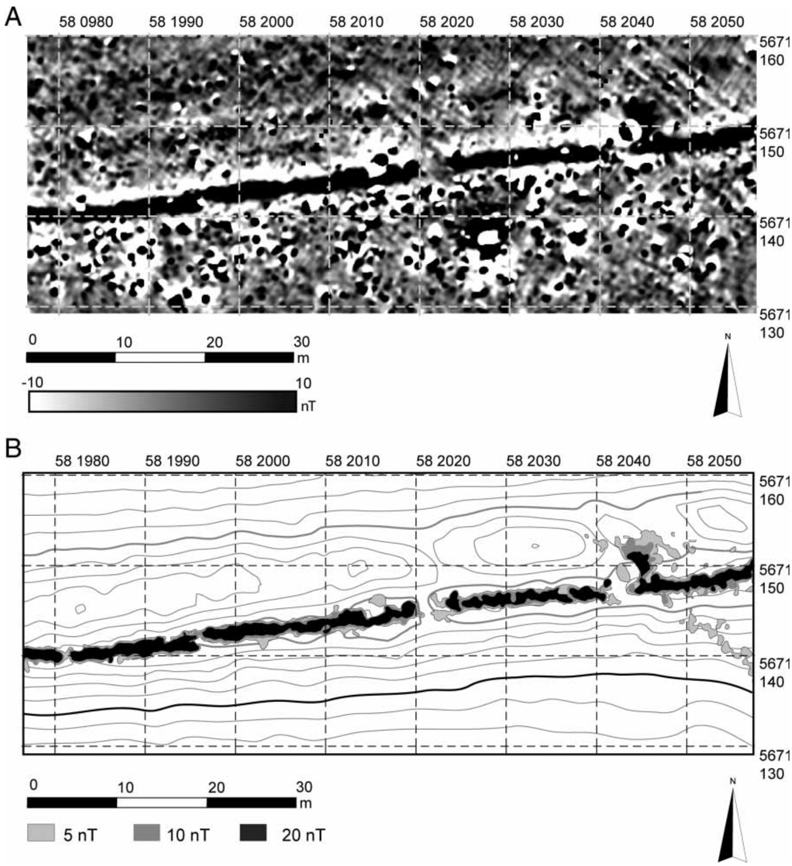

Figure 8. *Details of an entrance in the southern boundary of the Stonehenge Cursus. A: Magnetometry. B: Filtered positive anomalies over local topography. See Figure 5 Area 3 for location. Georeferencing: UTM 30 N (WGS 84).*
Drawings: DAI.

geophysical surveys is known as the Palisade Ditch or the Gate Ditch (RCHME, 1979: map 1; Cleal et al., 1995: 155–62 and 497; David & Payne, 1997: 87). Further geophysical surveys and excavations on the Palisade Ditch, in fields to the west of Stonehenge as part of the Stonehenge Riverside Project have confirmed earlier suggestions that this section at least is a Late Bronze Age linear boundary (J Pollard, personal communication). It can be traced from Stonehenge Down and across the triangle of land on which Stonehenge stands, but it terminates near the modern underpass (Cleal et al., 1995: Figure 71). Whether this ditch connected with the Gate Ditch recognizable north of the A344 and extending northwards into Stonehenge Bottom is conjectural. The excavation of two sections through the Gate Ditch suggests it is narrower and shallower than the Palisade Ditch (Cleal et al., 1995: 160–61). Neither the SHLP nor the survey reported here reveals any anomalies that convincingly connect the two boundaries (cf. Gaffney et al., 2012a: Figure 4E).

The 2011 geophysical survey shows the course of the Gate Ditch through the survey area (Figure 4). It starts at a point about 300 m northeast of the A344, where

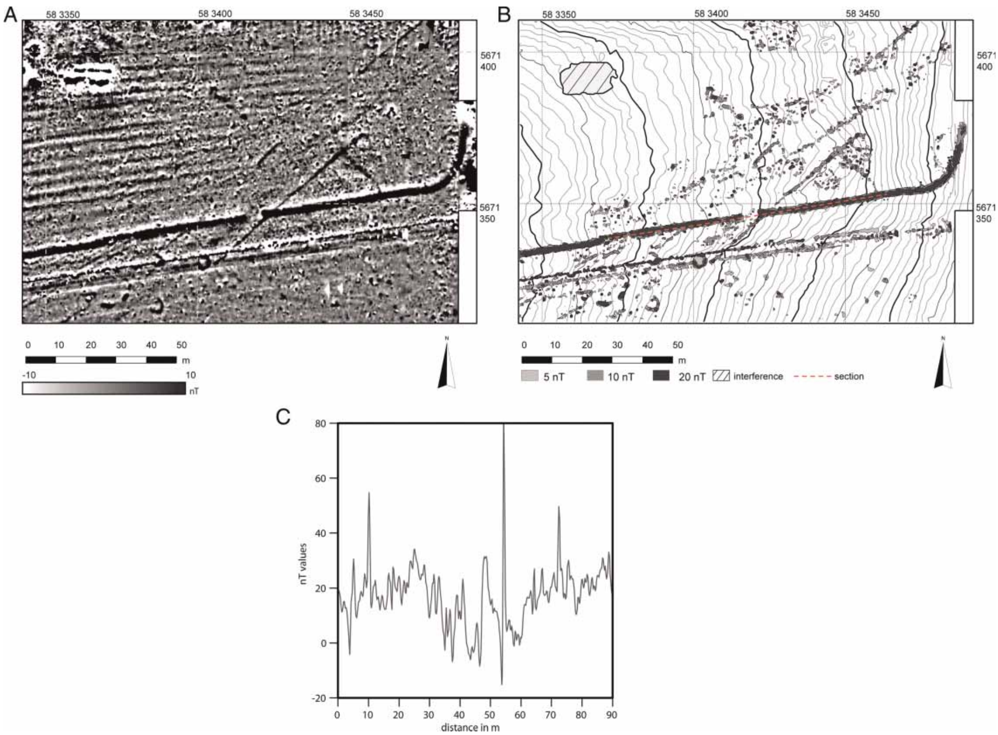

Figure 9. Details of an entrance in the southern boundary of the Stonehenge Cursus near the eastern terminal. Traces of cart-tracks running southwest–northeast can also be seen. (A) Magnetometry. (B) Filtered positive anomalies over local topography. (C) Profile along the cursus ditch. See Figure 5 Area 4 for location. Georeferencing: UTM 30 N (WGS 84).
Drawings: DAI.

it appears as a positive anomaly reaching about 20 nT before it runs beside the Avenue (Figure 10). Importantly, its known line can now be extended northwards around the west side of Stonehenge Bottom at least as far as its intersection with the Stonehenge Cursus, after which there is a slight trace of its course across the Cursus northwestwards roughly following the contour. A possible entrance gap approximately 20 m wide can be seen about 375 m north of the A344.

