Chapter 11

Natural Histories and Social Identities in Neolithic Orkney

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Introduction

Within the confines of the paper I want to investigate how the materials of stone and clay are employed in the construction and use of both monuments and material culture during the Neolithic in the Orkney Isles, Scotland. In particular I want to examine the way in which the various qualities of stone and clay are deployed as a means of commenting upon issues of place, identity and memory. The aim then is to understand how, as culturally classified materials, stone and clay provide the means of constructing social histories.

I am interested here in exploring the nature of belonging; to investigate how people make themselves at home in the world. For the anthropologist Nadia Lovell (1998a) belonging is variously constructed by attachment to place, it is expressed through the medium of objects, and by the sentiments which bind the dead to place. My contention is that belonging is constructed out of attachment to place, from the biographical qualities with which places are imbued, and the biographical aspects of objects. Places, artefacts and people are bound together in a referential and relational network of meaning. Belonging is neither predetermined by the

qualities of particular places or environs, nor is it wholly woven from the histories of experience in that place. Rather a sense of belonging emerges at the junction between feelings of attachment to place and the sense of being part of a community with a history of experience in place. Belonging is then both constructed and lived. At times a sense of identity is expressed through the medium of place and material culture, at other times it is filtered through place and architecture.

The aim of this paper is to trace the history of the interaction between people and place over the course of the Neolithic period in the Orkney Isles, Scotland. It is central to my argument that senses of belonging alter over the course of the Neolithic. While during the Early Neolithic a sense of emplacement is at least partly built out of Mesolithic interactions with the environment, during the Later Neolithic a sense of belonging was constructed out of Early Neolithic interactions. Belonging is therefore a process, at the heart of which lies memory and history.

Constructing the Neolithic

The process of constructing monuments during the Neolithic has been described as a means by which human communities altered their spatial and temporal perceptions of the landscape. Monuments have been viewed as a means of elaborating particular natural places, an act which emphasises the prior significance of those places (e.g. Bradley, 1993, 2000a).

Given the constitutive nature of raw materials in monumental constructions, I suggest that we are compelled to accept that raw materials play an *integrative* role in defining the relationship perceived to have pertained between landscape and monument. They simultaneously comprise the fabric of the monument and define its limits, while also existing as fragments of the wider landscape. The selective use of raw materials in monument construction is critical to the process of interpreting the landscape since just as raw materials are constituents of the landscape they are also constitutive of the monument.

We need to focus then on the raw materials employed in megalithic constructions; materials may be considered as a means of defining the significance of landscape features (Tilley, 1993: 76 suggested this in relation to the passage graves of Vastergotland, Sweden, for instance). Alternatively, we may consider the possibility that the use of differing constructional materials constitutes an active interpretative process, a process which is bound up with the definition, and classification of, both the material and social worlds. The deployment of differing substances both architecturally and artefactually may be one means by which we signify differing temporalities. Materials with different life-spans or of differing durability may be used to frame and articulate the ephemeral or concrete nature of relationships between people. Furthermore, the quality, colour and place of

origin of materials may be one means by which complex social identities are made concrete or articulated materially.[1]

Material Culture, Landscape and Place

While our analysis of issues of place and landscape in relation to monuments is relatively sophisticated, our treatment of these issues in relation to material culture is, by comparison, impoverished. It is notable that archaeological treatments of the relationship between environment, resources and material culture have situated themselves almost entirely within the discourse of cultural ecology.[2] According to such an approach the natural environment directly determines the mode by which humans exploit its resources. This approach to material culture has had considerable impact on the study of both ceramics and lithics.[3]

At this stage it is worth emphasising the point that while the construction of monuments imbues particular places in the landscape with significance, the process of monument construction is only one element of a wider set of practices through which humans relate themselves to the lived landscape. Indeed it is important to note that certain elements of the landscape, such as plants, animals, geology and topography should be considered to have had significance prior to the construction of monuments, since they comprise critical components of the lived and experienced landscape.

An important element of the process of inhabiting a landscape concerns the categorisation of places according to their topographic, geological and biological differences. Plants, animals, minerals and other natural elements such as water do not simply reflect landscape, they actively constitute and comprise landscape in the lives and experiences of the inhabitants. I have argued above that the raw materials which make up monuments are integrative of monuments. They define a relationship between monument, place and landscape. We may think of other forms of material culture in precisely the same way. Material culture is composed of the raw materials which make up the culturally categorised and lived landscape and as such the constitution of material culture defines a set of relationships between the object and particular places in the wider landscape. The significance of particular places in the landscape is an important structuring principle in the configuration and use of artefacts symbolically.[4]

However, the relationship between place and monuments and place and mobile forms of material culture is quite different. While the construction of monuments involves the establishment of a significant fixed place in the landscape through the use of elements of that landscape; the relationship between material culture and place is more fluid; objects are not fixed in place and therefore more powerfully they may carry with them the significance of particular places over a wide area.[5] This is most spectacularly demonstrated by the analysis of

the production and use of polished stone axes, whose relationship to particular places appears to have significant impact on their subsequent distribution, use and deposition (Bradley and Edmonds, 1993).

The technical processes involved in the extraction and working of objects which once constituted fragments of the landscape are, at the same time, processes that aid the maintenance and reproduction of social relations due to their significant relationship to places with their inherent association to specific identities. The procurement and production of artefacts therefore involves an active process of memorialisation. More importantly, due to the animate nature of objects, the object and its place specific memories may be carried from one context to another.[6]

Natural Histories and Social Identities

I have argued above that human beings inhabit landscapes by imbuing landscape with significance; each feature of the landscape invokes a series of culturally established ideas concerning the nature of the world. More importantly the action of people within that landscape creates significance; humans are implicated in landscapes. Action creates significance in particular ways; it defines the relationship between specific places and the identities and memories of certain individuals.[7] So far, in the sections above, I have discussed the relationship between places and monuments and places and material culture. In each case the relationship between the two is subtly different: the work of constructing a monument, draws on the significance of place, but also transforms that place. Monuments are made into places, and places are made into monuments. But places impact upon material culture in different ways, material culture is constructed out of materials that have a place specific significance, however the production of artefacts need not necessarily involve the creation of new kinds of place.[8] Instead the significance of artefacts extend beyond specific fixed places.[9]

I want to explore these ideas in relation to the notion of life histories. In the case of monuments we are familiar with the concept of sites having their own specific life histories, which extend from construction, to use, to their reworking in later periods.[10] Similarly the notion of artefact biographies has wide currency. Here we might understand the life of artefacts inter-cutting with the life histories and identities of the people who made, used, exchanged and deposited them.[11] Both artefacts and monuments are interwoven with the lives of the people who were involved in their construction and use, however we tend not to reflect on the way in which the biographies of artefacts intersect with those of monuments, and *vice versa*. If we entertain the point discussed above concerning the contrasting relationships between places, artefacts and monuments, we come to realise that artefacts and monuments are critically different. Given this, an analysis of the manner in which the place specific biographies of one strand of Neolithic life

impact upon another should allow us considerable leverage in discussing the nuanced ways in which the memories and identities of objects and of monuments are entangled. Such an analysis also enables us to examine the modes by which the material nature of the environment is deployed as a means of building up a culturally specific understanding or history of the world (see Lovell, 1989b). In other words how the raw materials of the natural world are employed to describe and memorialise the social world.

