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18 Engaging with stone: making the Neolithic in Ireland and Western Britain

Gabriel Cooney

18.1 Introduction

"There is no 'Neolithic culture' but a limitless multitude of Neolithic cultures" wrote Gordon Childe in *What Happened in History* (1942, 62) and recent discussions of Neolithic material culture in different parts of Europe and the Near East have emphasised this diversity. Indeed as Louwe Kooijmans (2000, 328-9) has commented there were at least six major culture spheres in the European Neolithic world. The concept embraces widely different societies with only a few things in common, such as agriculture and stone axe technology. At the same time however there has been recognition that it may be useful to think in terms of a number of 'focal material resources' (Boivin 2004a, 67) utilised by Neolithic societies. Such resources would have been critically important in establishing and sustaining the particular character of different Neolithic cultural spheres. As Boivin (2004a, 65, 69) points out the physical properties of materials influence the way in which they are used socially and symbolically. Focal resources facilitate people to do things in new ways and simultanously may constrain social action towards particular directions and thus contribute to different ways of engaging with and inhabiting the world.

The central theme of this paper is that in Ireland and western Britain, and more widely in the Atlantic cultural sphere of the European Neolithic, stone was such a focal material resource. If we think of the way in which the Neolithic was realised as a particular series of engagements between people and their material world (*e.g*. Renfrew 2007, 120-1), then the argument here is that stone was central to the process of that engagement in this particular geographical area and that it played a key role in what makes this expression of the Neolithic culturally distinctive. Discussion of the multiple, varied ways and scales in and at which stone was used offers us an opportunity to understand the material world of Neolithic societies.

18.2 Materialization and stone

It might be useful to say something firstly about the materiality of the Neolithic world. As DeMarrais *et al*. (1996, 16) put it materialization of culture can be seen as:

"The transformation of ideas, values, stories, myths and the like into a physical reality that can take the form of ceremonial events, symbolic objects, monuments and writing…speaking of materialisation we emphasise the ongoing process of creation and do not assume the primacy of ldeas. In fact, ideas and norms are encapsulted as much in their practice and in the conditions of daily life as in individuals' minds. To materialize culture is to participate in the active, ongoing process of creating and negotiating meaning."

In a later paper DeMarrais (2004, 20) commented that: "The materiality of the world of things and settings plays a key role in generating *habitus*, producing the embodied dispositions that allow spontaneity and creativity but also orient agency along the lines of a collective logic embedded in history and precedent."

The reason for dwelling on materialization is because it emphasises the active interplay between people and the material world. They act on it, change it and those changes in turn affect how they act in the future (Wolf 1999, 288-9).

In this engagement stone is important for a number of reasons. Firstly it survives very well and abundantly in the archaeological record, of which it forms the most durable component (*e.g*. Hurcombe 2007, 146). More critically the permanency of stone materials that facilitates the long survival of stone artifacts is also the reason why it has such a critical role in materialization. The enduring character of stone allows for the construction of meanings and symbolism that can have stability and a persisting relationship with the past, but also facilitates it being open to inscription with new meanings over time, as the past is re-read for the present (Bradley 2002; Earle 2004, 154). As the Scottish poet Hugh MacDiarmid (1994, 180) recognised in his poem *On a Raised Beach*: "There are plenty of ruined buildings in the world but no ruined stones."

Secondly I would argue that in approaching the use of stone in prehistoric societies we need to move away from our ingrained view of stone as neutral and inert but rather to see it as animate, alive, with potential power and sacredness (*e.g*. Taçon 1991; Boivin 2004b, 4). The permanence that it carried may have spoken of a persisting relationship with the ancestoral forces who guided life in the present (Helms 2004, 124). Stone embodies the enduring and the incorporal (*e.g*. Tilley 1996, 323). Stone objects could come to resemble

the ancestors in having histories that could be recounted, stretching back over many human generations and with the potential to actively intervene in the present (*e.g.* Kahn 1996, 180).

Thirdly in terms of potential utilisation, the sheer variety and diversity of rock types, lithologies, texture, colour and physical characteristics meant that there was enormous potential for stone to be worked and used in a very wide range of ways and contexts. This would have increased the symbolic potential of particular objects. They could be seen and placed in comparison with other stone materials; the local could be compared with the exotic, white with dark, large with small and so on, comparisions that would have enhanced the importance of stone in the material world (*e.g.* Cooney 2002).

It is clear from any examination of the material world of the Neolithic that stone was rarely used in isolation. Objects in other media such as antler and bone were used in the process of producing stone artifacts. Stone artifacts were used in combination with other materials, notably handles, for example stone axeheads in wooden axe hafts and of course stone was used to work a variety of other materials. Indeed it might be argued that rather than looking at stone in isolation a broader definition would incorporate other durable materials that share some of the properties of stone. Hence they could be seen as possessing some of the same life energies, which in traditional knowledge systems all things of the earth have (Helms 2004, 124). Evans (2003, 71) saw soil and land texture as the critical point of interplay between people and the land. He suggested that different textures, in sand, clay, rock and vegetation were understood not just in terms of their functional attributes but also as a means of communicating knowledge.

Recently Boivin and Owoc (2004) have edited an important volume which recognises the breath and significance of the materiality of the mineral world but focuses (for practical and methodological reasons) on stone and sediments, while recognising other important aspects of the mineral world, such as water and metal. This approach allows Boivin (2004b) to draw comparisons and contrasts between stone and other materials. For example, it seems to be widely recognised that shell and stone are related. Both are frequently regarded as referring in their hardness and durability to bone, to people and to the notion of material as being or containing a genealogical presence (Battaglia 1990, 134; Weiner 1992, 60). By contrast clay and earth are seen as an animate, sacred, all-encompassing creative force. In terms of personification the identification of earth as female is also common (see discussion in Boivin 2004b, 5). It is tempting to move easily from this to categorise different aspects of the material world as being engendered; for example, axes from stone being male-related; pots from clay being female-related. But signification in cultural worlds and practices is of course much more complicated in reality and context and complementarity are vital. For example, Taçon (1991, 204-5; Taçon 2004) relates how in Aboriginal belief and practice in Western Arnhem Land the placing of ochre pigment from the earth onto rock to create what we call rock art makes a very powerful image for Aboriginal people; mixing male and female symbols and radiating with ancestral power. However, by contrast in hunting male and female-related materials have to be kept apart to ensure success.