Cursus Barrow Cemetery

This large linear cemetery of about twenty-five mounds lies mainly between the A344 and the Cursus (Amadio & Bishop, 2010: Figure 3). All of the eleven extant round barrows that lie within the survey area can be identified, although six lie within a fenced area that could not be examined in detail. Four or five small circular features might represent barrows also recognized from aerial photography (Figure 4). Amesbury 51 excavated by Paul Ashbee in 1960 (Ashbee, 1978) was reconstructed with wire mesh in the mound giving it a distinctive magnetic signal on the magnetometry. Its neighbour, Amesbury 50, on the south side of the group, is normally recognized as a bowl barrow about 20 m in diameter (Grinsell, 1957: 151). It remains visible as a round mound some 0.5 m high (Amadio

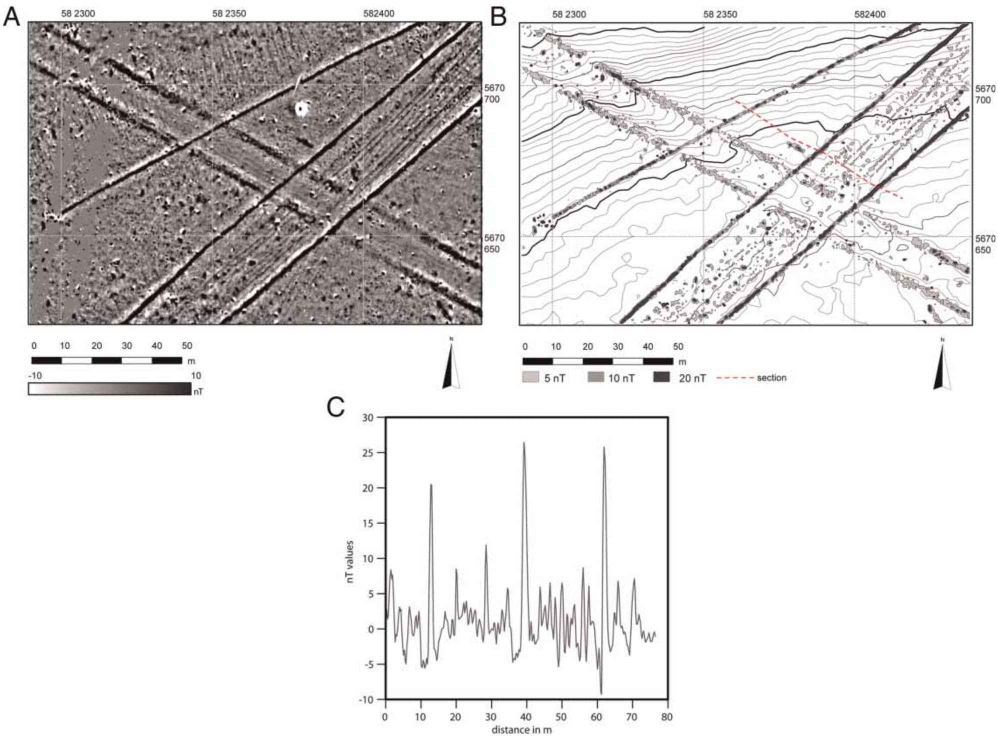

Figure 10. *Details of the Stonehenge Avenue (southwest–northeast) intersected by an eighteenth-century track (southeast–northwest). The line of the Gate Ditch can be seen northwest of the Avenue. Cart-ruts can be seen within the corridor defined by the earthworks of the Avenue and the eighteenth century track. (A) Magnetometry. (B) Filtered positive anomalies over local topography. (C) Profile across the Gate Ditch and Avenue. See Figure 5 Area 8 for location. Georeferencing: UTM 30 N (WGS 84).*
Drawings: DAI.

& Bishop, 2010: 8). Investigations by William Cunnington for Richard Colt Hoare in 1804–1805 gave little result (Colt Hoare, 1812: 163, number 35). However, the geophysical survey (Figure 11) shows this to be a complicated, perhaps multi-phase monument. The rectangular centre grave appears to be surrounded by a ring of eight roughly circular anomalies that are probably pits. Concentric with these is a ring of 25–30 small round anomalies that closely resemble the signal that might be expected from postholes. These seem to lie just within a mound that is itself surrounded by a causewayed ditch of nine visible pits or scoops arranged as two arcs around a southwest to northeast axis. The profile across the monument (Figure 11C) shows the pattern of concentric rings. This barrow was claimed as a 'henge' in the press following geophysical surveys by the SHLP in 2010 (Anon, 2010), but was later reported as a 'hengiform' monument (Gaffney et al., 2012a: 152). However, it shares only superficial similarities with either class of monument and can more convincingly be seen as a prime example of a standard causewayed barrow of the kind well represented in the Stonehenge landscape (Ashbee, 1978: 55–56; Darvill, 2006: Figure 54). Indeed, the neighbouring Amesbury 51 already referred to has a segmented ditch around a