Worlds of Stone

The islands of Orkney, an archipelago of some seventy islands of varying size, are situated off the Northern coast of Scotland (Figure 1). The archaeology of Orkney commences with human activity during the later Mesolithic. The date and status of the artefactual material which comprises the Mesolithic of Orkney has seen considerable debate, however recent re-analysis of this material cogently argues for occupation of the islands by the later Mesolithic (Saville, 1996). Interestingly the distribution of flint assemblages which may be securely ascribed a

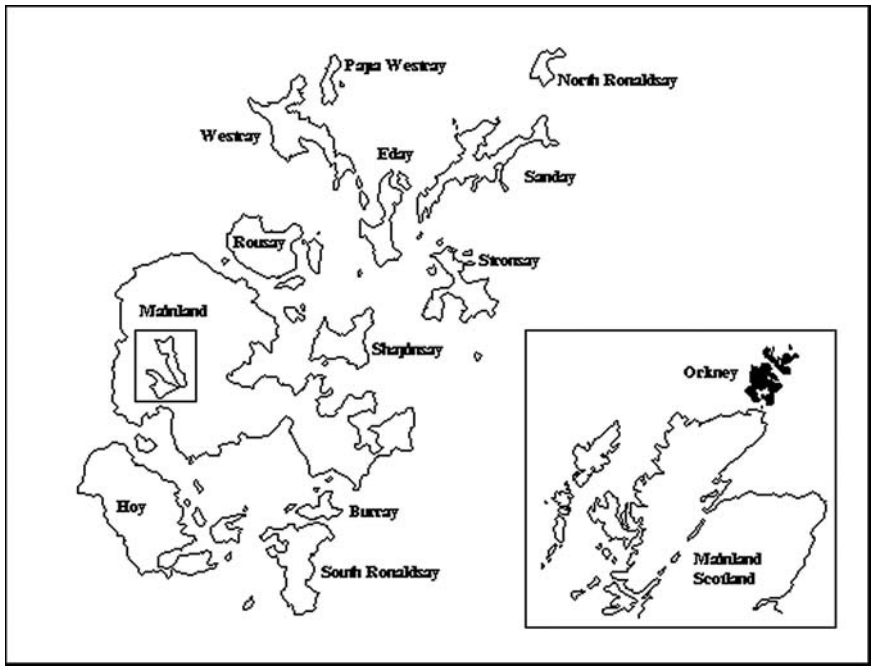

Figure 1. Location of Orkney Isles.

Mesolithic date prefigure the areas of Neolithic occupation, with artefact scatters in the West Mainland, Rousay and Papa Westray.[12]

It would appear that the climax birch and hazel woodland saw at least three episodes of decline which led to the creation of an open heath/grassland landscape[13]. We appear to observe fairly dramatic changes in the nature of the landscape from the Mesolithic to the Neolithic (see Tipping, 1994). This change in tree cover would have altered the perceptual experience of the Orkney landscape, from one which was dominated by fairly close views to a quite different landscape in which views were distant and loch, sea, sky and land merged. The environment occupied by people during the Neolithic of Orkney was largely open. In this treeless landscape the presence of outcrops of stone would have been obvious. The topography of the west of Orkney is made up of high sea cliffs exhibiting a number of spectacular rock formations such as caves, stacks of stratified sandstone, sea arches and gloups (collapsed cave tunnels). The shores of sea and loch are likewise dominated by stone, with pavements of tessallated rock and areas of ancient solidified seashore (Figure 2). In some areas of shoreline, dykes of igneous rock protrude between the bedrock and run exposed for a few metres. The cleared landscape has a texture that consists of a variety of rock formations of different lithologies and colours which demarcate varying topographic zones. Unsurprisingly, one of the defining characteristics of the Orcadian Neolithic is the almost exclusive use of stone as a constructional material. The local Caithness flagstone, which is easily

Figure 2. Tessellated pavements on the shoreline of Orkney.

split along its bedding planes, is the most commonly utilised material used for the drystone walls and corbelled roofs of chambered tombs, passage graves, houses and, by the later Neolithic, large slabs of flagstone were used in the construction of stone circles surrounded by henges.

I want to examine the significance of this material during the Orcadian Neolithic and its relationship to issues of place, memory and identity. Before commencing with this investigation it is worth pointing out that the nature of the archaeology of the earlier and later Neolithic is quite different. During the earlier Neolithic (mid-late fourth millennium BC) chambered tombs are generally linear constructions with an internal space divided by a series of opposed orthostats (Figure 3), an architecture analogous to contemporary house sites, such as the Knap of Howar and Stonehall.[14] By the later Neolithic (late fourth/early-mid third millennium BC) the spatial arrangement of architecture has altered: houses are circular with a central hearth and stone furniture arranged in a cruciform manner around this central axis (Figure 4). Later Neolithic passage graves conform to the same layout with a long passage entering a central chamber with a series of offset side chambers. The same groundplan is found in the two Orcadian henges, the Stones of Stenness and the Ring of Brodgar. Each consists of a circle of standing stones surrounded by a ditch. Importantly the large central hearth at the Stones of Stenness parallels the hearths at the centre of the house (Richards, 1994).

Inhabiting Worlds of Stone in Earlier Neolithic Orkney

Architecturally earlier Neolithic chambered tombs are complex, they consist of a double skin of walling with an internal space divided up by a series of opposed

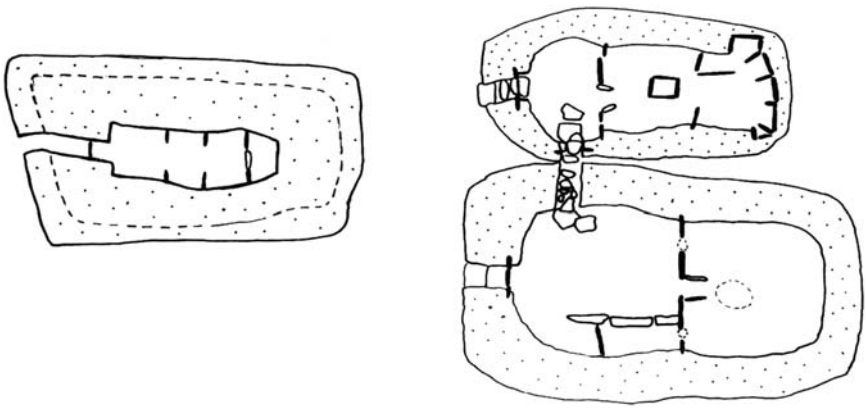

Figure 3. Architectural comparison of Orcadian Early Neolithic houses (left) and tombs (right).

