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Making megaliths: shifting and unstable stones in the Neolithic of the Avebury landscape

Mark Gillings and Joshua Pollard

Abstract

This paper focuses upon the web of practices and transformations bound up in the extraction and movement of megaliths during the Neolithic of southern Britain. The focus is on the Avebury landscape of Wiltshire, where over 700 individual megaliths were employed in the construction of ceremonial and funerary monuments. Locally-sourced, little consideration has been given to the process of acquisition and movement of sarsen stones that make up key monuments such as the Avebury henge and its avenues; attention instead focussing on the middle-distance transportation of sarsen out of this region to Stonehenge. Though stone movements were local, we argue they were far from lacking in significance, as indicated by the subsequent monumentalization of at least two locations from which they were likely acquired. We argue that since such stones embodied place(s); their removal, movement and resetting represented a remarkably dynamic and potentially disruptive reconfiguration of the world as it was known. Megaliths were never inert or stable matter, and we need to embrace this in our interpretative accounts if we are to understand the very different types of monument that emerged in prehistory as a result.

Author Biographies

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Introduction

This paper focuses upon the complex web of practices and processes that were bound up in the extraction and movement of megaliths during the Neolithic of southern Britain. Its focus is the landscape of Avebury, Wiltshire, where over the course of a millennium and a half around 700 or more substantial blocks of local stone were employed in the construction of funerary and ceremonial monuments (Figure 1 and Table 1). That process began around the thirty-seventh century BC with the creation of chambered tombs such as the West Kennet long barrow (Piggott 1962; Bayliss *et al.* 2007), and reached a peak in the centuries around 2500 BC with the movement of the greatest number and largest megaliths to create the Avebury circles and avenues (Smith 1965, Gillings *et al.* 2008). It continued into the early second millennium BC on a much reduced scale (Pollard & Cleal 2004). The stone employed in those building projects was without exception sarsen, a quartz-cemented siliceous sandstone that occurs as discrete blocks on or close to the modern ground surface, and which is abundant in the Upper Kennet Valley where the Avebury complex is situated (Field 2005). It therefore differs from many other lithologies used in megalith construction in being *extracted* rather than *quarried*. Archaeologically, this creates both problems and opportunities, as will be outlined.

The aim of this paper is to consider formerly neglected aspects of the practices attendant to prehistoric sarsen extraction and movement within the Avebury landscape; viewing stone extraction, movement and re-setting (erection) as assemblage work, and taking into account the ways it

effected an ontological transformation of both stone and of place. We build upon previous arguments that react against seeing the sarsen megaliths that make up the Avebury monuments as inert building materials or anonymous elements of a more significant monumental whole (Gillings & Pollard 1999, Pollard & Gillings 2009). As such, the focus is not on monuments themselves, as built, composite entities. Instead, it is on how the strands of individual practices that attended the making of megaliths comprised significant engagements with stone in their own right, and contributed to the potency and significance of places and materials[1]. Attention is also drawn to the relative lack of interest that the sourcing and movement of the region's megaliths has engendered in contrast to the stones of Stonehenge, largely because of the seeming 'ordinariness' of local sarsen.

Megalithic machinations

Substantial stones were clearly moved in prehistory, but explicit academic interest in the movements themselves – their points of origin, destinations and routes along which they passed - appears to be a relatively recent concern, emerging as part of a growing appreciation of the importance inherent in the practices of material selection, acquisition, juxtaposition and assembly in the generation of meaning and significance within monumental structures. This is not to claim that stone transportation had not previously been addressed in any sustained or critical manner – in the case of Stonehenge it has been a near permanent fixture in debates – but to note that attention in earlier accounts tended to focus upon the practical challenges prehistoric 'engineers' would have had to overcome (e.g. Atkinson 1956, 110-17; 1961; Burl 1979, 144-50; Richards & Whitby 1997). Framed by the allied considerations of logistical organisation and energy-expenditure this in turn fuelled a concern within interpretative accounts with the total effort involved in such undertakings; 'man-hours' becoming a convenient metric that could be used to compare and contrast different monumental undertakings. Acting as a proxy for importance and significance, these ball-park estimates were used to place monuments in hierarchies of effort, not to mention social complexity (e.g. Ralston in Ritchie 1976, 50-2; Renfrew 1973). It is only relatively recently that serious archaeological attention has been turned to the points of origin of megaliths, be they quarries, outcrops or stone-fields. This has been driven by varied agendas and theoretical standpoints. Some are borrowed from the study of stone tools, as with Mens' (2008) exercise in the mental refitting of Armorican megaliths onto their parent granite outcrops. In other instances it is sourcing and chronology that drive investigation, especially where long distance transport of stones is implied. Recent work identifying the source locations of Stonehenge bluestones provides a case in point. Here the employment of heterogeneous lithologies in the creation of the bluestone components of the monument has allowed petrological matching with particular outcrops, or, as with one of the rhyolites, precise positions within a single outcrop (Ixer & Bevins 2011). In an implicit donor (quarry)-receiver(monument) model, excavation of the quarry sites also offers the potential to establish tight chronologies that are then folded back into the narratives constructed about the development of the sites that provide the ultimate homes for these stones (Parker Pearson *et al*. 2015).

Alongside and occasionally imbricated within this work is a growing interest in the practices of material selection, acquisition, juxtaposition and assembly that lie within the generation of monumental structures (e.g. McFadyen 2008, Richards 2013). This also plays off a realisation that the locations of megalith origin were likely significant and perhaps highly charged locales in their own right; something that has been apparent in the study of much smaller modified stones (e.g. axes) for some time (e.g. Taçon 1991). Richards work on the quarrying, movement and deployment of Orcadian megaliths provides an excellent example of this. He has drawn attention to the range of different lithologies present in the stone circles of Stenness and Brodgar on Mainland Orkney, and their seemingly structured placement within these circles (Richards 2009; 2013, chapters 3 and 4) (Figure 2).

At both circles stones were drawn from at least five widely-spaced sources rather than single quarries. Through the mobilisation of people, experience and materials (including the stones themselves) the result was a series of individual 'projects of stone' (Richards 2009, 57), all enmeshed or brought together within the structure of the final monuments. Richards' sees this as a means by which social claims to common descent between the different and competing groups represented by the stones/stone sources could be materialised – a bringing together of 'lithic representatives' of each lineage or community into ordered wholes. There are other important strands to Richards' work that are pertinent here, including the focus on risk (physical, reputational and spiritual) inherent in extracting and moving large stones; the social performance of construction and the way it offers context for negotiation and reaffirmation; and the transformative dimensions of such work (Richards 2013). Quarrying or releasing a megalith is a process of turning a 'non-thing' into something – or one kind of thing into another – and that something can be invested with association, agency and even animate capacity (Richards 2013, 143-7). In effect, the quarrying and movement become *rites de passage*, whose success is dependent upon cooperation from people and the stone itself.

In the discussion that follows we begin by taking a careful look at practices of stone extraction and translocation, in each case exploring not only the archaeological implications of such acts but the theoretical and interpretative frameworks through which we can begin to make sense of them.

Sourcing and extracting the Avebury megaliths

Avebury is one a series of locations both on and off the chalk massif of central southern England that provided the focus of large scale aggregation and monument building during the Neolithic (here c. 3900-2400 cal BC). The sequence of monument creation spans all but the first two centuries or so of the period. The earliest monument forms, dating to the fourth millennium BC, comprise around 25 stone-chambered and earthen long mounds and three earthwork enclosures (including Windmill Hill). Their distribution is relatively even, though topographically varied, and might be taken as a proxy for that of contemporary settlement. During the third millennium BC, and especially towards its middle centuries, a focus emerges on the valley floor around the headwaters of the River Kennet, perhaps reflecting the considerable significance ascribed to that river. It is in this location that the late Neolithic complex that includes the Avebury henge, its megalithic avenues, the Sanctuary, Silbury Hill and the West Kennet palisade enclosures was created (Smith 1965, Whittle 1997, Pollard & Reynolds 2002). By this stage Avebury had emerged as one of several competing ceremonial foci within the broader region; others including the Stonehenge, Knowlton and Dorchester landscapes to the south. One feature that marks out the Avebury complex is the frequent use of large stone; in this case a hard, resilient sandstone known as sarsen. The abundance of sarsen stone both afforded the region a special, rather other-worldly, character – contributing to an unfolding sense of the landscape's cosmic and mythological power – and made possible the creation of its many megalithic monuments. To build in stone, though, was a decision, and one which required mediation with this material and its appropriate deployment.

The greatest challenge in understanding the practice of extraction and movement of large sarsen during the Neolithic of the Avebury region lies in locating their original sources. The landscape of Avebury today with its surviving pockets of sarsen offers a poor template upon which to consider stone extraction and movement in antiquity. Various strands of evidence show that dense concentrations of sarsen originally formed an extensive cover on the downs, the valley floors and gentler valley sides (Smith 1885, Gingell 1992). Some flavour of this can be gained from early traveller's accounts. Samuel Pepys noted 'it was prodigious to see how full the downes are of great stones; and all along the valley, stones of considerable bigness, most of them certainly growing out of the ground' (Pepys 1688, cited in Long 1858, 11). The Welsh antiquary and bard Iolo Morganwg

estimated 'about 1000 acres of land on the Downs next Marlborough are covered with these kind of stones' (letter of 1777, quoted in Cannon & Constantine 2004, 80); while writing in the mid nineteenth the antiquary Long described the view of sarsens from the brow of a hill near Avebury as 'winding like a mighty stream towards the south… a stream of rocks, e'en now flowing onward' (Long 1858, 30). Today, these streams of rock are confined to modest protected areas within the Fyfield National Nature Reserve and National Trust land at Lockeridge.

The later nineteenth-twentieth-century sarsen industry completely reconfigured the stonescape within the Upper Kennet Valley and Marlborough Downs, with whole sarsen fields completely or largely worked out (King 1968; Gillings & Pollard 2004, 158-89; Field 2005). Prior to this, there had been incremental clearance of sarsen driven by agriculture and a local demand for building stone, particularly from the sixteenth century onwards (Gillings *et al*. 2008). The implication is that it is erroneous to regard the distribution of sarsens surviving today (where for example the largest stones are currently confined to the higher portions of the Marlborough Downs) as a direct proxy for the character of the distribution 300 years ago, let alone 6000. Nonetheless, there has been a tendency over the last half century to identify surviving sarsen spreads on the downs to the east of Avebury as the principal source of the region's megaliths. Burl, for example, talks of Avebury's sarsens as coming from the Marlborough Downs; being hauled off the high down, along Clatford Bottom, the Kennet Valley and up the line of the West Kennet Avenue (Burl 1976, 329; 1979, 144, 149). More recently Parker Pearson has suggested that the survivals on the higher portion of the Marlborough Downs mark the edge of a coherent (and progressively larger) zone of exploitation (Parker Pearson 2012, 294).