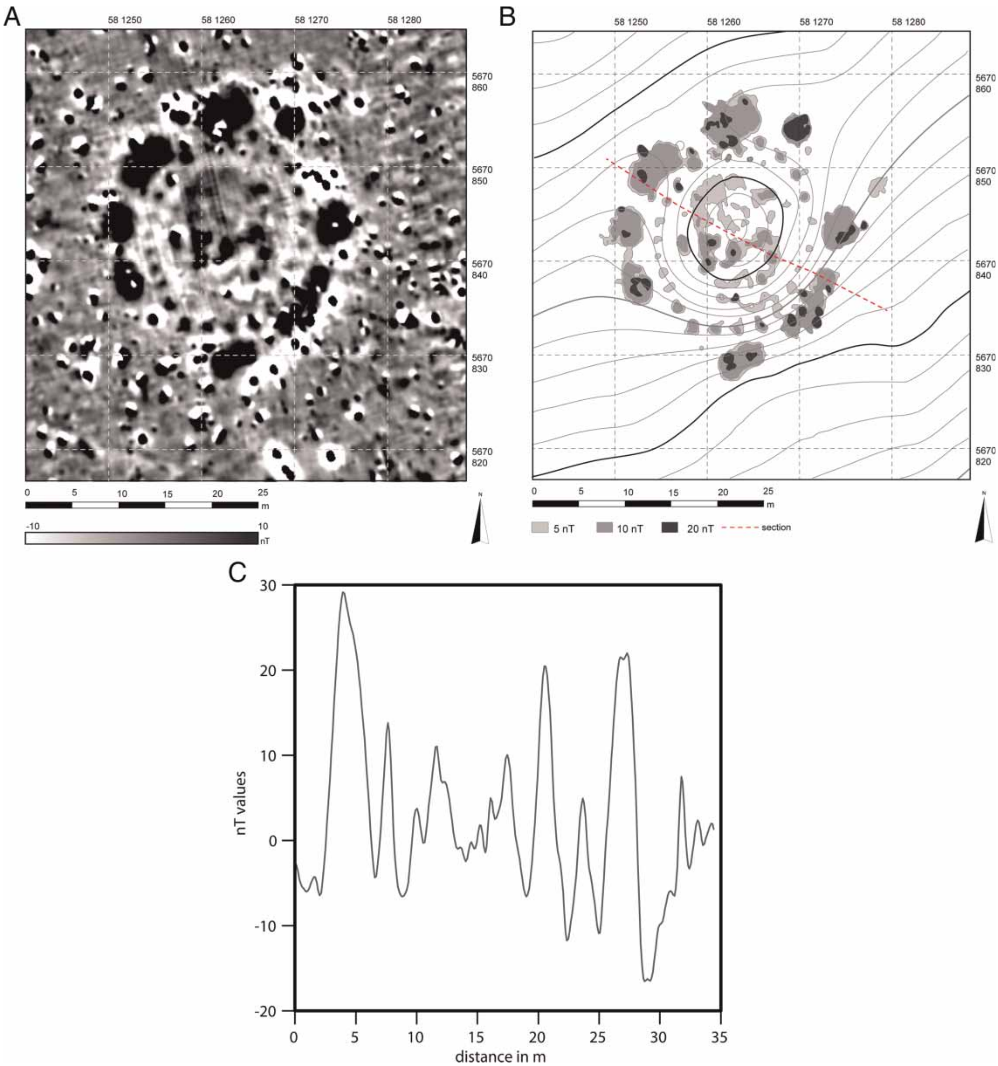

Figure 11. *Details of round barrow Amesbury 50. The causewayed ditch, timber circle, and central setting of pits and possible grave can be clearly seen. (A) Magnetometry. (B) Filtered positive anomalies over local topography. (C) Transect profile across the monument. See Figure 5 Area 6 for location. Georeferencing: UTM 30 N (WGS 84).*
Drawings: DAI.

rectangular grave and Paul Ashbee (1978: 25) proposed that the western part of this linear cemetery, which comprises only bowl barrows, is the earliest part of the cemetery and that it is dominated by burials associated with Beaker pottery of the later third and early second millennia cal BC.

King Barrow Ridge Cemeteries

Most of the round barrows in the two cemeteries on King Barrow Ridge (New King Barrows to the south of the line of the Avenue and Old King Barrows to the north) lie in woodland or former wood-land outside the survey area (cf. Grinsell,

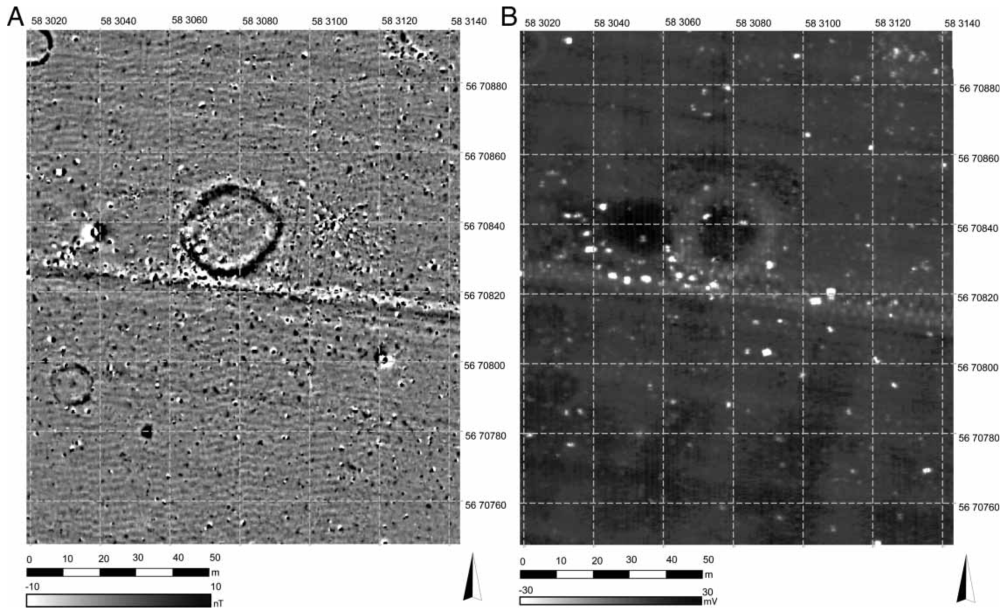

Figure 12. *Details of barrows Amesbury 41, 125, and 126 on King Barrow Ridge. (A) Magnetometry showing the barrow ditches and old field boundary. (B) Electromagnetic survey results showing barrow mounds as dark-coloured positive anomalies with a previously unrecorded ditch-less barrow west of Amesbury 41. See Figure 5 Area 9 for location. Georeferencing: UTM 30 N (WGS 84).* Drawings: DAI.

