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Cornelius Holtorf presents an alternative view of the 'wholeness' of megalithic monuments, and in doing so contemplates the nature of prehistoric landscapes, monument re-use and archaeological reconstructions.

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Transported landscapes

Megaliths consist either of stone fragments or of complete stones that may be considered fragments of the earth. The task of the builders of a megalithic monument is to find the right stone material, work it to the right size (if necessary), transport it to the chosen location, and construct the megalith according to a desired design. I suggest that it was important for building a megalith that it consisted of several parts or fragments. These fragments could differ not only in substance, size and shape but also in place of origin. They were "pieces of places", as Richard Bradley (2000: 88) called it. None of this may have been visible to the visitor of a completed monument, as an earthen mound would have covered most, if not all, of the stones. Nevertheless, the particular properties of the invisible stones mattered.

At Vale de Rodrigo, in southern Portugal, geological analyses were carried out at the stones used in four megalithic graves (Dehn et al. 1991; Kalb 1996). The result was surprising (Fig. 1). The stones had been brought to the site from different locations of up to 10km distance. Geological research established that this choice was probably predominantly motivated by functional and practical reasons. The different kinds of rock have different appearances and/or

physical characteristics, so that one or the other may have influenced their uses. Fragments of different rocks were chosen in correspondence with a previously conceived design of the finished monument. But there is more to it than that. The locations of the sites of origin of the different materials represent main celestial directions from the megalith. This makes it likely that the monuments also represented certain symbolic values associated with the landscape and certain cosmologies. In short, the design of these megaliths included not only the use of different rock fragments as such, but also their previous fragmentation from natural rock formations at locations of presumably special cultural significance. Similar relationships between megaliths and their surrounding landscapes have been observed elsewhere (see especially Bradley 2000). In Brú na Bóinne on Ireland, the stone material used in the major passage tombs of Newgrange and Knowth comes from several sources, two of which are approximately 40 km south and 35 km North East from the tombs (Cooney 2000: 135-8). In these cases, megaliths became "a transported landscape in which structural elements were extracted, carried and re-assembled to link together physically places that had been distant" (Cooney 2000: 136). In effect, this may have constituted a physical expression of certain people's

IT IS CURIOUS THAT, EVEN THOUGH MEGALITHIC sites usually consist of several stones, archaeologists tend to study each of them as single units. In this paper, I argue that it makes much more sense to consider megaliths as assemblages of distinct fragments (16). It is almost three decades ago that the 'megalithic culture' was effectively de-constructed and split up into its constituent local parts (Renfrew 1973). Now it is time to de-construct the megaliths themselves (see also Gillings and Pollard 1999) (17).

knowledge and power celebrated in ceremonies at these tombs. A similar intention may underlie the use of Preseli blue-stones at Stonehenge, where the histories of the stones themselves may have been evoking narratives that were crucial to the identity of the builders (Bradley 2000: 92-6). Mark Gillings and Joshua Pollard recently contemplated that the stones of Avebury may originally have been prominent landmarks and seen as animate, living entities. They suggested that "Avebury is not a *structure* for the ancestors but represents a carefully choreographed *gathering of them*" (1999: 184; original emphasis).

In the Falbygden area in central Sweden, megaliths were not only constructed from a wide range of different stone materials but they were also located at places with the best vistas towards dominant mountains, even mimicking the surrounding landscape: by orientation, in relation to topographical axes and edges; and by selecting igneous rock for stones lying above others of sedimentary rock, in relation to the same visible order towards the horizon (Tilley 1996: 124-5, 209). For Christopher Tilley, therefore, megaliths represent "the landscape in miniature" (1996: 209) (18). Similar arguments have been made in relation to Scotland. On the island of Arran, the building material used in its chambered tombs is mostly very local, but in each case care was taken that both red and white

Breaking up (with) the past

When fragments of megaliths in the size of individual stones were considered too large for new uses, they were subjected to further fragmentation. There were various techniques for breaking up megaliths. The most basic method was based on the fact that stones burst with the application of fire. An alternative method, of which traces can sometimes still be found on large erratics, included the use of wedges. Wooden wedges and wet moss were put into 10 cm-deep notches that had been pecked in before. Sometimes, hot water was additionally poured over the moss. The water caused the expansion of the wood, making the stone burst overnight. During other periods, long

grooves were chiselled into the stones, into which wedge-shaped metal plates were fitted. Iron wedges could then be used to drive these plates into the stone and split it according to the structure of the rock. Most recently, stones have been broken up using gunpowder which was poured into 30-50cm deep bore-holes. Traces of all these breaking-up procedures and evidence for missing stones can still be observed today at many megaliths (Fig. 2). The broken stone material was used for new purposes. They include stone cobbles for road-building and construction material for all sorts of buildings.

