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# Current debates on the Mesolithic-Neolithic transition in Britain and Ireland

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ABSTRACT – *In this contribution I address a series of recent publications which present revisionist accounts of the beginning of the Neolithic in the British Isles. New evidence suggests that we need to reconsider issues of population movement, diet, mobility and residence patterns. However, I conclude that a return to a model of colonisation by an agricultural population from the continent is premature, and seek to stress the distinct patterns of change that characterised Britain and Ireland respectively.*

IZVLEČEK – *V članku omenjamo serijo novejših objav, ki predstavljajo nov pogled na začetek neolitika na britanskem otočju. Novi podatki kažejo, da moramo na novo pretresti vprašanja o premikih prebivalstva, prehrani, mobilnosti in vzorcih poselitve. Menim, da je še prezgodaj, da bi se vrnili na model, pri katerem je kolonizacijo izvedlo kmetovalsko prebivalstvo s celine in skušam poudariti različne vzorce sprememb, ki so značilni za Britanijo in Irsko.*

KEY WORDS – *Mesolithic; Neolithic; Britain; Ireland; population movement; diet; Achnacreebeag; identity; timber buildings*

## INTRODUCTION – THE 'ISOLATION' OF MESOLITHIC BRITAIN AND IRELAND

Since Stuart Piggott's Neolithic Cultures of the British Isles (*1954*), and Humphrey Case's seminal article, 'Neolithic explanations' (*1969*), there has been more or less continuous debate over the nature of the inception of the Neolithic in Britain and Ireland. These arguments have revolved around the alternative possibilities of population replacement and the indigenous adoption of domesticates and Neolithic material culture; the relative importance of social, environmental and economic factors; the time-scale involved in the transition; and the degree of regional variation in the process of change. The problem has always been that the direct evidence relating to the period concerned has been very limited, and consequentially that what is known can be equally easily used to support a variety of quite different interpretations. In the past five or ten years, a range of new information has started to become available, from scientific analysis, from new excavations, and from the reconsideration of older finds. However, rather than providing a conclusive answer to the problem of the first Neolithic in Britain, the new evidence is contradictory, and points in a number of different directions. Probably what this tells us is that the Mesolithic-Neolithic transition was a more complex process than some earlier interpretations allowed for, and that we should be wary of generalisations that are based on the evidence from single sites, on single classes of data, or on small samples. In this contribution, I will offer one attempt to reconcile recent discoveries, in the full awareness that other accounts could be, and will be, presented.

The principal issues that I want to point to are the swiftness of the beginning of the British Neolithic, its simultaneity with that in Ireland and southern Scandinavia, the similarity of Neolithic material culture over wide geographical areas, and the apparent contrast with the growing evidence for economic diversity. The abrupt beginning of the British Neolithic

has sometimes been attributed to the sea-borne colonists from the European continent, bringing with them domesticated plants and animals, polished stone tools, pottery, and monumental architecture. This view was supported by Roger Jacobi's argument that the British Isles had been entirely culturally isolated from the continent during the later Mesolithic, from around 6500 BC onwards, following the loss of the land connection (*Jacobi 1976.80*). Jacobi's evidence was the non-appearance of trapezoids, rhomboids and 'Feuilles de Gui' in British lithic assemblages: all types that were found in the latest Mesolithic industries on the continent. It is the correlation of stylistic variation in material culture with the degree of contact between human communities that lies behind Alison Sheridan's argument that: '*Advances in our understanding of Mesolithic communities in Britain and Ireland do not lead us to believe that there had been... a significant amount of prior contact between communities on either side of the Channel (or indeed the Irish Sea) such as would facilitate exposure to novel resources and lifeways*' (*Sheridan 2003.4*).

Similar arguments have been maintained in Ireland: '*The Irish later Mesolithic has distinctive characteristics such as the lithic assemblage and a focus on fishing and gathering which do not suggest much contact with either Britain of adjacent continental Europe*' (*Cooney 2000a.13*).

However, in the Irish case the presence of bones of domesticated animals dating to the final centuries of the Mesolithic (if not earlier) from Ferriter's Cove, Kilgreany, Sutton and Dalkey Island demonstrate that some form of contact with the continent must have taken place (*Woodman and McCarthy 2003. 36*). Not only were wild cattle absent from post-glacial Ireland, but it appears that even in Britain the domesticated bovids of the Neolithic were entirely of continental origin (*Tresset 2000.21*). Yet again, a reliance upon material culture as an index of social isolation results in this evidence being interpreted in particular ways: '*Given what we already know about Ireland's Late Mesolithic inhabitants, with their relatively insular horizon, it would appear wholly far-fetched to posit that local Mesolithic groups sailed to the continent and brought back domesticated animals*' (*Tresset 2003.25*).