1978: Figure 1; RCHME, 1979: map 2; Bishop, 2011). However, from south to north, Amesbury 39, 120, 121 and, rather faintly, 123 can be seen south of the Avenue, the last three probably bowl barrows without ditches (Figure 4). Amesbury 39, 39a and 40 were excavated for Colt Hoare in the early nineteenth century to reveal primary inhumations (Grinsell, 1957: 150), Amesbury 39 being re-excavated by Paul Ashbee in 1960 during the improvement of the A303 (Ashbee, 1980). This work revealed a ditched bowl barrow with abundant Neolithic material residual in the core of the mound. The barrow covered a cremation accompanied by beads of amber and shale and a V-perforated shale button. It is one of very few Wessex II burials to be radiocarbon dated: 2300–1700 cal BC (HAR-1237: 3620 ± 90 BP). To the north of the Avenue, Amesbury 124, 125, 41, 126, 127, 128 and 116 can be recognized and are again mostly visible as anomalies representing bowl barrows. Only Amesbury 41 has been excavated, an early nineteenth century investigation for Colt Hoare that revealed two adults and two children in the primary grave along with a flat ornamented bracelet (Grinsell, 1957: 151). The 2011 survey confirms the presence of a ditch around this plough-levelled barrow (Figure 12A), which lies immediately north of an old field boundary. Amesbury 125 to the southwest clearly has a central grave within a small but regular ring-ditch. The same applies at Amesbury 126 to the northwest. An additional round barrow invisible to the magnetic survey was identified using the electromagnetic system in this area (Figure 12B). The mounds of Amesbury 41, 125 and 126 can be seen as dark-rendered anomalies with lower values denoting the presence of

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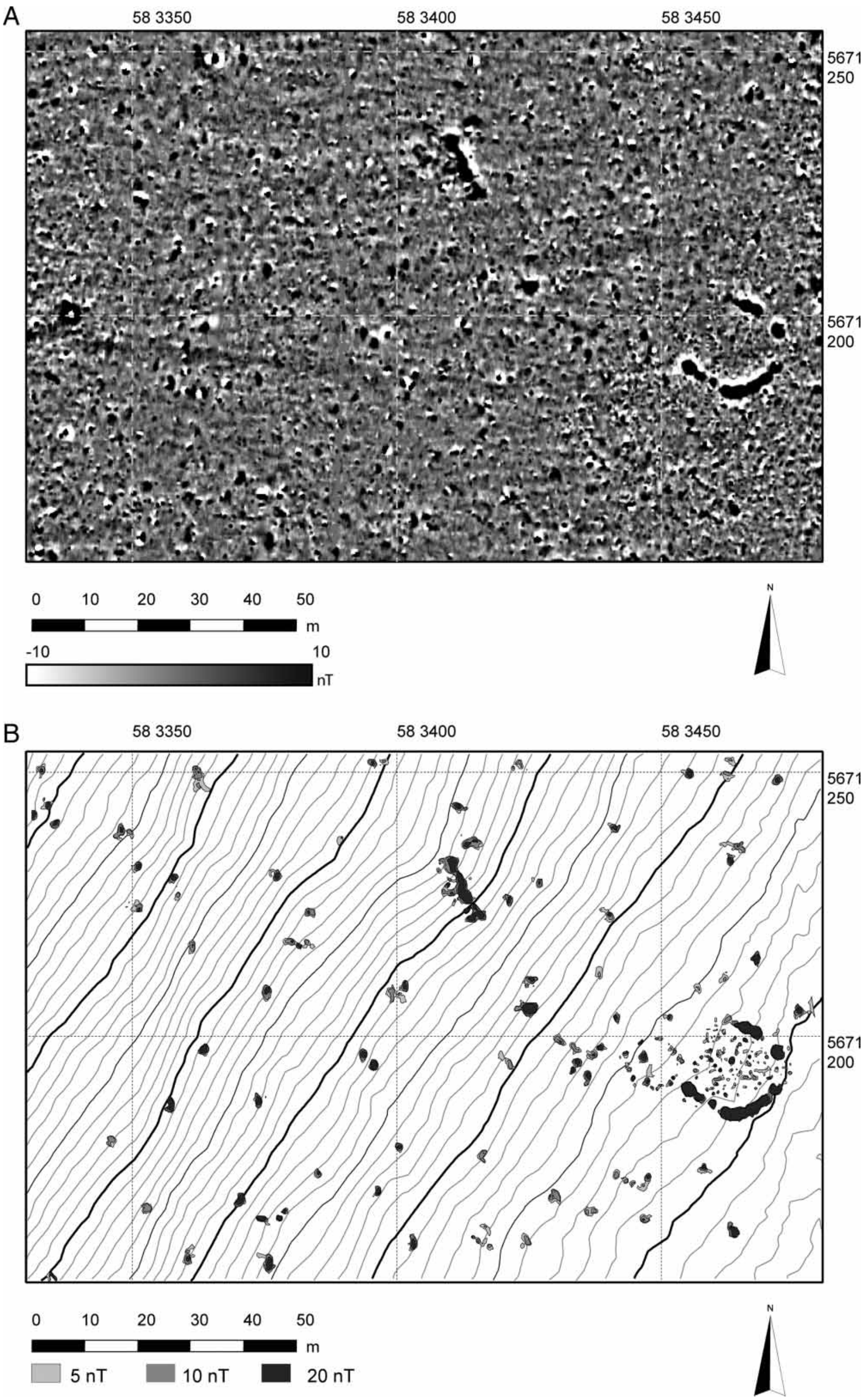

Figure 13. *Details of cove-like structure on King Barrow Ridge with lightning strike to the northwest. (A) Electromagnetic survey results. (B) Filtered anomalies over local topography. See Figure 5 Area 7 for location. Georeferencing: UTM 30 N (WGS 84).*
Drawings: DAI.