Another way of approaching the study of the material world is to think of the contrasts in permanency, power and impact that different objects and constructions had. In relation to artifacts reference is often made to Weiner's work (1985; 1992) and her distinction of alienable and inalienable. Alienable objects are those made in everyday contexts, produced and exchanged by most people of suitable age and gender. By contrast inalienable objects tend to be rare, often of unusual material and produced by specialists and to be associated with an individual. Their distinctive character facilitates recognition and the recall of their place of origin, production and events they were associated with (see discussion in Wentink 2006, 78-85). They may have a key role to play as objects of prestige and social power. However, it may be hard to draw a hard and fast boundary between these categories as we know from archaeological contexts that simple, sometimes unmodified objects can be placed in special contexts, for example with the dead. Ethnograpically it has been shown (*e.g.* Hampton 1999, 199) that a simple object, such as a naturally rounded pebble, can have sacred and social power.

As with our interpretations of artifacts, approaches to the built material world sometimes tend to differentiate between the ceremonial, monumental world and the everday domestic world (see discussion in Bradley 2005, chapter 1). It is important to emphasise however that it is the *changing relationships* between these different materials and contexts linked by human action that provides particular, lived social and cultural worlds. I want to explore below how can this help us understand the particular importance of stone in the Neolithic of Ireland and western Britain.

18.3 An explosion in material expression and the role of focal material resources

A long time ago Gordon Childe (1942, 50) recognised "how enormously Neolithic equipment was richer than that of any Palaeolithic or Mesolithic savagery". Now this terminology is very outdated and we recognise how complex the material world of prehistoric hunter-gatherers could be. However, what Childe did capture in his discussion of what he called 'Neolithic barbarism' was the inter-related character of

change in the material world with a new attitude to the landscape and environment and the social and economic changes that this brought about. In a key paper that sparked much subsequent discussion Colin Renfrew (2001) talked about what he called 'the sapient paradox'. The paradox is that the major elaboration of material culture happens not with the emergence of *Homo sapiens* 150,000 years ago in Africa or the first apperance of *Homo sapiens* 40,000 years ago in Europe, but much later, with what Renfrew (2007, 82-4) refers to as the sedentary revolution in western Asia and Europe which was often accompanied by early farming. "It was then that humans entered int o a series of new relationships with their material world. It was then that they built houses, fashioned images of deities and constructed shrines. As we know, they soon came to build tombs and monuments." (Renfrew 2003, 115).

What Renfrew argued was that this allows an elaboration of Donald's (1991) scheme of human cognitive revolution by recognising the importance of what he (Renfrew 2003, 116) termed the *material-symbolic* stage. This was when materials were utilised to develop a store of knowledge outside the human brain – or external symbolic storage. The thesis is that sedentism paved the way for new forms of engagement between humans and the material world. This built shared understandings or *institutional facts* which worked in practice through material symbols (Renfrew 2007, 120-6).

There are shortcomings to the model. For example, it underplays both the very active symbolic role of artefacts in the engagement of hunter-gatherers with the world and the ways in which the transition to new processes and activities actually happened, considering the complex and varied relationships between sedentism and farming across Europe and in Britain and Ireland (*e.g.* Whittle/Cummings 2007). However, a key point about the changes highlighted by Renfrew is that they were worked through by oral societies. As Ong (2002, 8-9) has pointed out oral societies have a very different way of managing knowledge and verbalisation compared to written modes of expression. Writing allows us to structure knowledge at a distance from lived experience, but in oral cultures knowledge is conceptualised with reference to the world of actions, things and the senses (Ong 2002, 42). Hence the critical role of the material world. It both embodied knowledge and was the key reference point in communicating and passing on knowledge.

Renfrew' s thesis about the impact of sedentism concurs with the views of Hodder (1990), Cauvin (2000) and Watkins (2004) and others on the changes in society in the Near East at the start of the Neolithic. It also acknowledges the impact of Wilson's (1988) work for our understanding of the consequences of sedentism for the human species. Others, such as Bradley (2004, 107), have situated the explosion in material symbolic culture in the changed relationships between people, animals, plant and land as a result of domestication. Gamble (2007, 272-4) eschews the term 'revolution' in relation to the impact of agriculture and sedentism. Rather than giving rise to the modern mind or society he situates their impact in terms of the much longer-term development of human identity (Gamble 2007, 230). Humans made and reproduced identities by bringing 'sets and nets' of materials into association through the processes of accumulation and enchainment and the acts of fragmentation and consumption.

At the same time Gamble does recognise the changes brought by sedentism and agriculture in prompting new institutions and architecture and in particular new processes and contexts in which children grew up and social knowledge was passed on (Gamble 2007, 257-8). Writing about northern Europe Bradley (2004, 113) suggests that while Mesolithic societies participated in and were integrated into the natural world, 'the giving environment' as Gamble has phrased it (2007, 78; after Bird-David 1992, 29-30), Neolithic communities acted on it, distancing humans from animals, bringing about notions of ownership, property, a new sense of time and new sets of social practices (but see discussion in Ingold 2000, chapters 3-5; Whittle 2003, 80-1). For Bradley (2004, 110) the key elements of the Neolithic use of material cultures are complexity, abundance and longevity.

This brings us back to the concept of 'focal material resources' introduced above. Boivin (2004a, 67) suggests that soil (or clay) was such a focal material resource in the eastern Mediterranean region (southeast Europe and the Near East) during the Neolithic. The malleability and use of clay not only facilitated an increase in the number and range of objects, portable and fixed that could be made from it, but also created a more complex, bounded and compartmentalised social world in the form of houses, rooms, furniture, storage containers, pots and figures (*e.g.* Kuijt 2000). This central role of soil and clay and the adoption of a sedentary lifestyle involved mutually reinforcing practices rather than any one preceding the other. Bailey (2000, 113) has argued that in the Balkans fired clay technology and the creation of representational and symbolic artifacts (including human figurines, many of them in clay – see Bailey 2005) was a key new technology that marked the Neolithic world which was also characterised by the building of permanent and semi-permanent structures.

Whittle (1996, 171) describes the world of the Linear-bandkeramik Early Neolithic farmers of central Europe as one in which there was much uniformity. Longhouses, settlements, graves and cemeteries were placed and organised in a similar way over very wide area. Alongside this it is clear that there was considerable fusion and diversity in lives and lifestyles (*e.g.* Whittle 2003, 135; Bentley 2007) There is a range of media represented in the artifacts; flint, stone axes

and adzes, pottery, shell. Here however thinking about a 'focal material resource' it it hard to escape the forested landscape that these people were inhabiting. The longhouse, the iconic centre of LBK life was made of oak, transforming the forested landscape as it was also being transformed by the adoption of crops and domesticated animals. Wooden framed or lined wells have been found, providing the critical resource of water for people and animals. As Whittle (1996, 176) puts it: "For forest farmers life was framed by the longhouse settlement, set in small clearings in selected zones in the sea of woodland:artificial lagoons of productivity." Furthermore Whittle (2003, 136-43) argues that the longhouse may have been very important as a symbolic form that promoted social integration. As they were made of oak timbers, the relative frequency with which longhouses would have been replaced served, through material action, to perpetuate the concept of the house standing for social permanence and continuity.

