Petrie and Childe on Stonehenge

William Flinders Petrie (Fig. 1) worked on Stonehenge between 1874 and 1880, publishing the first accurate plan of the famous stones as a young man yet to start his career in Egypt. His numbering system of the monument’s many sarsens and blue-stones is still used to this day, and his slim book, *Stonehenge: Plans, Descriptions, and Theories*, sets out theories and observations that were innovative and insightful. Denied the opportunity of excavating Stonehenge, Petrie had relatively little to go on in terms of excavated evidence – the previous diggings had yielded few prehistoric finds other than antler picks – but he suggested that four theories could be considered individually or in combination for explaining Stonehenge’s purpose: sepulchral, religious, astronomical and monumental. Although he could not know that Stonehenge contained a large cremation cemetery, he guessed that its purposes were more sepulchral and monumental than religious or astronomical (1880: 31). Of the latter notion, he remarked: ‘The astronomical theory has the strong evidence

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**Fig. 1**: William Flinders Petrie (c.1886).
of the very close pointing to the midsummer sunrise, but apparently none other that will bear scientific scrutiny' \textit{(ibid.)}. A few years later, another archaeologist, Sir Arthur Evans – later the excavator of Minoan Knossos – proposed that Stonehenge was a monument to the dead, built to honour the ancestors of a whole prehistoric tribe (1885).

Many years later, Gordon Childe (Fig. 2) included Stonehenge in his magisterial overview \textit{The Dawn of European Civilization}. Although the book was first published in 1925, it was only in the sixth and final edition, published in 1957 – the year of his death – that Childe speculated on the purpose of Stonehenge. By this time, a string of archaeologists had dug there: William Gowland in 1901 (1902), William Hawley in 1919–1926 and, from 1950 onwards, Richard Atkinson together with Stuart Piggott and J.F.S. Stone. Atkinson’s book on Stonehenge was published in 1956 and, in the heyday of the ‘culture history’ paradigm, he concluded that it was built to the specification of a Bronze Age Mycenaean architect (1956: 163–64). In Atkinson’s view, Stonehenge (Fig. 3) was a true example of architecture in contrast to mere construction, unparalleled in Britain’s barbarian Bronze Age \textit{(ibid.)}. He considered it to be entirely out of character with other...
British monuments and thus had to be an alien intervention. Conversely, Childe was in no doubt that it was an indigenous creation. He had observed that stone circles were a peculiarly British phenomenon (1936) and he considered that Stonehenge was built by and for ancient Britons.

It had long been known that Stonehenge’s smaller monoliths – the bluestones – originated in the Preseli hills of west Wales and Childe theorized that their long-distance movement must have been the result of a cooperative effort that could only have taken place under special conditions: ‘This fantastic feat ... must illustrate a degree of political unification or a sacred peace ...’ (Childe, 1957: 331). This insightful observation, just like those of Petrie and Evans, was then forgotten by both archaeologists and the public at large.

The conventional narratives on theories about Stonehenge surprisingly ignore these ideas proposed by three of the greatest archaeologists of the late 19th-early 20th century and focus on a different history, broadly that of the antiquarians Aubrey, Stukeley and others, followed by the 20th-century excavators at Stonehenge, followed by the astronomers (Chippindale, 1994; Pitts, 2001; Richards, 2007).

**From ancient druids to astronomers**

Putting aside for the moment the 12th-century pseudo-history of Geoffrey of Monmouth, the first theory about Stonehenge in modern times was that it was a temple for ancient druids, an idea first proposed by John Aubrey in the mid-17th century and later elaborated by William Stukeley almost a century later (1740). Both of these remarkable antiquarians realized that Stonehenge had been built before the Romans. Stukeley in particular drew on Classical Greek and Roman comparisons to argue that the plan and elevations of Stonehenge could be interpreted as a roofless temple. Neither scholar could have any idea of the true antiquity of Stonehenge, 3,000–2,500 years before the Romans came to Britain, so they could only extrapolate that it had been used by the peo-
ple that Caesar and other Classical authors named as the resident religious elite – the druids. Stukeley was so taken by this theory that he even up druidry. More recently, this reinvention has taken up druidry. More recently, this reinvention has led to a small but thriving ‘new age’ religion; some 4,189 people described their religion as ‘druid’ in the UK’s 2011 census. Although Classical authors referred to ancient druids worshipping only in wooded groves – there is no mention of any link between druids and stone monument, let alone Stonehenge – the association of druids with Stonehenge has become fixed in the public consciousness.

