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STONEHENGE EXCAVATIONS 2008

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The following paper is the first published account of an excavation that took place at Stonehenge during April 2008. As this was the first excavation to take place within the stone circle for some forty years, the excavation has attracted an uncommon degree of interest, hence its publication in the Antiquaries Journal *as an interim account of work in progress, in the form of an edited transcript of a paper first given at the Ordinary Meeting of the Society of Antiquaries of London on 9 October 2008. The paper explains that the 2008 excavation set out to date the construction of the Double Bluestone Circle at Stonehenge and to chart the subsequent history of the bluestones and their use at the monument. Evidence is presented for a provisional working date of around 2300 BC for the construction of the Double Bluestone Circle, while it is argued that the history of the site is far more complex than has been allowed for in existing interpretations, with a multiplicity of overlapping and intercutting (though not continuous) events, including substantial late Roman, medieval and early modern activity. The excavated material, and the evidence from the surviving stones, supports the suggestion that bluestones were brought to the site because of their perceived special qualities, perhaps for their supposed healing properties, and that some knowledge of those qualities remained current in later times with the result that in excess of two-thirds of the original bluestone volume has now disappeared.*

(GW) Mr Vice-President, Fellows, and guests, it is almost exactly forty years since I gave my first paper to the Society of Antiquaries. My subject then was the excavations that I had recently undertaken at Durrington Walls, in Wiltshire, which are now being so wonderfully re-interpreted by the Stonehenge Riverside Project. I stood here again two years ago with Tim Darvill, when we talked about our Preseli project in north Pembrokeshire. This evening, we will continue that story, which will take us from the Preseli Hills to Stonehenge. My job is to tell you how we made that journey. This is just to refresh your memory, not so much about the detail of what we were doing in north Pembrokeshire, but really to set the scene for what follows.

I shall remind you briefly about why Tim and I undertook research at Preseli in the first place. I was watching a television programme about Stonehenge which ended with four or five of my esteemed colleagues sitting around amongst the stones and wondering why Stonehenge had been built. They looked at the stars, they looked at the ground, they looked everywhere. But in the end, it was clear to me that the secret as to why Stonehenge was built lay in the bluestones, the first stones to be erected at the site. They had been brought from north Pembrokeshire to Stonehenge, and if one could find out why that was so, one would have a lead into one of the reasons why Stonehenge was built – I say one of the reasons because, quite clearly, it must have had a variety of functions.

Fig 1. Outcrops of spotted dolerite at Carn Menyn, north Pembrokeshire. *Photograph*: Timothy Darvill

So Tim and I went to Preseli. We worked there for six years or so in a very low-key way. I shall just remind you of what we found. North Pembrokeshire is characterized by outcrops of volcanic rock, which run east to west across it, from St Davids Head in the west to Crymych in the east. Carn Ingli is one of the famous outcrops, crowned by a wonderful stone-walled hill fort of indeterminate date – although it does have about fifteen causeways across its rampart. And there is Carn Meini; Carn Meini is the plural for a series of carns, or outcrops of volcanic rock. When I say Carn Meini or Carn Menyn (they are interchangeable) I mean those outcrops of rock – the carns.

Carn Menyn is the largest outcrop at the west end of those carns (fig 1). The rock is characterized by two things: first, it splits vertically into natural columns, so that if you wanted to quarry the rock at Carn Menyn, you would pull it out of the parent material; secondly, when the rock is fresh, it is of a blue colour with white inclusions. So the rock is very characteristic, and only occurs around Carn Menyn; and it has been known since about 1902 that the rock had been brought from Carn Menyn to Stonehenge, to build the first stone monument.

Looking across the central area of Stonehenge, the Sarsen Circle stones stand at the back, forming the outer ring, with the smaller bluestones in front (fig 2). While these are all well known, it is extraordinary to recall that Carn Menyn, at the western end of the bluestone trail, has never really been subjected to a proper published survey, despite its obvious potential interest. Peter Grimes excavated a few sites in the area in the 1930s, and my old friend Peter Drewett went there two or three years running with some students in the 1980s, but never fully published the results.

When Tim and I started surveying, we found that the southern slopes of Carn Menyn were littered with pillar stones, some of them seemingly broken in transit (fig 3). They could be transposed to Stonehenge with no problem at all. The surveys showed that Carn

Fig 2. Interior of Stonehenge looking north east, with the remains of the collapsed south-western Trilithon in the foreground, the outer Sarsen Circle in the background and elements of the Bluestone Oval and Bluestone Circle in between. *Photograph*: Timothy Darvill

Fig 3. Broken pillar stone below Carn Menyn, north Pembrokeshire (2m scale). *Photograph*: Timothy Darvill

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Fig 4. Oval stone setting at Bedd Arthur, north Pembrokeshire, looking south-eastwards towards Carn Menyn. *Photograph*: Timothy Darvill

Menyn was at the centre of a scatter of megalithic monuments. One is Bedd yr Afanc, a simple passage grave excavated by my fellow Pembrokean, Professor Peter Grimes. Elsewhere there are chamber tombs, cairns, stone circles, standing stones and stone pairs. There is the Carn Menyn cairn, which sits at the western end of Carn Menyn itself. A close survey showed that to be of passage-grave type, and the big circular cairn with a large capstone in the middle is very interesting indeed. Then there are hilltop enclosures. There is the famous site at Foel Drygarn, full of hut platforms, as well as the three great cairns in the middle that give the hill its name. Foel Drygarn overlooks Carn Menyn and has a lot more to tell us. Then there is Banc Du, at the eastern end of the Preselis. Here a small excavation provided radiocarbon dates of about 3600 BC for the construction of the enclosure. This is the first causewayed enclosure from west Wales with radiocarbon dates, and it gives us a bit of the background that we were searching for.