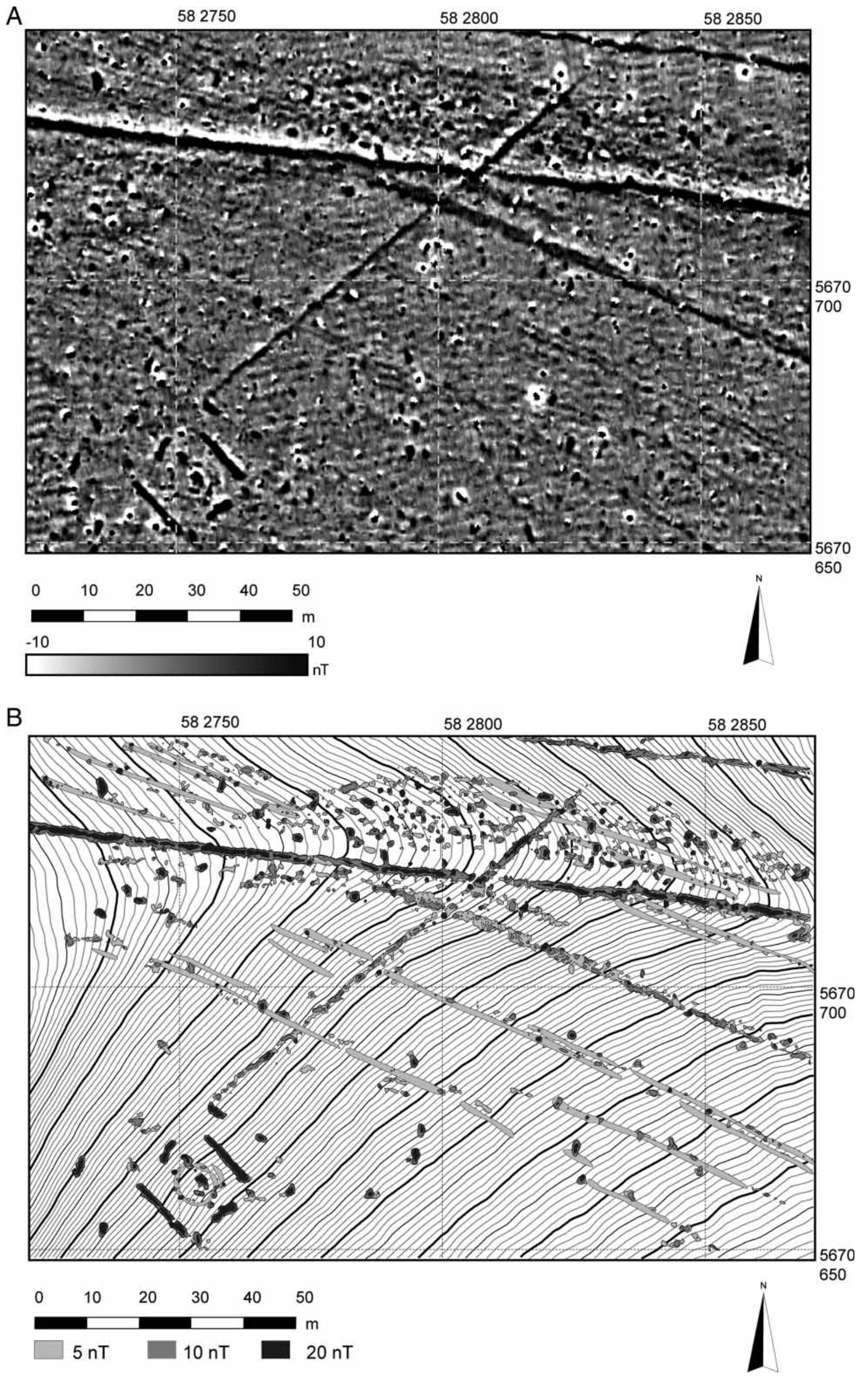

Figure 14. *Details of the square-shaped feature and linear anomaly on east side of Stonehenge Bottom. The boundaries of the Stonehenge Avenue can be seen running roughly east–west at the top of the plot. Traces of cart-ruts associated with the medieval trackway from Amesbury to Market Lavington running southeast–northwest across the centre. (A) Magnetometry. (B) Filtered positive anomalies over local topography. See Figure 5 Area 5 for location. Georeferencing: UTM 30 N (WGS 84).* Drawings: DAI.

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their surrounding ditches. Unexpectedly, the newly recognized barrow appears to be ditchless and lies immediately west of Amesbury 41 as a dark-rendered anomaly suggesting the remains of a truncated mound; the light spots may indicate the presence of stones. Further investigations are needed to evaluate the character and interpretation of these anomalies.

Notable among new detail that can be added to previously identified monuments are the features below what was previously recorded as a low mound or possible bowl barrow. The new geophysical survey results show the presence of a regular horseshoe-shaped feature (Figure 13) formed of four or five positive anomalies of between −5 and +15 nT. These could be pits, quarries for a central mound, or stone sockets. There are slight indications that each anomaly is actually a close-set pair of conjoined features.

With external dimensions of approximately 18 m by 16 m, this open-sided structure could be seen as a pit-arc of the kind found widely in late Neolithic contexts across Britain, as, for example, at Barrow Hills, Oxfordshire (Barclay & Halpin, 1999: Figure 4.7), Llandegai, Gwynedd (Lynch & Musson, 2001: Figure 22), and Billown, Isle of Man (Darvill, 1999: Figure 3). More likely on the basis of its ground-plan is that it is the remains of a 'cove', a three-sided or horseshoe-shaped setting of stones or posts (Wainwright, 1979: 230–32; Burl, 1988). Recent work around Avebury, Wiltshire, has highlighted the various forms that such monuments take (Gillings et al., 2008: 124–26 and 166–67). The largest example of such a feature in Britain is represented by the five trilithons set in a horseshoe 15 m by 14 m in the centre of Stonehenge (Burl, 1988: 16; Cleal et al., 1995: Figure 107). Larger horseshoe-shaped settings are known in northern France (Burl, 1997). With its opening to the northwest, the King Barrow Ridge cove is roughly orientated towards the setting mid-summer sun. Also notable is the short dipole anomaly revealed on the geophysical survey just 50 m to the north. This looks to be the magnetic signature of a lightning strike where the current has earthed in a single direction (cf. Jones & Maki, 2005). Within the horseshoe-feature are numerous small anomalies that might be pits or postholes. Fieldwalking and evaluation excavations to the south and east on King Barrow Ridge have revealed a dense scatter of worked flint associated with a pit cluster of late fourth and early third millennia cal BC date (Laidler & Young, 1938; Richards, 1990: 109–23).

All along the western slope of King Barrow there is a scatter of generally small circular anomalies that could be further traces of barrows or flat graves. Some are more clustered and serve to enhance current understandings of the pattern of barrows in this area. Especially important in the cluster are what seem to be nine barrows south of the Avenue on the eastern flanks of Stonehenge Bottom in an area where only two barrows (Amesbury 39a and 40) were previously recorded (RCHME, 1979: map 2). A group of four possible barrows can be seen north of the Avenue (Figure 4) and there are also several new additions in the area of Amesbury 116 to the south of the Cursus. Fieldwalking in this area revealed very low-density artefact distributions (Richards, 1990: 11–39).