Contemporanously with the woodland world of the LBK , it could be argued that for hunter-gatherers in adjacent areas and indeed across western and northern Europe wood and woodland would have been a focal resource also (*e.g*. Warren 2003; 2005, chapter 3). For Ireland and western Britain and indeed for much of what has come to be called Atlantic Europe stone was also important in the Mesolithic and the use of wood of course continued (and changed) in the Neolithic, for example in the construction of buildings (*e.g*. Noble 2006, chapters 3 and 4; Smyth 2007a). But what I wish to argue is that stone became a focal material resource in defining the Neolithic. The acts and processes of engagement with the material world by which this happened constitute a critical and central part of how the Neolithic was established and reproduced. This of course is not just about a passive reflection of the landscape and topography that people encountered, although twenty first century versions of the old determinist notion of dividing Britain and Ireland into a Highland and Lowland zones can still be found. Bellwood (2005, 81), for example, draws a distinction between lowland Britain (England) as a fertile region likely to have been attractive to agriculturalists and the fastnesses of Scotland, Wales and Ireland where Mesolithic adoption of agriculture was more likely, their resistance to intrusive ways of life paralleling what happened in the Roman period! Stone was a focal material resource in the region during the Neolithic because its use was a key, central component in the material construction of a new social world, by people living in and engaged with areas of complex and varied geology (*e.g*. Holland 2001).

Drawing on passage tombs of the Middle Neolithic, particularly those of the Bend of the Boyne, Lewis-Williams/ Pearce (2005) placed stone at the centre of their explanation of Neolithic religious and cosmological belief and experience. This idea needs examination and can also be linked to other recent explorations of the symbolic significance of stone. In the spirit of Lewis-Williams and Pearce's call (2005, 288) for archaeologists to consider emic or thick explanations, that is written from the point of view of what made sense in the context of Neolithic peoples' understanding of how the world worked (Geertz 2000, 15-6), I want to discuss how and why the focal role of stone was materialised.

18.4 The cosmology of stone

In approaching the explanation of why Neolithic people built megalithic tombs Lewis-William and Pearce (2005, 25-6, 193 ff.) set their construction and use in terms of what they refer to as the three interlocking dimensions of religion. They suggest that *religious experience* is the result of our neurological hard wiring: people interpret certain mental experiences in terms of the existence of other realms and supernatural beings that can impinge on daily material life. *Religious beliefs* derive from attempts to understand and codify religious experiences and *religious practices* embody these beliefs and can lead to further religious experience. They argue, in common with others such as Helskog (1999) and Bradley (2000), that people would have seen the cosmos in terms of three tiers, zones or worlds; water and the underworld, land as the level of daily life and the sky as the heavens. In Early Neolithic societies it became critical that people marked their relationship to ancestral figures and to the land. Hence the founding ancestors, the 'legitimizing' dead as they put it (Lewis-Williams/Pearce 2005, 194), had to be placed so that they could have continued contact and influence over the living. For this reason the dead became central to religion and society.

In Helms' phrase (2004, 124) "new means of material representation were required to make temporal ancestors manifest and real for the living". We can phrase this in terms of the inter-related dimensions of religion which Lewis-Williams and Pearce identify. The architecture of monuments enhanced the religious *experience* of the sense of journeying, dis-connectedness and entering another realm of the cosmos, – both in the case of the dead and the living who had contact with them. *Religious belief* would have been underpinned by the materiality and design of the tombs. The creation and use of the tombs embodied *religious practice*. These acts naturalised the social order, which may have been built on people having different levels of knowledge and hence some social distinctions, and on occasion reinforced religious experience.

One could see the Lewis-Williams and Pearce view as both an outsider's and an insider's view. They present a convincing case of the centrality of religion to every aspect of life, but they of course do so from a perspective that

would be both incomprehensible and objectionable to people of religious belief. The critical point I want to draw attention to is their focus on the centrality of stone in Neolithic religion. It was through the working of and engagement with stone as an architectural material that monuments were created. This provides a approach to take with stone, as a significant substance with potency (Lewis-Williams/Pearce, 217). What I want to examine is how this cosmological and social world was established. What is the evidence to support the broader view that stone was a key active social component in the making of the Neolithic world?

18.5 Materialising identities in stone

I have argued elsewhere (Cooney 2007a, 544) that it may be useful to think of Ingold's (2000, chapter 8) formulation of genealogical (with a focus on origins) and relational constructions of identity as complementary. Small-scale societies are always concerned to a greater or lesser extent both with ancestral origins and how the activities and relationships of the living in the present, including the treatment of the dead, fit with the past (Helms 1998, 23-54). The materialization of the links between people and things provides the context for the material construction and re-negotiation of genealogical origins. One way of thinking about the changes that happened around 4000 cal BC, the start of the Neolithic, is to see them in terms of the establishment of new relational identities (*e.g*. Jones 2005) which led to a re-thinking of genealogies.

There are signs of continuity across the transition to the Neolithic, as in the continued use of places, both for habitual and sacred purposes, the continued use of wild food resources and the continued use of lithic sources. But much is different and new. There are strong suggestions from a number of sources for climatic change around this time, although its impact is debated. Connected with this are indications of change in the woodland cover, which is also impacted on by the appearance of domesticated species of plants and animals. The recent surge of evidence from stable isotope analysis indicate a shift in diet around 4000 cal BC and of course brings us back to the issue of the potential scale and impact of small-scale filtered colonisation and inter-action with the indigenous population (Cooney 2007a, 546-51).

In the construction of identities that we see in peoples' lives and use of material culture there are references to local contexts and background. However, if we think of the range of changes sketched above that resulted in different kinds of engagement by people living in particular social and geographical settings, it is not surprising that in the Neolithic we see quite different kinds of relationships between people, animals, plants and things. I would suggest that stone was the medium that most clearly demonstrated these changes. We can see this in the working of stone at a range of different scales, for different purposes. In turn this would have been woven into other strands of change. In Bradley's (2004, 110) terms stone was a key material because things, big and small, made from it would have had *longevity*. They could be produced in *abundance* and depending on the time and skill invested in them objects of considerable *complexity* could be made from different types of stone. Crucially stone mattered because of the range of inter-related new ways in which it was acted on as part of the material engagements through which the Neolithic world was formed.