Whereas Hawley (1921) followed Stukeley’s theory, proposing that Stonehenge was a temple for priests and nobles, Richard Atkinson (1956) saw Stonehenge as resulting from the concentration of political power in the hands of a single individual who could draw on the architectural tradition of the Bronze Age Aegean. This classic notion of diffusion from an advanced civilization is one of many perceptions of Stonehenge as being constructed by the non-indigenous ‘other’, whether from Neolithic Brittany, ancient Egypt or even outer space. Certainly until a few decades ago, it was easy to perceive Stonehenge as a mysterious intrusion into an under-populated land where the few inhabitants eked out a miserable subsistence using only the most primitive technology for farming. As archaeologists have learned otherwise about population densities and early farming efficiency (e.g. Pryor, 2003), they have also discovered antecedents and precursors to the architecture of Stonehenge elsewhere in Britain, notably in timber. In fact, many of these innovations and architectures now appear to have originated on the margins of Britain, notably in Wales and Orkney (Burrow, 2010; Gibson, 1998; 2010).

Although the solstitial alignment of Stonehenge and its avenue has been long known, it was only in the 1960s that claims were widely accepted for Stonehenge’s role as an astronomical observatory or computational calendar. From Alexander Thom’s astronomical investigations (1967; 1971; Thom and Thom, 1974) to Gerald Hawkins’ proposition amongst other things that the circle of 56 Aubrey Holes within the circuit of Stonehenge’s bank and ditch could be used to predict lunar and solar eclipses (1965), Stonehenge gained a new and sensational reputation as a repository of the ancients’ lost knowledge. As the counter-culture of the 1970s and early 1980s claimed Stonehenge as spiritual inspiration for a lost world of mysticism, so the archaeological ‘fringe’ imputed a new range of earth mysteries, ley lines and hidden forces responsible for Stonehenge’s location and raised stones.

Following on from Hawkins, the astronomer Fred Hoyle developed his own explanation of astronomical prediction at Stonehenge (1977), although his book was nowhere near as successful as Hawkins’ Stonehenge Decoded. John North, a respected historian of science, also developed some unusually elaborate astronomical theories about Stonehenge and its surrounding monuments (1996). For many who were impressed by the astronomical possibilities of Stonehenge, the notion that it was operated by a ruling class of astronomer priests became the theory of the day (e.g. Mackie, 1977). However, the astronomers’ bubble was burst by the arrival of archaeo-astronomers such as Clive Ruggles who could bring expertise in both archaeology and astronomy to bear on the problem.

Working from ethnographic analogies of the integrated use of astronomy within the religions and cultures of traditional societies, Ruggles and others not only argued for understanding the role of simple astronomy within its cultural context but also developed a critical methodology for assessing and evaluating competing astronomical claims. For Ruggles, Stonehenge was not a computer or an observatory for prediction and observation, but a monument for memorializing certain key heavenly events, notably the midsummer solstice sunrise, the midwinter solstice sunset, along with the northerly
and southerly major limits of moonrise and moonset (Ruggles, 1997). Not only were certain of these alignments only approximately accurate but Ruggles also considered that large megaliths were less satisfactory markers than sticks or slender posts for the budding prehistoric astronomer.

**Stonehenge without Mycenae**

During the 1960s and 1970s, Atkinson’s notion of Mycenaean influence was thoroughly discredited by Colin Renfrew (1968) who later developed a social evolutionary model of Stonehenge as the product of a confederation of chiefdoms at the Early Bronze Age apogee of Wessex’s evolution from tribal Early Neolithic farmers to Late Neolithic and Early Bronze chiefdoms (1973). By this point in time, however, the views of professional archaeologists had largely separated from those of numerous amateur enthusiasts pursuing alternative theories about earth and sky mysteries, ley lines, astrology and megalithic yards, a split that remains today.