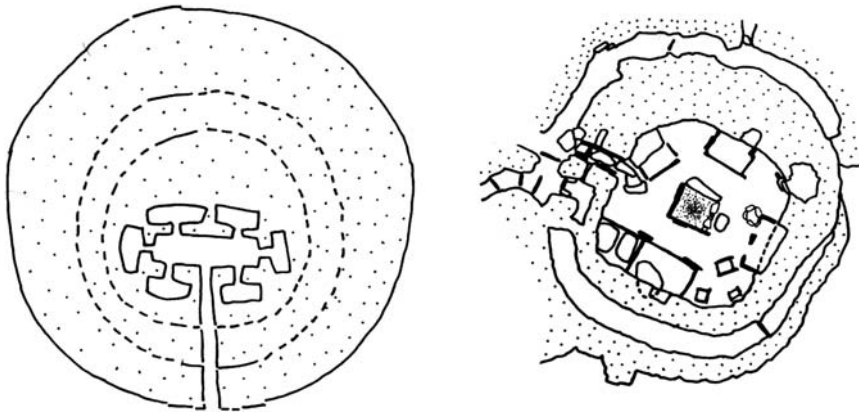

Figure 4. Architectural comparison of Orcadian Late Neolithic houses (left) and passage graves (right).

orthostats. The back chamber of each tomb is dominated by a large orthostatic backslab. The architectural variety of Orcadian chambered tombs is generally encapsulated within two broad category, bi- or tri-partite tombs or stalled tombs (Henshall, 1963). These categories distinguish the number of orthostats used to define chambers. Architecturally the use of internal orthostats provides a link between the tomb and the house.[15] However, the double skinned walling ensures that the internal arrangement of the tomb and its external appearance is strikingly different from that of the house.

The architecture of earlier Neolithic monuments makes a number of references to the stone landscape of Orkney. The Caithness flagstone which dominates the Orkney landscape is laid in a series of strata and the construction of chambered tombs involves a similar sequential layering of thin slabs of rock. The walls reproduce the horizontal strata of bedrock, while the corbelling simulates the unusual formations of caves and sea arches.[16] The important point is that this constructional method arose out of the stratigraphic formation of the landscape, a process which indicates an awareness of the properties and appearance of the constituent elements of the landscape.[17]

Some of the best examples of these homologies come from the well preserved tombs on Rousay. The island of Rousay is striking, like much of the west Mainland of Orkney, it is formed of a series of terraces, produced through the differential weathering of hard and soft rock strata.[18] The exterior walls at Blackhammer, the Knowe of Yarso and Midhowe are all constructed in such a way that the lower courses of stones are arranged at opposing angles. This feature has been considered as decorative and its relationship to the patterns on earlier Neolithic Unstan pottery has been noted (Figure 5). I believe that rather than reproducing

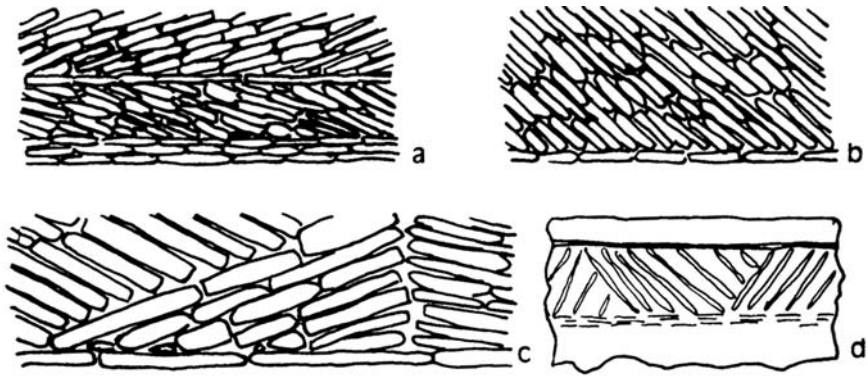

Figure 5. Relationship between cross-hatched decoration of outer walls of chambered tombs and the decorative scheme of a typical Unstan Ware vessel. a) Midhowe b) Knowe of Yarso c) Blackhammer d) Unstan Ware (after Callander and Grant 1937).

the horizontal strata of much of Orkney these particular tombs were reproducing the folded sedimentary structures typical of Orkney and Caithness.

Although folded sedimentary outcrops exist throughout Orkney and Caithness they are not drawn on in the construction of tombs throughout this area. The restricted nature of this constructional technique requires explanation. As noted above, the topography of Rousay and the West Mainland is unusual in representing a series of naturally weathered terraces. It is only in those areas where weathering occurs that folded sedimentary structures are exposed and it is only in these areas that the phenomenon is observed and reproduced in tomb architecture. Indeed we find that some of the constructional features observed so clearly on the Rousay tombs occur in other areas where folded sedimentary structures are visible. A tomb at the Head of Work, West Mainland is constructed with cross-hatched exterior walls, while the tomb at Unstan, West Mainland has a lower and upper course of cross-hatching.

The building of tombs involved a close observation and interpretation of features of the local landscape. However there are other ways in which tombs address their localities. A number of chambered tombs were constructed conforming with outcropping rock strata, the most striking example being the Knowe of Yarso which sits on a hill terrace atop a large outcrop of rock. Similarly, the chambered tombs at the Knowe of Rowiegar and Midhowe were constructed on the rocky seashore. When these monuments were first constructed it is likely that they would have indivisible from the surrounding geology.

A number of the tombs on Rousay and the West Mainland also have an unusual plinth projecting from the lower wall course of the cairn. Interestingly this occurs in precisely the same tombs that are constructed with cross-hatched walls (e.g., Blackhammer, Midhowe, the Knowe of Yarso and Unstan). This plinth gives the

cairn a stepped profile, redolent of the stepped profile of the wider terraced landscape of the West Mainland. Furthermore, on Rousay each tomb was built along the axis of the terrace, meaning that it is only from the terrace immediately below that the tomb becomes apparent, false crested on the edge of each terrace. From the middle terraces the tomb merges with the axis of the hillside. It is on the lower terraces that evidence for settlement occurs, and it is likely that tombs were constructed to appear to merge with the landscape when viewed from this location.[19]

The most striking example of the interpretative process involved in the construction of tomb architecture is the Dwarfie Stane, Hoy.[20] This remarkable monument consists of an immense slab-like boulder which has been hollowed out in the interior in order to conform to the architecture of an earlier Neolithic tomb. Its entrance was sealed by a large stone slab; a fragment from the construction process itself. The site is situated in a boulder strewn valley and when its entrance was sealed its form would have merged with that of the surrounding geology.

Visually and texturally the outer walls and landscape locations of earlier Neolithic chambered tombs are coextensive with the materials, rock formations and outcrops from which they are built. This point implies that the constructional process required that resources remained largely undifferentiated from their natural state. What we appear to observe in the construction of earlier Neolithic tombs is close attention to *local* topographic and geological features. The landscape was being rebuilt on its own terms.

Clay, Stone and Place in Earlier Neolithic Orkney

There are two distinct forms of pottery produced during the Orcadian earlier Neolithic. Both are round based, one form is a deep bowl with little decoration apart from the addition of lugs near the rim, the other known as Unstan ware is shallow with a wide collar often decorated with the cross-hatched designs redolent of the outer walls of earlier Neolithic chambered tombs (Figure 6). While the two pottery forms are distinguished in morphology and decoration, they are also distinguished by the kinds of context in which they are deposited; with plain bowls generally deposited in settlements and Unstan ware in mortuary contexts.[21] Unstan ware relates to the chambered tomb in ways that are both physical and metaphorical: through context, through decoration and through the similarity in the shape and in construction of pot and tomb, each being constructed of interlocking coils of clay or interlocking walls of stone.