Rock art is another new discovery, including a cup-marked stone that we found in the Preselis just below Carn Menyn. We found that although rock art may not be common, there is quite a bit of it. It is always the case with rock art that you find the first piece and people find more. Dai Morgan Evans recently found a superb cup-marked stone at St Non's Chapel, St Davids Head. The springs that surround the foot of the Carn Meini frequently have cup and ring marks at their heads – as, for example, at Carn Sian. Elsewhere, spring heads are sometimes demarcated by cairns or standing stones. Stone pairs also occur around the outlets from Preseli, on to the plain below. They might be considered gateway sites – junctions between landscape zones, as for example at Waun Lwyd. Mention must also be made of Bedd Arthur, a bluestone oval (fig 4) to the west of Carn Menyn (which you can see in the background). It is a good illustration of the moorland conditions that prevail up there. When compared with the oval setting of bluestones in the later phases of Stonehenge the resemblance is fairly clear.

From all the abundance of evidence there we came up with the suggestion that the bluestones were important because of their use in a healing process, and were brought to Stonehenge for that reason.

But why did we want to go and dig at Stonehenge? We went there with two questions. First: when did the bluestones arrive at Stonehenge for the construction of the Double Bluestone Circle? We could not answer that question in Preseli, so we had to come to Stonehenge to get the answer. Second: how were the bluestones treated after they arrived at Stonehenge? What was the history of their use?

This is an appropriate moment to pay tribute to English Heritage for the sympathetic way in which they viewed our application to excavate at Stonehenge. It was the first excavation at Stonehenge for forty years, and we are most grateful to them for giving us permission to do it. Thanks are also due to the BBC 'Timewatch' team and the Smithsonian for funding the excavation. We are most grateful for that, and for the unobtrusive way in which they carried out their work. Thanks are also due to the University of Bournemouth, Tim's base, to Miles Russell, who did so much of the work, to Mike Allen, who was an absolute stalwart in assisting us with the stratigraphy and other scientific matters, and to Yvette Staelens, Debs Costen and Vanessa Constant for all their work on site. It was not an easy site to work on, and we are most grateful to all of them.

Our trench was small, just 2.5m by 3.5m. It was chosen to extend one of the earlier excavations. Atkinson's backfill was visible from a high level, and from an early stage it was clear that about two-thirds of the trench comprised relatively undisturbed ground. The trench produced good relationships, although by the time we reached bedrock is looked like a Gruyère cheese. It is quite easily the most complex little trench that I have ever worked in, a suitable moment for me to hand over to Tim who will tell you more about what we found.

(TD) As Geoff has already indicated, our lecture is a preliminary statement. Post-excavation work is ongoing; material is coming in literally day after day; and there is plenty more work still to go. So I am going to unfold for you only preliminary thoughts about the interpretation of what is, as Geoff has said, a rather small hole; we sometimes refer to it as a piece of keyhole surgery into this particularly important monument.

First, let us point out where exactly we dug. It was in the area between the Trilithons and the outer ring, known as the Sarsen Circle, in the south-eastern sector of the monument. A line of bluestones, the pillars of the Bluestone Circle, runs through this area – I shall touch on these later – but the trench occupies an area currently free of stones. It was intended to come down over the top of what is generally regarded as the first stone monument on the site, usually referred to as the Double Bluestone Circle. Nothing of that monument is visible on the surface today, and it was through ground-probing radar that we managed to situate the trench so well over the edge of earlier trenches, extending work that had already been done by Richard Atkinson and Colonel Hawley.

In plan it is easy to see that our target, the original Double Bluestone Circle, runs more or less concentrically between the Sarsen Circle on the outside and the Bluestone Circle; the great Trilithons are further towards the centre of the site again. No less complexity applies to the matter of extending the existing trench because the edges of Hawley's 1924 excavation and Atkinson's 1964 excavation were not exactly coincident, which meant cutting back the original edges to provide a clean and clear look at what was going on below the surface.

Looking across the trench when first cleared of turf and overburden, the previously excavated areas were clear from their mixed refill (fig 5). Within this area we found rabbit

