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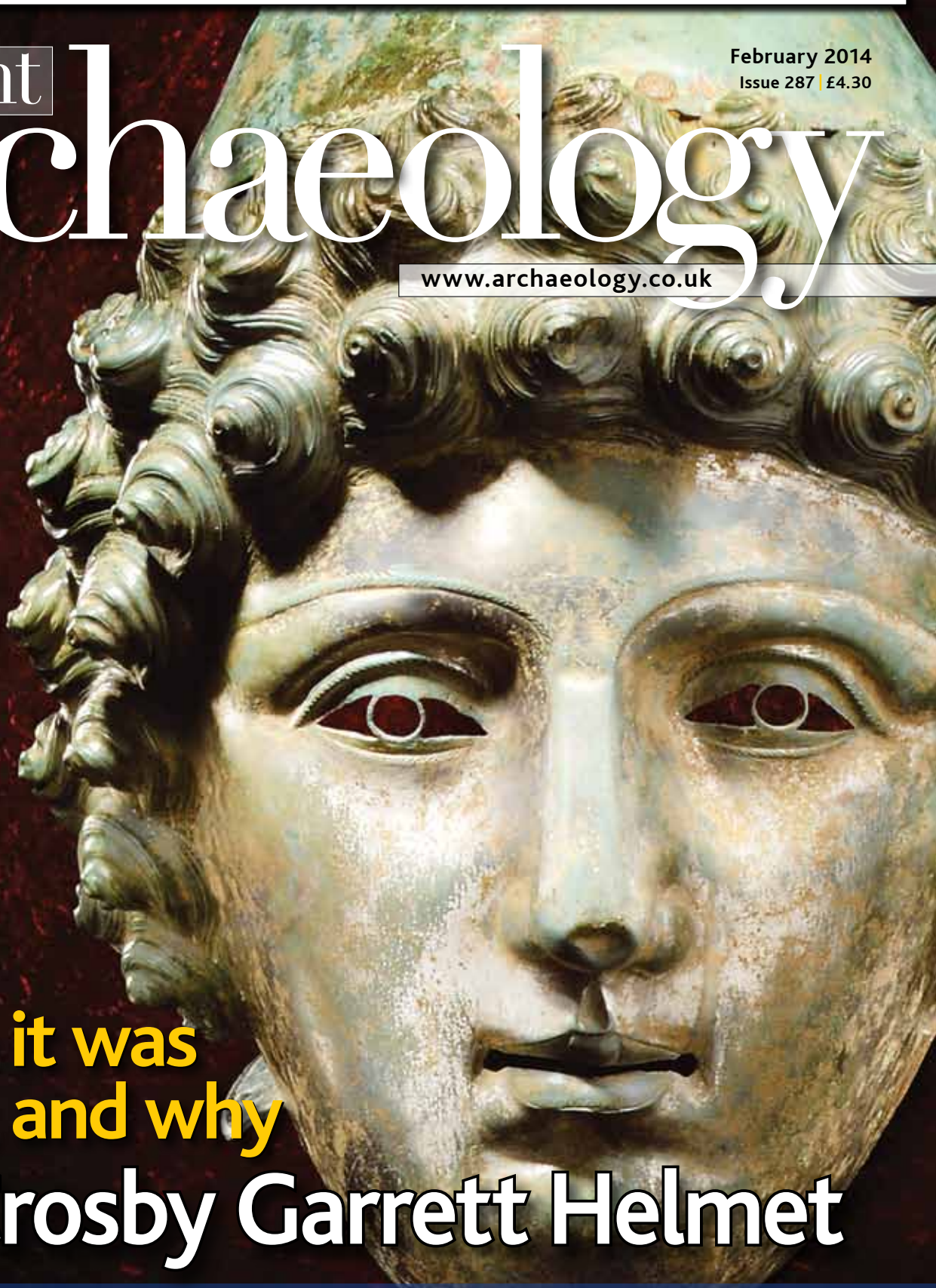
Issue 287 | February 2014

current archaeology

February 2014
Issue 287 | £4.30

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Stonehenge and Preseli

Seeking the meaning of the bluestones



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current archaeology

Stonehenge and Preseli

*Exploring the meaning
of the bluestones*

Why were the bluestones used in Stonehenge transported more than 200km from Preseli in Wales? The survey of the eastern Preseli Hills and investigation of selected sites by **Timothy Darvill** and **Geoff Wainwright** have exposed some uncanny parallels with the Stonehenge landscape. Could these help explain the meaning of the famous stone circle?