Two ceramic forms are produced out of clay with the addition of rock temper. Analysis of 60 petrological thin-sections from plain bowls from Stonehall, Mainland sites A and C reveals a remarkably similar technology. In the case of both sites undifferentiated boulder clay or clay derived from weathered dyke sources was utilised. Both sources of clay still contained the glacially rolled pebbles typical of

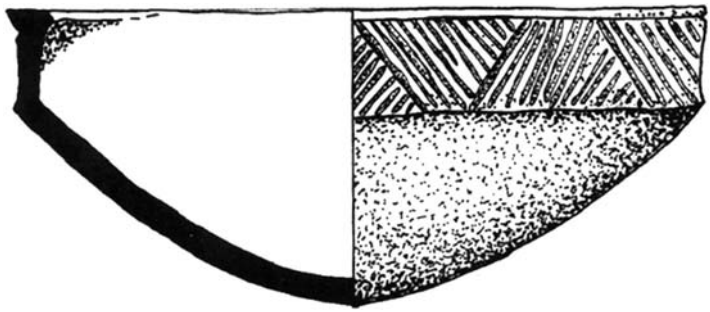

Figure 6. Unstan bowl from the chambered tomb of Unstan illustrating the form and decoration of a typical Unstan Ware vessel (after Davidson and Henshall 1989).

this material. In the case of the weathered dyke sources these were provenanced to the local shoreline at the Bay of Firth. This manufacturing method has also been noted for other earlier Neolithic settlement sites, such as Pool, Sanday and Knap of Howar, Papa Westray.[22]

The Unstan ware from settlement sites such as Pool and the Knap of Howar displays little differentiation in materials and manner of construction. However, it can be deduced from the early petrological work of Scott and Phemister (1942) that the Unstan assemblages from chambered tombs such as Unstan and Taversoe Tuick deploys a diversity of sources. Notably the secondary stage of production involves slipping the outer surface of the pot and then burnishing and decorating it which substantially alters the outer appearance of the pot.

Just as the construction of chambered tombs involved a process whereby the raw materials out of which the tomb was built were coextensive with the tomb itself so the construction of earlier Neolithic pottery forms involved little differentiation between materials and locality. The place from which the clay was derived does not appear to structure the technology of manufacture, pots produced in different areas of the Stonehall settlement as well as elsewhere were produced in precisely the same way.

Although the tomb was undifferentiated in construction the interior and exterior of the tomb refer to quite different places. The interior of the tomb referred most closely to the architecture of the house, while the exterior reveals a close relation to specific locales in the landscape. In precisely the same way the interior and exterior of earlier Neolithic pottery refers to quite different things. In the case of plain bowls the process of slipping and burnishing simply reveals the undifferentiated nature of the fabric of the vessel. However with Unstan ware the decoration of the collar of the vessel refers strongly to a particular place, the tomb. In short the undifferentiated nature of the fabric of Unstan ware is disguised by the motifs on its outer surface.

The biography of these vessels is also quite different. The use of Gas Chromatography allows us to distinguish the uses of certain pottery forms. I have previously argued that the two classes of pottery are likely to be involved in two quite different forms of consumption practices. The analysis of six samples from plain bowls from Stonehall suggest that they were used for the consumption of cattle milk and cattle meat within the confines of the settlement, while Unstan ware is more likely to have been involved in mortuary feasts, possibly involving the consumption of barley amongst other things (Jones, 1999).

Biographically it would appear that the two forms of pottery refer to quite different dimensions of human experience, associated with different aspects of social identity. In the first instance plain bowls appear to be largely undifferentiated both through production and use. They are bound up with the daily practices of food consumption. The production and use of Unstan ware is quite different. Unstan ware is produced from undifferentiated clay. It is then slipped, burnished and decorated. The decoration traditionally draws on the cross-hatched nature of the outer face of the chambered tomb. It is notable at this stage that, although we see slight differences in the execution of designs on different Unstan vessels the overall similarity of the design refers more generically to the tomb and the dead. Unstan vessels may be utilised in the settlement, as indicated by finds of Unstan ware at Knap of Howar, however the place of final deposition is usually the chambered tomb. The identity of the vessel changes over it's lifetime. Firstly it is undifferentiated, secondly it is decorated and through decoration a link is established between vessel and tomb. However it is only once the vessel has been incorporated within the tomb that the relationship between the identity of the pot, the tomb and the person associated with it is revealed.

I now want to consider the relationship between place, identity and other forms of material culture. During the earlier Neolithic the sources of stone for the production of stone axes are local, as indicated by the petrological examination of the axe from Knap of Howar (Williams, 1983). Again we might consider polishing as a means of revealing the relationship between material, place and the place-centred identity of the individual employing the axe. This is a point I want to explore further below in relation to Late Neolithic stone implements. The use of flint for chipped stone tools also appears to be related to local sources with beach flint being the main resource utilised during the earlier Neolithic at the Knap of Howar. As we shall see, the reliance on local sources of stone contrasts with the situation for the Late Neolithic.

Stone axes from settlements including the Knap of Howar and Stonehall are relatively pristine although used, contrasting strongly with the chipped and abraded state of examples from chambered tombs such as Blackhammer, Rousay, the Calf of Eday Long and Calf of Eday Southeast, Eday and Huntersquoy, Eday. The distinction between flint assemblages in the two contexts is mainly in the types of implements found. Settlement assemblages have a predominance of debitage and

unretouched blades as well as tool forms such as scrapers, and retouched blades, chambered tomb assemblages on the other hand have a predominance of finished tools including scrapers and leaf arrowheads.

The distinction in flint tools in each context suggests that finished artefacts are chosen to be deposited with the dead due to their close relation with identity related tasks. In a similar vein, the worn nature of stone axes suggest that they are tools whose histories are closely related to the biographies of specific individuals. Here it is likely that the relationship between the locality of resources and the use of artefacts during life converged during mortuary rituals as a means of expressing individual identity.

Memory, Place and Identity in the Earlier Neolithic

The construction of chambered tombs evoked the local geological and topographic formations of particular places. Places of the dead were forged from the stony landscape. Outwardly they merged with that landscape thereby rooting the dead within stone. The act of construction created a place to which the dead belonged. A similar process of emplacement occurred for the living; highly localised resources were employed for the production of pottery and stone tools. The living were rooted in the landscape through their use of these resources. The memory of this process of emplacement was expressed in the activities surrounding the deposition of artefacts amongst the bones of the dead within chambered tombs. In some cases this remembrance linked the artefact, its use in daily activities and the identity of individuals. However in the case of some more specialised artefacts, such as Unstan pottery the destiny of the chambered tomb was written upon the object. The deposition of an Unstan vessel within a chambered tomb was a mnemonic act which realised the link between the earth out of which the pot was created and the stone out of which the tomb was constructed. This act thereby reinforced the importance of the chambered tomb as a place of remembrance; not only as a place for commemorating the dead, but as a place in which the very act of construction commemorated the link between the stony landscape, the tomb and the dead.