Reconstructing the original distribution of large sarsen, and so the possible range of locations from which would-be megaliths were sourced is possible to a fair degree, utilising early documentary and map evidence, field names, and more recent observations relating to the removal of sarsen within areas of arable (Field 2005)(Figure 3). A.C. Smith's detailed maps of the region published in 1885 provide an invaluable record of sarsen distribution as extant in the third and early fourth quarters of the nineteenth century (Smith 1885). They depict sizeable concentrations in valley bottom locations that have since been cleared (e.g. to the south of the River Kennet at West Kennet). Created a century and a half earlier, William Stukeley's field drawings also provide invaluable detail on former presence, including a sarsen trail running from approximately north of the Falkner's Circle along the base of Avebury Down to the east of the Avebury henge (Bodleian MS Eng. Misc. b65 fo 109). Closer and infinitely more accessible to Avebury than the high ground of the Marlborough Down, these erstwhile stone spreads provide alternative points of origin for the megaliths of the region's late Neolithic, valley-focused monuments. Of course, expediency may not always have dictated choice. To cite the fact that sarsens are locally available fails to appreciate that there are sarsens and there are sarsens. It remains possible that some of the especially large, geometric or featured stones (e.g. the Cove and entrance stones and distinctive reddish coloured blocks of the Z-feature in the Southern Inner Circle at Avebury: Smith 1965, 199-201), were drawn in especially from varied locations across the region, with Field suggesting that some of the larger sarsens could originate from sinkholes (2005, 91). In certain instances, distance of movement, the risks inherent in that process, or the particular associations of the places they came from, perhaps conferred especial potency or prestige on individual stones. The challenge, in the case of Avebury, is how to start to look for the sources of sarsen in a sarsen landscape.

In summary, the original extent of stone spreads and former ubiquity of sarsen create a significant problem. Megaliths could be drawn from a range of different locations within formerly extensively stone spreads that extended across the region, rather than discrete areas, and not all those potential sources need be currently known. Identifying those locations could prove problematic. Provenance analyses (petrology or XRF) will likely have limited utility. While there is considerable compositional

and chemical variation within sarsen – from 'saccharoid sarsens', to brown 'hard sarsens', to puddingstone/conglomerate (Ullyott *et al*. 2004) – this is recurrent across and within regions. Certain 'types' of sarsen are also not geographically limited to single discrete deposits. Furthermore, even systematic geo-chemical mapping of remaining sarsens would have to acknowledge the considerable gaps in the distributional record created by historic removal.

Archaeologically, there is also the issue of physical signatures left by stone removal and how these might be dated. Although sarsen is often found on the surface of the chalk, solution and weathering features can develop under and around individual stones; while the removal of a stone necessitates a certain amount of digging. Both these natural and anthropogenic processes can result in the formation of detectable features. Curiously, though, there has been little archaeological interest in defining these signatures, and controlled excavations of what might be termed 'non-archaeological' sarsens are rare. One such instance took place as part of the Society of Antiquaries 'Evolution of the Landscape Project' under the aegis of their 'Sarsen Stones of Wessex' initiative (Bowen & Smith 1977). Excavation was carried out on two sarsens on Overton/Fyfield Down to examine how the stones lay with respect to the underlying natural and whether the presence of the sarsens had left any diagnostic traces (Figure 4 - A). In one case (stone I) the sarsen sat directly upon the surface of the Upper Chalk (Lewes Nodular/Seaford/Newhaven Chalk Formation). The excavators concluded that the stone would have left a protected platform and erosion gulley (that could be recognised in excavation), though the presence of the latter could only be inferred from a cut feature around the stone that had been dug out by nineteenth-century stonebreakers. In contrast, Stone II was embedded 0.45m deep in the underlying chalk, separated from it by a thin lens of clay. The excavators concluded that 'had it been moved it would have left an irregular shallow depression in the chalk that would presumably have attracted an earthy fill' (Bowen & Smith 1977, 193-5).

However, not all sarsens in the Upper Kennet Valley sit on solid chalk. Some are embedded within gravels (e.g. personal observation at East Kennet), others in Coombe Rock deposits that fill valley bottoms. The latter comprises cemented scree and solifluction deposits of Quaternary age, with a matrix of fractured chalk and clay silt weathered off hilltops and upper valley sides. During formation it carried with it both flint nodules and sarsen stones, some of considerable size. Evans (in Ashbee et al. 1979, fig. 29) illustrates a small sarsen partially embedded in Coombe Rock from under the South Street long barrow, around which deep loam-filled root holes or solution features had formed (Figure 4 - B). Again, had this been removed it would have left a shallow scoop surrounded by a ring of solution features. A second issue concerns the dating of extraction/removal events. We cannot be assured of differentiating between the hollows left by prehistoric stone extraction as opposed to more recent clearance events as we know that from at least the early eighteenth century many sarsens were simply dragged away with no *in situ* breaking (e.g. Gillings *et al.* 2008, 291-300). As a result whilst diagnostic working debris and/or associated paraphernalia may help in identifying some examples of recent destruction they do not apply to all.

If we assume that at least some stone extraction events would have resulted in the creation of irregular depressions, we are left with chance discoveries of features made during excavations within the region which could conceivably relate to prehistoric sarsen removal. The difficulties here are two-fold. First, identification, since a range of processes can result in the formation of hollows within the chalk and, especially, Coombe Rock natural: chalk extraction for marl and cob, tree-throws and tree-roots (sometimes causing localized solution). Second, the problem of dating extraction events alluded to above.

Hollows and holes at Avebury

These issues are nicely highlighted by features encountered during Keiller's work at the Avebury henge (Smith 1965). In his unpublished site notebooks Keiller made reference to a number of what

he described as 'rough, usually asymmetrical pits for the extraction of marl and chalk for agricultural purposes' noting that 'it is not necessary to discuss these pits in greater detail' (Keiller, SW Sector notebook, Alexander Keiller Museum, 17). The interpretation of these features as marl-pits can be attributed to Keiller's foreman W.E.V. Young, and while the need for marl on the chalk downland seems at first counter-intuitive, the practice was not uncommon given the presence of soils derived from clay-with-flints and brown earths, as was extraction for lime and cobb (Mike Allen & Isobel Geddes pers. comm.). Keiller seemed content to attribute them to the mid sixteenth century, but the rationale behind this dating remains unstated (though there is the suspicion that it is based upon the belief that they were cutting stone burials he assumed were all medieval). Of particular interest is the depression excavated by Keiller in the proximity of Stonehole 43 (= Stone 4) in Avebury (Figure 5). Filled with 'a powdery fine chalk filling', Keiller raised the possibility that this may have resulted from the removal of a natural sarsen. This is presumably one of numerous features marked on unpublished plans as "NATURAL POCKETS". Indeed, in the case of the SW sector, the frequency of these features led Keiller to reassess their validity, pondering instead whether they might be natural features of the chalk/Coombe Rock (Keiller, SW sector notebook, discussion of stone 42 (= Stone 5)). Such features have never been formerly published and it is now difficult to ascertain whether they were indeed related to marl or sarsen extraction (or simply features of the underlying chalk).

In the case of the SE sector, Keiller was more confident. In Cutting 50(4) to the SW of stone 105 he recorded a depression 7' long, 2.6' wide with a base 2.7' below the turf (2.1 x 0.8 x 0.8m), oval in shape and irregular at the base. The basal fill was a soft weathered chalk, on the basis of which Keiller assumed that after digging the depression had been left open to weather, then deliberately filled with a soil rich in humic matter. Perhaps the most concentrated set of 'cavities' was observed in cuttings 64(3) and 63(4), the largest of which comprised an irregular hollow 9.1' by 6', and 2.4' deep (2.8 x 1.8 x 0.7m). Three such hollows were in turn surrounded by four further depressions, interpreted on the basis of three sherds of medieval pottery from the fills as extraction pits for mud (i.e. cobb) walls. The evidence is equivocal. It is clear from Keiller's notebooks that the features recorded as 'marl-pits' took a variety of forms, the term being coined more as a catch-all for anything not directly related to the erection and/or burial/destruction of standing stones. Some may indeed relate to sarsen extraction.

The West Kennet Avenue

We now wish to draw attention to features excavated at two locations to the south of Avebury where there is good evidence for acts of prehistoric sarsen extraction that might be linked to the creation of the region's megalithic monuments. The first is on the line of the West Kennet Avenue; a 2.5km long setting of paired sarsen monoliths that runs from the southern entrance of the Avebury henge to the site of a multiple timber and stone circle at the Sanctuary on Overton Hill (Smith 1965; Gillings & Pollard 2004). Along its northern half the Avenue runs along the base of slope of an area of high ground known as Waden Hill. In places there are thick soils covering Coombe Rock geology within which sarsens were originally present. When first excavated in 1934-5, Keiller encountered hollows here that he was confident resulted from stone removal, though of suggested recent date (unpublished cutting notebooks, Alexander Keiller Museum).

Work by the authors during 2013-15 within a zone of mostly middle Neolithic settlement bisected by the Avenue 600m south of Avebury revealed a further two, possibly three, features that we are confident resulted from stone extraction. One (F.14) is certainly of recent, post-medieval, date, the other two (F.3 and F.12) firmly prehistoric (Figure 6). All are different in their morphology from other features encountered, including pits, a monumental post-hole, and numerous tree-throws and tree-root hollows. F.14 was a sub-oval pit, 2.70 x 1.70m and 0.3m deep, which cut through the worm-sorted soil in which prehistoric material lay and the underlying Coombe Rock. It was filled by a compact brown silty clay, largely stone-free. On initial encounter the feature caused a stratigraphic

conundrum, in that its position later than the soil suggested a relatively recent date (i.e. of the order of hundreds of years), yet the extensive natural modification of its base through solution, creating a series of solution 'pipes', is a characteristic here of early (prehistoric) features. The absence of Neolithic worked flint from its fills was also anomalous, since this was present in quantity from the soil around the feature. The only plausible explanation is that the feature formed through two processes separated by a wide interval of time, and that something solid had prevented worked flint from accumulating here during the phase of Neolithic settlement. The former presence of a large sarsen, then removed in recent centuries, offers the only logical interpretation. While the sarsen was *in situ* solution of the soft Coombe Rock would have taken place directly under the stone as water percolated down its sides and under its base, as was observed by Evans at South Street. The value of this feature is that it offers a distinct register for stone extraction pits, on this geology at least (Figure 6).

Another distinctive feature of F.14 was the alignment of its long axis parallel to the extensive peri-glacial striping in the Coombe Rock, formed through freeze-thaw action and downslope water and sediment movement during the late Pleistocene. The down-hill movement of sarsens displaced from higher ground would have followed this axis of flow, potentially with some grading of size occurring. Both F.3 and F. 12 have their axes parallel with the peri-glacial striping, and both comprise sub-oval pits identical in morphology to F.14, complete with solution pipes in their bases. Both can be explained as stone extraction pits. Only the very edge of F.12 was within the excavated area, but the whole of F.3 was captured. At 3.20 x 1.65m and 0.50m deep it was likely the site of a very substantial stone. The worm-sorted soil ran into the top of its fill, indicating that the erstwhile sarsen was removed very early on. Dating for this event is provided by a discrete deposit of fresh worked flint, including cores, primary flakes and 26 retouched and utilized pieces, placed in the fill at a level where the underside of the stone would have occurred. The flint is rather different in its working to the middle Neolithic material from the surrounding soil, being rather more expedient, and would fit best a late Neolithic-early Bronze Age attribution. Quantities of worked flint were again present in F.12; while a line of six stake-holes ran along its base on the exposed side. Both features are located 15m from the western side of the West Kennet Avenue, adjacent to stone 31b. It is entirely possible that the stones removed here were used in the construction of the Avenue.