PHOTO: Royal Commission on the Ancient and Historical Monuments of Wales

In 1810 Sir Richard Colt Hoare, one of the first recorded excavators of Stonehenge, was moved to declare of the monument 'How grand! How wonderful! How incomprehensible!' His words still resonate today. In recent years, attempts to understand Stonehenge have shifted away from the locality of the monument itself. Instead, its connections with the Preseli Hills as the source of bluestones used in the later stages of its construction have become the centre of attention.

At the heart of this interest are questions that people ask in everyday conversation: What is

ABOVE Excavations under way on Carn Menyn. Outcropping high on the Preseli Ridge, the bluestones used in the construction of Stonehenge were quarried from this region. A decade of survey in the area has identified a range of tantalising parallels between the Stonehenge and Preseli landscapes.

Stonehenge? Why was it built? How did it work? And what did all those different kinds of stone mean to people back in the Late Neolithic? Surprisingly, these questions are rarely addressed by archaeologists, but our work suggests that clues to the answers survive in the Preseli landscape.

Circular arguments

Lots of ideas about Stonehenge have been peddled over the past 300 years, some based on a close reading of the evidence, others simply convenient fabrications that tell us more about ourselves



than the ancient past. Not all of them can be right, but equally there is no reason to think that Stonehenge had a single, unchanging role and meaning throughout its 1,500-year lifespan. After all, recent re-dating of the site's main components shows a complicated pattern of refurbishment and change (see box on pp.24-25). It is entirely plausible that such refinement of the physical fabric mirrors conceptual changes.

There is general agreement that the building of Stonehenge involved considerable communal effort, and as a symbol of power it helped sustain in some ill-defined way the political institutions

of the time. It is also widely accepted that the architecture of the central stone setting and The Avenue embody a cardinal axis that references the solstices: the rising sun at midsummer and the setting sun at midwinter.

At the centre of our thinking about Stonehenge is a recognition that the so-called 'bluestones' (see box on p.20), which were used in various configurations within a stable structure of great sarsens, are central to understanding the purpose of the site. Since Herbert Thomas's identification of the Preseli Hills as the source of the majority of bluestones in the early 1920s, it has been obvious that understanding the stones of Stonehenge means investigating the stones of Preseli. It is here, 220km to the north-west of Stonehenge, that one might expect to find indications of what made the bluestones so special.

Framing the questions

Both authors have been involved with Stonehenge and its landscape for many years. We also researched aspects of the archaeology of west Wales for our PhDs, Geoff on the Mesolithic and Tim on the Neolithic. It was this combination of interests that in 2001 led us to start work in the Preseli Hills and at Stonehenge. We wanted to see how the two connected in an effort to address the 'why' question: why did people move 80 or so blocks of stone from outcrops in north Pembrokeshire to Salisbury Plain so they could play a role in the structure and usage of the greatest stone temple of its age? ➔

BELOW The rocks at Carn Menyn on the Preseli Ridge.



We started fieldwork in west Wales by drawing up a study area comprising a roughly rectangular block of land covering about 450km², west to east from the coast at Dinas to Crymych, and north to south from Newport Bay to Glandy Cross. From 2005 we increasingly focused on the eastern part of the Preseli Hills where the greatest concentration of sites seemed to be. As a result, several hundred sites and findspots were logged and recorded.

Over a dozen geophysical surveys were then carried out within the survey area. These were followed up with small-scale excavations both to examine features visible on the geophysical plots and to determine date and form at the Banc Du causewayed enclosure, Carn Menyn walled

RIGHT In 2008 attention turned to the eastern end of the bluestone trail. This trench exposed part of the heavily denuded remains of bluestone 35a, and a central void where a bluestone had stood prior to Stonehenge's reconfiguration into its familiar layout.



enclosure, Carn Menyn Cairn, Croesmihangel round barrow, and the Cottessmore Farm timber circle. The peat bogs on either side of the main Preseli Ridge were also sampled and studied by Ralph Fyfe. In 2008 we turned to the eastern end of the bluestone trail and excavated a small trench at Stonehenge to investigate the date and arrangement of the Double Bluestone Circle and its replacement, the Outer Bluestone Circle (CA 219).

Standing back from the results of our work over the past decade or so, three important dimensions of the ancient cultural landscapes of Preseli and Stonehenge have become very apparent.

Parallel worlds

The first finding is that the big visible monuments that have traditionally attracted attention are really hotspots within a long continuous sequence of occupation spanning the 6th to the 2nd millennium BC. In west Wales, the coastal settlement at Nab Head, 40km from Carn Menyn, was occupied in two main phases during the 8th and 6th millennia BC. Environmental evidence from peat bogs at the eastern end of the Preselis revealed an elm decline at c.4710-4500 BC, the oldest such event recorded within Wales and one of the oldest in Britain. Substantial changes to the vegetation occur at this time, which most likely reflects significant later Mesolithic impact on the local landscape, including burning, heathland development, and reduction of woodland cover.