Clay, Stone and Place in Later Neolithic Orkney

I will now consider the relationship between stone and clay as raw materials and the expression of memory and identity in the Orcadian later Neolithic. In my account of the later Neolithic I want to order my discussion in the reverse, commencing with artefacts and progressing to monuments. The reasons for this will become clear as the discussion proceeds.

The later Neolithic settlement at Barnhouse is situated on the Stenness peninsular in the central bowl of Mainland Orkney, an area dominated by a series of ceremonial monuments including the Stones of Stenness henge and the Maes Howe passage grave. The village at Barnhouse consists of around twelve houses (Figure 7), each built according to a uniform set of principles with a central hearth and a cruciform arrangement of stone furniture set at the cardinal points around this axis. The village is of two broad phases of construction: the first characterised by a set of smaller houses in a concentric arrangement around a large central space. The final phase of activity at Barnhouse is marked by the construction of a monumental house, structure 8, which draws on the architecture of house, henge and passage grave (Richards, 1993b).

Detailed petrological analysis of the Grooved ware assemblage from Barnhouse (Jones, 1997, 2002) reveals a number of important points concerning the mode of pottery production. The use of shell as a tempering medium was confined to the houses situated at the centre of the settlement. In contrast to the houses at the periphery of the settlement which employed rock temper (see Figure 7). Detailed examination of the rock tempered pottery from the peripheral houses indicated that each house was employing its own specific temper "recipe". This suggests that in these houses pottery production was an individual household based activity.

A provenancing project undertaken in the environs of Barnhouse indicated that the sources of rocks used in each household were located in a series of significant places, either close to the earlier Neolithic chambered tomb at Unstan, or to a probable late Neolithic settlement at Bookan.[23] The selection of rock sources by specific households may indicate that certain places are closely identified with particular individuals or groups. In both of these cases, people are presenced in the land through rights of access to, or ownership of, resources.

It is not simply that individual rock sources were employed in tempering vessels, rather rock sources from different locations were combined in the production of vessels used in individual houses. This suggests that the act of combination provided a metaphor for the creation of links between different households and communities. This is most obvious when we examine the Grooved ware from the later phase large monumental structure 8. The pottery associated with this house contained all those rock sources that had previously been employed in discrete households. The production of pottery here would appear to represent communal production and sharing in a very concrete manner. Importantly the knowledge concerning the location of rock sources was preserved in memory, although the precise use of these resources had altered.

The production processes instantiate a narrative of identities and places—a biography which is written in terms of geographical references. Pottery production involves a process in which remembrance is actively produced and reproduced just as it provides a context for the production and reproduction of social relations. The secondary stage of Grooved ware production at Barnhouse involved slipping

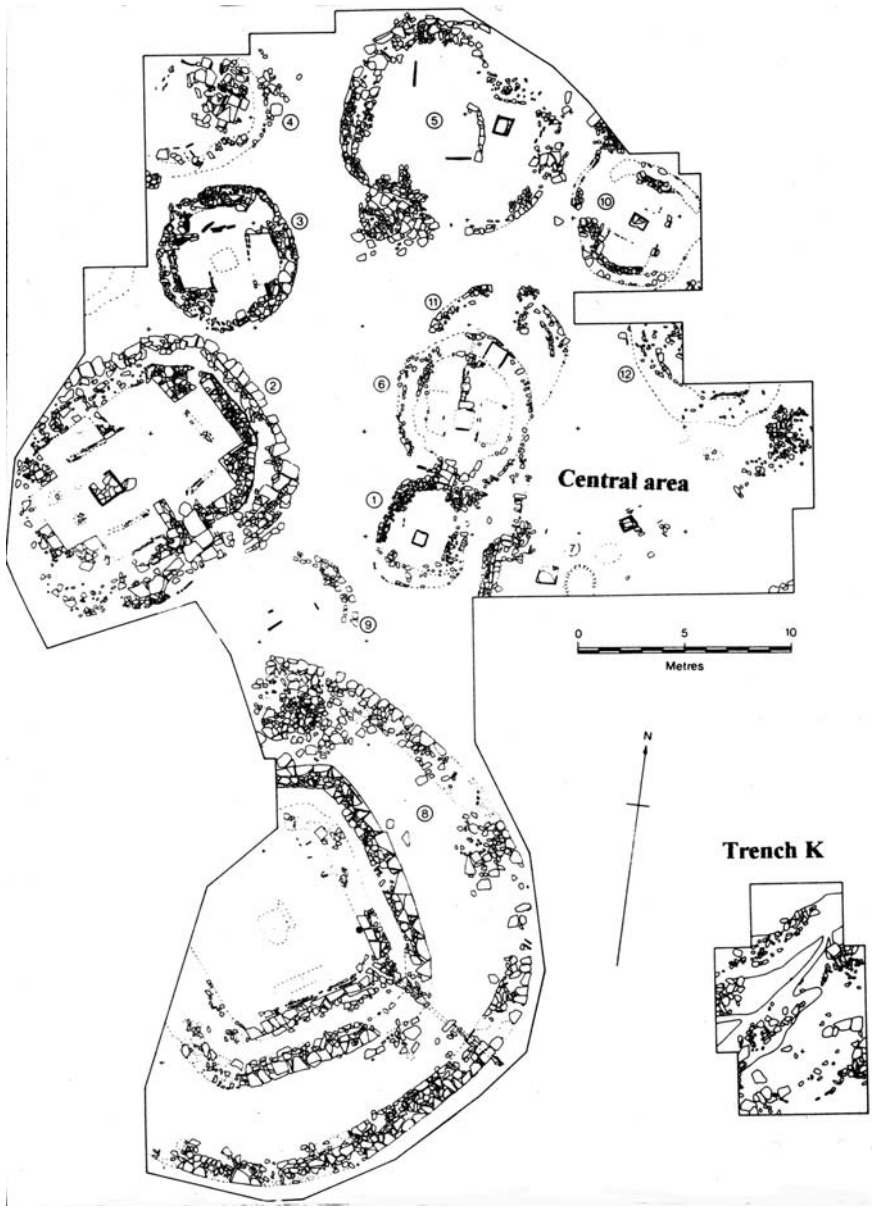

Figure 7. The Late Neolithic settlement at Barnhouse.

the surfaces of vessels; hiding the material traces of the social relations involved in primary production. The memory of these relations are embedded in the fabric of the pot. After slipping, the pot is either burnished or decorated. Importantly, the decorative scheme employed on small and medium size Grooved ware vessels at Barnhouse is common throughout the settlement suggesting an expression of communal identity. This practice is not unique to Barnhouse, during the earliest phases of the later Neolithic it would appear that each settlement is decorating pottery in a specific way. Decoration is therefore closely tied to a settlement specific identity.