The West Kennet Palisades

The second location from which we argue there is evidence of prehistoric sarsen megalith extraction lies c.600m south of the West Kennet Avenue site, within the area of the West Kennet palisade enclosures (Whittle 1997, Barber 2003) (Figure 7). Interpreted by Whittle as sacred enclosures, the complex of two palisade circuits, associated radial lines, internal features and external 'structures' extend over an area of c.0.9 x 0.55km on the floor of the Kennet Valley and south along a broad, shallow dry valley running roughly north-south. Enclosure 1 straddles the River Kennet, while the rest of the complex lies to the south of this. Excavations between 1987 and 1992 revealed the late Neolithic date of the complex, the presence of Grooved Ware and evidence for large-scale feasting. Once constructed, the posts of the various palisades appear to have been either left *in situ* to rot or were burned; there was certainly no evidence for their removal or any re-cutting or resetting (Whittle 1997, 157). Precise dating and the sequence of construction remain vague (Whittle 1997, 139-40). While good samples were chosen for radiocarbon dating, the soliflucted gravel subsoil may have affected collagen preservation and the accuracy of dates (Alasdair Whittle pers. comm.). Cautiously, Healy has modelled a construction date of 2340–2130 cal BC (95% probability) (Healy in press), but this remains rather late for its Grooved Ware associations (Barclay *et al*. 2011, 178-81).

The geology of the valley floor here is again Coombe Rock; cropmarks mapping its complex and formerly undulating topography (Barber 2003). Prior to post-medieval clearance an extensive spread of large sarsens was present immediately to the south of the palisades and potentially within their

footprint, as shown by the distribution in A.C. Smith's 1885 guide (Smith 1885, map square GVI). Even by this stage it is likely clearance was well advanced (Field 2005). Construction of the palisades would have involved the movement of many large stones contained within the areas defined by their circuits. Certainly prodigious quantities of sarsen were used as packing in the palisade trenches (Whittle 1997). For example, a total of 63 sarsens, of which half reached 1m in maximum dimension, were found in the packing of the inner circuit of Enclosure 1 in Trench J (Whittle 1997:,65-6; fig. 30). Their distribution across the circuits may serve as a proxy for the original extent of the stone spread, since few were present in the central and western part of Enclosure 2, but were deployed in abundance in the eastern-most part of its circuit (Trench M) and within the palisade trenches of Enclosure 1 (Trenches D-H, J and O).

While the extraction and employment of proximately-available sarsen is well attested in relation to the construction of the palisades, a longer history of stone acquisition may be a feature of this place. Piggott reasonably surmised that this valley was the source for the sarsen used in creating the chambers and boulder core of the early forth-millennium BC West Kennet long barrow, which sits on higher ground immediately south-west (Piggott 1962, 14). Dating closer to the time of the palisades, there are also a number of large, seemingly anthropogenic hollows filled with animal bone and late Neolithic ceramics within the area of the palisades investigated by the Vatchers in 1971 (during the laying of a military oil pipeline) and during the 1987-1992 excavations. Several of these fit the profile of sarsen extraction pits. Those observed by the Vatchers took the form of two hollows, c.5m and 10m across and 15m apart, located within the interior of Enclosure 1 (Figure 8). They share a number of features in common: both being of similar depth (0.5-0.6m); having undulating bases; small post- or stake-holes (0.3-0.4m deep) on their eastern sides; and fills that included large amounts of animal bone. The presence of bone, burnt sarsen and charcoal on or close to the base suggests that these are not natural features. Their size and morphology rule out their being tree-throws. It is also difficult to envisage their role as quarries for Coombe Rock given the absence of convincing uses for this material during the period (it would make a poor surfacing/plastering medium); and their irregular bases imply they are not sunken-floored buildings. They are convincing as sarsen extraction pits, the footprints of the stones themselves being augmented by digging out along the sides to help free the stones from the matrix in which they sat, with substantial stakes/posts deployed as levers to assist in the process. We cannot be sure of their overall shape and dimensions given the limited exposure in the pipe-trench, but they could easily result from the removal of stones c.4m and 7m+ across, respectively.

Encountered during the 1987-1992 excavations are at least three other possible stone extraction hollows, each dated to the late Neolithic by the material deposited within them (Figure 9). Two are within the area of Enclosure 1 (Trenches H and B), the third in the eastern part of Enclosure 2 (Trench Z). That in Trench H is perhaps the most equivocal since it was subject to very partial investigation. It lay between the inner and outer circuits of Enclosure 1, and manifested itself as a large hollow, c.9m across and 0.6m deep, filled with a soil and flint layer that was capped by a chalk surface, in turn sealed by a dense spread of animal bone (Whittle 1997, 75-6)[2]. Its dimensions match closely those of the larger hollow encountered in the Vatcher pipe-trench, and for this reason it is considered comparable. The other two pits are much more diminutive, though morphologically similar. Context 5007 in Trench Z is recorded as 1.8+ x 1.0m in extent and 0.1m deep, with steep sides and a flattish base; while F.3 in Trench B was a shallow scoop filled with loose soil, 1.6 x 0.8+m across, with a deeper hole cut at one end (Whittle 1997, 85; 71). The smaller hole cut into the latter recalls the possible post- or large stake-holes in the Vatcher hollows. Comparable features are visible as cropmarks. The largest, at c.14 x8m in extent, is a regular sub-rectangular feature contained within the two circuits of Enclosure 1. Located c.40m south-east of Trench H adjacent to a pit/post circle, Barber notes it may result from 'some form of extraction or quarrying' (2003, 18). Other, smaller, pits are visible around the entrance to Enclosure 2, just to the west (Barber 2003, fig. 16).

The precise chronological relationship between the hollows and elements of the palisade enclosure complex remains to be resolved. The current radiocarbon dates are inadequate to offer resolution, though similar styles of Grooved Ware came from both palisade and hollow contexts (Hamilton in Whittle 1997), hinting at a close temporal relationship. The palisades may well have been short-lived, since posts were withdrawn or burnt down, and none replaced. Our preferred scenario, to be tested, is that the enclosures were constructed not long after the phase of sarsen extraction from this locale. Whittle has suggested that the construction and use of the palisades might be bound up with events taking place in other parts of the Avebury landscape, events that required the mobilisation of significant numbers of people (1997, 155-6, 164). The creation of the enclosures could mark a transformation in the kinds of activity happening here, though their layout may well have been structured by prior activity, including megalith sourcing, as the pattern of spatial respect between hollows and palisade circuits seen with Enclosure 1 implies.

Filling the void (and feasting)

In stark contrast to the meagre finds from stone-holes supporting erected megaliths (Gillings *et al*. 2008, 202), the quantities of material present in the hollows at both the Avenue and palisade sites is striking and indicative of very deliberate deposition following removal of the stones. Such depositional events could be read as a reciprocal act with the earth or *genius loci* (bones-and-stones for stone), and highlights how moving a stone might be conceived as a sanctified act, or at least one that could carry the connotations of a rite of passage. We will return to this later, but it is sufficient here to highlight the potential for material to be placed in hollows following stone removal, and so, fortuitously, provide good dating evidence for such acts.

Unfortunately, the decalcified fills in the Avenue pits did not facilitate the survival of bone, had it been there, but those at the West Kennet enclosures contained within them substantial deposits of animal bone and other material. There were 154 animal bones in 5007 and 369 in the Trench H feature (over half the total assemblage from Enclosure 1), the vast majority of pig, but with cattle present too. Sherds from a minimum of 16 Grooved Ware vessels were recovered from 5007, and from at least 10 vessels from Trench H, but very little worked flint. The composition of the faunal assemblage is consistent with feasting (Edwards & Horne, in Whittle 1997), as is the limited range of vessel forms (open bowls and jars). There is good contextual reason to link the feasting that generated these assemblages with the process of stone extraction and movement itself; the deposits perhaps serving as reciprocal offerings that substituted for the erstwhile stones, or facilitated the 'closing' of the ground on which the stones had lain. An analogy can be drawn with ethnographic accounts of megalithic tomb building on West Sumba, Indonesia (Hoskins 1986; Adams 2007). These highlight the degree of spectacle and display that accompanies every stage, many marked by feasts given by those sponsoring the stone movement. Of especial interest here, payments of animals are given both to facilitate access to quarries, and to have the stone quarried. This is conceived as akin to a brideprice payment (the stone being a bride and daughter of the quarry-owning clan: Hoskins 1986, 33). Payments might be quite substantial, including, in one recorded instance, the presentation to a lead quarrier (*tukango*) of one water buffalo, one pig, one horse and a large piece of traditional cloth (Adams 2007, 142). Feasts would then accompany both the movement and erection of the stones. Adams provides several instances of feasts being integrated into megalith building, including that of the Tana Toraja, Sulawesi, where the erection of megaliths takes place as part of funerary feasts, and of the Naga of north-east India where context is afforded by 'feasts of merit' (Adams 2007, 252, 262). In the latter cases, the erected megaliths serve to commemorate those events, effectively as a kind of tally or record, and it is the act of feasting which takes primacy. While Avebury's great late Neolithic megalithic monuments might appear different – as 'planned' and coherent composite entities – the possibility of individual stones being tied to specific

commemorative events, or chains of such, based around major gatherings and feasts, is certainly worthy of more sustained consideration.

Translocating sarsens

Whilst it could be argued that the setting of *any* megalith requires some degree of relocation, even a cursory examination of the monumental literature reveals that when it comes to comment and consideration, not all megaliths are afforded the same degree of interest. Where the component stones seem unusual or exotic with regard to size, shape and/or composition, there is active consideration of where they might have come from and the practicalities of movement. In contrast, when the stones are generic and plentiful, extraction and movement are rarely mentioned at all. Cooney has contrasted these latter 'mundane' or 'routine' stones with the more academically stimulating blocks that might find their way into megalithic monuments (and thus archaeological narratives). Mundane stone is lithic material that elicits no impulse towards explanation or interpretation on the part of the researcher (Cooney 2009, 64-5; Gillings 2015, 208-10). It is generally unworked, local, ubiquitous and used pragmatically in the process of construction. Local, generally unworked and ubiquitous, the sarsens of Avebury's monuments often suffer from such mundane ascription.

Further, while recent accounts have served to direct academic attention towards the highly charged and significant nature of extracting, moving and erecting stones (e.g. Richards 2013), it could be argued that with the emphasis that is placed upon metaphoric and metonymic significance, there is still a tendency to subordinate these 'projects of stone' to a higher goal. For example, Richards has argued convincingly that at Stenness 'people were not simply moving stones – they were re-ordering a materiality directly related to personal and group identity' (2009, 62). All that we would add is that they were also moving stones and the precise manner in which this movement was effected may be of critical and direct significance. Whilst the end result in Richards' example is the claimed reproduction of the social world (rather than monument as an independent structure) and the effort involved is as much social and symbolic as it is purely physical (whether expressed through the currency of man-hours or metaphor), there is a nagging sense that stones and their mobilisation are treated as what Olsen has termed 'stand-ins' (Olsen 2010, 3), portrayed solely as a means to a more significant end.

In considering such matters, Avebury has long been the poor cousin of its more famous neighbour, Stonehenge (Figure 10). There, too, sarsens were employed on a colossal scale: around 80 sarsen blocks, the largest over 9m in length (Cleal *et al*. 1995). While it is likely some of those stones were locally sourced on Salisbury Plain, it has long been argued that the majority, including the largest megaliths, came from a location or locations on the Marlborough Downs to the east of Avebury (Parker Pearson 2012, 292). It is something of a paradox that explicit concern with sarsen mobilisation and movement in the stonescape of Avebury has largely been articulated in terms of the stones that left it to journey to Stonehenge; movements *out of* rather than within the landscape provoking most of the interest. Atkinson even went so far as to envisage Avebury as a kind of marshalling yard where the megaliths were amassed before making their journey to Stonehenge, the stones being 'dragged through its already ancient circles' (Atkinson 1956, 111). There may be dangers here in connecting Avebury and Stonehenge. The most likely source of the Stonehenge sarsens actually lies a healthy distance away from Avebury, c.4km to the east on the Marlborough Downs (Parker Pearson 2012, 296-9), and within a landscape that we do not know was even identified with the complex during the later Neolithic. Stone extraction may provide the exception, but there is little evidence for sustained human presence on this area of high down between c.3400-2400 BC (Fowler 2000) – much of the evidence for early to mid third-millennium BC activity being focused on the valley floor and adjacent slope edges ringing Avebury. Perhaps it was neutral

territory? Perhaps the acquisition here of sarsen for Stonehenge had little to do with the communities that gathered in the Upper Kennet Valley? Either way, it may be more realistic, not to say productive, to take the Avebury story on its own terms. With this caveat in place, two general observations can be extracted from the growing body of work carried out on stone movement into the Stonehenge landscape that are salient to the arguments we are developing here.