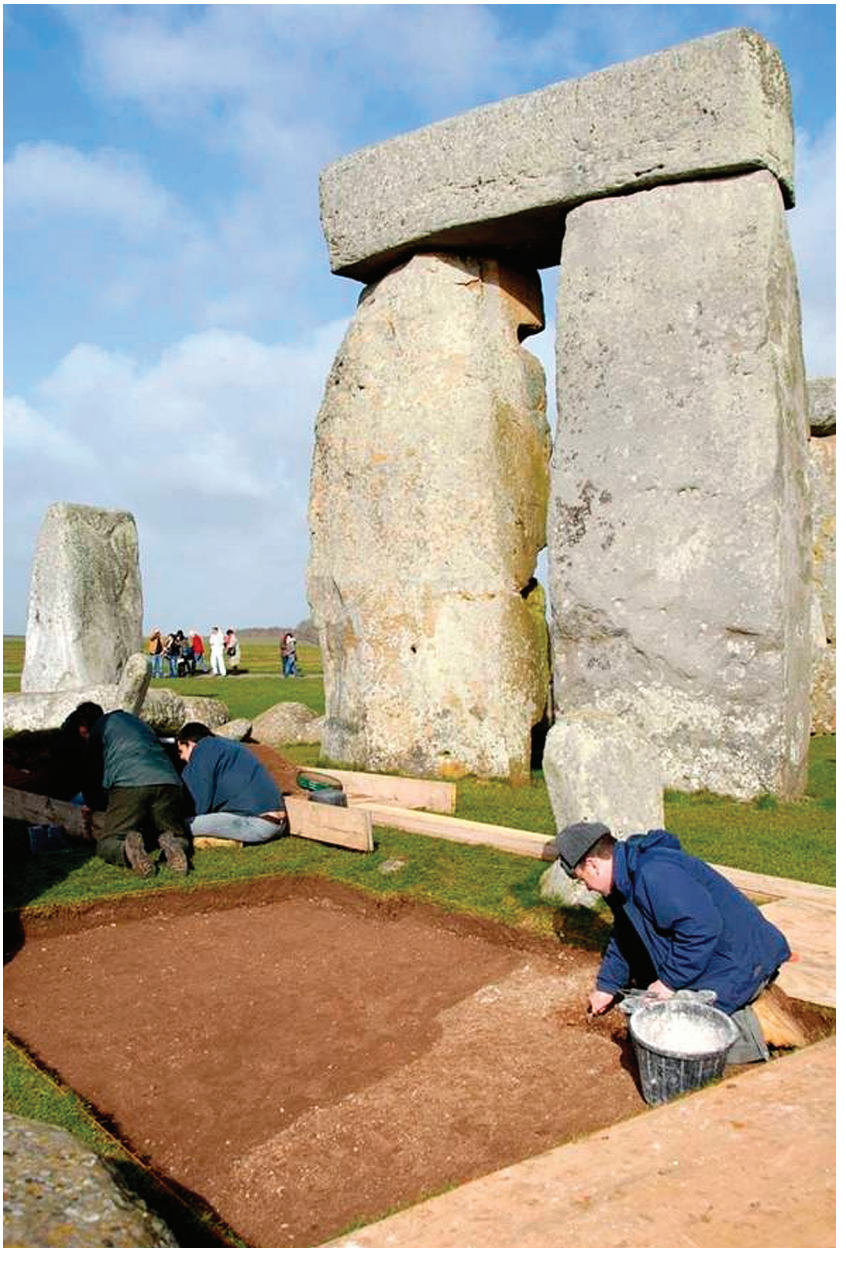

Fig 5. The 2008 excavation trench at Stonehenge following the removal of the turf. *Photograph*: Timothy Darvill

bones, mole bones and all the associated evidence of animal intrusions over the last forty-odd years. It is fair to say that analysis of the deposits in the virgin territory adjacent to the edge of the original excavations revealed a degree of contamination running through into the unexcavated area. It is important to think about the implications of this not just for the interpretation of our findings but also the management of the site in future.

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The turf at Stonehenge is not terribly old; it was put down only twenty to twenty-five years ago, perhaps with the incorporation of topsoil brought in from nearby. Removal of the turf revealed the top of what is often referred to as the 'Stonehenge Layer' – something which earlier excavators had a good look at, and which has caused a degree of difference in the interpretations that have been placed on it. Some consider the content of it to be largely the product of constructing Stonehenge; others see it in terms of the destruction of Stonehenge. We shall come to think more about this problem in due course.

We treated the Stonehenge Layer as if it was a house floor. We took it down in spits that were set out in 0.5m squares, so that we could measure spatially and vertically the distribution of material through that layer, recognizing that others had perhaps not paid much attention to this in the past. We took it down in three spits, of which two extend right across the trench and one only halfway across, because the layer is actually thicker on the eastern side than on the west. At the base of the Stonehenge Layer we were able to define individual cuts and edges coming through at this stage as colour-changes and differences in the texture and compaction of the deposits themselves. No natural chalk was visible, and it was clear that there had been extensive and intensive cutting and re-cutting.

At that point, we changed from a horizontal plano analysis to a feature-by-feature, context-by-context analysis. Even at this depth there was evidence for animal activity and one burrow was especially visible near the centre of the trench. Removal of the backfill from Atkinson's trench revealed a complicated section that, I am afraid, Richard Atkinson looked at but never recorded (fig 6). In fairness, however, the plans he made of this trench

Fig 6. The 2008 excavation trench at Stonehenge following the removal of the backfill from Atkinson's 1964 trench; work has started on removing sample squares from the Stonehenge Layer in the previously unexcavated area (1m scale). *Photograph*: Timothy Darvill

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matched exactly the material in the ground. They were very high-quality plans – there were just no sections to go with them. We reinterpreted and recorded that section and sampled it as a starting point, and then moved on to examine the undisturbed area beyond.

That was the process. What did we start to find? Well, the Stonehenge Layer itself turned out to be quite a complicated set of deposits. It is a body of material that has accumulated over quite a long time. Looked at in section it is quite mixed, and we treated it, as I said, as a series of plano levels or spits that we could take apart. Work is still progressing on the analysis of that material, but patterns are already beginning to appear.

Looking at the geochemistry, for example, there are discrete concentrations across spit 1 of pH, magnetic susceptibility, copper, iron, phosphorous, magnesium and potassium, all indicating various localized activities in that deposit. It implies quite small-scale and discrete deposition of materials and events, even within the small area that we were examining. Some of those things go right down through the Stonehenge Layer, and some don't. In the second spit, for example, we see that copper remains the same, while magnetic susceptibility changes, and as we go down to the third level, again, some things hold, some change. It thus seems that we have a whole series of overlapping and intercutting events within the Stonehenge Layer.

We are still taking that soil apart, and there is a good deal more to do, but we have a series of artefacts from the Stonehenge Layer – for example, a traditional late Neolithic asymmetrical arrowhead, a flint hammer that has been used for breaking up stones, two iron wedges, which have also been used for breaking up stones (they are quite small wedges) and a human tooth from immediately below the turf.