Bluestone

'Bluestone' is an archaeological term adopted in the 19th century to refer collectively to a lithologically diverse collection of stones from Stonehenge and its region that have long been recognised as non-local in origin, and now have confirmed sources in and around the Preseli Hills. They include spotted dolerite (known as Preselite), non-spotted dolerite, rhyolite, tuffs, ashy shales, and several types of sandstone. All the known orthostats forming the Bluestone Oval/Bluestone Horseshoe in the centre of Stonehenge are dressed Preselite. The Outer Bluestone Circle comprises boulders and blocks with little formal shaping that include a variety of Preselites along with at least 12 blocks of rhyolite and tuff.

All three main kinds of dolerite present at Stonehenge come from a relatively small number of Preseli Hill outcrops. According to Rob Ixer and Richard Bevins, the petrography of two spotted dolerite orthostats from the Outer Bluestone Circle (stones SH 34 and 35a) matches rock samples collected from the area of our excavations on Carn Menyn. Their recent re-analysis of geochemical data from earlier studies suggests that Carn Goedog was an important source, but it is not known how representative the 12 samples from Stonehenge pillars are in relation to the original group (c.60), nor how variable some of the outcrops in the Preseli Hills might be in terms of their chemical composition.

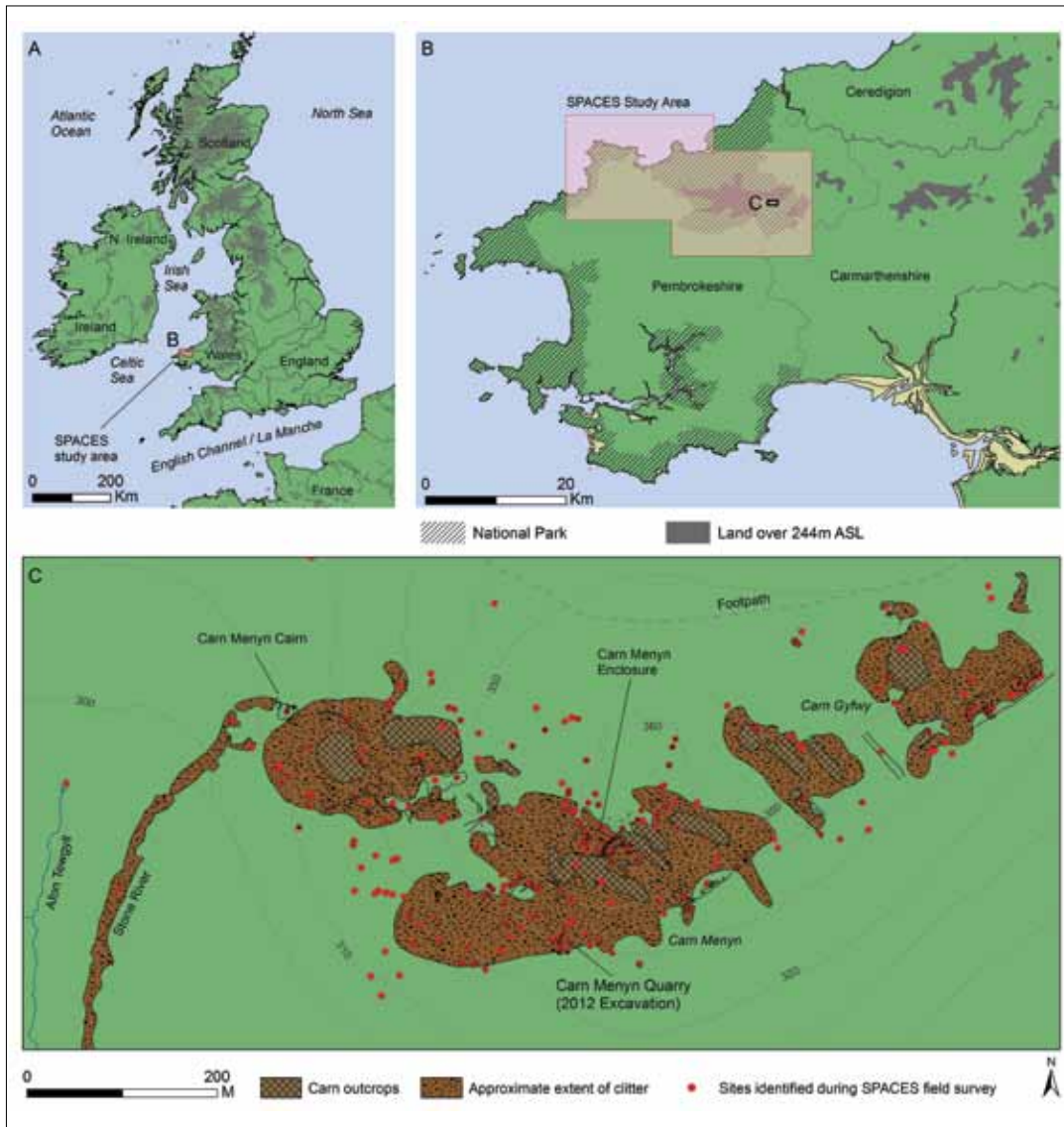
Non-doleritic components of Stonehenge have attracted less attention, but a recent series of important studies by Richard Bevins and Rob Ixer have focused on the rhyolites represented by debitage from Stonehenge and its region. They have identified at least five main kinds, designated A-E. Rhyolites A, B, and C are numerically dominant and can all be matched to rocks exposed at Craig Rhos-y-Felin near Crosswell in the valley of the River Nevern to the north of the main Preseli Ridge.