In the Early Neolithic 'landscape of habit' (Gamble 2007, 258) in Ireland it is striking just how varied and widespread the use of stone is. It is used in the foundation trenches of buildings as post-packing, as part of the flooring and for the provision of paths within and outside structures and to mark thresholds. Outside houses there are frequently scatters of stone or more formal areas of cobbling. These may be renewed or deliberately laid to provide a sealing or covering of earlier activity (see discussion in Smyth 2007a). Part and parcel of the engagement with the land itself would have been stone clearance from cultivated areas. Chapman *et al*. (1996, 284) have suggested that such an act may have been not just utilitarian but also perceived as part of the harvest from the ground. Hence the creation of clearance cairns or stone walls from this material can be seen not only to be practical, but also as a material manifestation of a particular farming '*habitus*' and the social mobilization and leadership involved. This is a point illustrated by the Céide Fields landscape in northwest Ireland (Molloy/O'Connell 1995; Caulfield *et al*. 1998; Cooney 2000, 25-9).

Stone would have become more visible not only as collected and laid lines across the landscape but also because at another, smaller scale it was dispersed more widely in the form of worked lithic material *on* land surfaces, resulting from recurrent production and use. This is recovered today through systematic field survey (*e.g*. Brady 2006). Of course the utilisation of flint and other lithic resources is a material engagement that was a feature of the Mesolithic as well. However, not only are there significant differences in the lithic traditions of the fourth millennium cal BC compared to earlier times (*e.g*. Nelis 2004; Warren 2004), but the character and distribution of worked material across the landscape also appears to become much more marked from the beginnings of the Neolithic (Kimball 2000, 39; Woodman *et al*. 2006, 268; Brady 2007, 217). Stone was also put *into* the ground. The digging of pits was a central part of the activities at a range of different site types and in different locations (Smyth 2007b, 169-78; Noble 2006, 62-8). One of the recurring features of these pits is the deposition of stone artifacts and pottery. Stone that is clearly worked is recorded in detail but other stone is treated as 'fill'. But it is striking how frequently stony fills occur. We often tend to exclude

the possibility that the inclusion of such stone could have been a cultural choice. On the other hand it appears that the incorporation of this material was often deliberate and in some cases structured. For example, on the small island of Dalkey off the Dublin coast where there was recurring Mesolithic and Neolithic activity there are a group of five large Neolithic pits, all but one positioned beside glacial erratics (Leon 2005, 15). In the pits were stone artefacts and pottery with many stones in the fill (Liversage 1968, 64). Without diminishing the cultural significance of the modified artefacts, it seems very likely that the 'mundane' stone (and other materials) were also important and deliberately chosen, as indeed were the glacial erratics marking the pits.

There were then a new series of engagements by people with stone at different scales, material engagements through which sets of new relationships were formed. To take the discussion further I want to focus on two areas that conventionally take us to two supposedly very different types and scales of engagement with stone; stone axe production and the construction of megalithic monuments.

18.5.1 An axe to grind

Ground stone axe technology is still widely seen as one of the few agreed criteria for identifying the Neolithic. However, in an Irish context it has long been known that ground stone axes formed part of the Mesolithic tool-kit, from early in that period (*e.g*. Woodman *et al*. 1999; Collins/Coyne 2003; 2006). Indeed what seemed to a clear distinction between the use of only secondary sources in the Mesolithic and the beginnings of the quarrying of primary sources in the Neolithic (Cooney 2004a) needs reassessment in light of Kador's work on the products from the Monvoy, Co. Waterford rhyolite quarry (Kador 2007; see also Green/Zevebil 1990, 68-70 on the Powers site). Significant changes do occur around 4000 cal BC. The range of lithologies used as sources increases alongside the continued use of those used in the Mesolithic. Organised axe production takes from early in the Neolithic (see discussion in Cooney 2007a, 559). Not only that but products from specific sources are found on Early Neolithic sites.

For example, a porcellanite axe from the quarries at either Tievebulliagh or Rathlin island, Co. Antrim in northeast Ireland (Cooney 2000, 202-4) was found as a formal deposit in a ditch segment at the causewayed enclosure at Magheraboy, Co. Sligo, over 180 km to the southwest, where activity started in 4115-3850 cal BC (Danaher 2007, 113; Bayliss *et al*. 2007; Mandal 2007). The axe is best dated by sapwood from a burnt oak plank at the base of the ditch to 3965-3810 cal BC (GrA-31961). This indicates that porcellanite was in circulation across the northern part of Ireland by the 40th or 39th centuries cal BC (Whittle *et al*. in prep.). There are significant quantities of porcellanite at some of the early rectangular buildings in Ireland dating to 3800-3600 cal BC, as at Ballyharry (Moore 2003), and Thornhill (Logue 2003). Cumulatively this evidence clearly indicates that the exploitation of one or both of the known porcellanite sources began very early in the Neolithic. There are indications that production at the Great Langdale, Cumbria volcanic tuff quarries in northwest England began at the same time and again axes from this source turn up in Early Neolithic contexts (*e.g*. Hind 2004, 141). Sheridan (2007a; 2007b, 464) has argued that one important genealogical component in these new material engagements was the presence of jadeite axes in the Early Neolithic. Coming from two principal Alpine sources (*e.g*. Pétrequin *et al*. 2006), the jadeite axes found in Britain and Ireland from at least 3800 cal BC are of forms that appear to have been made several centuries before their deposition (Pétrequin *et al*. 2002). Furthermore it would appear that some of these forms were then copied in axes made from Irish and British lithological sources (Pailler, pers. comm.; Sheridan 2007a). It would not be surprising then that objects such as these played an important role in demonstrating and materialising the genealogical origins of a new way of thinking about and working with the world.

More broadly it may be interesting to think of axe quarrying and use in a number of different ways. It could be argued that what we see in the Early Neolithic working of stone at quarries, and flint mines in southern Britain (see Barber 2005, 96) is analogous to deploying the ancestral forces of the land in the new material world. The grinding and polishing of stone in many cases serves to highlight colour differences, for example in the case of the porphyry or porphyritic andesite quarried on Lambay (Cooney 2005) and the relative whiteness of the phenocrysts in a green matrix was enhanced by polishing. Speckles, flecks or streaks of white or yellow are common in many of the stone axe sources (Cooney 2002). White is widely associated with life, power, fertility and the ancestors. In this sense a link with the enduring was materially embodied through the working of rock and the production of axeheads in which the whiteness of the stone was emphasised through its transformation. Metaphoric connections with changes in the land might have been made stronger by the frequent association of axes with activities associated with agriculture.

As Ray (2004, 171) suggests it may also be useful to think of such sources as nodes in a pattern of exchange involving stone objects and other items and in a network of social relations that extended over land and sea. The contrast between axes made from what would have been perceived in many parts of Ireland and Britain as non-local sources with axes of locally available stone (see discussion in Cooney 2000, 197-205) is something that was present from very early in the Neolithic. This inter-weaving of the local and the distant can be seen in other aspects of the use of

stone, for example in the local exploitation of pitchstone on Arran in the Clyde estuary during the Mesolithic and its more widespread occurrence, including Ireland during the Neolithic (Cooney 2004a, 194; Ballin 2006) and the circulation of visually distinctive flat, green serpentine beads across the island of Ireland around 3800-3600 cal BC (Sheridan 2007b, 463). These objects may have been of particular importance in the development, maintenance and re-ordering of relationships within and between communities. The key point is that quarrying and procurement of axes and other stone objects may have been involved from the start, defining what it was to be 'Neolithic', as opposed to being an aspect of life that developed over the course of the period.