Places of fragmentation

Many, although not all, megalithic tombs contain assemblages of human fragments. In these cases, the mortuary rituals seem to have involved several stages of rotting bodies and the transport of bones from place to place (Whittle 1996: 239-66). Only at the very end would the remaining bone fragments be moved to their final resting place and join other bones that had been brought there at other times and possibly from other places. As with the Gorsedd Circles and the megaliths themselves, the collective burials they often contain tend to draw meaning from the individual life-histories of their parts. Perhaps these megaliths were seen as places of fragmentation as such - nothing complete would be allowed in, or out. There is evidence that many pots had already been broken before their deposition (Whittle 1996: 255-6; cf. Holten n.d.). Later, the excavators have been revealing and recovering numerous fragmented rocks, bones, and pots, resulting in fragmentary understandings.

Figure 2: A megalith at Rabuje near Monforte, Alentejo, Portugal. Some of the side-stones have been broken up at ground level and obviously found a use elsewhere. (Photograph: Cornelius Holtorf, 2001)



stones were used, representing the colours of the two types of stones (white granites and schists, red sandstone) that make up the entire island (Jones 1999). In relation to Neolithic Orkney, Colin Richards argued (1996) that the landscape and topography of the natural world of the island is re-created in tombs and henge monuments, and Gillings and Pollard have made a similar claim for the henge at Avebury (1999: 185).

Symbolic values of rocks associated with different places are also documented for another form of megaliths - the so-called

Gorsedd Circles in Wales. These are stone circles which, since the early 19th century, were built for the annual ceremonies of *The Gorsedd of Bards of the Isle of Britain* which formed part of the annual Eisteddfod, the National Arts and Music Festival of Wales (see Holtorf 2000-3: 7.1). One account of the Eisteddfod held in 1914 in Aberystwyth states that the stones in and outside of the circle represented the Welsh counties, as well as the Welsh Abroad and in England (Allcroft 1923: 121). Although the stones used in Gorsedd Circles were normally

chosen from the mountains or in quarries according to size but otherwise at random, their specific place of origin too could acquire significance. On one occasion, in 1986 in Fishguard, selected parishes were each asked to contribute one stone each to the circle (Dillwyn Miles, pers. comm). Selecting and transporting the stones to the site of the Gorsedd Circle and the Eisteddfod became therefore firmly linked with the symbolic, national significance of the performances and ceremonies of the The Gorsedd of Bards.

Fragment added by Andrew Jones in order to complete the argument

What of the fragmentation process in relation to morality (cf. Bauman 1995)? You allude to this at the end of your paper. If we rid ourselves of the solidity/certainty of modernist evaluations of wholeness/togetherness equalling a moral/ethical path, how are we to re-conceptualise morality in a fragmented world? This is important in relation to the morality associated with the preservation of wholeness. If we fragment materials, do we also fragment moral values? How are we to arbitrate the morality of completeness/ wholeness if the whole is broken and circulated far and wide? Who then owns megalithic monuments – how do they relate to nation states? Is it important that big stones are held in place or can they be circulated? What does this mean for the alteration of previously held values?

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Over the years, many people have been very helpful in showing me megaliths with interesting histories, pointing me to the relevant literature and generally sharing their thoughts with me. I would like to thank them all, but especially those that informed my understanding of the sites mentioned here: Serge Cassen, Martin Höck, Lars Holten, Dillwyn Miles and Philine Kalb. This paper originated in a session on Fragmentation, organised by John Chapman for the Fifth Annual Meeting of the *European Association of Archaeologists (EAA)* in Bournemouth, 1999. For critical comments, I am grateful to John Chapman, Gabriel Cooney as well as Andrew Jones, who also agreed to have some of his thoughts added in a final fragment of this paper.

A drive-through megalith
 Near Gafanhoeir in the Alentejo region of southern Portugal, the stones of what appears to be the greater part of an entire passage grave found a new use forming the entrance gate to a farm (Fig. 4). This demonstrates nicely the flexibility of a megalith when we perceive it as the sum of its many stone elements rather than as a single structure. The prehistoric tomb has effectively been transformed into a drive-through megalith. But this example also raises the question of how we should refer to a site like this. It is certainly not a tomb any longer but is it still a megalith and an archaeological site? The site also begs the question whether we, as archaeologists, should condemn such creative re-uses of megaliths in the present, even though we might get excited about equivalent re-uses several millennia earlier. Are we supposed to preserve every Neolithic megalith as one single, unchangeable structure when it may, in fact, be nothing more than a temporary assemblage of different fragments anyway?