Excavations at Craig Rhos-y-Felin by Mike Parker Pearson have produced evidence for stone extraction (CA 254 & 263), but decisive dating evidence is still pending.

RIGHT Bluestones standing in front of the sarsens.



PHOTO: Kiriian H. Resset



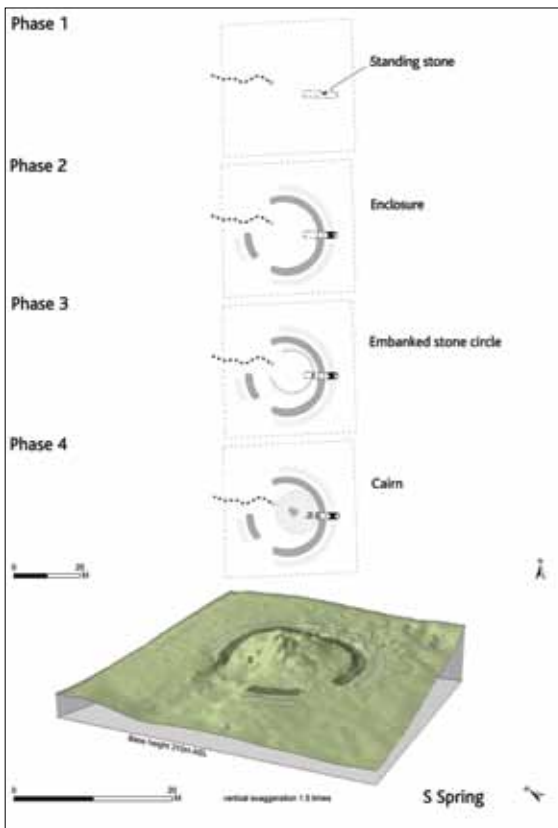
LEFT The study area drawn up in west Wales consisted of a 450km² area, stretching from the Preseli Hills to the coast. Survey within this area revealed hundreds of new sites. The density of sites around Carn Menyn is shown in detail below.

Such changes provide strong evidence for human disturbance of the vegetation around Gors Fawr Bog, to the south of Carn Menyn, during the Late Mesolithic. The effects are visible in both the nature of woodland composition and the character of open-ground vegetation, most likely controlled by fire. The causewayed enclosure at Banc Du investigated as part of our work was constructed early in the 4th millennium BC and its ditches recut several centuries later. Settlements of the 3rd and 2nd millennia BC have been identified south of the Preselis on the coast at Stackpole Warren and inland at Woodside Camp.

There is a similar picture around Stonehenge. Extensive occupation beside the River Avon at Downton (south of Salisbury) and Amesbury (only 3km east of Stonehenge) in the 6th, 5th, and 4th millennia is well represented. The causewayed enclosure of Robin Hood's Ball, 4km to the north-west of Stonehenge, was built around

3640-3500 BC, and probably continued in use for several centuries. Houses of the mid 3rd millennium BC have been found around Durrington Walls, 3km north-east of Stonehenge in the Avon Valley, and settlements of the 3rd and 2nd millennia have been investigated elsewhere in the area at Downton and Easton Down.