Because there were no Neolithic artefacts to accompany these animal remains, Tresset suggests that the creatures concerned may have escaped from the settlements of continental pioneer agriculturalists. Tresset's argument chimes with Gabriel Cooney's hypothesis concerning 'small-scale movement of farming groups from Britain and/or the continent into Ireland...' which would '...have set up an on-island interaction zone with the indigenous inhabitants' (*2000a.13*). Yet if such colonists existed in a horizon prior to 4000 BC, inadvertently releasing appreciable numbers of their stock into the Irish landscape, they have left no archaeological trace. On the other hand, on the North European Plain and in Scandinavia it seems that Mesolithic people were highly selective as to which elements of the Neolithic 'package' they should adopt from Bandkeramik and Rössen communities to the south (*e.g. Fischer 1982; Domanska 1989*). It may therefore be only a prejudicial view of hunter-gatherers as incapable of complex logistics, and a faith in artefact style as a measure of social interaction which support the view that Mesolithic populations in Britain and Ireland were 'isolated' on the eve of the Neolithic era.

It is worth reflecting on the latter of these assumptions. In the culture-historic archaeology of the mid-twentieth century, the stylistic attributes of material culture were understood as a straightforward reflection of norms held in common by human communities, and transmitted from generation to generation. However, the influence of one population on another might result in the diffusion of stylistic traits across space. With the emergence of the New Archaeology in the 1960s, attempts were made to place the study of stylistic variation on a firmer footing, within the broader project of casting material culture as a means of adaptation. In the context of the Pueblo pottery of the American South-West, Deetz (*1965*) and Longacre (*1966*) argued that the appearance of particular motifs on ceramic vessels from different settlements might directly reflect the degree of contact between them. However, later work cast this view into question. Martin Wobst (*1977*), for instance, suggested that stylistic variation in material culture was a means by which people might selectively signal their identities to specific target populations. Finally, Ian Hodder's (*1982*) ethnoarchaeological work in the Lake Baringo area of Kenya demonstrated that people were generally aware of the stylistic variation of artefacts, and could use it strategically to construct and negotiate identities for themselves in changing contexts. For instance, Hodder observed that it was possible for women to marry into a new tribe, adopting a new style of dress and set of artefacts and thereby transforming their identity. Consequentially, quite abrupt boundaries in the distributions of artefact types provided no indica-

tion of the intensity of social interaction across those boundaries. There is no sense, then, in which the existence of mutually-exclusive assemblages of artefacts in different geographical areas can be taken as an index of the degree of contact between the human populations involved.

Seen in these terms, arguments for the seclusion of Britain and Ireland in the later Mesolithic are somewhat threadbare. This is all the more so when we consider that the emergence of distinctive and mutually exclusive styles of lithic artefacts was a characteristic of the later Mesolithic throughout North-West Europe. Peter Gendel (*1984.125*) has demonstrated that in North-East France, Belgium, the Netherlands and western Germany there was patterned variation in stone tools, which he relates to the development of increasingly distinct social groups.

'*Through the course of the Middle and Late Mesolithic periods, discontinuities in the distribution of style were maintained in spite of interaction between neighbouring groups*' (*Gendel 1984.131;* my emphasis).

In much the same way as Hodder described in the Lake Baringo study, identities were being constructed and maintained irrespective of contact within and between groups. For the most part, the distinctions that Gendel identifies relate to different styles of microliths. While these are rather small artefacts, projectile points can be a highly effective symbol of identity amongst hunting and gathering communities, as Wiessner (*1983*) demonstrates. Within the British mainland itself the Late Mesolithic saw the development of distinctive lithic assemblages (again principally distinguished amongst the microliths) in different regions: the Sussex Weald, East Anglia, the Pennines, and so on (*Edmonds 1995.26*). Remarkably, the Irish Late Mesolithic flaked stone industry was homogeneous throughout the island, and quite distinct from any other European assemblage. However, as should be evident by now, this is no indication of a lack of contact with the 'outside world'.

Another important indication of the relationship between Britain, Ireland and the continent at the end of the Mesolithic is provided by Bryony Coles' recent discussion of sea-level change in the North Sea. This indicates that at around 4000 BC the area between Britain and the Netherlands was not open sea, but occupied by an easily-navigable archipelago of islands. It is even possible that a land-bridge survived until 3800 BC (*Coles 1998.76*). This further weakens the notion that Britain at least was disengaged from developments in northern France and the North European Plain. At the same time, current developments in strontium, oxygen and lead isotope studies have given us cause to reconsider human mobility in prehistory. It is arguable that throughout the past century our conception of population movements in prehistoric Europe has been one that is more appropriate to the Dark Ages and the Medieval period. People are imagined to have spent their entire lives in a small area, rarely finding their way as far as the next valley. Sporadically, though, whole populations or ethnic groups stirred themselves and migrated from one area to another. This assumes both that people in the distant past lived in large, endogenous, bounded groups (see *Thomas 2004. Chapter 5*), and that movement was an all-or-nothing affair. Alternatively, a continuous process of 'demic diffusion' is sometimes imagined, in which agricultural settlement expanded gradually and continuously across the continent, pushed forward by population growth.