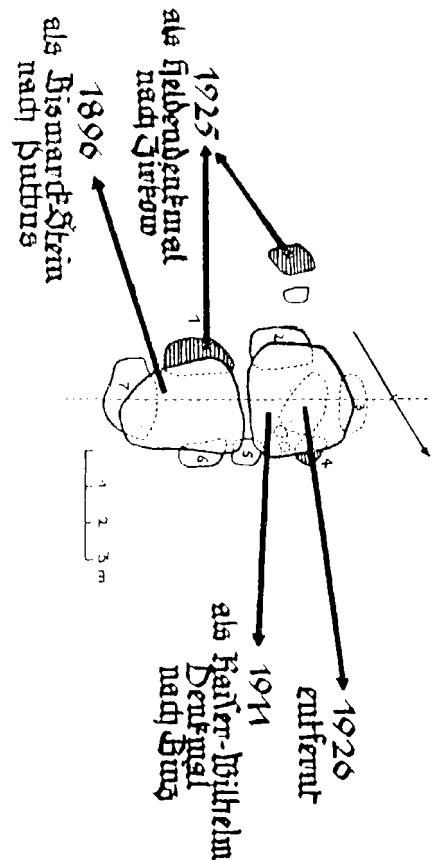


Figure 3: Stone re-use in Forst Prora (Hagen-Granitz) on Rügen, Germany. (Source: Hansen 1933: Fig. 14).

Wars against memory
In early historic, historic and modern times, megaliths have been fragmented in numerous cases, mostly to do with removing or re-using the stone material they contained (see also Holtorf 1999). Some megaliths were completely destroyed after every individual stone had simply been taken away. There is evidence from Nobbin in north-east Germany that the process of gradual fragmentation of a megalith started already in the pre-Roman Iron Age, when the cap-stone of the burial chamber appears to have been missing already (Schuldt 1972a). In Medieval and early modern central Europe, cup-marked and other stones that could have come from fragmented megaliths were incorporated into prominent locations in church buildings or churchyard enclosures (Holtorf 2000-3: 7.3).

In the late 19th and early 20th centuries, stones were in great demand for the erection of war and other kinds of memorials in Germany and, as a result, many more megalithic monuments were fragmented (Holtorf 2000-3: 5.2.3). Ironically, one part of the past was to be remembered by subjecting another to oblivion. There is a considerable number of war memorials in which capstones of megalithic tombs have found new uses. This is especially obvious when war memorials feature cup marks. As a consequence, several war memorials are now protected as prehistoric monuments, e.g. in Hamberge (Holtorf 2000-3: 8.3). Hansen drew attention to a single megalithic tomb in Hagen-Granitz on Rügen, the stones of which were reused in four different memorials (Fig. 3). Interestingly, this did not happen in a single event but over a time period of some 30 years!

All this could be explained by the fact that large stones used in megaliths simply provided convenient building material for other purposes. But it may appear even more likely that (at least some of) these fragments, whether decorated or not, were deliberately integrated into later monuments because they had been used before and were associated with older sites.

(18) A similar argument, regarding amphibolite tools in Copper Age Portugal, has recently been advanced by Katina Lillios (1999). She interpreted their symbolic meanings in reference to the origin of the amphibolite raw material at outcrops near megalithic tombs, i.e. the 'land of the dead'. According to Lillios, the acts of procuring, using, and reusing amphibolite tools put the user in contact with his or her ancestral origins, which is why these tools were ideally suited as mnemonic heirlooms. They too may be considered 'landscapes in miniature'.

(16) My own argument is constructed as an assemblage of distinct fragments (partly inspired by <http://virtual.park.uga.edu/~hypertxt/>, Strohmayer 1997 and Thorpe 1998).
 (17) As Andy Jones rightly observed after reading the penultimate version of this paper: in my attempt at deconstructing megaliths as single units I am treating all my examples (and by implication all megaliths) as a *unitary* phenomenon. It is indeed rather ironic that one of the few things that megaliths of most if not all places and periods appear to share, is their continuous cycle of fragmentation and (re-)assemblage, although the precise circumstances, motivations and implications may be different from case to case (as my examples will demonstrate).

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Figure 4: Entrance gate to a farm opposite Herdada Peral de Cima, near Gafanhoeir, Alentejo, Portugal. (Photograph: Cornelius Holtorf, 2000).