In its later stages, Stonehenge was surrounded by round-barrow burial monuments of many shapes and sizes. Rings of pits, known as the Y- and Z-Holes, were dug around the monument's central stone settings in the mid 2nd millennium BC as if to enclose it. On Carn Menyn, barrows were built at either end of the ridge. To the west, the Carn Menyn Cairn was erected after 1420-1260 BC, covering an embanked stone circle that stood within a henge-like circular enclosure. To the east, a turf barrow was raised over a small palisaded enclosure with a foundation deposit of cremated human bone that dated to 1930-1740 BC. ➔



ABOVE & LEFT The Carn Menyn Cairn. Excavation revealed that this was constructed after 1420-1260 BC and covered a stone circle set within a henge-like enclosure.

Written in stone

The second factor is that stone was hugely important to these communities, a kind of raw material singled out for special attention in both areas. What exactly different kinds of stone meant to prehistoric people is unclear, but we can be certain that perceptions were different to those common today. The Roman writer Pliny the Elder (AD 23-79) for example talks of stone in terms of its magic power, supposed healing properties, and even gender, all of which provide interesting new ways of thinking about the meaning of stone.

At a very personal level, stone was used selectively. At Nab Head, slate and shale was exploited during the Mesolithic period for the production of beads, while dolerite and sandstone was used to make axes and perforated stone rings during the 5th millennium BC in a way that echoes traditions in north-western France at the time.

Inland, Carn Menyn is a distinctive jagged outcrop of dolerite composed of columnar slabs rising to a height of 365m above sea-level on the southern fringe of the Preseli Ridge. Its summit offers commanding vistas: north to the Llyn Peninsula and south to the Bristol Channel and the Devon coast. Although the ridge is best known as one of the main sources of dolerite for Stonehenge, that was not the first kind of stone exploited here.

BELOW The Carn Menyn outcrop seen from the air. Best known for its links to Stonehenge, rock has been quarried here since the 6th and 5th millennia BC.



Our excavations at Carn Menyn show that light-coloured meta-mudstone was being quarried in the 6th and 5th millennia BC, exploiting a narrow band of workable material. Exactly when dolerite began to be extracted at Carn Menyn is not known, but a working floor investigated in 2012 showed that it was certainly taking place in the last few centuries of the 3rd millennium BC, exactly the time that dolerite bluestones were being set up in the central area of Stonehenge (see box on pp.24-25). Our excavations also showed that meta-mudstone was again exploited in the later 2nd millennium BC, and pieces have been found sealed under round barrows and cairns of the period nearby.

In the Stonehenge landscape, there is evidence for flint-mining at Durrington 3.5km north-east of Stonehenge, and abundant evidence for flint-knapping at sites throughout the area. Bluestone

of all kinds was broken up and worked for the production of axes, discs, and amulets at Stonehenge itself. Pieces also leaked out into the local area, where some were deposited with burials and in the Wilsford shaft. At least a couple of pieces found their way north to Silbury Hill, overlooking the Swallowhead springs and the source of the River Kennet (CA 215).

Blocks of stone in the landscape were given special treatment. In the Preselis there are propped rocks, dolmens, and portal dolmens that all involve lifting great slabs of rock out of the ground and supporting them in a way that emphasises their shape and form. Natural boulders were sometimes given special attention by having cup-marks carved into them and platforms of smaller stones built around them. In the Stonehenge landscape, natural boulders again seem to have been accorded special attention. The Cuckoo Stone, lying to the west of Woodhenge, is a good example of this. Investigations by the Stonehenge Riverside Project in 2007 showed this naturally occurring sarsen had been raised upright over the hollow in which it originally lay.

Circular and oval monuments built out of stone are a feature of both landscapes in the 3rd millennium BC. In the Preselis such monuments are widely scattered. Single and multiple concentric stone circles occur mainly on the south side of the Preseli Hills at Gors Fawr, Dyffryn Syfynwy, Eithbed North, and at the ceremonial complex centred on Glandy Cross. A curious stone oval is known high in the hills at Bedd Arthur, one of few direct parallels for the oval in the central setting at Stonehenge.

More than a dozen stone pairs have been recorded in the Preseli Hills, one of the highest concentrations in Britain. In every case these sit like portals or doorways in the landscape at the boundary between contrasting environments, perhaps to mark routeways. Excavations in 1979 revealed that the Heel Stone at Stonehenge was originally one of a pair of standing stones. As with such settings in the Preselis, the Heel Stone stands right on the edge of the plateau on which Stonehenge was built. To the north-west the ground dips down into Stonehenge Bottom.