I argued that the cross-hatched designs on earlier Neolithic Unstan ware evoked the geology of the local landscape. It is possible that similar references occur between pottery decoration, tomb and landscape during the later Neolithic. It is well established that there is a close relationship between the motifs on Grooved ware and those found in passage grave art. Recent analysis of the motifs on the Grooved ware from Skara Brae suggest a close relationship between the overall design of Grooved ware and the wider landscape. Lozenges bear close resemblance to the tessalated pavements of coastal bedrock (see Figure 2), while the wavy motifs characteristic of Orcadian Grooved ware are redolent of the undulating fossilised seabeds also found in a coastal setting.[24]

Social relations are therefore inscribed on the surface of the vessel and on the landscape. Pottery decoration itself involves an active process of memorialisation, in which similarity and difference are articulated through particular decorative schemes. Moreover this inter-referencing may be articulated by designs related to certain aspects of the wider landscape. Pottery production at Barnhouse involves a very complex form of enacting remembrance. Two distinct "layers" of memory are bound up in primary and secondary production. The memory associated with primary production –related to the procurement and use of stone resources -remains hidden in the body of the vessel and must be performed through teaching and learning. In contrast, the memories bound up with the secondary process of decoration are written on the surface of the vessel and are elicited by visual observation. Notably, the hidden aspect of remembrance is associated with the precisely defined, or hidden, location of dyke rocks within the landscape, while the visible aspects of remembrance are linked to the bedrock which remains highly visible within the Orkney landscape. Production, memory, identity and landscape cohere metaphorically.

This fine-grained understanding of the relationship between pottery production, memory and identity allows us to throw some light on the way in which stone tools are perceived during production. In order to draw this out we need to turn to house 2, Barnhouse. There are a number of points we need to consider concerning the stone tools within this house (for a fuller discussion see Jones, 1997, 2002, forthcoming). Firstly, the presence of a number of unfinished maceheads and stone balls recovered from the confines of the western room of house 2 suggest that this room was a production area. Interestingly, due to the architecture of house 2 the production of stone tools in this room would have been hidden from view. More

importantly all of the stone tools found in the house were made of mudstone, precisely the same material used to temper the Grooved ware in this house. Given the relationship between resources and social identity expressed in the production of pottery, it is likely that the production of stone tools was also bound up with individual identity.

A number of other lithic sources occurred at Barnhouse, including flint and Arran pitchstone. Analysis of the production strategies of tools from these sources revealed little differentiation. Both flint and pitchstone were treated in the same way despite the exotic origins of the latter.[25] The curation of fourteen unworked flint nodules in a pit within structure 8, Barnhouse and the association between flint debitage and specific areas of the settlements such as Barnhouse, house 6 and Skara Brae, house 8 suggests that the production of flint tools was a controlled activity (cf. Childe, 1931, arguing that house 8 was a "workshop").

By comparison with the resources used in pottery it is likely that stone sources were closely identified with specific people although these resources are not disguised in the process of production. Rather, through the production activities of polishing or carving, they are enhanced. A clear example of this is reflected in the range of sources –of metamorphic or igneous rock with an attractive visual texture- used to produce maceheads and the variety of ways of carving stone balls.[26] It is crucial to the appreciation of these objects in the local context and during exchange that the memory of the relationship between resource and owner is clear. Flint and pitchstone appear to be quite different. The presence of pitchstone in Orkney embodies a social transaction, it is not implicated in the local lived landscape rather its meaning is implicated in its use in exchange. While flint was a more abundant resource, access to it was also controlled. The similarity of flint and pitchstone tools at Barnhouse suggests that their production was a context for the sharing of knowledge. Memory was not related to specific places in the landscape rather it was associated with the visible expression of sociality through exchange.

Memory, Identity and Habitation: The Biography of Later Neolithic Settlements

Late Neolithic settlements consist of clusters of stone-built roundhouses. Artefacts mediate the social practices involved in the inhabitation of these houses. Grooved ware vessels are closely associated with the house, different sizes of vessel are used in different regions of the house (Jones, 1999). Large vessels are situated around the periphery of the house, often placed out of sight in alcoves and box-beds or set into the floor, while highly decorated medium and small vessels are more visible being associated with the cooking and consumption of food around the hearth. Stone tools such as maceheads, stone balls and axes are loosely associated with settlements, more often found as stray finds away from settlement sites. Petrologically we can demonstrate that axes, for instance, were involved

in inter-island exchange networks (ibid.). This flexible association between stone tools and settlements is likely to reflect their involvement in activities which occurred outside the settlement, although they may also be closely associated with specific houses. The stone chisel in house 2, Barnhouse was buried next to the eastern hearth suggesting that its use was prescribed and may have been involved in the specialised food processing activities which occurred in this area. Similarly, flint and pitchstone tools are found in association with the hearth probably reflecting hideworking at this focal location. The looser association between flint tools and houses is likely to reflect their use in hunting, butchery and meat processing.

Due to the use of artefacts in different regions of social practice, memory is bound up in the everyday tasks associated with both artefact and settlement. More importantly, remembrance is enacted through the production of the midden debris which is characteristically banked up around the walls of late Neolithic houses. Due to the petrological specificity of the Barnhouse Grooved ware, it was possible to link specific vessels within midden deposits to specific houses. This analysis revealed a complex set of depositional activities in which the distinction between the inner ring of houses and the outer ring of houses was reaffirmed.

Despite the initial relationship between deposition and identity, over time, identities associated with material objects are transformed as the midden becomes a homogenised mass, simply signifying a broad narrative of habitation. Midden deposits become associated with the ancestral occupation of the settlement and as such are incorporated as wall-core material into the fabric of the houses of the living. The settlement therefore becomes the archive of its own history.

However the accumulation of midden deposits over the life of the settlement has a curious effect, the accumulated deposits begin to form a mound. Due to this practice of creating a tangible reminder of the past the settlement slowly becomes transformed into a place of the dead. This final transformation is marked by the deposition of human remains and specific animal remains. For example, the main structure at the Links of Noltland contained a fully articulated sea eagle flanked by two cattle skulls covered by a rubble deposit. At Skara Brae houses 1 and 7 we see a series of deposits placed in the abandoned settlement, which include a human inhumation and a series of deposits of deer skulls and bones. In both of these cases it would appear that animals normally associated with passage grave contexts are being employed as a means of creating a new kind of place (Jones, 1998).

Constructing Worlds of Stone in Later Neolithic Orkney

Colin Richards (1996) has argued, in relation to the construction of the henges at the Ring of Brodgar and the Stones of Stenness, that the various distinctive features of henge architecture embody features of the wider landscape. These features include the rock-cut ditch, which Richards suggests remained water-logged

through much of the year, thereby representing the encircling Lochs of Harray and Stenness. Other features such as the bank represented the hills surrounding this area of Orkney and the internal ring of standing stones which represent the massive stacks of rock which are such a feature of coastal Orkney (ibid.). While these elements of henge architecture find their referents in the wider landscape of stone, earth and water so too the construction of passage graves incorporates aspects of that landscape. One way in which this is executed is by the incorporation of various animal species beneath or within the structure of the passage grave (see Jones, 1998) and the incorporation of human remains from earlier monuments (see Richards, 1988).