So, in summary, the Stonehenge Layer is a heterogeneous deposit some 350mm thick. It has multiple localized spreads of material, with soil stabilization and worm sorting going on. There is a lot of mixing, and a lot of disturbance in there. There is bluestone and sarsen in quite some quantity. The bluestone outnumbers the sarsen numerically. Both types of stone were scattered right through the deposit, but there are several localized concentrations of broken bluestone.

There is direct evidence of stone breaking in the Stonehenge Layer. The vast majority of pieces constitute struck or deliberately detached flakes, rather than being simply random bits of material. They accumulated, as far as we can tell, over a long period – probably from prehistoric times onwards. Our provisional interpretation is that what we are looking at is essentially stone robbing, the breaking up of the monument, over a long period, rather than stone shaping before its construction. We will see as we go on with further analysis of the material whether this interpretation holds up, but that seems to be what we are seeing at the moment.

Below the Stonehenge Layer there are more than a dozen intercutting features (fig 7), four of which lay wholly or partly within Atkinson's trench, and those features match Atkinson's excavation plan very closely. The features to the south, including the extensions of those that he found, are the deposits that we excavated for the first time.

As we first looked at the material, analysed it and uncovered these features, it seemed to us that it recorded a fairly straightforward phasing for Stonehenge with a fairly conventional sequence of events represented in the stratigraphy. To illustrate that, I shall focus on what goes on in the south-western edge of the trench (fig 8). Stone 35a of the Bluestone Circle stands at the western end of the section, Stone 10 in the Sarsen Circle stands just outside the trench to the east. At the top of the section is the Stonehenge Layer; below are the cuts for stone sockets and other features.

Fig 7. The 2008 excavation trench at Stonehenge with the fills of all identified features fully removed, looking south west (2m scale). *Photograph*: Timothy Darvill

At the time of excavation it seemed to us that the stratigraphy represented the key stages of Stonehenge in what seemed a very familiar pattern of development and evolution. We seem to have what is often called the Phase 2 postholes representing the remains of timber structures at the bottom of the sequence, and it seemed to us that the stratigraphy of what followed accorded with what is published about these things. It seemed to us that we could recognize the cut of a Q-Hole at Phase 3.1, in the conventional scheme of things, which would be the first bluestone monument, with its original cut, and then a series of other edges representing the extraction of the stone and the refilling of the feature as a series of deposits.

That all seemed perfectly sensible, although the section of the Q-Hole did not compare very well with other published sections of similar features elsewhere on the site. Then we seemed to have – perfectly correctly – cutting through those features a socket for a pillar in the Bluestone Circle (Stone 35a) relating to subsequent phases: 3.ii through to 3.vi. This accorded nicely with the conventional wisdom. A cut on the east side of the trench we considered to be the edge of the socket for Sarsen Stone 10, although it does not relate stratigraphically to the Q-Hole. Again that fits quite well; and, for a little added interest, there was another edge representing a cut through the Sarsen socket which is certainly later in date. One important clue here was the presence of a Roman coin on the bottom of the feature.

So that all seemed fine, and we walked away from the site thinking that we'd basically confirmed the conventional sequence; carbon samples in the bag; environmental samples ready to roll; and we probably had smug looks on our faces when we left the site, thinking that everything was sorted out.

Fig 8. Detail of the south-western section of the 2008 excavation trench at Stonehenge, with Stone 35a to the right and Stone 10 just out of the picture, to the left (1m scale). *Photograph*: Timothy Darvill

Well, as often happens in archaeology, once you start to analyse the material, things change rather drastically. The first analysis we did was to look at the magnetic susceptibility values for the deposits recovered from the cut features. This immediately revealed much diversity in the magnetic susceptibility of adjacent deposits. Generally, the more intense the susceptibility, the more human activity those deposits represent. It is rather an oblique relationship, but none the less it provides a useful indicator. At Stonehenge the magnetic susceptibility levels suggested the heterogeneity of deposits even within single features.

We carefully selected fourteen samples for radiocarbon dating, from charcoal recovered from the flotation of the environmental samples and from bone from secure contexts. We hoped that these would give us a good framework through the stratigraphic sequence, allow us to test that sequence and enable us to develop further detailed dating programmes in due course. The samples were processed at the Oxford Radiocarbon Accelerator and they do, indeed, provide a very robust framework for the interpretation of the stratigraphy. They nicely confirmed the sequence, but show that the actual date of the material recovered from some features is not quite what might be expected.

What we interpreted as the socket for Bluestone 35a seems to date to the early modern period; it was probably recut in the sixteenth, seventeenth or eighteenth centuries, or maybe more recently, perhaps in an effort to extricate the stone. There is one date of 3000–2900 BC, presumably referring to residual material, of which there was plenty in and around Stonehenge at that time. Similar problems attach to material from the fill of the

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socket for Stone 10, the sarsen on the east side. Here again we seem to have recutting in the period AD 1500–1960. And we also know that there was activity in the same area in Roman times. Yet again, however, there is residual material in the fill of the recut that, in this case, takes us back into the eighth millennium BC; that is the first material of that early date to have come from Stonehenge itself and it adds considerably to the story of the place.