Recent isotopic studies of human remains from Neolithic contexts challenge these views. For instance, work on a group of burials from an enclosed monument at Monkton-up-Wimbourne in Dorset (*Budd et al. 2003*), and on the Amesbury 'archer' Beaker burial nest Stonehenge (*Chenery 2003*) together suggest that particular people may have travelled considerable distances in the Neolithic, and not as part of any generalised population movement. More suggestive still are the results from a series of Bandkeramik cemeteries in southern Germany: Flomborn, Schwetzlingen, Vaihingen and Dillingen (*Bentley et al. 2003.484*). All of these sites contained a significant minority of burials that were of 'non-local' origin, and in each case there was a preponderance of females. The possibility that these were exogamous communities, and even that indigenous Mesolithic people may have married in to Bandkeramik groups, is an obvious conclusion. To this we can add the ethnographic observation that hunters and gatherers, particularly in northern climes, often have networks of kinship, sharing, exchange and visiting contacts that spread over hundreds of miles, and may sometimes embark on extensive hunting, fishing or trading trips (*Balicki 1968.80*). So while at any given time there may have been particular populations who were formally 'Mesolithic' or 'Neolithic', foragers or farmers, it is highly likely that single persons continually crossed back and forth over any boundary (spatial or conceptual) that existed between the two. The implication is that prehistoric societies in

Western Europe were porous rather than bounded, and that there was continuous interchange of personnel, rather than a unidirectional flow of agricultural colonisers from south-east to north-west.

## ACHNACREEBEAG AND THE 'IMMIGRANT COMMUNITY' HYPOTHESIS

It is in the context of these arguments that we should reconsider Alison Sheridan's recent discussion of the pottery from the megalithic chambered tomb at Achnacreebeag in western Scotland. In a series of recent papers, Sheridan (*2000; 2003; 2004*) has drawn attention to what appears to be a very early ceramic assemblage, from the primary filling of an open orthostatic chamber added in the course of the enlargement of a small megalithic structure (*Ritchie 1970. 35*). The antiquity and cultural affinities of the pottery are presented as evidence for an intrusive continental Neolithic presence in western Scotland at an early date, providing a point of origin for a series of later developments. It is on this basis that Sheridan concludes that: '*For most of Britain and all of Ireland, the evidence against Julian Thomas' model of a gradual transformation, with indigenous forager communities being the main agent of change, appears overwhelming – at least to this author*' (*2004.11*).

It is worth pointing out in passing that this is actually a misrepresentation of the argument that I have consistently made through a number of publications: '*This slow trend towards agrarian subsistence had superimposed upon it a much more rapid introduction of Neolithic material culture*' (*Thomas 1997.59*).

'*The very sudden cultural change from Mesolithic to Neolithic appears to be superimposed upon a much more long-term shift from food-gathering to food-production*' (*Thomas 1999.16*).

That is to say, the beginning of the Neolithic in Britain involved a series of conjoined processes which nevertheless proceeded at different speeds, and any adequate explanation will need to address these overlapping temporalities.

Sheridan's principal claim concerning the Achnacreebeag ceramics is that one vessel is highly comparable with the late Castellic pottery of the Morbihan area of Brittany, and in particular with a vessel from Vierville in Normandy, which shares its carinated form and nested-arc decoration. On this basis, she argues that the decorated bipartite bowls of the Beacharra II, Drimnagh and Ballyalton styles in Scotland and Ireland are all to be derived from the Castellic tradition (*Sheridan 2000.1*). A second pot from the Achnacreebeag chamber is argued to be Pinacle Ware, a style contemporary with Catellic and found principally in the Channel Islands. A third was a plain carinated bowl, and it is suggested that this too would not be out of place in Northwest France (*ibid. 4–7*). The monument itself, a simple passage tomb with a slab roof, also finds close parallels in Brittany. Sheridan concludes that both ceramic style and monumental form were spread to western Scotland by 'a small farming population'. '*The Achnacreebeag monument may well have been constructed by an immigrant community (or descendants thereof) from Brittany*' (*Sheridan 2003.5*).