Ray (2004, 166) also pointed out that one of the notable aspects of major places of axe production in the Irish Sea zone is their location on islands or close to the coast. That island sources and coastal zones would feature in this world is not surprising. These are places where the tiers of the cosmos, the zones of the natural world, meet (see Scarre 2002). Given the background of the use of islands in the Mesolithic they were certainly places of broad and bounded continuity. On the other hand, islands and coastal zones with their potential connection with distant places (Cooney 2004b; Noble 2006, chapter 2) may have conveyed something of the mythology of the background of the Neolithic. So they may have been places that gave a basis for the dialectic between the immediate and the distant that Warren (2004, 98) sees as an integral part of the formation of identities in the Early Neolithic. In terms of the occurrence of early passage tombs in coastal areas noted by Sheridan (2003; 2004) and the continued use of islands like Dalkey with a prolonged history of at least episodic use in the Mesolithic (Leon 2005), the coastal zone may also have become a very important place for the re-negotiation and re-imagining of genealogical identities (Schulting 2004, 26).

18.5.2 Making megaliths

Mention of megalithic tombs in coastal locations brings us back to these monuments, often regarded as the defining and iconic feature of the Atlantic Neolithic (*e.g.* Daniel 1958; Renfrew 1981). These monuments certainly rhyme with the notion of new architectural settings being a key element of the sedentary revolution (Renfrew 2007, 82-3) and indeed are often regarded as a transformation of the domestic world (Hodder 1990, 220; Sherratt 1990) in the particular setting of Atlantic Europe. However, recent programmes of analysis of the dates of such monuments indicate that in general they appear to date to a couple of centuries after the beginning of the Neolithic (cf. Scarre *et al*. 2003; Whittle *et al*. 2007, 127; Whittle *et al*. in prep.). If we refer back to Lewis Williams and Pearce (2005, 94) and their idea that in Early Neolithic societies megalithic monuments mark the relationship of the living to founding ancestral figures and to the land it might be useful to look at this in context of other, already established ways of working stone.

As Cummings and Whittle (2004, 76) and Richards (2004) have written, one way of thinking about megalithic monuments is to see them as raising stone out of the ground, celebrating large stones as ancestral presences. Often the stone for the monument is quarried and not only are the 'products' of this process, the orthostats and roof stones, used as an integral part of the monument, but also the 'debitage'. To take one example, at the court tomb at Annaghmare, Co. Armagh (Waterman 1965; Jones 2007, 148-52), a sandstone rock outcrop surrounded by wet, boggy ground was transformed into a megalithic tomb. Deposits were placed in hollows in the rock and the sandstone outcrop was made into the monument. In effect what we see is the translation of stone through quarrying into large blocks and smaller pieces used in dry stone walling, the cairn and as blocking layers. In terms of engagement there are important parallels with the quarrying of stone for axe production. Both are drawing on and deploying the active, symbolic power of the stone, allowing for its rearrangement into new configurations with other materials and places. As archaeologists we tend to concentrate on the 'products' in both cases, but for Neolithic people the actual process of working and changing the stone would been the focus of that material engagement (Sennett 2008, 120). From that perspective we could understand why the 'debitage' is often carefully treated, incorporated as part of the makeup of monuments and/or carefully placed back in the ground in pits (see discussion in Cooney 2005; 2007b).

We can point then to important linkages in the use of stone in the Neolithic that we tend to archaeologically separate through categorisation, analysis and use of scale. Of course there are links back to the Mesolithic way of life and thinking about how the world worked, but because of these new engagements things had literally become different. For example early megalithic tombs in western Britain and Ireland can be seen in the context of regional indigenous identity, as a materialization of creation myths by people long familiar with the local landscape (Cummings/Whittle 2004, 90), but their realization seems to indicate a new way of thinking about engaging with the material world (Cummings 2007, 507-8). Helms (1998; 2004, 119) argues that hunter-gatherers give primacy to animals as the cosmographical other and by contrast agricultural or pastoral sedentary people emphasise the cosmographic significance of the ancestral human dead. The very act of working and raising stone of monumental scale is a new practice which seems to sit with and reflect a new way of thinking about the world and the ancestors.

18.6 Conclusion

Stone acts as a conduit for contact with the world of the underground, the dead and the ancestors. The stone for monuments is taken from the underground, the other world. The dead, or selected remains of the dead, are in effect returned to the underground, in rock when they are placed in tombs. In peoples minds and mental maps objects such as axes of distinctive form and shape may be seen as coming from away, potentially from places across the sea, but perhaps because of this also coming from a parallel realm to that of the ancestors. Disturbing the ground to dig pits or quarry for stone, or indeed even picking up stone, all had the potential to bring people into the world of ancestral beings and had to be done with due respect. Depositing objects back in the ground returned them to whence they had come. As religion was an integral component of everyday life there would have been constant iterations and references to these beliefs in daily practice.

As Robb and Miracle (2007, 107) put it for prehistoric people "living out their history meant continually evaluating and reinventing traditions and choosing from a repertoire of available possibilities, whatever the historical source of this repertoire was." The reason why stone was a focal material resource in the Neolithic was because it was central to those processes of engagement, evaluation and reinvention. It was used in a variety of inter-related ways and in combination, iteration and re-iteration. Through peoples', daily engagement with stone new social relationships and conventions were created and sustained. For example, the distinctions that emerged in society between stone as a material particularly redolent of the ancestors and other materials, such as timber, being more symbolic of the living (*e.g*. Parker Pearson/ Ramilisonina 1998) took place in an environment in which people had visual, tactile and auditory knowledge of a stone-rich world.

It would be wrong of course to suggest that use of stone as a focal material resource was always used for the communal good or that the changes in meaning referred to above always came about peacefully. One of the aspects of stone axeheads not discussed above is their potential to be very effective weapons. This is a point confirmed by the occurrence of human skeletal remains with injuries consistent with axe blows both in Ireland and Britain and further afield (*e.g*. Raftery 1944; Guilaine/Zammit 2005, chapter 2). Extending this to other stone artefacts it should be noted that one of the classic tools of the Neolithic in Ireland and Britain is the leaf and lozenge shaped arrowhead (*e.g*. Green 1980; Woodman *et al*. 2006, 127-32). The point here is that we should perhaps consider the possibility of low-level, but persistent conflict as a tradition in Neolithic communities. Indeed we might recognise that the use of stone weapons would have provided another layer of symbolic meaning to this material, arising from this socially important role.