Whereas in Preseli the circles and ovals are dispersed, at Stonehenge they are gathered together on the same spot, combining circles, concentric circles, and an oval. One of the



LEFT & BELOW Excavations revealed sites where metamudstone forming a narrow band between intrusive dykes of dolerite had been extracted during the Mesolithic period.

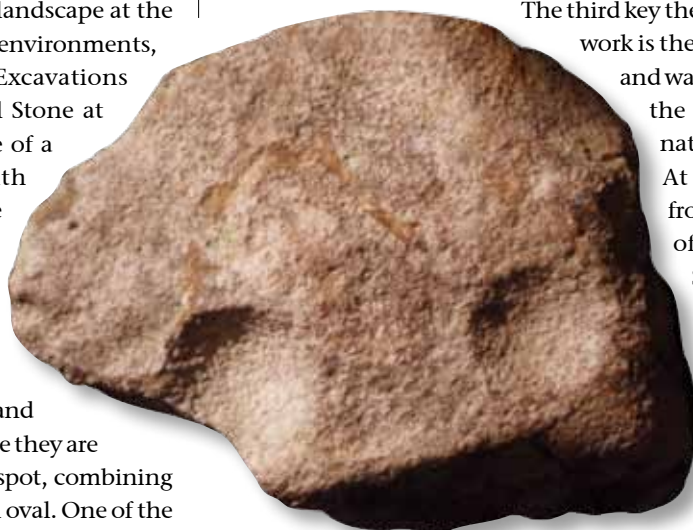


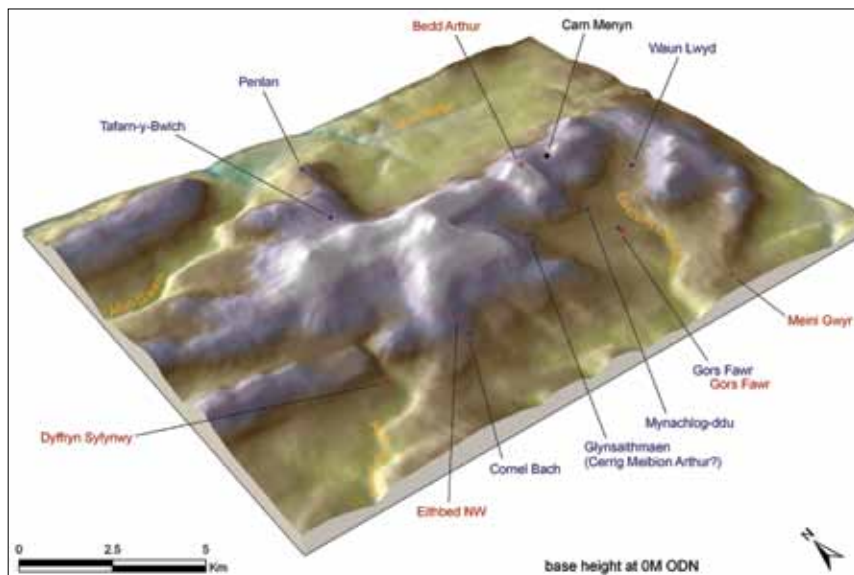
BELOW Boulders were sometimes enhanced by the addition of cup-mark carvings. On occasion such artistry was detached as portable rock-art slabs.

things that makes Stonehenge unique is the fact that circular structures, which elsewhere were normally made of wood, were here made of stone. This is especially the case with the Sarsen Circle and Sarsen Trilithons, where the uprights and lintels were squared-up and dressed like over-sized planks secured together with mortise and tenon joints. Some of the bluestones may also have been treated in this way in an earlier configuration at Stonehenge or elsewhere.

Watery worlds

The third key theme that has emerged from our work is the link between the monuments and water. In the Preseli Hills, many of the stone monuments lie close to natural springs and watercourses. At Carn Menyn, springs issue from the rocks that were the focus of quarrying and extraction. Some of these springheads have even been elaborated with the construction of a wall to create a small pool. Cairns sometimes stand around the springhead, and some springs were enhanced by the addition of rock art ➔





ABOVE Oval stone circles are widely attested in the Preselis. This diagram shows their extant distribution. The central setting of bluestones at Stonehenge was also arranged in an oval.

FAR RIGHT A dolerite extraction and working site on Carn Menyn, dated to the late 3rd millennium BC.

on stones around the rim. Water from many of the springs is considered to have healing powers, and some were adopted as holy wells in recent times.