First, the movement of megaliths has been, and remains, grossly under-theorized. Despite the very different conceptual frameworks that shape and animate the work of, for example, Atkinson (1956) and Parker Pearson (Parker Pearson & Ramilisonina 1998; Parker Pearson 2012) when it comes to the movement of substantial sarsens, researchers slip effortlessly into the functional language of effort (e.g. Atkinson 1956, 110-117; Castleden 1993, 150-4). There is often a rather stark juncture as concerns with the metaphorical and material qualities of stone suddenly give way to talk of rollers, ropes, sledges, causeways and slope gradients (compare Atkinson 1956, 110-17; Castleden 1993, 150-4; Parker Pearson 2012, 299-300). If we accept that the selection, extraction, journeying and erection of sarsen stones was integral to the meanings embodied by the monumental configurations they ended up in, we must accept that these processes, and the practices that attended and followed them, not to mention the precise routes taken, may have been highly significant. To do otherwise is to project a rather curious logic onto the past. For example, having taken the decision to source sarsens over 30km away why should we assume that the subsequent transportation was articulated solely in terms of a least-cost path? This becomes even more counter-intuitive when we consider other examples of stone movement where the opposite seems to be the case; stones taken from locations that were deliberately dangerous and/or difficult to access (Bradley &Edmonds 1993, 134; Conneller 2011, 78). Second, where attention has turned to the question of movement and relocation it is clear that not all stones are equal. For example, why has sarsen mobilisation and movement in the stonescape of Avebury only been articulated in terms of the specific examples that left it to journey to Stonehenge? The answer may well lie with the question of status discussed earlier; sarsen within the Avebury landscape having been regarded as essentially mundane, and so too the megalithic settings given they were neither worked, nor rigorously standardized with regard to shape, colour or size, nor, critically, exotic to their location of deployment. Unlike Stonehenge, at Avebury sarsen comprised an unremarkable lithology and it is perhaps this perception that has led to so little sustained research into the original sources of its megaliths.

As a result of all of this, researchers embarking upon a study of sarsen movement may well be left with the impression that the only stones of worth that moved in the prehistoric period were headed for Stonehenge by the easiest path possible. Indeed, the power of Stonehenge as a megalithic magnet seems irresistible. They might also be led to believe that whilst the role played by sarsen in the resultant monumental structure was complex and metaphorical, the challenge of getting them there was a purely utilitarian undertaking, an engineering challenge utterly in thrall to the logic of the least-cost path. A key consequence of these assumptions has been a primary concern with source and target, in which mobility itself tends to be elided. Yet manoeuvring substantial sarsens to their ultimate destinations is likely to have taken time and left a tangible set of traces - scars and marks - on the surface of the ground; clearance of other stones and vegetation, compression and scoring. Like slug trails, it would, for an appreciable period of time, have been possible to track any standing stone back to its original resting place – a starkly defined network of distributed practice of the kind we usually only posit in a conceptual or metaphorical way. Within the Avebury landscape during various times across the forth to late third millennia BC, it would have been possible to see and actively engage with a complex web of material connections to other times, places, practices and processes tangibly inscribed into the surface of the ground (McFadyen 2008). This is where the patchy dating of individual stone settings within the Avebury henge becomes frustrating (Pitts & Whittle 1992, Pollard & Cleal 2004), as we have no way of knowing whether this was a relatively short, intense episode that would have resulted in a criss-crossing network of stone-paths

(presumably accompanied by an etiquette with regard to crossing and disrupting other trails); a more drawn out sequence resulting in a mosaic of new paths and old paths either beginning to weather or slipping fully back into the landscape; a sequential series of single paths created at the point at which the last stone-path faded fully away; or some blend of the above.

Whilst it does serve to focus attention on the movement itself, this attention to the pathways left in a stone's wake may itself be only scratching the surface, insofar as the process of journeying is reduced to the creation of a linear inscription on the surface of the ground. There is undoubtedly more depth to this process. That sarsen was occasionally transformative is evident at a micro-scale from its use as polissoirs in the preparation of polished axes (Pollard & Gillings 2009). That this was recognised and drawn upon (or actively re-negotiated) is suggested by the presence of re-used polissoirs in the chambers of the region's megalithic long mounds as well as the Avebury circles. Often those traces were retained, even given visual prominence in the structure of built monuments (as in the West Kennet long barrow: Piggott 1962). In other instances the deliberate removal of surface areas of polishing from stones (e.g. L5 on the Beckhampton Avenue: Gillings *et al.* 2008, 79), implies traces of past engagements were being eradicated rather than celebrated (Pollard & Gillings 2009, 33). Through the detail of the record we can imagine other transformative roles for sarsen during this time, as marking and origin stones within the region's long barrows, for instance (Pollard & Gillings 2009), as places for meeting, as moral anchors within didactic story-telling (Basso 1996), or supernatural or mythical presence. Sarsens therefore acted in the world, and rather than shifting an inert slab of insensate matter, moving a stone may have entailed the re-emplacement of a complex assemblage of affects (*sensu* Conneller 2011, 74). If we regard each stone relocation not simply as an engineering challenge, but instead a form of doing then we can extend this notion of transformation further. In his insightful discussion of Pueblo religion, Fowles has recently drawn attention to a set of practices he terms 'doings'. These are 'practices characterized by a heightened awareness of interconnectedness and the relations between things' a set of undertakings that are distinctive with regard to the 'extent to which they mark and make explicit the mutual entanglement of people, things, and cosmos' (2013, 103; 104). What is particularly germane to the current discussion is the way in which doings actively 'tune-in' to material surroundings, with movement to a new location effective of social transformation (rather than merely geographical translocation). Speaking in terms of migration and the movement of people, Fowles considers migrations as profoundly transformative insofar as they result in 'new relational networks of people and things' and thus new people (Ibid, 256). Might the same be true of sarsens? Certainly the ethnographic record speaks of megaliths undergoing such ontological transformation through journeying: in the case of the Kodi, West Sumba, from being regarded as a bride at the quarry source, to the representation of a dead soul *en route*, to a victorious warrior once emplaced in the ancestral village (Hoskins 1986, 33).

What is crucial to emphasize here is that the transformative potential of the sarsen was effected through *movement*, and thus the latter may have entailed a very specific assemblage of practices (Lelièvre & Marshall 2015, 441) including a concomitant concern with actively 'tending' the route once traversed (Gibson 2005, 39-43). In the case of sarsens we can conceive not only of altered people and altered stones but a transformation of the very landscape they were hauled through. Those routes might become temporally taboo, for example, and so affect the way parts of the landscape might be engaged with. Once we factor in over 700 such transformations and re-transformations as already traversed paths were crossed, intersected and followed, it is easy to see how the entire landscape becomes folded in to the assemblage of Avebury's monuments (Figure 11). It may also explain the need for sanctioned (delineated) route-ways across this reconfigured and potentially animated ground, such as the Avenues. Alternatively, the Avenues might be seen as a response to the repeated use of the same routes, resulting in over-lapping pathways and repeated re-inscription, that may have resulted in corridors so transformed or altered as to require their own distinctive practices of tending, demarcation and perhaps avoidance.

Having stressed the importance of the journey itself over the source-destination dyad, we must also give consideration to the points-of-pause that punctuated such journeying as the sarsens were temporarily abandoned to a succession of places of rest; a chain of sequential emplacements each involving a careful re-inscription or negotiation of both social and material relationships as movement was (temporarily) arrested (Lelièvre & Marshall 2015, 441-3). And what of the ultimate destination, where the complex flows of substances, peoples, capacities, affordances and energies – working at different scales and continually coalescing and dissipating – began to pool and deepen? Rather than durability, permanence and fixity, these are places that embody and stress instead fluidity, dynamism, change and reconfiguration (Lane 2016, 214). This evokes not only a very different kind of stone movement, but also very different kinds of monument. It also raises the possibility, in certain situations, of stone movement carried out precisely to effect transformation rather than the construction of monuments; indeed, where the journeys (and sarsens) ended may have been the least significant, or interesting aspect of the process.

There is another twist, in that the transplanted sarsens might themselves be thought of as animate (Scarre 2009). With the gradual erasure of the physical trails linking present and past positions the sarsens themselves might also be expected to have forgotten the prior assemblages of which they were once part, their places in the fabric of the monument only then finally and inexorably becoming fixed. Moving sarsens then may have been far more than a question of logistics, route optimisation and labour mobilisation. Instead moving a sarsen was a process that may have continued for decades after the stone had reached its notional destination as a complex set of practices of gathering, deposition, construction, tending, sleight-of-hand, mis-direction and neglect were brought into play to ensure that once moved stones would stay 'in place'. This is maintenance of the kind invoked by Domínguez Rubio in his discussion of the restlessness of things and notion of objects (such as Avebury) as precarious achievements in need of continual attention (2016). That moved stones can be capricious is evident from more recent folklore that offers a number of cautionary tales regarding the consequences that attend the movement of a standing stone that did not want to be moved (e.g. Grinsell 1976, 60-61, 147).

Making Megaliths

At a very conservative estimate, over the course of the Neolithic within the Avebury landscape, at least 700 large sarsens were extracted from the ground, moved and erected in order to construct megalithic monuments (Table 1). The real figure might be in excess of a thousand given historically attested attrition to the monumental record. This process of relocation may not have involved exotic substances or huge distances, but the displacement of so many stones would have created a riot of activity in the surrounding landscape and an unprecedented reconfiguration of pathways and places. If we follow Bradley and Conneller in arguing that stones actively embody places (Bradley 2000, 81; Conneller 2011, 79) this represents a remarkably dynamic and potentially disruptive reconfiguration of the world as it was known, encountered and understood. At certain times during the Neolithic, the Avebury landscape was quite literally in motion.

How might we make sense of this stony diaspora? Working within the framework of assemblage theory, Jones has argued that we need to approach monuments not as spaces within which performances were played out, but instead as dynamic 'articulations of material performances' (2012, 170). In such a schema, a site such as Avebury gains its meaning from a sequence of repeated, improvisatory performances (or iterative citations) – stone relocations. Viewed through this lens (DeLanda 2006; Lucas 2012; Harris 2014) we can identify the extraction and relocation of sarsens as marking a radical moment of de-territorialisation, each individual stone journey a line of flight or becoming, contingently unfolding and working its way across the landscape (Bonta & Protevi 2004,

106-7; Fowler 2013, 25-6), before the raising of the stone served to bring together a very different assemblage. Monuments emerge from this that are themselves assemblages of such assemblages, as a series of potent places-in-the-landscape are tuned-in to new material surroundings and thus transformed. What is interesting to note is the way in which the practices taking place at the site of stone extraction were an active part of the territorialisation of the raised megalith; the two spatially separated but for a time at least dynamically entangled (in an almost quantum sense); the entanglement effected through the paths of transformation that joined them[3]. In this sense each of Avebury's monuments might be better thought of as an emergence or 'haecceity', formed out of what Fowler has termed an 'on-going web of becoming' (2013, 26)[4].