Frankenstein-like reconstructions

Despite current world-wide trends of increasing fragmentation, megaliths have increasingly been re-assembled from several of their own fragments and/or additional rock fragments. For John Moreland, this amounts to bringing (dead) monuments “back to life, in a Frankenstein-like fashion” (1999: 209). In the perspective suggested in this paper, these new structures are not simply resurrections of older ones, or stone zombies. Instead they are – again! – stone fragments of different origin assembled for particular purposes. These purposes include educational, economic and psychological considerations. Moreland is right in stating (1999: 209) that “[t]he fragments were brought together, reinterpreted and re-assembled to create monuments which, although bearing little resemblance to the original, nevertheless took on a life of their own and began their biographies anew.”

The Gollenstein menhir in Blieskastel, for example, was assembled from its fragments as a symbol for the re-emerging town after the war (Holtorf 1994). Elsewhere, reconstructed megaliths such as the example at Lejre in Denmark (Ebbesen 1993: 48–51) serve both to attract paying visitors and as means to illus-

trate prehistoric realities. Illustrations on paper often re-assemble fragments too. Hansen’s depiction of the megalith of Hagen-Granitz is one such example (Fig. 3); Ewald Schuldt’s reconstruction drawing of the architecture of a passage grave at Jamel near Wismar is another. Here, the number of stones shown in the drawing is twice the number of those actually present at the site (Fig. 5).

Such re-assemblages of our day perpetuate the same circular process begun by the first megalith builders, who had assembled the first megaliths, and continued by later generations of people who fragmented these megaliths and reused their fragments for new purposes. The cycle of assembling fragments and fragmenting assemblages seems capable of going on for many centuries and millennia to come (Fig. 6). Only by fragmenting megaliths one last time, returning each fragment to its own place of origin, and reuniting it there with the natural rock, would a tradition be broken that has been with us ever since the Neolithic. How better could we respond to repetitive fragmentation and re-assembly than by breaking the pattern?

FIGURE 1. TRANSPORTATION ROUTES AND DIRECTIONS OF THE DIFFERENT KINDS OF ROCK USED FOR CONSTRUCTION AT THE FOUR MEGALITHIC TOMBS OF VALE DE RODRIGO, ALENTEJO, PORTUGAL (SOURCE: KALB 1996: FIG. 1).

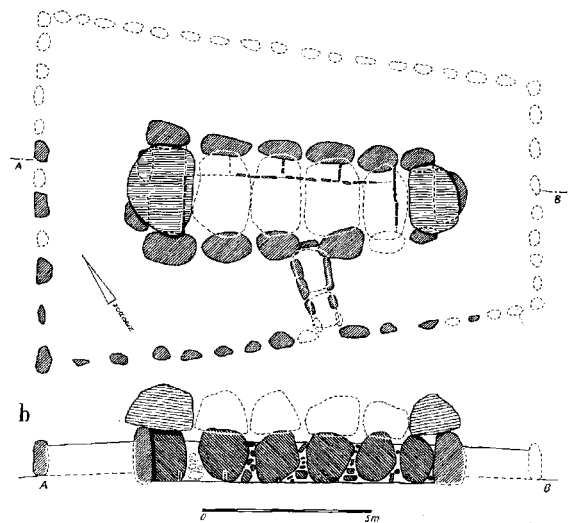
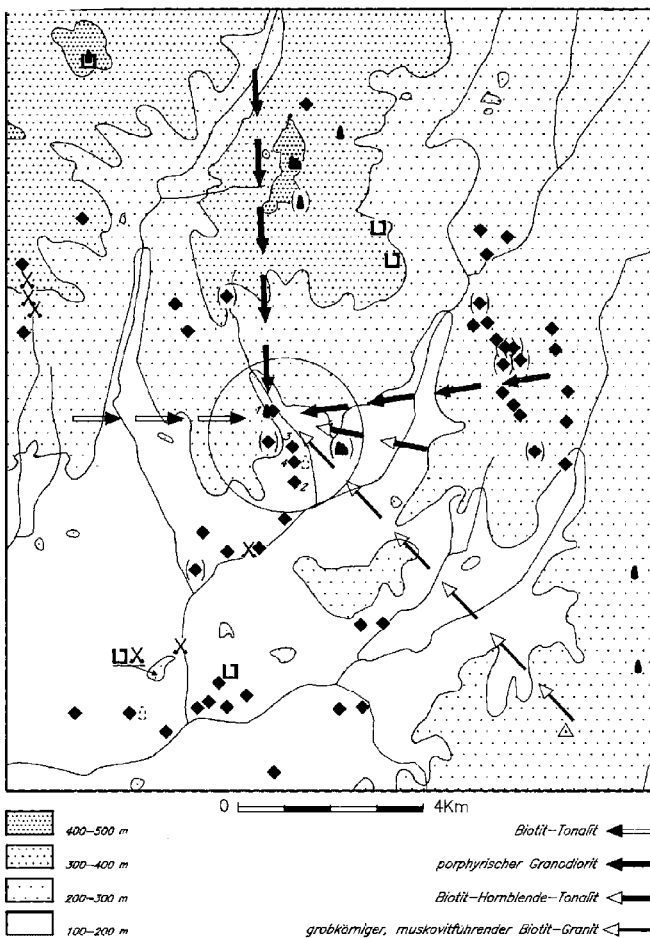