Just as animal and human remains incorporated in passage grave construction are derived from diverse places in the landscape so other materials used in their construction are derived from further afield. In contrast to the earlier Neolithic in which small slabs of flagstone are derived from the local landscape, the stones used to construct monuments during the later Neolithic are immense and are likely to have been quarried at much greater distances than the site of construction. The quarry at Vestra Fiold has been identified as the site from which many of the massive slabs of stone used in later Neolithic monuments were extracted.[27] The construction of later Neolithic passage graves also involves a process in which places converge and are commemorated. For instance at the Howe of Howe and at Maes Howe excavation has revealed the sites of probable earlier Neolithic houses beneath the passage grave structure.

Unlike the earlier Neolithic, some later Neolithic monuments witness the reworking of constructional stones through their embellishment with passage grave art. In Orkney much of this is executed as fine linear scratches. Again the motifs deployed may recall wider landscape features, as with those on Grooved ware. Importantly the art within Orcadian passage graves refers most explicitly to the contemporary motifs found in settlements such as Skara Brae, Barnhouse and Pool.[28] As motifs draw on wider landscape features, so the execution of motifs in passage graves "activate" or bring into focus other places in the landscape.

While the construction of passage graves is a specifically commemorative act, once constructed how are memories elicited? If we are to answer this question we need to examine the nature of artefact deposition in relation to passage graves. In contrast with settlements, passage graves contain very few artefacts. At Quanterness, thirty Grooved ware vessels were deposited in the tomb.[29] Examination of the Quanterness Grooved ware reveals that petrologically and decoratively three vessels (Figure 8) were clearly provenanced from Barnhouse (Jones, 1997, 2002). The biographically specific memories attached to these Grooved ware vessels is especially important in this context. It is notable that it is precisely those vessels which are involved in the everyday and highly visible act of consumption that are deposited within the passage grave. In the same way we can think of objects such as stone tools and flint [30] as presencing the life of specific individuals in this

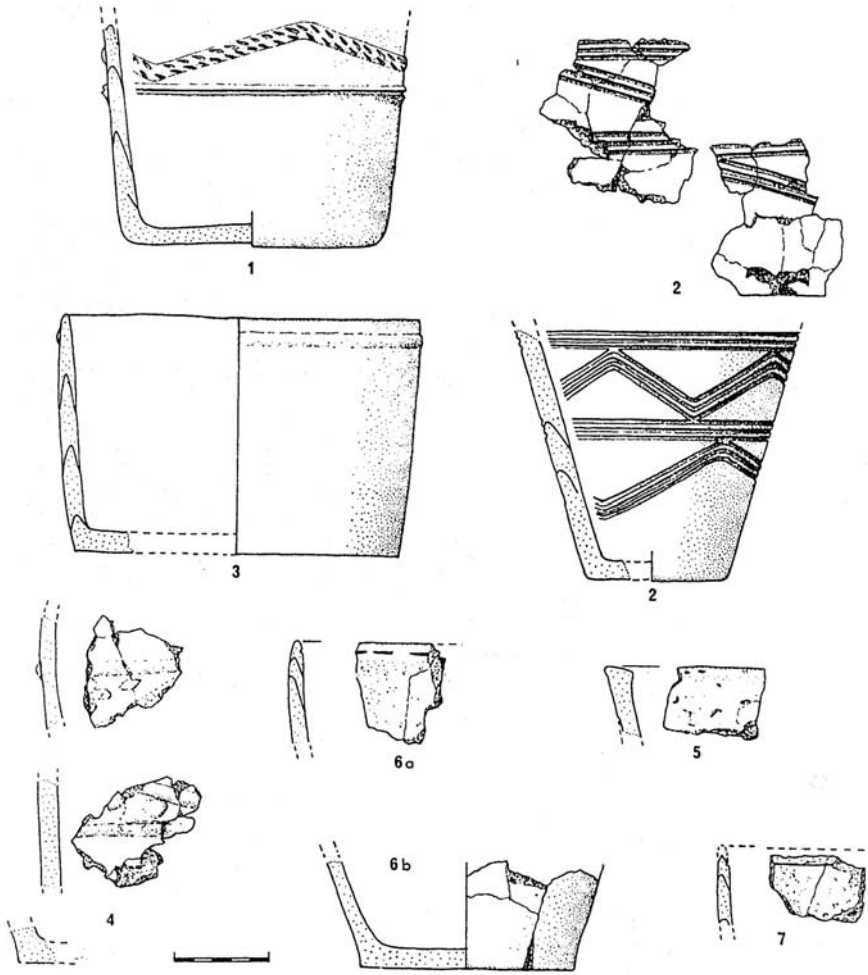

Figure 8. Grooved Ware from the passage grave at Quanterness. Pot number 2 is provenanced from Barnhouse on the basis of petrology and decoration.

context, in both cases objects are often found burnt or fragmented representing death and dissolution.[31]

Just as the process of occupying settlement sites produces a mound of midden surrounding a stone structure, so the construction of passage graves produces a mound of earth, clay and stone surrounding a stone structure. Materially then passage graves may be considered to represent the accumulated memories of past communities in an analogous way to settlements. However, while settlements contain the memories of past lives, passage graves contain the material remains of

the dead. The process of constructing passage graves commemorates the identities of specific individuals through the erection of structures of stone. What is more, these stones may themselves carry with them prior associations. The medium of stone is critical here since it materially endures. Just as we noted with regard to Grooved ware, resources, place, identity, and memory cohere in the process of construction.

The use of stone in the construction of monuments suggests a wider association between monument and landscape. The monument refers to the entire landscape rather than a single element of it. What is more the differences in the nature and use of stone in settlements and other monuments suggests that stones are used in order to refer to different aspects of human existence. In settlements small flagstones are used in drystone walling. Settlements undergo a succession of cycles of construction, destruction and renewal which is closely tied to the human life cycle.[32] The use of stones in passage graves and henges is quite different. Here immense slabs of stone are used, possibly derived from other monuments in the case of Maes Howe. Here stone is used to refer to permanence and qualities of endurance. In the case of henges their use refers to the permanence of a particular place and world-view, in the case of passage graves they are used to refer to the enduring memory of particular founding ancestors or kin groups.

Conclusion: Memory and Materiality in the Neolithic of Orkney

To recapitulate, stone ties people to place in the earlier Neolithic. Its use is local and refers to the inter-relationship of the dead with the local landscape. Clay, in the form of Unstan ware, keeps alive the memory of this relationship during its use-life, until its final deposition amongst the bones of the dead when it refers to the identity of the recently deceased. In the later Neolithic, clay is still used to refer to identities. However the intermixing of stone with clay in pottery production and the decoration of pottery with designs which signify a settlement-specific identity suggest that identities are both more complex and malleable and are associated more closely with landscapes of the living. In the later Neolithic, the use of stone in settlements and passage graves has come to refer to the concept of permanence; to the visible and tangible endurance of memory.