Springs are increasingly being recognised as important focal points in the Stonehenge landscape. Investigations by David Jacques at Blick Mead on the west side of Amesbury have revealed that the spring here is associated with activity from the 6th millennium BC through into recent times (CA 271). As well as thousands of pieces of worked Mesolithic flint, his excavations revealed a broken Bronze Age dagger, a lead

object likely to be a Romano-British curse, and a 5th-century AD Anglo-Saxon disc brooch. Most importantly, at Stonehenge itself, the reconfiguration of the bluestone settings in Stage 3 coincides with the construction of The Avenue as a ceremonial way leading to whatever watercourse lay in Stonehenge Bottom at this time, and then onwards 2.1km south-east to the River Avon.

The healing hypothesis

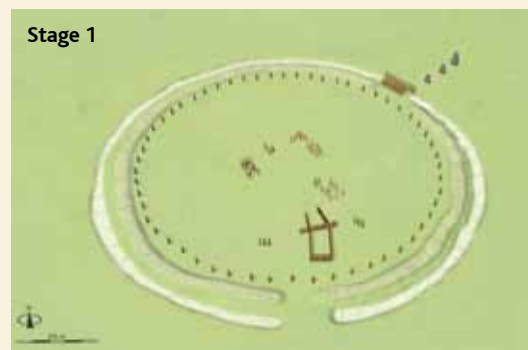
So where does that leave the bluestones and Stonehenge? At the western end of the bluestone trail we have a mountain from whose flanks around 80 stones were extracted and carried to Stonehenge in the later 3rd millennium BC. These sources, spread over a fairly wide area, were closely associated with springs and watercourses, many of which were believed to have healing properties in Medieval and later times.

Over on Salisbury Plain we propose that, after the earthwork enclosure at Stonehenge ceased to be a major cremation cemetery sometime about 2500 BC, bluestones from Preseli were brought and set up within a temple whose structure had already been constructed from sarsen stones. It would be naive to think of Stonehenge as having a single unchanging purpose, but one

Stonehenge remodelled

Advances in the modelling of radiocarbon dates using Bayesian statistics allowed the traditional Stonehenge sequence to be revised. Five main contiguous stages spanning the 3rd and 2nd millennia BC are now recognised.

Stage 1: 3100-2755 BC. Construction of the earthwork enclosure; Aubrey Holes; cremation burials; pits and post-built structures in the central area; sarsen stones outside the north-east entrance. Contemporary monuments include West Amesbury Henge (CA 237 & 270) and Coneybury Henge. Culturally: Grooved Ware.



Stage 2: 2620-2480 BC. Five sarsen trilithons forming the Trilithon Horseshoe and the Sarsen Circle were erected in the centre of the decayed earthwork enclosure; addition of the Double Bluestone Circle, Altar Stone, and Station Stones; modifications to the north-east entrance and the stone settings there. Contemporary monuments include the timber circles and occupation at Durrington Walls (CA 5, 208 & 270) and the timber circle at Woodhenge (CA 270). Culturally: Grooved Ware.

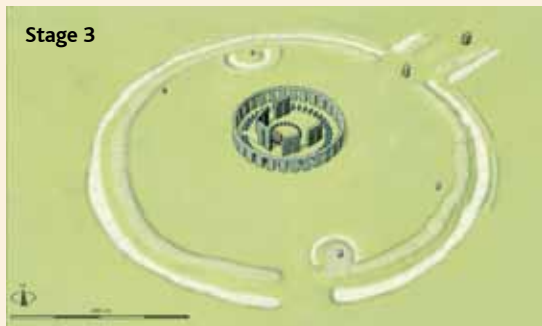
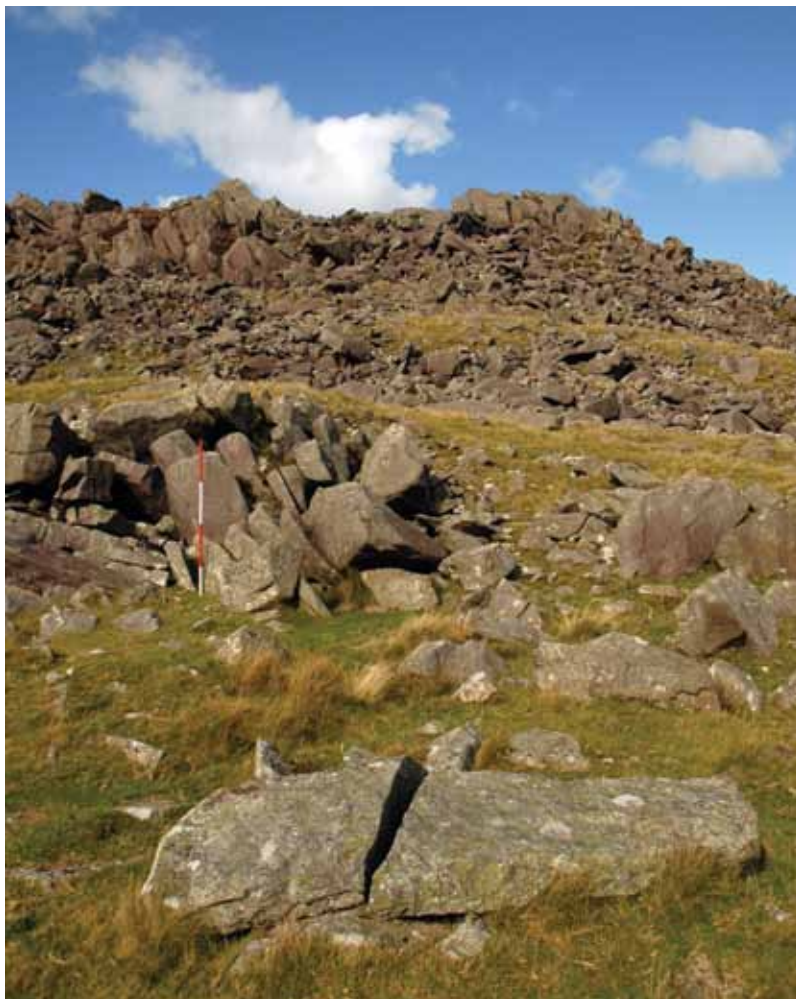
Stage 3: 2480-2280 BC. The Avenue constructed, linking Stonehenge with the River Avon; Central Bluestone Circle built. Ditches dug around Durrington Walls and Woodhenge ended use of these sites. Amesbury Archer