Figure 5: Reconstruction drawing of the passage grave at Jamel, Kreis Wismar, Mecklenburg-Vorpommern, Germany. (Source: Schuldt 1972b: Tafel 26).

Axing Menhirs

It is now well established that some megaliths at Locmariaquer in Brittany were in fact built from the fragments of older decorated menhirs (L'Helgouach 1983; Cassen n.d.). Capstones of three different megaliths even turned out to be fragments of one and the same huge menhir (Le Roux 1985). Mark Patton (1993) listed eight different menhirs that had probably been fragmented in the

Neolithic, and re-uses of some of these fragments in up to seven different megalithic tombs, all in Brittany (Patton 1993: 56-7). In recent excavations near the site of Le Grand Menhir Brise, on the Locmariaquer peninsula, Brittany, archaeologists have discovered a place where menhirs were taken to be broken up into smaller pieces. The small chippings produced by the pecking of the stones have been found in profusion (John Chapman, pers. comm.). Given this emphasis on fragmentation and breaking up monuments, it may come as no surprise that the axe is a prominent element of the decorations on the menhirs (Thomas & Tilley 1993: 233). For Sardinia, Emma Blake established at least seven cases where menhirs were re-used in megalithic tombs, and she found another three such re-uses in Bronze Age nuraghi, although in all these cases the menhirs had remained complete (Blake 1999: 44-6). On the British Isles too, older standing stones, perhaps an entire stone circle, were recycled in the passage grave of Maeshowe on Orkney (Richards 1996: 197). By the same token, various decorated stones of Neolithic monuments were used during the Bronze and Iron Age in secondary contexts (Burgess 1989-90).

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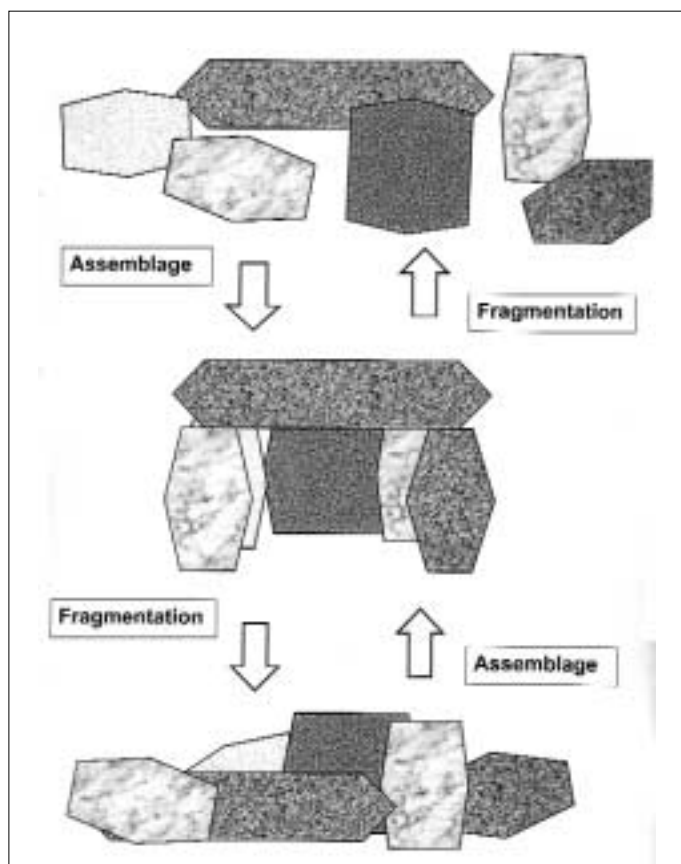
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Figure 6: Schematic overview of the cycle of continuous fragmentation and (re-)assemblage of megaliths.



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