As McFadyen has noted, we need to begin to think about structures such as the Avebury henge, its avenues, the Sanctuary and earlier megalithic long mounds not simply as monuments in a landscape but as what she terms 'elements of landscape engagement' (2008, 313). If we begin to approach them as assemblages (or creative deployments) of potent materials themselves intertwined with other locales, times and practices we can begin to envisage a much more active and engaged process of making that did not simply begin with the digging out of a sarsen and end with its erection in a monument. Such a perspective may also enable us to start to make sense of other facets of the Avebury landscape that recent fieldwork and analysis is bringing to light – from monuments that deliberately blur the categories of artificial and natural (e.g. the Falkner's Circle), the creation of deliberately anachronistic structures that were quickly eradicated (e.g. Longstones enclosure: Gillings *et al*. 2008), sequences of building that drew in disparate materials in emergent configurations (Silbury Hill: Leary *et al*. 2013), to the deliberate digging of ditches in a fashion that ensured they aged 'prematurely' (e.g. Avebury: Ashbee 2004).

The observations and arguments presented in this paper can be read as offering a productive new agenda for the study of megalithic monuments that replaces a traditional ontological commitment to construction, fixity and enduring stability, with one dedicated more to flux, contingency and emergence. Many concrete challenges still remain, not least in linking extraction hollows to specific megaliths, and so establishing the connections between source and monument that were, for a brief while, so evident. That may prove extremely difficult. But other things can more easily be done, starting with the identification of the range of locations from which megalithic sarsens were drawn, and defining the intensity and chronology of stone extraction at these locales. That extraction hollows likely contain deliberate deposits of cultural material makes this task possible. We should be able to ascertain whether there were preferred source sites, and whether the choice of these was governed simply by the availability of suitable stone or by their being locations of topographical or pre-existing significance. It should also prove possible to determine whether the removal of sarsens also affected the qualities of these locations, affording or removing sanctity, for example. More work is also needed to fully develop the notion of monument- (or indeed landscape-) as-assemblage[5]. For example, whilst Jones is at pains to stress that the notion of monument-as-performance is continuous, albeit punctuated in terms of its intensity, there is still an underlying concern here with origination and the performances bound up in construction (Jones 2012, 168-9); the same could also be said of the important work of Richards (e.g. 2013). This may well be a consequence of the emphasis being placed upon notions of 'emergence' within such formulations which risk focusing exclusively upon what DeLanda has termed the 'processes of production' and 'historical birth of a particular assemblage' (DeLanda 2006, 38). We would argue that practices of maintenance and on-going territorialisation are equally critical, what we might term 'processes of maintenance and tending'. Further, whilst 'material performances' offer a stimulating way of actively rethinking the relationship between practice and monument, there is also a strong sense that Jones's performances are strictly *with* materials rather than for them. Take for example his definition, building upon the work of Carlson, that a performance is always 'for some*one*, some audience that recognizes and validates it' (Jones 2012, 144 emphasis added)[6]. Despite these challenges, what is clear is that

megaliths were never inert or stable matter and we need to embrace this in our interpretative accounts from the very start if we are to recognize, and understand, the very different types of monument that might have emerged in prehistory as a result.

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Endnotes

1. At this point the accusation could be raised that we are guilty of undermining ontological reality, at the scale of monument, through a variation of what Harman might term a 'play of difference' strategy (2011: 10). There are two responses to this. First, we would raise the question as to whether it is necessary or wise to view monuments such as Avebury as objects in the first place (that can be under and/or overmined). Second, we would argue that in cases such as this vigorous undermining can be treated as an essential precursor to any creative rethinking. In the case of Avebury (usually filed under 'henge', 'mega-henge' or 'henge-enclosure') pulling the ontological rug from under the structure-as-a-whole might be precisely the tactic needed in order to unsettle orthodox interpretations and thus create the space for questions such as 'what then is Avebury?' and 'what if Avebury isn't greater than the sum of its individual parts?' to be framed and explored. In this sense we are guilty as charged, but feel no shame as we see the tactic as a deliberate and positive one.

2. There have been suggestions the chalk surface here is part of a late Neolithic house floor (Mike Parker Pearson and Alasdair Whittle pers. comm.), but its large dimensions and position over the hollow would seem to rule this out.

3. This in turn raises the raises the possibility of approaching Avebury through the lens of topological as well as Euclidean space; the landscape an ever-changing ration of smooth and striated spaces (Delueze &Guattari 1992, 474-500; Bonta &Protevi 2004, 143-46, 151-5). We are indebted to an anonymous reviewer for this observation.

4. We have taken our definition of haecceity from Deleuze and Guattari as filtered through Fowler (2013) and Bonta and Protevi (2004). We use the term to refer to an individuality, or 'thisness' (Bonta and Protevi prefer 'environmental assemblage') consisting entirely of relations of movement and rest between particles – in this case sarsens. Following this logic, the site can be argued to have gained a particular kind of thisness at the point at which the first sarsen was hauled up and began its journey across the downland; an individuality that was territorialised in large part through the practice of moving stones (and tending the paths that movement created and holes it left in its wake) and persisted until that process halted.

5. Ironically, it may very well be that the 'Avebury' familiar from textbooks and site visits only becomes a coherent and recognisable assemblage within academic discourse; its moments of emergence (whether in 1640, 1723, 1938) bound up with a complex stew of territorialising and deterritorializing forces that enfold documentation, excavation, the salons and coffee houses of London, the Stuart Dynasty, non-conformity, landscape gardening, physic, natural philosophy, Ruskin's anti-scrape movement, modernism witchcraft; aerial photography and early motoring.

These are ideas we have begun to explore in other writings (e.g. Gillings & Pollard 2015) and are at the heart of our on-going research at the site.

6. Our intention here is not to critique the important work carried out by Richards and Jones, but instead to sketch out some of the ways in which the arguments we are developing differ from these seminal studies.

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Early Neolithic (c.3700-3000BC)		
West Kennet long barrow	42+	
Millbarrow	22+	
Other chambered tombs	c.100	A rough estimate based on 11 other confirmed or possible long barrows with chambers. Does not include peristalith elements.
South Street pre-mound setting	5+	
Late Neolithic (c.3000-2400BC)		
Avebury henge	Outer Circle 98 S. Inner Circle 30 N. Inner Circle 34 Misc. 3 'Z' feature 12 much smaller stones	Need to be regarded as minimum numbers
West Kennet Avenue	c.170	Revised down from Smith's 190+ (1965, 206-8) to take into account apparent change in format and gap in mid section
Beckhampton Avenue and Cove	c.100	
Sanctuary	61	
Falkner's Circle	12	
West Kennet long barrow blocking	6	
Total	**695+**	

Table 1. Estimated numbers of stones within the region's megalithic monuments. This counts megaliths only, that is blocks over c.1.5m in length. There is obviously considerable variation in size, running from stones in the order of 1 tonne, up to c.100 tonnes for stone II of the Avebury Cove (Gillings *et al*. 2008). Not included are stone-capped Beaker burials (Pollard & Reynolds 2002, 128-30) or the possible peristalith around the primary mound of Silbury Hill (Leary et al. 2013, 208-11).

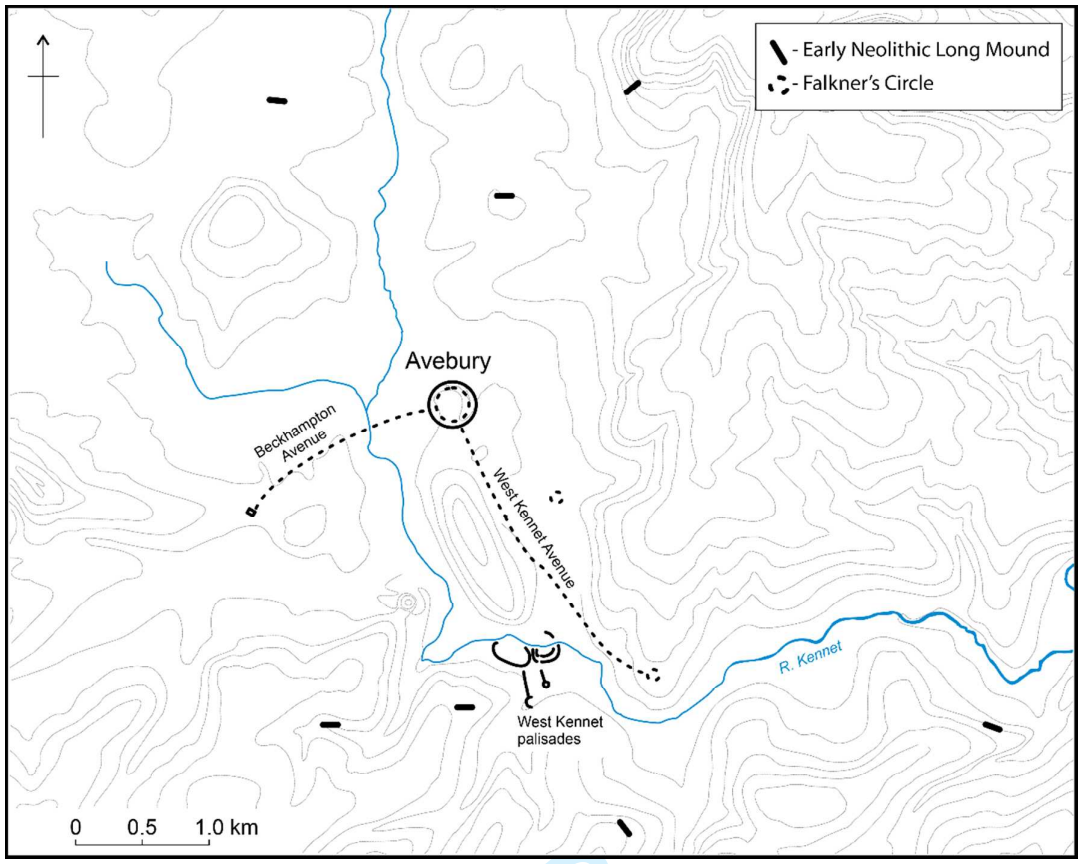

Figure 1. The Avebury landscape, showing key monuments and locations mentioned in the text.