The upper fill of the Q-Hole (F12), already described, also seems to be medieval in date. It is probable that the hole represented by these cuts was left open for a while as animal activity has caused the contamination of the primary fills of the original feature. In these primary fills there is certainly some residual material, as well as intrusive material, but there is one sample that cannot be dismissed in this way, and that provided a determination of *c* 2460–2200 BC. Luckily, that date hangs together well with a determination of 2800–2600 BC from F11, which is stratigraphically cut by the original part of F12. Finally, to show how mixed up and messed up Stonehenge is, the human tooth that I referred to earlier from just below the turf – and there is no evidence at all that this tooth comes from Stonehenge, just that it was found in the turf at Stonehenge – comes out as late Neolithic, at 2400–2200 BC.

So how on earth do we rationalize all that? Well, it is not quite as dire as it first looks. There are certainly some original cuts here for the main stone sockets, but there is also recutting that is probably related to robbing, and perhaps to antiquarian investigations of the site. This is clearly an important new dimension to the archaeology of Stonehenge, and one to which we will return later. If we look again at the Q-Hole as the focus of one of our key questions about the site, we find that what we originally considered to be the refilling of a pit to extract the bluestone in prehistory is undoubtedly a much later pit that happened to cut into the earlier feature. Conveniently, the bottom fill of this recut, context 28, has a number of bones from amphibians in it, the remains of small animals that seem to have fallen in and stayed there. If the pit was open for a period of time, as the environmental evidence suggests, it is not perhaps surprising that material migrated down into the layers immediately below, through animal activity and bioturbation.

In this case, detailed analysis of the fills sheds light on the formation of the deposits – the events that constitute the stratigraphic sequence – and provides an explanation of why there is intrusive material deep in adjacent deposits. What it also shows is that, while the published sections from earlier work at Stonehenge look very attractive and provide the basis for a very tight sequence, when the fills are dated, some of those interesting relationships are not all that they first seem.

With this in mind, let us turn to the sequence of deposits as revealed in our trench, combining the stratigraphy and the dating together. I do not believe that what we have found conforms to the standard conventional three-fold phasing of Stonehenge; rather I think that things are much more fluid in the way they developed, although you can, if you wish, put them into a rough three-stage order.

Starting at the bottom, stratigraphically and chronologically, we have a series of what are generally called post-holes, although I shall show you why they are not post-holes in a minute. As far as we can tell – and we have one dated example – these belong chronologically and stratigraphically to the earliest period of Stonehenge. We shall be going on to test this with more of the material extracted from them in due course.

Let us look at a couple of examples. F15 is a stake-hole; it is nothing much more than that. As with most stake-holes, there is not a lot in it. F13 is a bit more substantial: it has a pretty homogenous fill and no indication of a post-pipe. F11 was better preserved and has a radiocarbon date on material from it of 2880–2650 BC. There is no post-pipe visible and

it is hard to justify an interpretation as a post-hole. Either we are so low down in the post-hole that the post-pipe does not survive, or it never was a post-hole in the first place. The conventional interpretation of an early timber phase at Stonehenge represented archaeologically by post-holes is not supported by the evidence that we have from our trench, although that does not exclude the possibility of post-holes elsewhere in the site. What we do have are early stake-holes and small circular pits.

So how do our early features fit together? We have a small amount of pine charcoal residual in later deposits, which has given a date back to 7330–7070 BC; it tells us that pine was growing in the area, that some of it was somehow burnt, and that some of the debris from these fires found its way into the archaeological deposits we excavated. Sadly, it does not tell us much more, but it perhaps opens the possibility of early features somewhere on the site and reminds us of the three large post-holes and a pit of broadly similar date discovered under what is now the Stonehenge car park. The earliest cut features in our excavation comprise four pits and a stake-hole. They are not all necessarily of the same date, but F11 is provisionally dated to 2880–2650 BC. Examination by Rob Ixer of samples taken from these early features suggests that there are no bluestone fragments in these fills, although sarsen and flint are present.

Let us now move on and look at the next set of features, which, in the conventional wisdom of Stonehenge, would be the Q-Holes. These are the holes that are assumed to have held the stones of the first bluestone circle. We have three running through our trench. Q11 was completely excavated by Hawley and cleared out again by Atkinson, and there was nothing left of its original fill. The second one, Q12, was more or less completely excavated in half-section by Atkinson, with the edge of his trench forming the section line. As it turns out, however, the other half of it was completely cut away by a feature that I shall talk about in a few minutes with the result that there was effectively nothing left of this one either. That leaves us with the third, our F12, which was bisected by our trench edge allowing us to excavate the northern half. It would be the hole for Q13 for those of you who have your *I Spy Book of Stonehenge* on your laps and are ticking off the features as I talk about them. As I have already discussed, there is a radiocarbon sequence through this feature, which includes numerous intrusive and residual components. The only date that cannot be rejected on these grounds is that of 2460–2200 BC, and accordingly this one provides us with a working hypothesis for dating the initial construction of this feature. We are not claiming that is the date, but it is our working hypothesis, and we will come back to this sequence and look at obtaining more samples that will refine our understanding of the stratigraphic sequence. I have discussed F12 already so I shall not dwell on it, but it is a fairly open feature and, perhaps, the sort of thing that one or more bluestones could have been set within.

All the later features that we have – and I shall describe some in a minute – have residual material in them that presumably comes from the earlier phases of Stonehenge. That is to say that they cut through features of this period and, therefore, contain material derived from the original fills. Here it is important to recognize that in that residual collection there is a substantial amount of Beaker pottery. As Humphrey Case has argued, Beaker pottery is critically important for understanding the Stonehenge sequence. One sherd of Beaker, not the best-looking sherd in the world, came from F12, our putative Q-Hole 13, and is associated with the radiocarbon date that I gave you earlier. Beaker pottery is very much part of this section of the sequence.