Tracks and Roads

The Stonehenge landscape is criss-crossed by tracks and former roads, several of which show on the geophysical survey and correspond with features shown on a map of 1773 by Andrews and Dury, which antedates the enclosure of Durrington Down and Winterbourne Stoke Down. Running roughly east–west are two clear routes. The most northerly is a meandering road representing the medieval route from Amesbury to Market Lavington. Passing over King Barrow Ridge between the northern two round barrows in the New King Barrow Cemetery, it continues westwards down the slope into Stonehenge Bottom before crossing the Avenue to the east of the elbow and turning northwards to join the Stonehenge to Durrington track discussed further below (RCHME, 1979: xxii and map 3). Stukeley (1740: Tab. xxiv) provides a view of this road where it crosses the Avenue showing its muddy condition and rutted surface. However, the enlargement of the Duke of Queensberry's park (Amesbury Park) in the mid-eighteenth century necessitated re-routing the road and a new course was laid out (Bishop, 2011: 21–22). It crossed King Barrow Ridge further south than the old road before taking a fairly straight course northwestwards, where it runs on a slight causeway across Stonehenge Bottom before cutting through the Avenue more or less at right angles (Figure 10) and clipping the edge of the large bell barrow Amesbury 43 at the eastern end of the Cursus Barrow Cemetery. Its line is lost before it cuts the Cursus, and there is some suggestion that the route as a whole was never finished (RCHME, 1979: xxii). However, the ruts visible within the road corridor on the geophysical survey (Figure 10) suggest that at least part of it was used by through traffic.

Running in a north–south direction is Byway 12, which could not be surveyed because of its broken surface. It represents the latest alignment of a major and potentially ancient route across the landscape, but one which moved about fairly regularly over the course of time. Until the early twentieth century AD, it variously ran through or beside Stonehenge, before bifurcating to head northwards to Netheravon and northeastwards along the Avenue towards Wellhouse and Durrington (Chippindale, 1978).

Excavations across the Avenue near Stonehenge have revealed numerous linear features, variously seen as wheel-ruts and/or periglacial stripes (Hawley, 1924: Figure 1; Cleal et al., 1995: Figure 178). The 2011 geophysical survey shows how these continue in ragged fashion down the corridor created by the earthworks of the Avenue in a fashion that favours an interpretation of some or all as wheel-ruts (Figure 10). The effect of this traffic, which did not always confine itself to the corridor defined by the earthworks, would have been to accelerate the erosion of the chalk bedrock where not protected by the banks of the Avenue, thereby creating a series of low-relief ridges that can still be glimpsed in the topography of the area, especially near the A344, where the effect seems to have been greatest. In Stonehenge Bottom, the track continues northeastwards where the Avenue heads east. As already noted, the effect of this use caused Stukeley, Colt Hoare, and others to erroneously think the Avenue bifurcated at this point; only the medieval and later track continued on across the deepest part of Stonehenge Bottom before drifting a few degrees east of a direct continuation of the Avenue to follow the bottom of a natural fold in the hill before emerging on the hilltop again to cross the Cursus near its eastern terminal.

Linear anomalies created by traffic along this track – wheel-ruts – can be seen on the geophysical plot of this area (Figure 10). It is tempting to invoke slight geological changes in the quality of the Upper Chalk to account for the line followed by the track between Stonehenge Bottom and the Cursus (Cleal et al., 1995:

313–14), while, in a more phenomenological vein, it can be observed that the topography of the ground creates some interesting shadow effects along this same line late in the day around mid-winter that could have been observed by earlier populations (Darvill, 1996: Figure 137). Periglacial effects may also have had a role to play and it is notable that, during field evaluations for a site at Larkhill that was under consideration for the construction of a new visitor centre, there were numerous silt and stone stripes in the top of the bedrock (Darvill, 1991: 468). Importantly, none of these natural lines through the terrestrial landscape follow exactly the principal axis of Stonehenge with its solstical orientation and celestial origins, although it has been claimed that ridges in the chalk on the solstical alignment somehow provided inspiration for setting out the earthworks of the Avenue and identified the place that became Stonehenge in the minds of Neolithic people (Parker Pearson et al., 2010: 15–16; Parker Pearson, 2012: 244; see above for explanation of the ridges). Further away from Stonehenge itself, human influences most likely determined the route selected for this track: as the geophysical plot shows, its path passes beside several round barrows that had not previously been recorded (Figure 4) and heads straight for a rather dispersed round barrow cemetery south of the eastern terminal of the Stonehenge Cursus, which, together with Amesbury 42 long barrow and the Cursus earthworks themselves, would have provided clear landmarks as sightlines and as obstacles to be negotiated for a smooth passage.

Square-Shaped Feature

South of the Avenue and south of the old Amesbury to Market Lavington road on the eastern slopes of Stonehenge Bottom is what seems to be a previously unrecognized set of anomalies forming a roughly square-shaped feature with what might be a central setting of some kind, spatially associated with a linear anomaly, probably a ditch, heading directly northeast for a distance of about 90 m and extending across the line of the Avenue (Figure 14). Two things make this set of features rather interesting. First is that they lie on a fairly steep northwest-facing slope. Second is that the orientation of the ditch matches the orientation of the first stage of the Avenue and therefore the Stonehenge solstical axis, while the square-shaped arrangement follows the same orientation. Nothing else in the Stonehenge landscape shares this distinctive orientation.

The most distinctive components of the square-shaped feature are a pair of parallel positive anomalies measuring more than 20 nT about 15 m apart and each about 15 m long. The open ends lie to the northwest and the southeast, each with a short oval-shaped positive anomaly, probably a pit, roughly mid-way between. There may be two additional pits on the line of the southeastern side. In the centre is a strong positive anomaly looking like a pit or a grave, around which is a weak circular-shaped anomaly registering less than 5 nT; possibly a ring of postholes. A handful of smaller pit-like anomalies are present within the boundaries of the outer square. About a dozen positive anomalies recorded at more than 20 nT seem to lie on the circumference of a crude circle about 40 m in diameter, slightly off-set around the square-shaped feature. The linear feature running away from the square-shaped feature to the northeast has only a general spatial association as they do not meet.

A number of possible parallels for this feature can be cited. Seen as a pair of parallel ditches with some kind of elongated structure between finds good correspondence with small long barrows or oval barrows in the area: for example, Kingston Deverill, Wiltshire (Harding & Gingell, 1986: 7–14) and Woodford, Wilshire (Harding & Gingell, 1986: 15–22). Alternatively, seen as a square enclosure with an interrupted boundary and a central circular structure, there are interesting parallels with sites at Aldwincle, Northamptonshire (Jackson, 1976), Site I and Dorchester on Thames, Oxfordshire (Atkinson et al., 1951: Figure 4; Whittle et al., 1992), and geographically rather closer at The North Egg, Durrington, Wiltshire (McOmish, 2001: Figure 4.3). Mention may also be made of the arrangement at Stonehenge itself where the four Station Stones define a rectangle that, in the later phases of use at least, contains the concentric stone settings: Sarsen Circle, Outer Bluestone Circle; Sarsen Trilithon Horseshoe; and Bluestone Oval/ Horseshoe. Notably, the sides of the rectangle defined by the Station Stones, which are believed to mark key solar and lunar events in the night sky (Hawkins, 1965: Figure 14), have the same orientations as the sides of the square-shaped geophysical feature.