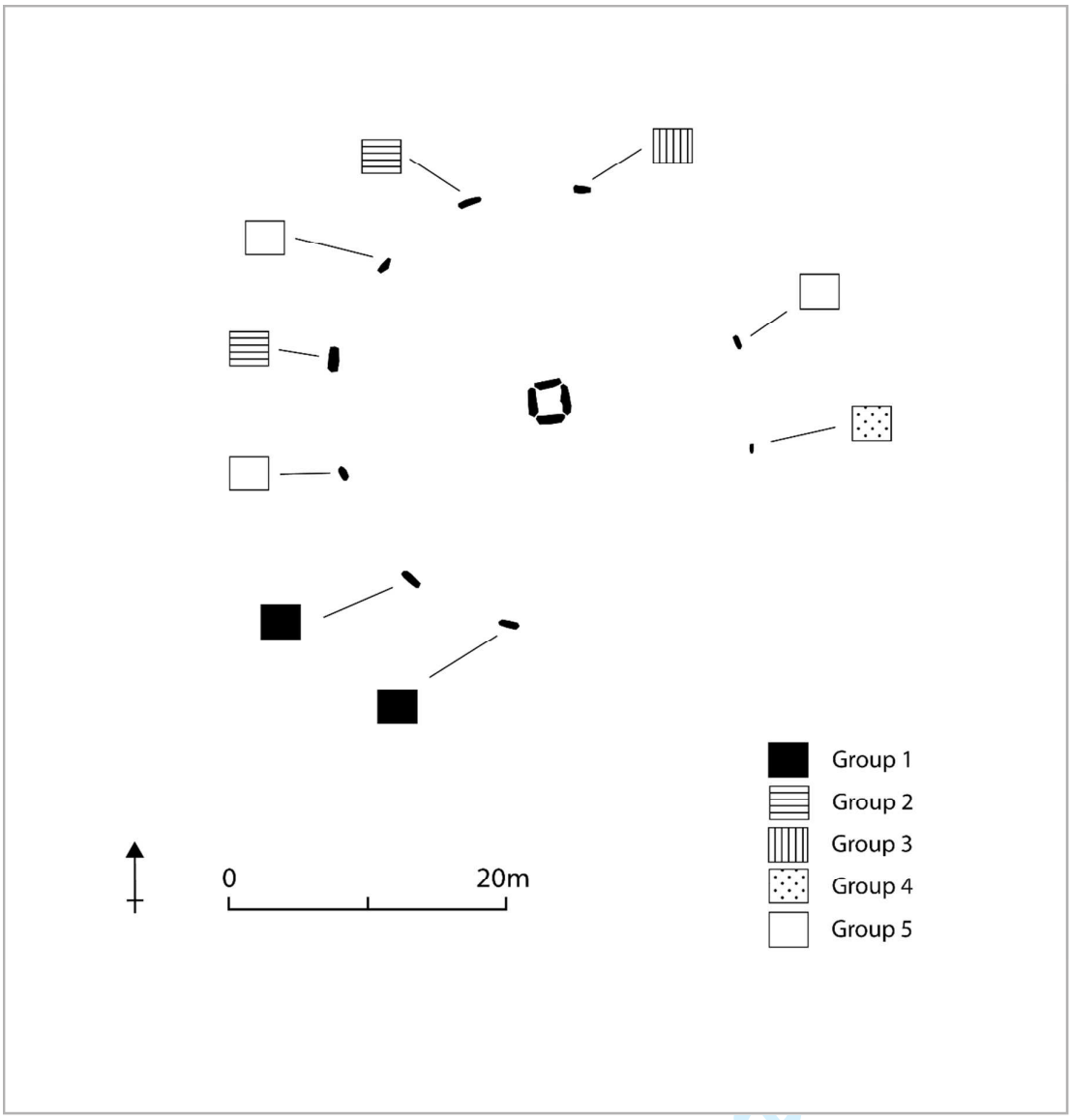

Figure 2. Richards' record of the varied lithologies present at the Stones of Stenness, Orkney (after Richards 2013, fig. 3.23).

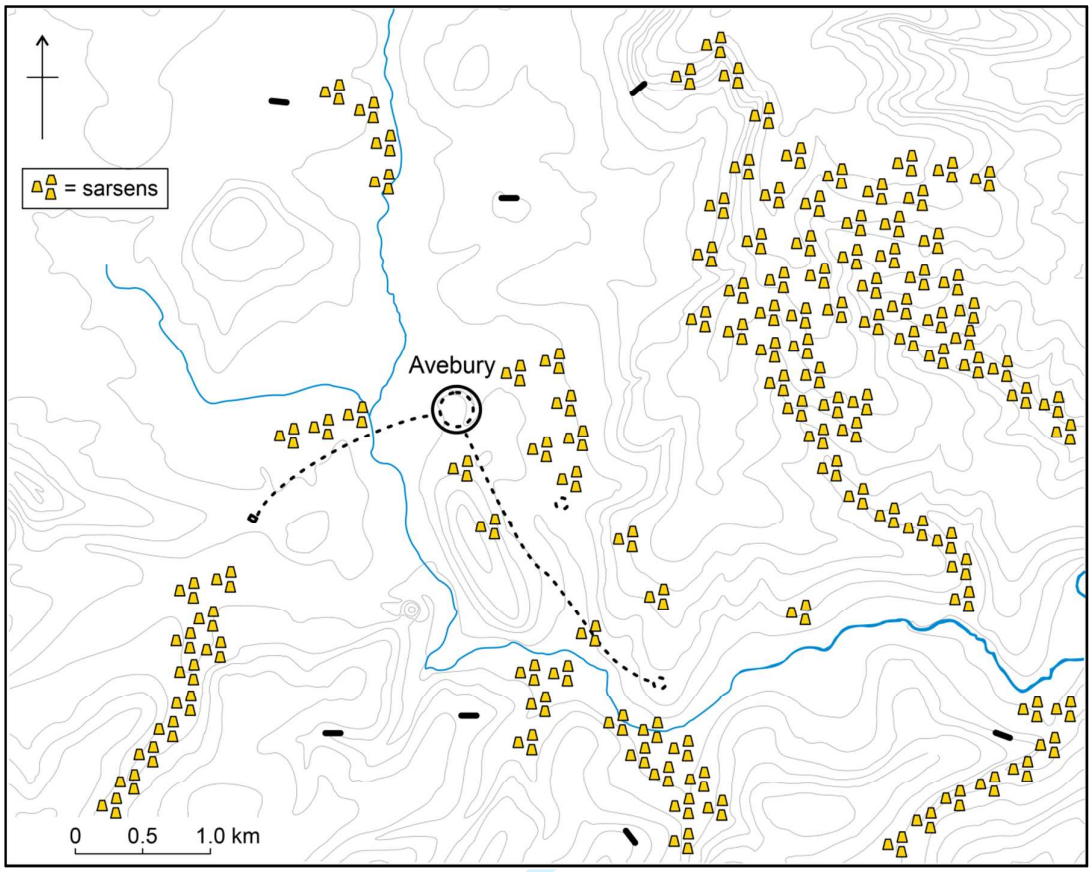

Figure 3. Reconstruction of the distribution of large sarsen in and around Avebury using archaeological and historical sources (e.g. Smith 1885, Bowen & Smith 1977, Stukeley manuscripts, personal and local observation). Note that even this is likely to represent a fragmented picture of the extent of original distributions.

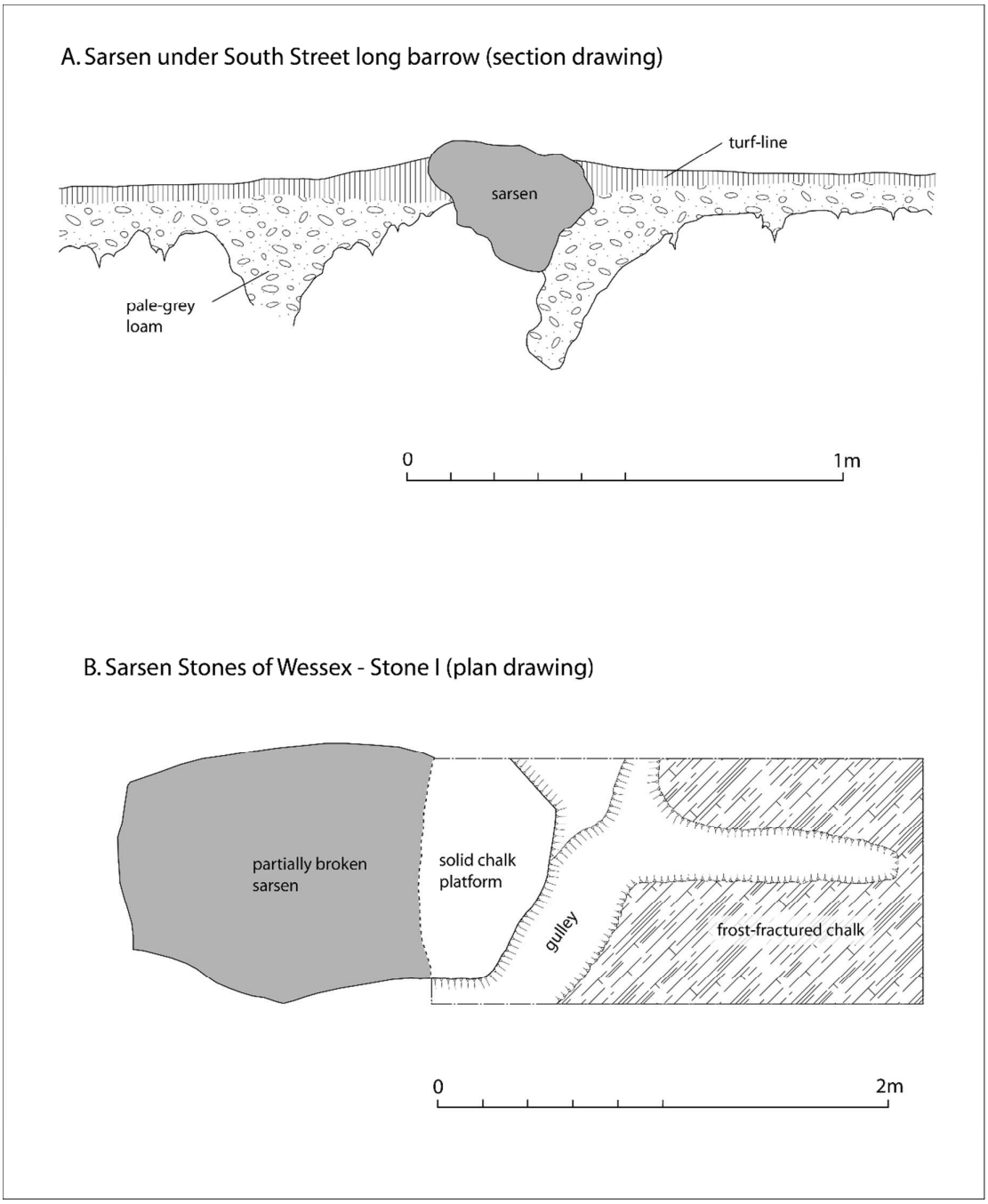

Figure 4. Evidence for protected chalk platforms beneath sarsens and solution features at their perimeters (A. Sarsen Stones of Wessex, after Bowen & Smith 1977, fig 4), fig 29; B. South Street, after Ashbee et al. 1979.