In summary, what do we have from our early bluestone monument? Well, Q-Hole 11 was excavated by Hawley and later re-examined by Atkinson. There is nothing new to add

there. Q-Hole 12 was partly excavated by Atkinson and most of what he left was cut by a later shaft; that was disappointing, although the shaft is important as we shall see in a minute. Q-Hole 13 was half excavated by us in 2008. Despite much extensive later disturbance, we have a provisional working date for it of, let us say, around 2300 BC. There are also associations with Beaker pottery, which seems proper, and accords very well with what little else we know about the Double Bluestone Circle. We know that there were two sherds of Beaker pottery, both comb-impressed, from the fill of Q-Hole 5, and one radiocarbon date from a Q-Hole (which one is not known) on a piece of animal bone which dates, as it happens, to about 2460–2040 BC, pretty much exactly the same period as our date.

This late third millennium BC horizon for the first bluestone monument at Stonehenge triangulates quite well with what we have elsewhere on the site, which is very comforting, but it presents a number of difficulties with the conventional sequence for the rest of Stonehenge, particularly the appearance of the Trilithons and the Sarsen Circle. However, I think that we have to ask ourselves whether that sequence is anywhere near right. A very big question mark needs to be put over it in the light of what we can now see as the need to be very cautious about the interpretation of stratigraphic cuts and the dates to which those cuts might relate.

Let us move hastily along to the next period of Stonehenge, where three sockets relate to stones that are still visible above the ground surface. Stone 35a and Stone 34 are both part of the Bluestone Circle that is such a striking part of all the later phases of the monument. Both stones are still above ground. Stone 35a is a massive block, but projects only a few centimetres above ground level (fig 9). Petrologically speaking, this one is very close to the material from Carn Menyn to which Geoff referred earlier. I think that you can see straightaway that this is the natural patina on the rock and it has been smashed up in relatively recent times, sufficient that no new patina has developed on the exposed faces. As we shall see a little later, that is not surprising. But there it is in its place, going down the best part of a metre into the ground.

The next one along is Stone 34. It is a beautiful stone that extends into the ground more than a metre, so that less than one-third of it is sticking up above the ground and the rest is now under the ground. You can also just make out a massive hole next to the stone, which is partly filled with concrete, put there when Atkinson refilled the trench, probably to give it support. It is fairly certain that when Atkinson was digging here Stone 34 was loose and you could move it, and, given the size of the hole, there is no question that material could get into the ground alongside that stone.

To the east is Stone 10, part of the Sarsen Circle. Unfortunately, its socket only impinged on the trench enough to go down about halfway; we did not manage to get to the very bottom of it, because the bottom must lie somewhere much nearer the stone. But we have a certain amount of it and we could see the edge quite clearly.

In overview there is not much to say about this phase in our sequence; the bluestones of the Bluestone Circle are in sockets up to a metre or so deep, much more than might be expected from the relatively small size of the stones that are now above ground level. The bluestones were set fairly close together, something that is especially marked when you see the buried portions. As a result this ring of stones forms something like a wall that subdivides the area between the Sarsen Circle and the Trilithons into two roughly concentric spaces. One feeling that we had when we were working at Stonehenge – and it is a great delight to have been able to work inside the stones for two weeks and become really quite familiar with them – is that everybody, including ourselves, tends to walk straight to

Fig 9. Stone 35a following excavation of its socket and associated recuts. The scale of the buried portion of this stone can be easily seen, as can traces of the way it has been broken up and portions removed (1m scale). *Photograph*: Timothy Darvill

the centre of the circle when they go to visit it. Yet the area between the Trilithons and the sarsen stones is, if you like, a corridor, or an ambulatory around the sacred precinct to use a modern temple as a comparison. The ambulatory is quite broad, like a main street running round the outside of Stonehenge, with a wall of bluestones up the middle dividing it into two tracks. As you walk around this space you are looking into the central area through a series of slits created between the stones of the Trilithons and the gaps between. So while we tend to rush towards the middle of the monument, the business of the site might actually have been in the peripheral area round the edge, where, perhaps, more people could walk and look into the centre than we might first imagine.

So far, most of what I have said is an elaboration of what is already known about the site but, as we come into later periods, we move into new territory. We have two features which can reasonably be dated to the late Roman period, or perhaps soon after, on the grounds of having coins and Roman pottery in them. One is best described as a shaft and lies in the centre of our trench; of the other we have only part, but both of them incorporate pieces of bluestone.

The smaller of the two is perhaps the end of a grave. I am not sure, but it is a very square cut and the end of it is defined by a very laminated slab of bluestone. It is not the spotted dolerite; it is a different kind of bluestone, but none the less part of the spectrum of stones that have come to be known as bluestone. In the bottom there was a late fourth-century AD coin, which we thank John Casey for identifying; it was presumably deposited some time after that date.

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In the centre we found a shaft. Atkinson must have skimmed the edge of it in 1964, but most of it lies within our trench. It is about 1.1m deep and has a very homogenous fill. Right in the top there was a very fine block of bluestone, which Rob Ixer has provisionally identified as a piece of very fine-grained siltstone or sandstone; geologically speaking, this can be paralleled by a piece found in the cursus by J F S Stone some years ago. So we have an interesting circulation of bluestone fragments; this is a substantial piece and all around it is a scattering of flakes and smaller pieces, which have been broken off.

Fully excavated, the shaft is substantial and, of course, it chops out a lot of earlier stratigraphy. In the bottom was a very strange piece, which some have likened to the phallic stones found on Neolithic sites. Certainly it is a long, thin, spiky piece of natural flint nodule. There was abundant Roman pottery from the fill and another late Roman coin on the base. Also from the shaft came a substantial amount of animal bone – more than 400 pieces all together – which Mark Maltby has been working on. There are bones of sheep, goat, pig, horse, dog, red deer, hare and rabbit, and two species of bird, fowl and wader.