With the publication of the 20th-century excavations at Stonehenge (Cleal et al., 1995) came radiocarbon dates which demonstrated that its ditch and bank were dug at the beginning of the 3rd millennium BC and that the sarsen circle was put up around 2500 BC. These new dates pushed Stonehenge back into the Late Neolithic, contemporary with Woodhenge (Fig. 4) and the other timber circles of Renfrew’s Late Neolithic chiefdom phase. Speculation about Stonehenge’s purpose, while thriving on the ‘alternative scene’, was more muted among academics in the 1980s and 1990s. Many tended to agree with media archaeologist Julian Richards, in the wake of his Stonehenge Environments Project (1990), that Stonehenge was a temple of the sun, basically a modification of Stukeley’s idea without the druids.

**Stonehenge for the ancestors**

In 1998 I was lucky enough to be able to invite Ramilisonina, a Malagasy archaeologist, to Britain. We had worked together for...
almost a decade in Madagascar studying megalithic monumentality so I was interested to see his reaction to Avebury and Stonehenge. Avebury, 20 miles to the north, was first on our itinerary and he asked if I had learned nothing from working in Madagascar since it was obvious to him that such stone circles must be monuments to the ancestors, constructed in stone to represent the eternity of life after death in contrast to the use of wood for the temporary world of the living. Together we formulated a model of Stonehenge as part of a wider landscape in which it and the timber circle complex at Durrington Walls (Fig. 5) and Woodhenge were linked by avenues to the River Avon. The model generated a series of predictions and, frustrated that no one else was interested in testing these, I embarked on the Stonehenge Riverside Project in 2003 with a team of co-directors: Josh Pollard, Colin Richards, Julian Thomas, Chris Tilley and Kate Welham.

The idea that Stonehenge might be associated with the ancestors or, at least, the dead was not a new one, as the long-forgotten ideas of Flinders Petrie and Arthur Evans now reveal. In the 1920s, Hawley dug up nearly 60 cremation burials from inside Stonehenge but all had been reburied in 1935. In 1987 Aubrey Burl concluded that Stonehenge was built as a ‘house of the dead’ (1987). By the mid-1990s some prehistorians such as Alasdair Whittle (1997), Barbara Bender (1998) and Josh Pollard were beginning to think about the properties of different materials – stone, earth and chalk – in Stonehenge’s sequence of construction and were making the connection between stone, permanence and immortality.

The ‘stone for the ancestors’ hypothesis, however, was able to explain how and why complexes of the living and the dead might be juxtaposed along a tract of water, and to predict the wider use of this duality in Late Neolithic Britain. Avebury could be shown to conform to this model and, more recently, other paired complexes have been recognised at the Ness of Brodgar in Orkney.
The Stonehenge Riverside Project’s fieldwork ran over seven years and, whilst the main planks of the ‘stone for the ancestors’ model was supported by the newly excavated evidence, we became increasingly aware that certain aspects of Stonehenge’s sequence and attributes could not be fully explained by the theory as it stood.

The healing hypothesis
Around 2005 a new hypothesis was put forward by Tim Darvill (2006; 2007), arising out of his work with Geoff Wainwright around the spotted dolerite outcrops in the Preseli hills of Wales where many of the bluestones originate. In one sense this was a very old hypothesis because it was first proposed by Geoffrey of Monmouth in his History of the Kings of Britain in about 1138. In this book, Geoffrey explains that Stonehenge was built as a memorial to the Britons treacherously slain by the Saxons. Merlin tells his men that the stones must be fetched from a stone circle in Ireland, the ‘Chorea Gigantorum’, built by giants. The reason why only the stones of this particular circle would do is, explains Merlin, because they have healing properties. The giants would throw water against the stones and bathe in troughs at their foot to cure illnesses.

The proponents of this healing hypothesis reckoned that not only was there a grain of truth in what might be a prehistoric myth handed down until the Medieval period but also that the Preseli spotted dolerite outcrops were associated with Medieval holy wells and healing springs coming off the south side of the Preseli hills, a further aspect of proposed long-term continuity. The discovery that the Beaker burial known as the Amesbury Archer, found 3 miles from Stonehenge (Fitzpatrick, 2011), had an infection in his knee, together with two examples of Early Bronze Age trepanation from Salisbury Plain, were taken as supporting evidence for this theory. Records of 18th-century visitors to Stonehenge removing chips of stone for their imagined powers of healing (Atkinson, 1956: 190–191) were taken as further evidence of long-term continuity in beliefs that the bluestones had curative properties. In Darvill and Wainwright’s view, if Stonehenge had been a place of the dead between 3000 BC and 2500 BC, it became a place of life and healing after 2500 BC when, in their estimation, the bluestones were brought to Stonehenge.