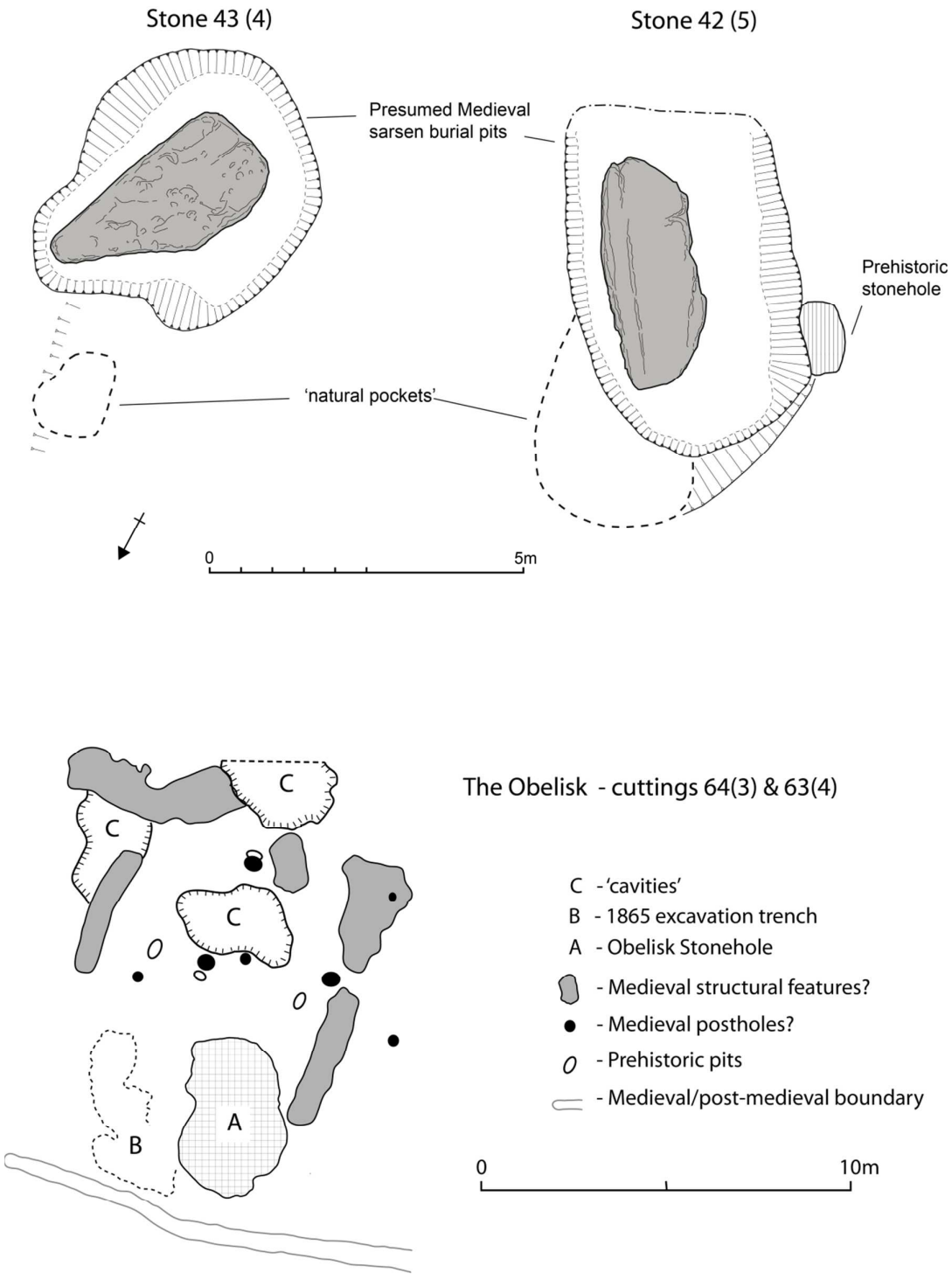

Figure 5. The possible stone extraction hollows encountered by Keiller at Avebury (redrawn from unpublished archive records with the kind permission of the Alexander Keiller Museum, Avebury).

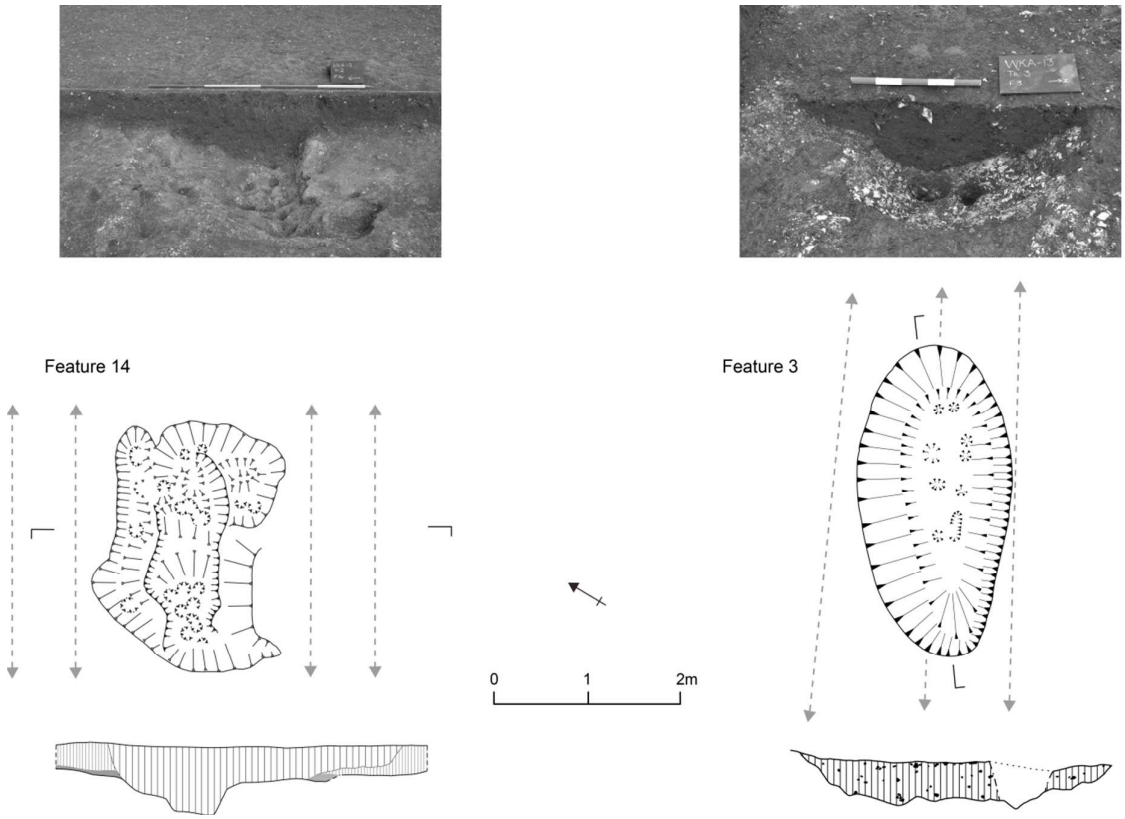

Figure 6. Stone extraction features (F.3 & F.14) on the line of the West Kennet Avenue. The dashed lines indicate the orientation of the peri-glacial striping.

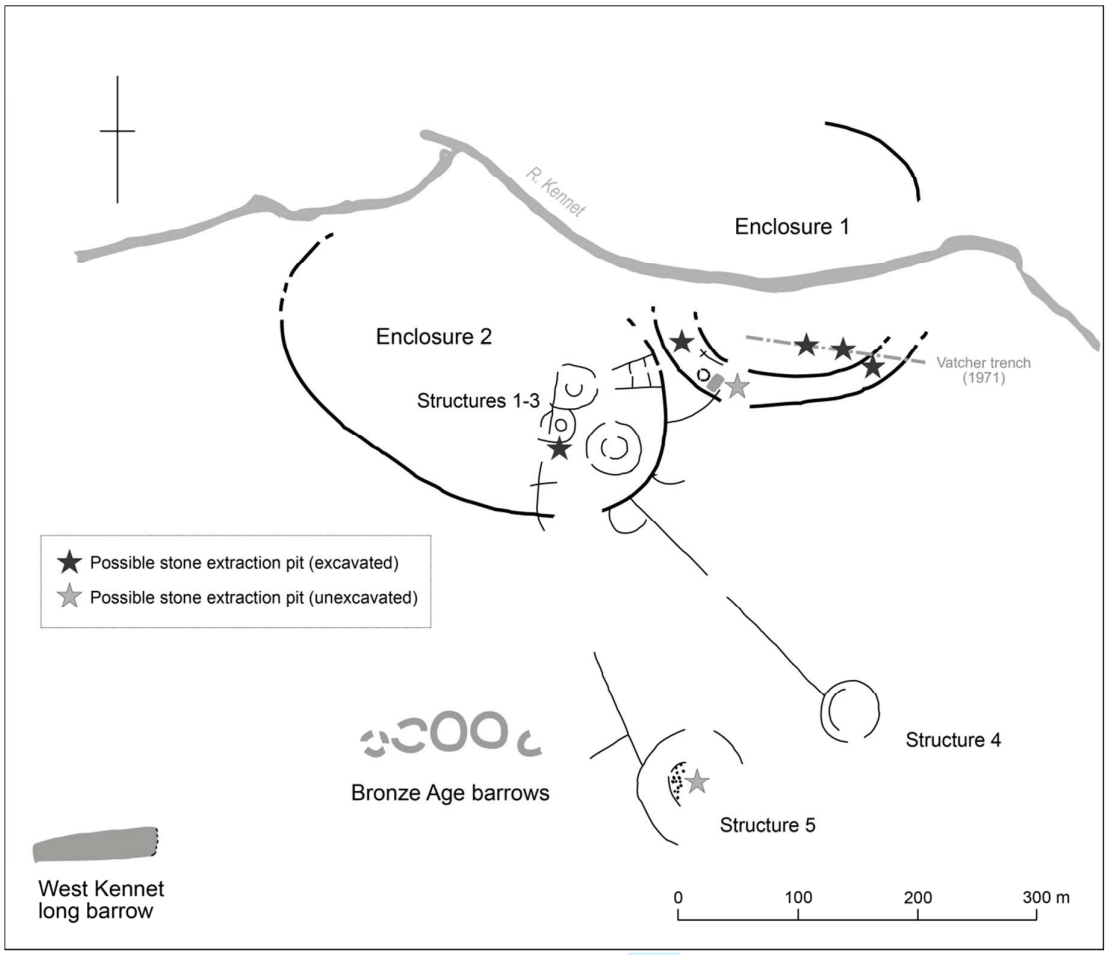

Figure 7. The West Kennet Palisade enclosures showing locations of possible stone extraction features (after Whittle 1997, Barber 2003 and archive sources).

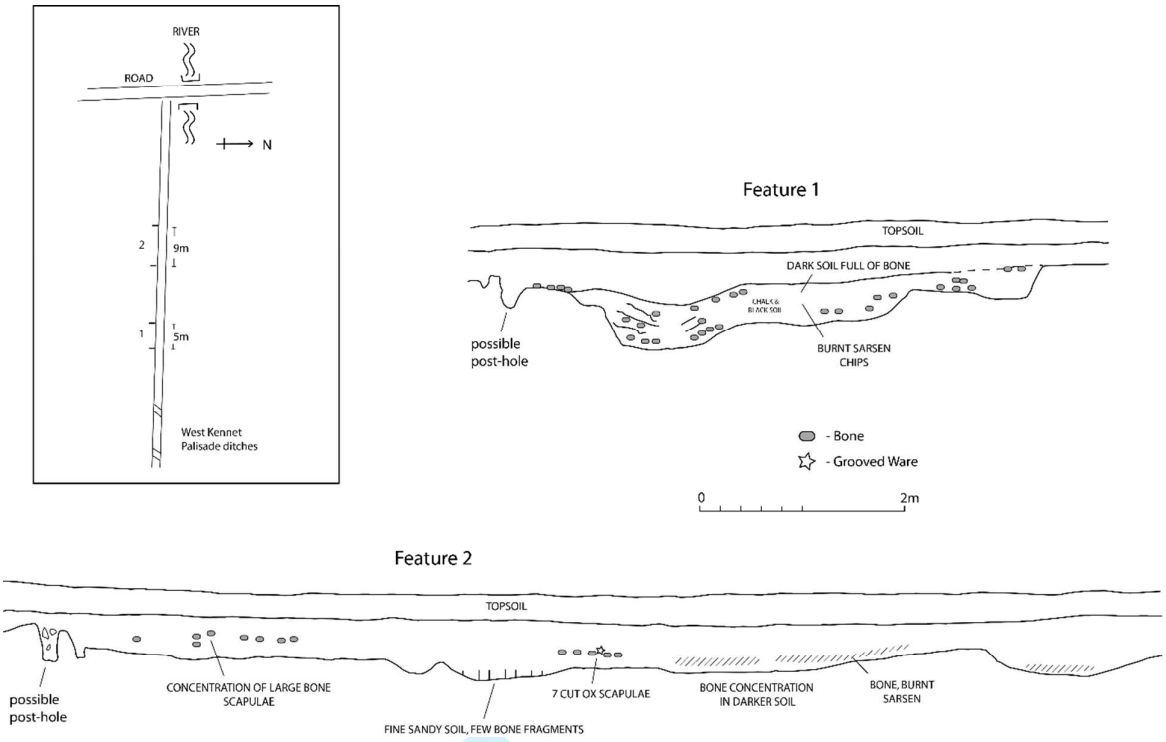

Figure 8. Possible stone extraction hollows at the West Kennet Palisade enclosures recorded by the Vatchers in 1971 during the digging of a pipe trench (redrawn from unpublished archive records with the kind permission of the Alexander Keiller Museum, Avebury).