Stone was a focal resource then because it was encountered and acted on in so many different spheres of Neolithic life. If we accept the centrality of religion in that life the notion of a divide between daily and ceremonial life would have been meaningless. Every action of engagement and transformation of this enduring, richly symbolic and potentially powerful material carried overtones and resonances; the ritual in the domestic, the mundane in the routine. It was both the material and intangible qualities of stone that made it so important. There is no reason why we should see a difference between pecking a stone in the process of making an axe from a medium or course grained stone and the pecking of similar lithologies that was used to make rock art or megalithic art motifs. Both were meaningful, repetitive acts, connecting with the stone as a material, seeing into it and releasing or activating the potency of some form or force within the stone. It was in and by such acts that the Neolithic was made in Ireland and western Britain. Perhaps to paraphrase a description of another kind of Neolithic 'it was a fairly exceptional and original trajectory in the mosaic of cultural change processes that together constituted the neolithisation of Western and Northern Europe (Louwe Kooijmans 2006, 514)

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References

Bailey, D.W. 2000. *Balkan Prehistory: Exclusion, Incorporation and Identity*, London.

Bailey, D.W. 2005. *Prehistoric Figurines: Representation and corporeality*, London.

Ballin, T.B. 2006. Re-examination of the Early Neolithic pitchstone-bearing assemblage for Auchategan, Argyll, Scotland, *Lithics* 27, 12-32.

Barber, M. 2005. Mining, Burial and Chronology: the West Sussex Flint Mines in the Late Neolithic and Early Bronze Age. In: P. Topping/M. Lynott (eds), *The Cultural Landscape of Prehistoric Mines*, Oxford, 94-109.

Battaglia, D. 1990. *On the Bones of the Serpent: Person, Memory and Mortality in Sabarl Island Society*, Chicago.

Bayliss, A./F. Healy/E. Danaher/A. Whittle 2007. Magheraboy Radiocarbon Dating. In: E. Danaher (ed.), *Monumental Beginnings: The archaeology of the N4 Sligo Inner Relief Road*, Dublin (NRA Scheme Monographs 1).

Bellwood,P. 2005. *First Farmers: The Origins of Agricultural Societies*, Oxford.

Bentley, A. 2007. Mobility, specialization and community diversity in the Linearbandkeramik: isotopic evidence from the skeletons, *Proceedings of the British Academy* 144, 117-140.

Bird-David, N. 1992. Beyond 'the original affluent society': a culturalist reformulation, *Current Anthropology* 33, 25-47.

Boivin, N. 2004a. Mind over matter? Collapsing the mind-matter dichotomy in material culture studies. In: E. DeMarrais/C. Gosden/C. Renfrew (eds), *Rethinking materiality: the engagement of mind with the material world*, Cambridge, 63-71.

Boivin, N. 2004b. From veneration to exploitation: human engagement with the mineral world. In: N. Boivin/M.A. Owoc (eds), *Soils, Stones and Symbols: Cultural Perceptions of the Mineral World*, London, 1-29.

Boivin, N./M.A. Owoc 2004. *Soils, Stones and Symbols: Cultural Perceptions of the Mineral World*, London.

Bradley, R. 2000. *The Archaeology of Natural Places*, London.

Bradley, R. 2002. *The Past in Prehistoric Societies*, London.

Bradley, R. 2004. Domestication, sedentism, property and time: Materiality and the beginnings of agriculture in Northern Europe. In: E. DeMarrais/C. Gosden/C. Renfrew (eds), *Rethinking materiality: the engagement of mind with the material world,* Cambridge, 107-115.

Bradley, R. 2005. *Ritual and Domestic Life in Prehistoric Europe*, London.

Brady, C. 2006. *A Landscape Survey of the Newgrange Environs: Earlier Prehistoric Settlement at Brú na Bóinne, Co. Meath*, Dublin (PhD Thesis, University College Dublin).

Brady, C. 2007. The lithic landscape of the Newgrange environs: an introduction. In: M. Larsson/M. Parker Pearson (eds), *From Stonehenge to the Baltic, Living with cultural diversity in the third millennium BC*, Oxford (BAR International Series 1692), 213-220.

Cauvin, J. 2000. *The Birth of the Gods and the Origins of Agriculture,* Cambridge.

Chapman, J./R. Shiel/S. Batovic. 1996. *The Changing Face of Dalmatia: Archaeological and Ecological Studies in a Mediterranean Landscape*, Leicester.

Childe, V.G. 1942. *What Happened in History*, Harmondsworth.

Collins, T./F.Coyne 2003. Fire and water…Early Mesolithic cremations at Castleconnell, Co. Limerick, *Archaeology Ireland* 64, 24-27.

Collins, T./F. Coyne 2006. As old as we felt…, *Archaeology Ireland* 78, 21.

Cooney, G. 2000. *Landscapes of Neolithic Ireland*, London.

Cooney 2002. So many shades of rock: colour symbolism and Irish stone axeheads. In: A. Jones/G. MacGregor (eds), *Colouring the Past*, Oxford, 93-107.

Cooney, G. 2004a. Neolithic stone axe quarries and production sites in Scotland and Ireland. In: I.A.G. Shepherd/G. Barclay (eds), *Scotland in Ancient Europe*, Edinburgh, 191-203.

Cooney, G. 2004b. Neolithic worlds: islands in the Irish Sea. In: V. Cummings/C. Fowler (eds), *The Neolithic of the Irish Sea: Materiality and traditions of practice,* Oxford, 145-159.

Cooney, G. 2005. Stereo porphyry: quarrying and deposition on Lambay, Ireland. In: P. Topping/M. Lynott (eds), *The cultural landscape of prehistoric mines*, Oxford, 14-29.

Cooney, G. 2007a. Parallel worlds or multi-stranded identities? Considering the process of 'going over' in Ireland and the Irish Sea zone. *Proceedings of the British Academy* 144, 543-66.

Cooney, G. 2007b. Working stone: Making Monuments in the Irish Neolithic. In: D.A. Barrowclough/C. Malone (eds), *Cult in Context: Reconsidering Ritual in Archaeology*, Oxford, 140-147.

Cummings, V. 2007. From midden to megalith: The Mesolithic-Neolithic transition in western Britain, *Proceedings of the British Academy* 144, 493-510.

Cummings, V./A. Whittle 2004. *Places of Special Virtue: Megalithis in the Neolithic Landscapes of Wales*, Oxford.

Danaher, E. (ed.) 2007. *Monumental Beginnings: The archaeology of the N4 Sligo Inner Relief Road,* Dublin (NRA Scheme Monographs 1).

Daniel, G. 1958. *The Megalith Builders of Western Europe*, London.