An ancestral place
One of the consistent problems with theorizing Stonehenge is that different theories tend to seize on particular aspects and promote those as the most significant, either minimizing or ignoring other elements or inconsistencies. Rather like the blind men each feeling a different part of the elephant and pronouncing it a different type of beast depending on what portion was felt, so theories about Stonehenge have rarely been fully holistic or contextual. Any attempt at a satisfactory theory has to explain a myriad of features: the stone uprights and lintels, the unique dressing and shaping of the stones, the astronomical sightlines, the burials, the bringing of a variety of spotted dolerite, rhyolite, volcanic ash and sandstone monoliths from Wales, the sequence of re-building over almost 1,000 years, and the relationship with the River Avon and Durrington Walls, amongst other evidence.

Stonehenge was certainly unique in Neolithic Britain but it also shared many aspects with less well-known monument complexes of the period. Thus we have to tack back and forth between the specifics of Stonehenge and the generalities of British Neolithic monument complexes. Stonehenge’s uniqueness derives primarily from the use of lintels linking the uprights, the enormous effort in shaping and dressing the stones, and the bringing of perhaps as many as 80 bluestone monoliths from west Wales. Its astronomical orientations towards midwinter solstice sunset and midsummer solstice sunrise are
not particularly unique – similar arrangements were made at earlier monuments, such as the passage tombs of Maes Howe in Orkney and Newgrange in Ireland – but what is unmatched is the concentration of solstice sunrise/sunset aligned monuments in the Stonehenge environs, including Durrington Walls’ Avenue and its Northern Circle and Southern Circle, as well as Woodhenge and Coneybury henge.

The reason for this concentration may be linked to the presence of natural landforms at and in front of Stonehenge, aligned coincidentally on the midwinter solstice sunset and midsummer solstice sunrise and embellished by the ditches and banks of the Avenue itself. These take the form of unusually deep and wide periglacial fissures, flanked by two low ridges of chalk bedrock (Fig. 6). Running parallel on the southeast side is a shallow gully. From examination of sections across the Stonehenge Avenue northeast of the Heel Stone, it appears that these features formed a corrugated surface about 30m wide. Although the length of the periglacial fissures cannot be determined without further excavation, the parallel ridges and gully run for about 150m from just west of the Heel Stone. Recent geophysical investigations (Darvill et al., 2012) have conflated the fissures with cart tracks running the length of the Avenue to its elbow, but our excavations in 2008 showed that the cart tracks are not only distinct from the fissures but are also not the cause of the ridges (since the area within the ridges is not hollowed out by traffic erosion). Nor can the ridges be explained as resulting from differential weathering of chalk bedrock where it was protected by the Avenue banks, since the banks were much narrower than the ridges beneath them.

Two other features are also aligned on this solstitial axis. The first of these is Newall’s Mound at the Avenue’s elbow, found to be a natural mound of clay-with-flints (Evans, 1984). The second is a mound within the centre of Stonehenge (Field and Pearson, 2010) that may well be a natural chalk knoll, given the height of bedrock on its south side.

Fig. 6: Excavation of the Stonehenge Avenue in 2008 (photo: Adam Stanford).
as revealed in Darvill and Wainwright’s 2008 trench (2009: fig. 9).

As Charly French and Mike Allen have remarked, the periglacial fissures would have shown up as vegetational stripes at times of summer drought and beneath the shallow soils of the early Holocene landscape, providing prehistoric observers with a demonstration of the unity of heaven and earth through this remarkable conjunction (Allen and French, forthcoming). Given that the Stonehenge chalkland was lightly wooded and open in the early Holocene (French et al., 2012) and that Early Mesolithic hunters erected large pine posts in the immediate vicinity in the 8th and 7th millennia BC (Cleal et al., 1995: 43–56; Allen and Gardiner, 2002), this may have been a conjunction noticed not just in the Neolithic but probably millennia earlier. The recent discovery of long-lived and dense Mesolithic occupation beside the River Avon near Vespasian’s Camp (Jacques et al., 2012) also demonstrates that the Stonehenge landscape was likely to be a ‘persistent place’ for Mesolithic people and thus a centre of their world long before any stones were erected.