Conclusion

The 2011 geophysical surveys at Stonehenge reported here provide a wealth of new insights about the landscape as a whole and the nature of individual monuments in terms of their structure, arrangement, and relationships. Rapid high resolution surveys over large areas provide quite new kinds of perspective and their potential is only just beginning to be realized. Readers are invited to visit the associated website for Supplementary Material (http://dx.doi.org/10.1179/1461957112Y.0000000025.S1) and discover new aspects of the Stonehenge Landscape for themselves. There is clearly much potential for the application of similar approaches in other European countries, and the results are useful both for understanding aspects of the past and developing contemporary resource management strategies.

One significant finding of these new surveys is the rather simple fact that within the landscape north of Stonehenge – long regarded as a ritual or ceremonial landscape *par excellence* – there are numerous and extensive open spaces. This is especially true of the fourth and third millennia cal BC landscape and accords well with the largely negative results of extensive field evaluation undertaken during planning work for improvements to the A303 (Leivers & Moore, 2008). Even when the previously unrecorded round barrows and other features are taken into account, there are still major open areas within and between the main cemeteries of the later third and early second millennia cal BC, a characteristic that has come to be understood as potentially significant in the use of such monuments: arenas for public events and rituals perhaps (Barclay & Halpin, 1999: 305–09). Significantly, the interior of the Cursus and the Avenue appear to contain clear open spaces, something that supports the argument for their use as processional ways connected to movement within a symbolically structured and ritually charged landscape. In a sense, open spaces perhaps need to be considered in the same light as monuments: they structure and facilitate movement and access just as meaningfully as formalized architecture. It is also important to recognize that they are only empty in terms of recoverable geophysical anomalies of the kind detected by the equipment used here. Complimentary evidence from geochemical studies and artefact distributions is required to complete the picture.

Advances in understanding the Cursus include the definition of entrances in the long sides, the documentation of its wiggly edges, and the recognition that parts of its earthworks are pit-edged or at least defined by causewayed ditches. Such ditch construction was widely practiced in fourth millennium cal BC Britain at causewayed enclosures and indeed in the construction of the circular earthwork enclosure at Stonehenge (Darvill, 2006: 97). Nothing else in the immediate vicinity of the Cursus appears to follow the same east–west orientation, although it is suspected that the much earlier Mesolithic postholes recorded during the construction of the Stonehenge car park in 1966 (Cleal et al., 1995: 43–47) have a similar medial orientation, even though the length of the line represented is insufficient to allow a reliable axis to be established.

Firm evidence for the presence in the landscape of other features that share the solstical axis around which Stonehenge was built is a major discovery. The putative linear ditch and spatially associated square-shaped feature hold a great deal of potential for future research and urgently require ground-truthing. Their position on elevated ground overlooking Stonehenge Bottom and the confluence of two minor side-valleys that provide natural corridors for the western and eastern parts of the Stonehenge Avenue may also be significant. Recent discussion has drawn attention to what are claimed to be natural ridges in the landscape that structured the positing of Stonehenge, its solstical orientation, and the exact alignment of the Avenue (Parker Pearson et al., 2010; Parker Pearson, 2012: 244). But it is an interpretation that is problematic in terms of the opportunities for prehistoric people to observe and understand such features in the landscape, the extended timeframe over which these events took place, and, as discussed above, the post-prehistoric impact of roads, tracks and erosion on the local topography. Notwithstanding, the possibility of formal structuration in the landscape based on broad shared cosmological systems must also be considered and various proposals relating to the sacred geography of the area have been made, including a concentric system represented by barrow cemeteries in the later third and early second millennia cal BC (Woodward & Woodward, 1996), a three-phase development through binary, quadrate, and concentric arrangements spanning the fourth to second millennia cal BC (Darvill, 1997), and a binary division between the living and the dead in the third millennium BC (Parker Pearson & Ramilisonina, 1998; cf. Darvill, 1997, fig 4). Each finds degrees of support in the patterning shown by the 2011 geophysical surveys, but further investigation of their interpretative value would move the discussion away from the results presented here.

Staying with the plot of geophysical anomalies, the 2011 survey also contributes to the broader field of conservation and management within the World Heritage Site. The distribution of metallic waste from the free festivals can now be fully mapped and its density appraised. Its presence is partly masking the recognition of sub-surface features through some kinds of geophysical survey and consideration needs to be given to either removing it manually or accepting that these areas will be contaminated for decades, if not centuries. At present, much of the contamination is probably within the topsoil. Magnetometry suggests it is mainly small pieces rather than large chunks of metal. With time, the material will move down the soil profile collecting at the interface of the topsoil and the underlying bedrock or moving into the top of archaeological features where they are present.

Attention may also be directed to the general interpretative value of surveys such as the one described here. Setting monuments in their broader context certainly helps explain and present them to wider audiences and the general public. But such surveys also raise new research questions and set the agenda for further work. In this case, the entranceways into the Cursus, the date and structure of the cove-like feature and details of the square enclosure and associated linear feature all require evaluation through small-scale excavation before their significance and contribution to the unfolding history of the landscape and its component monuments can be properly understood and communicated.

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Appendix: Survey Systems

The two vehicle-towed multi-channel magnetometer systems SENSYS MAGNETO®-MX ARCH used in the survey each comprised 16 FGM-650B tension band fluxgate vertical gradiometers with 650 mm sensor separation, ±3000 nT measurement range, and 0.1 nT sensitivity. The gradiometers were mounted at 0.25 m intervals along a 4 m wide sensor-frame, set at right-angles to a tow bar 6 m long. The entire non-magnetic cart was made from fibre-reinforced plastic. Four wheels each set on independent suspension systems allowed smooth passage of the cart over rough ground with a bottom sensor-to-ground distance of approximately 0.2 m. The carts were towed by either a LWB Land-Rover or a Toyota HiLux moving at a steady speed of approximately 8 kph. These vehicles provided secure traction on grazed long-term grassland with minimal impact on what was recognized as sensitive sub-surface archaeological deposits and a varied flora. The vehicles housed power supply and the data processing hardware. MAGNETO®-MXcompact 16-channel data acquisition electronics with 20 Hz sampling frequency was used for data acquisition with Trimble RTK-DGPS georeferencing (base/rover combination). The survey base-station was located with a Leica 500 DGPS to provide its location as WGS84 coordinates. Data acquisition was accomplished with RTK fix and RTK float positional accuracy (±0.02/ ± 0.01 m). SENSYS MonMX, DLMGPS, and MAGNETO®-ARCH software package was used for data acquisition, primary data processing, interpolation, and export. The MAGNETO®-MX ARCH multi-

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channel magnetometer system detects ferrous metals as well as structures in the soil exhibiting different magnetic properties.