of its roles we argue is that of a shrine to which people were drawn because of the supposed healing powers of the bluestones.

In a prehistoric context, the idea of healing should be taken to mean pastoral and medical care of both body and soul: tending the wounded, treating the sick, calming troubled minds, promoting fertility, assisting and celebrating births, and protecting people against malevolent forces in an uncertain world. No doubt the great deities, perhaps the gods of the sun and moon, presided over the ceremonies, immortalised in the Trilithons. But the stones were not just memorials to the gods, they were active agents in promoting the well-being and fecundity of their people. We believe that, in its heyday, Stonehenge was a place for the living. @

ACKNOWLEDGEMENTS

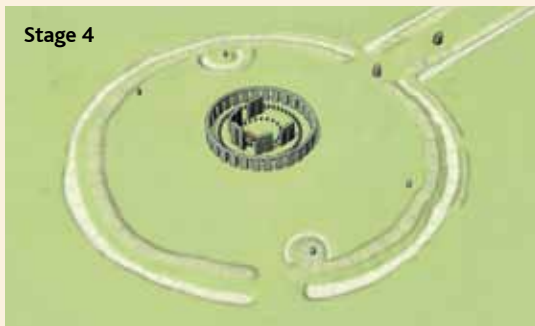
An introduction to the Strumble-Presele Ancient Communities and Environment Study (SPACES) was published in *Antiquity* 76, and between 2003 and 2011 there have been regular interim reports in *Archaeology in Wales* and updates in *CA* (issues 212 & 252). The re-dating of Stonehenge is published in *Antiquity* 86. Many organisations have supported our work in Presele and at Stonehenge, including the British Academy, the Cambrian Archaeological Association, PLANED, the Pembrokeshire Coast National Park, the Royal Commission on the Ancient and Historical Monuments of Wales, Bluestone, and Bournemouth University.



burial (CA 265). Culturally: Grooved Ware and earliest (Fusion Horizon) Beakers in use.

Stage 4: 2280-2020 BC. Double Bluestone Circle and the Central Bluestone Circle dismantled and the bluestones rearranged to form the Outer Bluestone Circle and the Bluestone Oval. Contemporary monuments include round barrows (mainly bowl barrows) on the ridges overlooking Stonehenge. Culturally: middle (Fission Horizon) Beakers.

Stage 5: 2020-1520 BC. Working floors and occupation outside enclosure to the north-west; rock art added to the Sarsen Circle and Trilithon Horseshoe; digging of the Y- and Z-Holes in the period 1630-1520 BC. Contemporary monuments include numerous round barrows of various



forms, often arranged in cemeteries along the ridges overlooking Stonehenge, including the richly furnished Bush Barrow. Culturally: late (Retro-culture) Beakers, food vessels, and collared urns.



IMAGES: Frankfurter Allgemeine Sonntagszeitung, 23 December 2012 (infographic artist Daniel Roettle)