If the location of Stonehenge was on a long-recognised axis mundi, as the natural landform and Mesolithic activity suggest, then Stonehenge’s unity of solar, lunar and earthly elements helps us to understand that the monument was designed to integrate them in a holistic and unified fashion. That notion of unity can also be found in the bringing together of the two types of stone – sarsen and bluestone, each with their very separate geographical origins. Whereas sarsens are local to the region (most probably from 20 miles to the north on the Marlborough Downs between Avebury and Marlborough), the bluestones hail from west Wales, around 140 miles away. For most of the 4th millennium BC, the two areas were culturally separate, at least in terms of ceramic styles, mortuary practices and funerary monuments, with a major material culture divide running from the Wash to the Southwest. From c.3400 BC onwards, this regionalism was replaced by the widespread adoption of uniform artefact styles and fashions of construction across Britain.

Ancestral unification – bluestones and sarsens

It was against this background of increasing commonality in material styles and cultural practices that Stonehenge was constructed, in its first stage just after 3000 BC and in its second stage around 2500 BC. If Stonehenge was built for the ancestors then they were ancestors of at least two geographically different but no longer culturally distinct groups. Whereas Childe considered Stonehenge to illustrate a degree of political unification, we can now make a strong case for Stonehenge to have been constructed for the very reason of unification both at a human and a cosmic level.

The Stonehenge Riverside Project’s fieldwork at and around Stonehenge is now finished and is being followed up by new fieldwork at the sources of Stonehenge’s stones to see whether the theory of ancestral unification makes sense from the Welsh end. The conventional narrative about bringing the bluestones from the Preseli hills in west Wales includes their quarrying on the southern edge of those hills at Carn Meini (also known as Carn Menyn) and dragging them southwards to Milford Haven for transport by boat towards Salisbury Plain.

In contrast to this orthodox view, recent geological research by Rob Ixer (UCL Research Fellow) and Richard Bevins (National Museum of Wales) suggests that many of the bluestones came from the north side of the Preseli hills (Ixer and Bevins, 2011; Bevins et al., forthcoming). At Craig Rhos-y-felin in the Brynderwen valley, a tributary of the Nevern, we are currently excavating the quarry for one of the rhyolite monoliths whose debitage has been found at Stonehenge (Fig. 7). At the head of that tributary lie the outcrops of Carn Goedog and Carregmarchogion, recently recognised as the dominant sources of the spotted dolerite bluestones.
This new evidence raises the probability that the stones were initially taken northwards into the Nevern valley, to be either carried by boat around the Pembrokeshire coast or dragged inland along the inter-connecting valleys of south Wales to the Severn estuary. In addition, we must consider the possibility that the bluestones were originally sourced for a local stone circle in the Nevern valley immediately north of Preseli. Instead of seeing the stones as quarried specifically for Stonehenge, it may be that they were destined first for a monument that was later dismantled, moved and merged with sarsen stones at that long-lived centre on Salisbury Plain. Perhaps their moving represented the merging of two major ceremonial centres, one for western Britain and the other for southern Britain.

It is just possible that there is indeed a Neolithic ceremonial centre in the Nevern valley in the form of a suspected henge beneath the later prehistoric hillfort of Castell Mawr (Mytum and Webster, 2003). With a maximum diameter of 160m, this earthwork would be the largest henge in Wales if it is indeed from the period of Stonehenge. Only excavation will tell whether it is associated with a dismantled stone circle.

**Conclusion**

In conclusion, there has been a long and varied succession of theories about Stonehenge. Many are still in circulation even though their empirical basis has not stood the test of time. New discoveries are being made all the time, forcing existing theories to be modified or rejected as partial or incomplete. From the outset, the ancestor hypothesis developed by the Stonehenge Riverside Project set out predictions that could be followed up with fieldwork, in turn feeding back into theorizing. That reflexive relationship has, over ten years, proved to be an extremely rewarding process, making the quest for the purpose of Stonehenge exactly what archaeology should be – the excitement of potential possibilities, the triangulation of multiple lines of evidence,
the not-knowing where the evidence will lead and, most importantly, the fun of working with skilled and inspirational colleagues.

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