The materiality of resources changes over the course of the Neolithic and I believe this is linked to wider changes in the nature and perception of the landscape. I observed at the outset that during the Neolithic there were periods of deforestation in which the landscape opened up. During the earlier Neolithic movement through the landscape would have been through low scrub in which clearings centred around the construction of stone monuments. Views were restricted and the relationship between monument and place was localised. However as the process of clearance continued into the later Neolithic an open landscape with wide views prevailed and

the relationship between monuments and landscape drew on a wider perspective. In this landscape the main things to endure were the earlier stone built monuments of the dead and the stony bedrock of the land. It was these features that came to refer to ideas of endurance and permanence.

The mutual relationship between people and the landscapes that they inhabit enables us to consider how landscapes become the tools by which people create their understanding of themselves, their relationship to the landscape in terms of belonging and emplacement. However particular geographical places need not remain as static or fixed focuses for feelings of belonging. Instead we might think of social practice as performative of feelings of emplacement and belonging. It is this that I want to draw out in relation to the Orcadian Neolithic. The practices associated with inhabitation in the earlier Neolithic were closely related to fixed locations within the landscape, the tomb had a close homology with specific parts of the landscape, while the materials used to manufacture pottery and stone tools was tied to the ambit of the local. During its use-life the decoration of pottery in this period defined a relationship with the fixed point of the tomb. By the later Neolithic these ideas of place and belonging were altered, place remained important to the character and use of materials for both artefacts and monuments. However materials were now placed, or juxtaposed in relations of similitude—the notion of belonging was no longer related to fixed places, it was constructed out of the relationships between materials from different places.[33] Communities shifted in their definition from those defined by locality to those in which more open and contingent relations defined membership. Throughout this period we observe a shift in the material expression of ideas of belonging and a shift in the terms within which the feeling of belonging was experienced.

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Notes

1. For the relationship between materials and social identity see Tacon (1991), Bender (1998) and Parker Pearson and Ramilisonina (1998), for the relationship between materials and temporality see Bloch (1995), Parker Pearson and Ramilisonina (1998).
2. Rappaport (1968) remains the classic text propounding a cultural ecological approach to anthropology.
3. For examples of cultural ecology in relation to ceramics see Matson (1965) and Arnold (1985), for an example of environmental determinism in relation to lithics see Torrence (1986).
4. For the relationship between material culture and landscape see Kuchler (1993), for an analysis of the constitutive nature of natural materials in the production of artefacts see Tilley (1999: 102–133).
5. Munn (1986) provides a detailed analysis of the ability of material culture to presence individuals in a wide spatio-temporal context. See also Gell (1998) for a discussion of the animate nature of artefacts.

6. Bohlin (1998) provides a cogent example of the way in which artefacts derived from the destroyed remnants of District Six, Cape Town, South Africa, were used to reconstitute the memory of place.
7. For discussions of the relationship between action, identity, place and memory in an anthropological context see Gow (1995), Weiner (1991), Rosaldo (1980). For the implications of this relationship in an archaeological context see Gosden and Lock (1998).
8. However, the process of mining or quarrying may be active in the creation of new places, see Bradley (2000a), Bradley and Edmonds (1993), Cooney (1998).
9. Casey (1987) suggests that we might consider the body, whether mobile or stationary, as the site of place. Given the animate nature of artefacts, might we also consider artefacts as a focus for place consciousness?
10. For an approach which examines the extensive life histories of monuments see Bradley (1993, 1998a, 2002) and Holtorf (1998).
11. The notion of a biography of things has been extensively discussed by Kopytoff (1985), Thomas (1991), Weiner (1992) and Hoskins (1998). For the use of the concept in an archaeological context see Edmonds (1995), Thomas (1996), Tilley (1996), Gosden and Marshall (1999) and Jones (2002).
12. For further information on the distribution of Mesolithic flint scatters in Orkney see Richards (1993a), Wickham-Jones (1995) and Saville (1996).
13. For information on the palynological data for the Mesolithic to the Neolithic see unpublished PhD thesis by Bunting (1993).
14. See Ritchie (1983) for Knap of Howar.
15. For a discussion of the homology between house and tomb see Richards (1992, 1993a).
16. We must be wary of treating this constructional process as a simple ergonomic or engineering problem (Barber 1992), rather there are manifold ways in which the materials employed could have been utilised in order to construct a chambered tomb.
17. Bradley (2000b) has made a similar point in relation to the construction of the monuments at Clava, Invernesshire.
18. See Davidson and Henshall (1989) for a detailed account of the excavation of these monuments. The monuments of Rousay were excavated in a fifteen year campaign by Walter Grant, the principal landowner on the island, with the aid of notaries such as James Graham Callander and Vere Gordon Childe.
19. Settlement evidence is defined in this location by artefact scatters and the well known settlement at Rinyo (Childe and Grant 1938), which has an occupation sequence running from the early to late Neolithic.
20. See Calder (1936) for an analysis of this remarkable monument.
21. There is an overlap in the kind of context in which plain bowls and Unstan Ware are deposited. However, there is a broad distinction between plain bowls and settlements and Unstan Ware and tombs, see Jones (2000).
22. For the petrological analysis of the Pool pottery see MacSween (1990, 1992). For the petrological analysis of the pottery from Knap of Howar see Williams (1983).
23. See Jones (1997, 2002) for details. Settlement site at Bookan, Calder (1931). Unstan Tomb, Clouston (1885).
24. See Shephard (2000) on the Skara Brae motifs. Of course, the relationship between landscape feature and motif will have some degree of ambiguity, as do all symbolic representations. For an example of just such a polysemic analysis of landscape and artistic representation see Morphy (1991).
25. See Thorpe and Thorpe (1984) on provenancing Arran pitchstone.
26. It is precisely because of the relationship between carving technique and social identity that we find stone balls so difficult to classify typologically.
27. The site is noted as a possible quarry in the Royal Commission Volume of 1942 and is presently the focus of fieldwork by Colin Richards.

28. See Bradley (1998b) and Bradley et. al. (2001) for recent discoveries of passage grave art in Orcadian passage graves. See Ashmore (1986) for original observation of passage grave art in Maes Howe.
29. For Quanterness report see Renfrew (1979). For analysis of contents of other Orcadian passage graves see Davidson and Henshall (1989).
30. Where we see flint tools or stone tools deposited in passage graves these are either finished tools such as the flint scrapers and knives from Quanterness, Quoyness, Isbister and Taversoe, or fine examples of worked stone such as the objects from Quoyness or the maceheads from Isbister and Taversoe. The numbers of objects deposited in the context of passage graves and later chambered tombs is low suggesting a periodic cycle of deposition.
31. On the use of objects to presence absent individuals see Munn (1986), Chapman (2000). For the relationship between the physical state of objects and notions of remembrance and forgetting see Connerton (1989), Rowlands (1993) and Forty and Kuchler (1999).
32. We need not read stone as solely signifying notions of permanence and the presence of the ancestors (Parker Pearson and Ramilisonina, 1998). Rather, we need to be aware of the way in which materials are employed in practice as a means of signifying different life states.
33. Hetherington (1997) describes similitude as a process of *bricolage* in which discrete elements that had no previous order are brought into relation—this process is productive of the representation of fresh or novel identities.

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