DeMarrais, E./L. Castillo/T. Earle 1996. Ideology, materialization and power strategies, *Current Anthropology* 37, 15-31.

DeMarrais, E. 2004. The materialization of culture. In: E. DeMarrais/C. Gosden/C. Renfrew (eds), *Rethinking materiality: the engagement of mind with the material world,* Cambridge, 11-22.

Donald, M. 1991. *Origins of the modern mind: three stages in the evolution of culture and cognition*, Cambridge MA.

Earle 2004. Culture matters: Why symbolic objects change. In: E. DeMarrais/C. Gosden/C. Renfrew (eds), *Rethinking materiality: the engagement of mind with the material world,* Cambridge, 153-165.

Evans, J. 2003. *Environmental Archaeology and the Social Order*, London.

Gamble, C. 2007. *Origins and Revolutions: Human Identity in Earliest Prehistory*, Cambridge.

Geertz, C. 2000. *Available Light: Anthropological Reflections on Philosophical Topics*, Princeton.

Green, H.S. 1980. *The flint arrowheads of the British Isles*, Oxford (BAR British Series 75).

Green, S./M. Zvelebil 1990. The Mesolithic colonization and agricultural transition of south-east Ireland*, Proceedings of the Prehistoric Society* 56, 57-88.

Guilaine, J./J. Zammit 2001. *The Origins of War: Violence in Prehistory*, Oxford.

Hampton, O.W. 1999. *Culture of Stone: Sacred and Profane Uses of Stone among the Dani*, College Station, Texas.

Helms, M.W. 1998. *Access to origins: affines, ancestors and aristocrats*, Austin, Texas.

Helms, M.W. 2004. Tangible materiality and cosmological others in the development of sedentism. In: E. DeMarrais/ C. Gosden/C. Renfrew (eds), *Rethinking materiality: the engagement of mind with the material world,* Cambridge, 117-127.

Helskog, K. 1999. The shore connection: cognitive landscape and communication with rock carvings in northernmost Europe, *Norwegian Archaeological Review* 32, 73-94.

Hind, D. 2004. Picking up the trail: people, landscapes and technology in the Peak District of Derbyshire during the fifth and fourth millennia BC. In: A.M. Chadwick (ed.), *Stories from the landscape: archaeologies of inhabitation*, Oxford (BAR International Series 1238), 130-176.

Hodder, I. 1990. *The Domestication of Europe*, Oxford.

Holland, C.P. (ed.) 2001. *The Geology of Ireland*, Edinburgh.

Hurcombe, L.M. 2007. *Archaeological Artefacts as Material Culture*, London.

Ingold, T. 2000. *The perception of the environment: Essays in livelihood, dwelling and skill*, London.

Jones, A. 2005. Lives in fragments? Personhood and the European Neolithic, *Journal of Social Archaeology* 5, 193-224.

Jones, C. 2007. *Temples of Stone: Exploring the Megalithic Tombs of Ireland*, Cork.

Kador, T. 2007. *Marking out a new path: People, places and movement in early prehistoric Ireland*, Dublin (PhD Thesis, University College Dublin).

Kahn, M. 1996. Your Place and Mine: Sharing Emotional Landscapes in Wamira, Papua New Guinea. In: S. Feld/ K.H. Basso (eds), *Senses of Place*, Santa Fe, 167-196.

Kimball, M.J. 2000. *Human Ecology and Neolithic Transition in Eastern County Donegal, Ireland: The Lough Swilly Archaeological Survey*, Oxford (BAR British Series 300).

Kuijt, I. (ed.) 2000. *Life in Neolithic Farming Communities: Social Organization, Identity and Differentiation*, New York.

Leon, B. 2005. A reassessment of Dalkey Island, *Journal of Irish Archaeology* 14, 1-21.

Lewis-Williams, D./D. Pearce, 2005. *Inside the Neolithic Mind: Consciousness, Cosmos and the Realm of the Gods*, London.

Liversage, G.D. 1968. Excavations at Dalkey Island, Co. Dublin, 1956-59, *Proceedings of the Royal Irish Academy* 66C, 53-233.

Logue, P. 2003. Excavations at Thornhill, Co. Londonderry. In: I. Armit/E. Murphy/E. Nelis/D. Simpson (eds), *Neolithic Settlement in Ireland and Western Britain*, Oxford, 149-155.

Louwe Kooijmans, L.P. 2000. Living in the Neolithic: Habitation and Landscape. In: A. Ritchie (ed), *Neolithic Orkney in its European context*, Cambridge, 323-331.

Louwe Kooijmans, L.P. 2006. Schipluiden: a synthetic view. In: L.P. Louwe Kooijmans/P.F.B. Jongste (eds), *Schipluiden, A Neolithic settlement on the Dutch North Sea coast c. 3500 cal BC*, Leiden (Analecta Praehistorica Leidensia 37/38), 485-516.

MacDiarmid, H. 1994. *Selected Poems*, London.

Mandal, S. 2007. Petrological analysis. In: E. Danaher (ed.), *Monumental Beginnings: The archaeology of the N4 Sligo Inner Relief Road*, Dublin (NRA Scheme Monographs 1).

Molloy, K./M. O'Connell 1995. Palaeoecological investigations towards the reconstruction of environment and land-use changes during prehistory at Céide Fields, western Ireland, *Probleme der Küstenforschung im südlichen Nordseegebiet* 23, 187-225.

Moore, D.G. 2003. Neolithic houses in Ballyharry townland, Islandmagee, Co. Antrim. In: I. Armit/E. Murphy/E. Nelis/D. Simpson (eds), *Neolithic settlement in Ireland and Western Britain*, Oxford, 156-163.

Nelis, E. 2004. Neolithic Flint-work from the North of Ireland: Some thoughts on prominent tool types and their production. In A. Gibson/A. Sheridan (eds), *From Sickles to Circles: Britain and Ireland at the Time of Stonehenge*, Stroud, 155-175.

Noble, G. 2006. *Neolithic Scotland: Timber, Stone, Earth and Fire*, Edinburgh.

Ong, W.J. 2002. *Orality and Literacy*, London.

Parker Pearson, M./Ramilisonina 1998. Stonehenge for the ancestors: the stones pass on the message. *Antiquity* 72, 308-326.

Pétrequin, P./S. Cassen/C. Croutsch/M. Errera 2002. La valorisation sociale des longues haches dans l'Europe néolithique. In: J. Guilaine (ed.), *Matériaux, productions, circulations du Néolithique a l'Age du Bronze*, Paris, 67-98.

Pétrequin, P./M. Errera/A-M. Pétrequin/P. Allard 2006. The Neolithic quarries of Mont Viso, Piedmont, Italy: initial radiocarbon dates. *European Journal of Archaeology* 9, 7-30.