The TDEM (Time Domain Electro-Magnetic) system AMOS was used to map selected areas within the 200 hectare magnetometry survey. AMOS is a vehicle-towed, pulse-induction, multi-channel metal detector system. It consists of a 2 m by 1 m transmitter coil and two levels with eight receiving coils (0.4 m by 0.4 m) on two separate levels (bottom and top, vertically 0.35 m apart). Neighbouring receiving coils of one level overlap each other by 0.20 m. The eight receiving coils of the lower level and the transmitter coil are integrated in one array, the eight receiving coils of the upper level into another array. For the survey, the upper array of receiving coils is mounted vertically on top of the matching lower receiving coils. The coil array was mounted on a non-magnetic cart made from fibre-reinforced plastic with a width (sensor array) of 2 m and a tow bar length of 4 m. A Range-Rover was used to tow the system. The vehicle housed data acquisition electronics, RTK-DGPS rover and power supply for the system. Data acquisition was conducted with 20 Hz sampling frequency and RTK fix and RTK float positional accuracy (±0.02/ ± 0.01 m) using the same base station as the magnetometry systems. SENSYS MonMX, DLMGPS and MAGNETO® 2.04 software package was used for data acquisition, primary data processing, interpolation, and export. The AMOS multi-channel metal detector system detects both ferrous and non-ferrous metals, as well as changes in conductivity in the upper soil.

The pre-processed geomagnetic data were exported as text files, containing three columns with the *x* and *y* coordinates and the measurements of the vertical gradient (z) as Nanotesla values. The simple and robust structure of the text file guarantees an uncomplicated import into GIS. Post-processing used open-source GIS software; within the German Archaeological Institute (DAI), gvSIG has been tested extensively and was used for this project. As standard for the subsequent exchange of data, the geotif file is well approved and tested. All maps and diagrams were produced in gvSIG and its embedded GRASS-tools for raster calculation. The xyz-values were interpolated with the r.fill-gap-GRASS tool developed by our colleague Benjamin Ducke.

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Prospections géophysiques à haute résolution dans les environs de Stonehenge, Wiltshire, Royaume-Uni, 2011

En juin et octobre 2011, une vaste prospection géophysique à haute résolution fût effectuée sur une surface de deux kilomètres carrés au nord de Stonehenge. L'importance de cette étude réside dans le fait que pour la première fois on a pu obtenir d'abondants détails sur la forme et la structure du Cursus de Stonehenge, avec l'identification d'entrées sur les deux côtés longs. Une grande quantité d'informations supplémentaires sur la forme interne des tumuli ronds dans le Cursus Round Barrow Cemetery (cimetière des tumuli ronds du Cursus), sur le cours de l'Avenue ainsi que sur le cours du soi-disant Gate Ditch (fossé de la porte) a pu être récoltée. De plus, de nombreuses traces et anciens chemins traversant le paysage ont été enrégistrées. Toute une série de structures non identifiées préalablement ont pu être reconnues: une fosse en forme d'arc ou caverne en-dessous d'un tumulus du côté ouest du King Barrow Ridge, une structure carrée entourée de fosses du côté est de Stonehenge Bottom, et un fossé linéaire sur le même axe solstical et parrallèle à la partie méridionale de la Stonehenge Avenue. Un vaste éparpillement de petites anomalies métalliques marquant l'emplacement du camping associé au Stonehenge Free Festival fin des années 1970 et début des années 1980 soulève un intéressant éventail de questions sur la conservation et la gestion. Translation by Isabelle Gerges.

Mots-clés: Stonehenge, Cursus de Stonehenge, l'Avenue, tumuli ronds, cimetières de tumuli, magnétomètre à multiples canaux, Néolithique, Âge du Bronze, Stonehenge Free Festival, Gate Ditch, Wiltshire, plaine de Salisbury, Cursus Round Barrow Cemetery, King Barrow Ridge Barrow Cemetery, New King Barrows, Old King Barrows

Stonehenge, Wiltshire, UK: Hochauflösende geophysikalische Geländebegehungen in der umgebenden Landschaft, 2011

Im Juni und Oktober 2011 wurde nördlich von Stonehenge eine hochauflösende geophysikalische Prospektion auf einer Gesamtfläche von 2 km^2 durchgeführt. Diese Prospektion lieferte zum ersten Mal detaillierte Aufschlüsse über Form und Struktur des Stonehenge Kursus, und es gelang, mehrere Zugänge in beiden Langseiten der Anlage zu identifizieren. Darüberhinaus konnten sehr viele Detailinformationen zur inneren Gliederung und zum Aufbau von Rundhügeln im Barrow Hügelgräberfeld, zum Verlauf der Avenue und zum Verlauf des sogenannten Torgrabens sowie zahlreicher neu entdeckter Wagenspuren gewonnen werden, die kreuz und quer über das gesamte prospektierte Gelände verlaufen. Eine ganze Reihe weiterer bis dato unbekannter Objekte konnte identifiziert werden: eine bogenförmige Grubenstruktur unter einem Grabhügel im Westen des 'King Barrow Ridge', eine rechteckige, von Gruben kreisförmig umgebene Struktur östlich des Stonehenge Tiefs, sowie ein linear auf der Sonnenwenden-Achse und parallel zum südlichen Abschnitt der Stonehenge Avenue verlaufender Graben. Ein dichter Schleier von kleinen metallischen Anomalien kennzeichnet die Fläche eines Zeltplatzlagers, das *während der Stonehenge Festivals in den späten 70er und frühen 80er Jahren genutzt wurde, und wirft neue Fragen zu Konservierungs- und Managementstrategien auf.*

Stichworte: Stonehenge, Stonehenge Kursus, The Avenue, Rundhügel, Hügelgräberfeld, Multikanal Magnetometer, Neolithikum, Bronzezeit, Stonehenge Free Festival, Torgraben, Wiltshire, Salisbury Plain, Cursus Hügelgräberfeld, King Barrow Ridge Hügelgräberfeld, New King Hügelgräber, Old King Hügelgräber