So we now have structural evidence for the use of Stonehenge in Roman times – mainly in the late fourth century or a little later – with the shaft for sure, and perhaps a pit or a grave against one of the sarsen stones as well. We have bluestone incorporated in both those structures, suggesting that, during this time, pieces of the bluestones around Stonehenge and within it were being broken off and used in the construction of these features. We might note that earlier excavations recovered some twenty other Roman coins, half of which are also of fourth-century date. There are 1,857 sherds of Roman pottery from previous excavations, and at least seven items of Roman metalwork. All together, then, there is a substantial collection of material; in the past this has been interpreted as being from Roman picnickers; now perhaps we need to rethink what this material really means for the use of the site as a place of ritual or ceremony in the first millennium AD.

Next in the sequence we have a series of post-Roman cuts into those earlier features. Around both bluestones and the sarsen there are pits and hollows dug against the stone, partly obliterating the original edges of the sockets in which these stones stand. The dates span the period from AD 1250 through to the 1960s.

This was quite an industry and involved medieval and post-medieval people cutting and chipping away at the stones. Stone 35a is a classic example of medieval robbing. But what were they were trying to do here? From the cracks in the rock and the way it is broken, I suggest that someone was trying to lever it out of the ground. They probably gave up and just smashed the top off and took away what they could.

Over on the eastern side of the trench is a Roman cut with later, medieval, cuts around about. Many of these later cuts originate at quite a high level, probably just within the base of the Stonehenge Layer. It is at that same horizon that the block of very fine-grained siltstone or sandstone that I have already mentioned was found, at the very top of the shaft with its spread of flakes all around. Throughout these fills and the lower parts of the Stonehenge Layer we find abundant scatters of flakes of bluestone, and lesser quantities of sarsen.

From our post-Roman activity, in the eighth and ninth centuries AD there are sure signs of cultivation in the area in the form of cereal grains from deposits at Stonehenge. Two of the radiocarbon dates of this period are determinations made on cereal grains. We also know that there was activity around Bluestone 35a, perhaps between 1600 and 1960. There is holly and oak charcoal dating to a period between AD 1500 and 1960 in the socket of sarsen Stone 10 in the outer Sarsen Circle. The post-Roman evidence also has implications for the management of the monument: the radiocarbon dates suggest that

recent and potentially very modern material is finding its way into otherwise secure archaeological contexts.

One curious fact emerging from the initial analysis of the charred plant remains is that holly is represented in the charcoal sequence from early prehistoric times through to recent times. There are four radiocarbon dates on holly charcoal – one each from the later Neolithic and the early Bronze Age, and then two from medieval and recent times. That is curious, because holly is not a common wood on other prehistoric sites in Wessex, and the charcoal assemblage as a whole suggests that we may be dealing with something rather unusual in the range of woods taken to Stonehenge. We might ask why those species of wood were being burnt at or near Stonehenge.

So how do these new findings come together? How do they address the questions that formed the major research focus of our work? What we have found both endorses and challenges some of the long-cherished ideas about the site. First, we now have to put quite a big question mark on many aspects of the conventional Stonehenge sequence. That is not to say that they are wrong; it is simply to say that we need to go back and look carefully at the stratigraphic sequences, not just focusing on the cutting and intercutting, with which we are tolerably familiar, but asking when some of those cuts might have occurred and what events they relate to. Their chronology is as important as their sequence in working out what is going on. Therefore, when we go back to look at these things, we cannot necessarily just accept the cut as a cut; we need to know when the cut occurred to know how it might fit in with the overall sequence, and what its impact might have been on earlier relationships.

A second point is that many of the later features seem to have a much darker fill than the earlier ones. There is work to be done looking again at the reports on earlier excavations to review the recorded colour/texture of features. This may result in a clearer picture of post-prehistoric activity at Stonehenge.

Our work also shows that the site is very mixed – there is no question of that. The way in which Stonehenge has been looked after in the past 400 or 500 years has meant that things have gone down holes in the ground, that animals have taken material down, and that, when features have been left open for a period, contamination has penetrated to quite deep levels in the ground. Therefore we need to be extraordinarily careful about those samples, and we need to know about the medieval samples just as much as we need to know about the prehistoric ones in order to understand the stratigraphy.

As for the date of the Double Bluestone Circle, our working hypothesis is that it was built about 2300 BC. Such a date accords nicely with associations with early to middle styles of Beaker pottery, and coincides with quite a lot of other things happening in the landscape around at that time. The remodelling of Stonehenge through the construction of the Double Bluestone Circle – with its axial orientation towards the mid-summer sunrise to the north east and the mid-winter sunset to the south west – was a very important event in the history of Stonehenge and something that gives the site its unique character.

Understanding the Stonehenge Layer and the history of the bluestones is something that we have extended considerably through this excavation. We can now see that the Stonehenge Layer is a very complicated deposit, representing many separate events and stand-stills. We currently see its formation as being more closely connected with the destruction of the monument than its construction, but that is something that we will be working on further as the geological and chemical evidence comes to bear on what we see.