Raftery, J. 1944. A Neolithic burial in Co. Carlow. *Journal of the Royal Society of Antiquaries of Ireland* 74, 61-62.

Ray, K. 2004. Axes, kula, and things that were 'good to think' in the Neolithic of the Irish Sea regions. In: V. Cummings/C. Fowler (eds), *The Neolithic of the Irish Sea: Materiality and traditions of practice*, Oxford, 160-173.

Renfrew, C. 1981. Introduction: the megaliths of western Europe. In: J. D. Evans/B. Cunliffe/C. Renfrew (eds), *Antiquity and Man*, London, 72-81.

Renfrew, C. 2001. Symbol before concept: material engagement and the early development of society. In: I. Hodder (ed.), *Archaeological theory today*, London, 122-140.

Renfrew, C. 2003. *Figuring it out: What are we? Where do we come from? The parallel visions of artists and archaeologists*, London.

Renfrew, C. 2007. *Prehistory: The making of the Human Mind*, London.

Richards, C. 2004. Labouring with monuments: constructing the dolmen at Carreg Samson, south-west Wales. In: V. Cummings/C. Fowler (eds), *The Neolithic of the Irish Sea: Materiality and traditions of practice*, Oxford, 72-80.

Robb, J./P. Miracle 2007. Beyond 'migration' versus 'acculturation': new models for the spread of agriculture. *Proceedings of the British Academy* 144, 99-115.

Scarre, C. 2002. A pattern of islands: the Neolithic monuments of north-west Brittany. *European Journal of Archaeology* 5, 24-41.

Scarre, C./P. Arias/G. Burenhult/M. Fano/L. Oosterbeek/R. Schulting/A. Sheridan/A. Whittle 2003. Megalithic chronologies. In: G. Burenhult (ed.), *Stones and Bones: Formal Disposal of the Dead in Atlantic Europe during the Mesolithic-Neolithic interface 6000-3000 BC*, Oxford (BAR International Series 1201), 65-111.

Schulting, R.J. 2004. An Irish Sea change: some implications for the Mesolithic-Neolithic transition. In: V. Cummings/C. Fowler (eds), *The Neolithic of the Irish Sea: Materiality and traditions of practice*, Oxford, 22-28.

Sennett, R. 2008. *The Craftsman*, London.

Sheridan, J.A. 2003. Ireland's earliest 'passage' tombs: A French connection. In: G. Burenhult (ed), *Stones and bones: formal disposal of the dead in Atlantic Europe during the Mesolithic-Neolithic interface, 6000-3000 BC*, Oxford (BAR International Series 1201), 9-25.

Sheridan, J.A. 2004. Neolithic connections along and across the Irish Sea. In: V. Cummings/C. Fowler (eds), *The Neolithic of the Irish Sea: Materiality and traditions of practice*, Oxford, 9-21.

Sheridan, A. 2007a. Green treasures from the magic mountains. *British Archaeology* 96, 23-27.

Sheridan, A. 2007b. From Picardie to Pickering and Pencraig Hill? New information on the 'Carinated Bowl Neolithic' in northern Britain. *Proceedings of the British Academy* 144, 441-492.

Sherratt, A. 1990. The genesis of megaliths; monumentality, ethnicity and social complexity in Neolithic north-west Europe, *World Archaeology* 22, 147-167.

Smyth, J. 2007a. The role of the house in early Neolithic Ireland. *European Journal of Archaeology* 9, 225-252.

Smyth, J. 2007b. *Neolithic settlement in Ireland: new theories and approaches*, Dublin (PhD. Thesis, University College Dublin).

Taçon, P.S.C. 1991. The power of stone: symbolic aspects of stone use and tool development in Western Arnhem Land, Australia, *Antiquity* 65, 192-207.

Taçon, P.S.C. 2004. Ochre, clay, stone and art: The symbolic importance of minerals as life-force among aboriginal peoples of Northern and Central Australia. In: N. Boivin/ M.A. Owoc (eds), *Soils, Stones and Symbols: Cultural Perceptions of the Mineral World*, London, 31-42.

Tilley, C. 1996. *An Ethnography of the Neolithic: Early Prehistoric Societies in Southern Scandinavia*, Cambridge.

Waterman, D.M. 1965. The court cairn at Annaghmare, Co. Armagh, *Ulster Journal of Archaeology* 28, 3-46.

Watkins, T. 2004. Architecture and 'theatres of memory' in the Neolithic of southeast Asia. In: E. DeMarrais/C. Gosden/ C. Renfrew (eds), *Rethinking materiality: the engagement of mind with the material world,* Cambridge, 97-106.

Warren, G. 2003. Life in the trees: Mesolithic people and the woods of Ireland, *Archaeology Ireland* 65, 20-23.

Warren, G. 2004. The start of the Neolithic in Scotland. In: I.A.G. Shepherd/G. Barclay (eds), *Scotland in Ancient Europe*, Edinburgh, 91-102.

Warren, G. 2005. *Mesolithic Lives in Scotland*, Stroud.

Weiner, A.B. 1985. Inalienable wealth, *American Ethnologist* 12.2, 210-227.

Weiner, A.B. 1992. *Inalienable Possessions: The Paradox of Keeping-While-Giving,* Berkeley, CA.

Wentink, K. 2006. *Ceci n'est pas une hache: Neolithic Depositions in the Northern Netherlands*, Leiden.

Whittle, A. 1996. *Problems in Neolithic archaeology*, Cambridge.

Whittle, A. 2003. *The archaeology of people: dimensions of Neolithic life*, London.

Whittle, A./V. Cummings (eds) 2007. *Going Over: The Mesolithic-Neolithic Transition in North-West Europe* (Proceedings of the British Academy 144), London.

Whittle, A./A. Barclay/A. Bayliss/L. McFadyen/R. Schulting/ M. Wysocki 2007. Building for the Dead: Events, Processes and Changing Worldviews from the Thirty-eighth to the Thirty-Fourth Centuries cal. BC in Southern Britain, *Cambridge Archaeological Journal* 17 supplement, 123-147.

Whittle, A/F. Healy/A. Bayliss in preparation. *Gathering time. Dating the early Neolithic enclosures of southern Britain and Ireland.*

Wilson, P. 1988. *The Domestication of the Human Species*, New Haven, Connetticut.

Wolf, E. 1999. *Envisioning Power: Ideologies of dominance and crisis*, Berkeley.

Woodman, P.C./E. Anderson/N. Finlay 1999. *Excavations at Ferriter's Cove, 1983-95: last foragers, first farmers in the Dingle Peninsula,* Bray.

Woodman, P.C./N. Finlay/E. Anderson 2006. *The Archaeology of a Collection: The Keiller-Knowles Collection of the National Museum of Ireland,* Dublin.

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