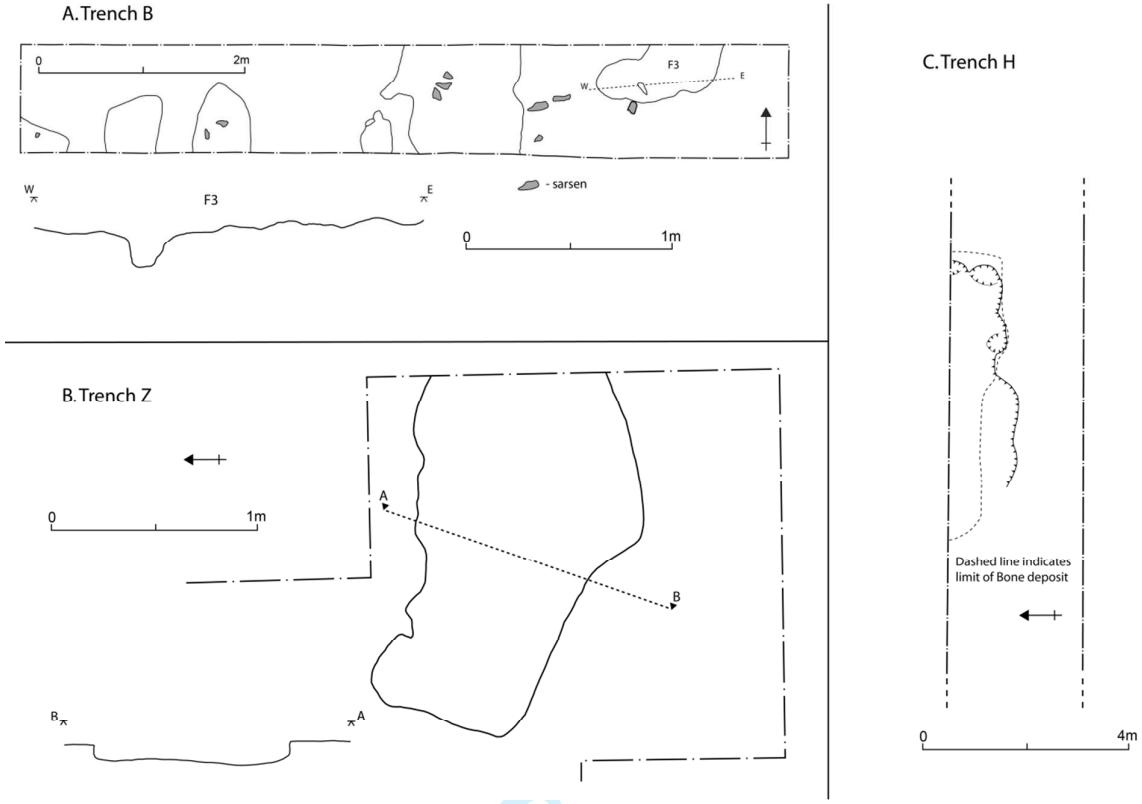

Figure 9. Possible stone extraction hollows at the West Kennet Palisade enclosures (after Whittle 1997 and archive sources).

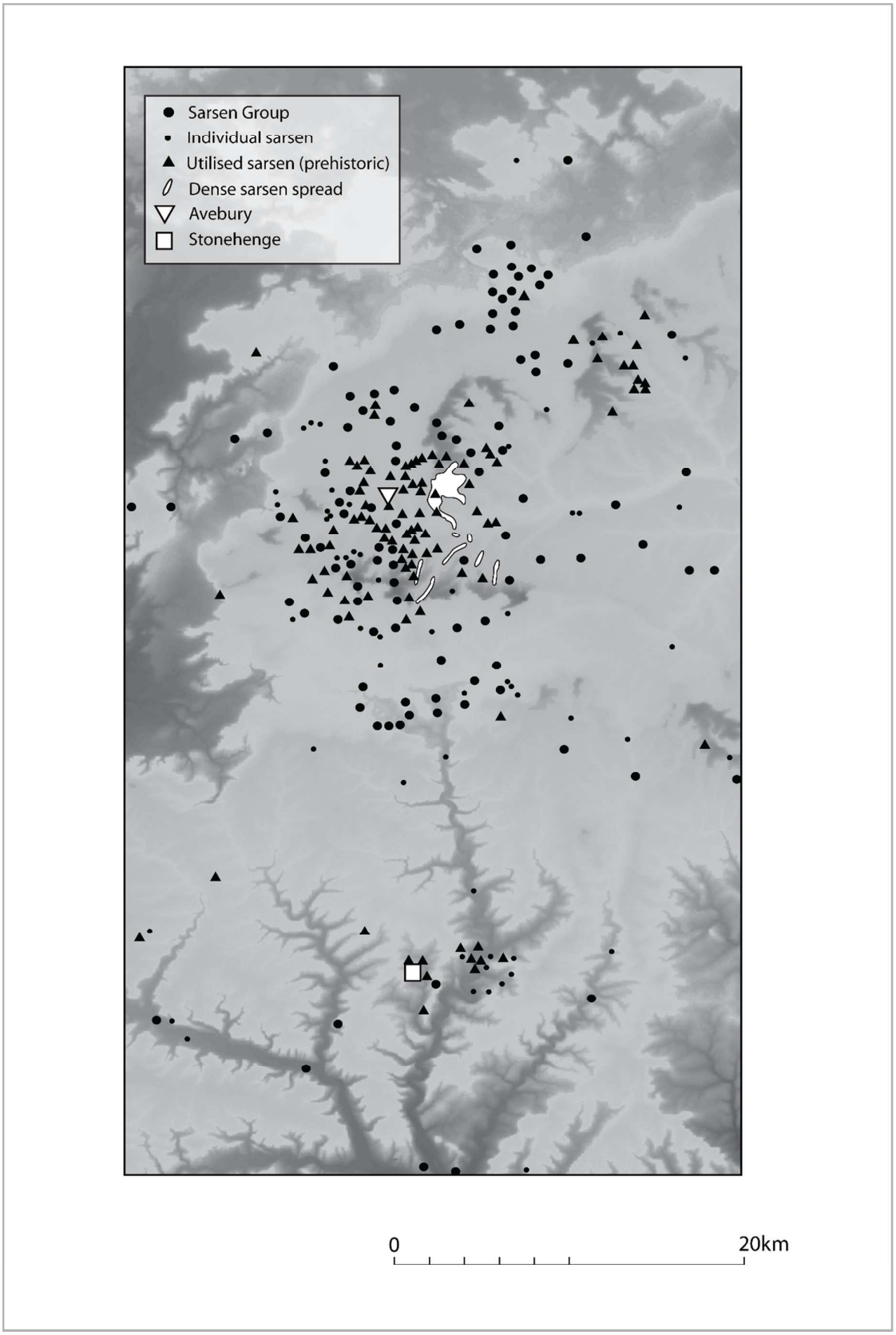

Figure 10. Avebury and Stonehenge: the sarsen connection (after Bowen & Smith 1977, fig 3).

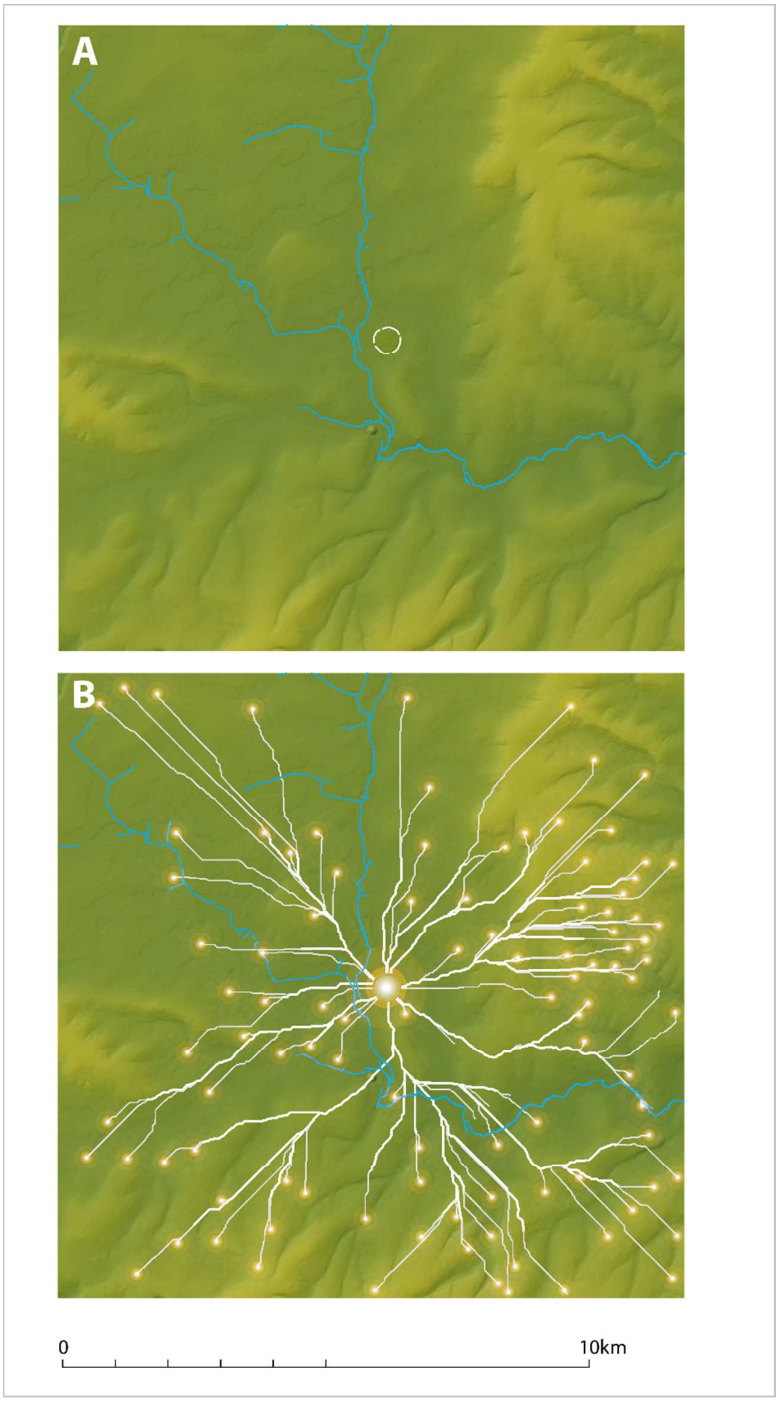

Figure 11. A landscape of stony transformation and flux. This is an imaginative and deliberately playful reconstruction that contrasts a traditional representation of Avebury (A) with a more entangled and vibrant one (B). The pathways depicted were generated from the locations of unmodified sarsens recorded by the Sarsens of Wessex project (see Figure 10) using maximum-cost energetic pathways that deliberately try to keep out-of-sight of other sarsens.