We might ask ourselves finally how this relates to what has become known as the 'Healing Hypothesis' which Geoff and I have spent some time evangelizing over in the past months. We are still resolute in our belief that it is the bluestones – or at least the

Fig 10. Stone 34 adjacent to the 2008 excavation area, showing flake-beds resulting from the removal of substantial pieces of stone, perhaps in later prehistoric or Roman times (0.5m scale). *Photograph*: Timothy Darvill

meaning and importance attached to them by prehistoric people – that hold the key to understanding why Stonehenge became the great monument it is. That remains at the centre of our thinking. We are also resolute in the idea that both in Pembrokeshire and in Wiltshire oral tradition and folklore from the last 500 years at least shows that people

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believed that the stones and the springs and water associated with them had magical powers capable of healing the sick and infirm. We think that such an understanding extends back into prehistoric times.

Bluestones at Stonehenge were clearly broken up in later prehistoric times, and in Roman and medieval times this became quite an industry. The bluestones were differentially selected for removal. As Paul Ashbee once noted, almost all the sarsen stones are still there, but something in excess of two-thirds of the bluestones have disappeared. Close examination of the bluestones at Stonehenge reveals the presence of large flake-beds on the stones where rock has been detached (fig 10). In the case of Stone 35a almost all the rock that originally protruded above ground was removed. Such removals contribute not to the shaping of the stones but to the removal of pieces for use elsewhere. Clearly, stone removal was happening in post-prehistoric times and continued down into more recent times.

What we have from the medieval period back into Roman times from our excavations begins to provide a bridge back into prehistory. One criticism that has been levelled at the use of Geoffrey of Monmouth's *History of the Kings of Britain* as a source relevant to understanding Stonehenge – and to the fact that the stones were believed to have healing properties – is that he was writing long after the monument had ceased to be used. What we have unfolded here is the beginnings of an archaeological bridge that takes us back from modern times into prehistory. Although the sequence of activities on the site is not continuous, there is, at the very least, a series of marker points along the way that provide a context for the oral transmission of memories over quite long periods of time.

I hope that what we have shown in this brief paper is that Stonehenge can no longer be considered simply as a prehistoric site. It clearly had a much longer life than its architecture and prehistoric associations might suggest. Our work raises as many questions as it answers, but it is equally clear that we need to look at the monument in a much wider perspective than we have hitherto.

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RÉSUMÉ

L'article suivant est le premier compte rendu publié de fouilles qui ont été effectuées à Stonehenge pendant le mois d'avril 2008. Etant donné qu'il s'agissait des premières fouilles effectuées à l'intérieur du cromlech depuis une quarantaine d'années, ces fouilles ont suscité un très grand intérêt, d'où leur publication dans la revue *Antiquaries Journal*, en tant que compte rendu provisoire des travaux en cours, sous la forme d'une transcription éditée d'une communication présentée en premier lieu lors de la réunion ordinaire de la 'Society of Antiquaries of London' [Société des Antiquaires de Londres] le 9 octobre 2008. Cette communication explique que les fouilles de 2008 avaient pour but de dater la construction du double cromlech de pierres bleues de Stonehenge et de tracer l'historique ultérieur des pierres bleues et leur utilisation dans le monument. Des indices sont présentés à l'appui d'une date de travail provisoire d'environ 2300 avant J.-C. pour la construction du double cromlech de pierres bleues, et on soutient que l'histoire du site est bien plus complexe que ne le prétendent les interprétations existant déjà, avec de nombreux incidents (non continus) de chevauchements et de recoupements, y compris d'importantes activités de la fin de la période romaine, de la période médiévale et du début des temps modernes. Le matériel retrouvé lors des fouilles, ainsi que les indices tirés des pierres restant encore, appuient la théorie que les pierres bleues avaient été transportées au site à cause des qualités spéciales perçues en elles, peut-être pour les propriétés curatives dont elles étaient censées être dotées, et que des connaissances concernant ces propriétés existaient encore par la suite, ce qui a eu pour résultat la disparition à ce jour de plus des deux tiers du volume de pierre bleue originel.

ZUSAMMENFASSUNG

Die folgende Abhandlung ist die erste Veröffentlichung über eine archäologische Ausgrabung in Stonehenge, die im April 2008 stattfand. Da sie seit 40 Jahren die erste Ausgrabung innerhalb des Steinkreises war, hatte sie ungewöhnlich viel Aufmerksamkeit auf sich gelenkt. Aus diesem Grund wird dieser, zunächst vorläufige, Bericht im Antiquaries Journal vorgelegt, und zwar in Form einer bearbeiteten Niederschrift eines Vortrags, der bei einer Versammlung der 'Society of Antiquaries' am 9. Oktober 2008 in London gehalten wurde. Das Thema dieser Ausgrabung war die Datierung des doppelten Kreises aus Blausteinen, die Entwicklungsgeschichte der Blausteine und deren Gebrauch als Teil dieses Monuments. Ein provisorisches Datum von 2300 v. Chr wird für die Errichtung des Doppelsteinkreises aus Blaustein liegt vor, und es wird argumentiert, daß die Entwicklungsgeschichte dieser Stätte viel komplizierter ist, als aus bisherigen Interpretationen hervor geht. Die Entwicklung wurde von einer Vielfalt von übernandergreifenden und verschachtelten (aber nicht kontinuierlichen) Ereignissen geprägt, insbesondere spätrömische, mittelalterliche und neuzeitliche Aktivitäten. Die Fundstücke und die Beweismaterialien von den Steinüberresten unterstützen die These, daß die Blausteine wegen ihrer wahrgenommenen besonderen Qualitäten antransportiert wurden, vielleicht wegen angeblicher heilerischen Eigenschaften. Das Wissen um solche Qualitäten blieb bis in spätere Zeiten erhalten, was zur Folge hatte, daß mehr als zweidrittel der ursprünglichen Blausteine jetzt verschwunden sind.