Sheridan cites three principal reasons why a migrant population should be held responsible for the Achnacreebeag tomb and its pottery. Firstly, there was no existing tradition of either ceramic manufacture or megalithic tomb building in western Scotland before the start of the Neolithic. These material forms must thus have been introduced. Secondly, there was a lack of contact between Mesolithic groups in the areas around the Irish Sea, and none of these had links with Northwest France. Finally, there is no compelling reason why these indigenous communities should have adopted tomb-building and potmaking (*Sheridan 2004.10*). Now, as the first section of this essay will have made clear, the second of Sheridan's arguments can be discounted: it is highly likely that there was continuous contact and interaction between societies around the coasts of Britain, Ireland and Brittany throughout the Late Mesolithic and into the Early Neolithic. I will seek to demonstrate that the other two points are equally unsustainable, but first it is important to point to some of the other flaws in Sheridan's case.

We can begin with the composition of the Achnacreebeag assemblage. As Sheridan argues, the plain carinated bowl might be found in a Breton Early Neolithic context: but it is equally at home in the Scottish Early Neolithic. If the other two pots had not been present, its attribution would not be in doubt. The remaining vessels do not form a coherent grouping: Castellic and Pinacle Wares were characteristic of different parts of Armorica. If we for the moment accept Sheridan's identification of the pottery styles, the picture conjured up is one of the

'small farming population' from the Morbihan 'stopping off' in the Channel Islands to pick up some pots, on their way to the west of Scotland to build a tomb. The similarity between the Achnacreebeag and Vierville bipartite vessels is intriguing, but it is as well to remember the difficulties that attend the identification of stylistic affinity. From the time of Montelius onwards, typochronological ordering and cross-dating provided the basis for an understanding of European prehistory that was eventually demonstrated to be wholly erroneous by radiometric dating. Similarly, the identification of similar motifs and practices in different contexts around the world lay behind the excesses of hyperdiffusionism (*e.g. Smith 1929; Crawford 1957*). We therefore have to be very certain of the likeness of any two artefacts in distinct geographical regions before basing an interpretation on it.

The similarity of the Achnacreebeag and Vierville vessels may not be as precise as Sheridan suggests. The Achnacreebeag pot bears a motif composed of three nested arcs, as opposed to two in the Vierville case. These arcs are gently curved, while the Vierville ones are deeply concave, and are composed of narrow, irregular incisions, as opposed to the broad, regular grooves on the Vierville pot. The parallel short vertical lines running around the Achnacreebeag vessel immediately below the carination line are entirely absent from the Vierville pot, although they are by no means out of place in the Castellic tradition. Consequentially, it may be more appropriate to speak of a broad family resemblance between these artefacts. Furthermore, it is important to note that in both Ireland and Scotland the decorated carinated bowls of the earlier Neolithic were rather specialised vessels, which do not appear to have formed an homogeneous and exclusive assemblage. That is to say, they tend to be found in small numbers in 'special' contexts or in mixed assemblages. Thus the Beacharra bowls of Scotland have been recovered from chambered tombs (Beacharra itself, Clachaig, Bicker's Houses and Brackley) or as a minor element in assemblages of plain carinated or hemispherical bowls (*Kinnes 1985.48*). In northern and eastern Ireland, decorated bipartite bowls of various kinds have been found in various kinds of megalithic tombs, with cave burials and with single grave burials of the Linkardstown series (*Sheridan 1995.11*). Thus, even if we were to accept the culture-historic view of ceramic style as the manifestation of the cultural norms of a distinct population, these pots would be poor candidates for the diagnostic material culture of an immigrant population. It may be that ceramic petrology will eventually demonstrate that the Achnacreebeag bipartite bowl was of Breton origin. But even then, its presence in a mixed assemblage suggests the exchange of exotica, skills and personnel between communities, rather than population migration. Indeed, passage tombs with slab (as opposed to corballed) roofs are not appreciably earlier in Brittany than in Britain (*Boujot and Cassen 1992; 1993*), and it may be overly simplistic to imagine that they were merely transferred from one region to another, whether by migrant groups or by adoption on the part of passive indigenous communities. I believe that it is more helpful to consider processes of emulation, symbolic entrainment, appropriation and hybridisation to explain these connections.

## COLONISATION OR NEGOTIATION?

Another problem with Sheridan's model is raised by the very swiftness of the onset of the Neolithic (or particular aspects of it) to which she refers. Recently, Mike Richards (*2003.33*) has drawn an illuminating parallel between the Mesolithic-Neolithic transition in Britain and the Norse colonisation of Greenland. In the latter case, a small Scandinavian population arrived on the coast and established agrarian settlements. Yet they made little or no impression on the economy or material culture of the indigenous foragers, and over time they themselves gradually adopted the marine-based diet of the natives. Once we recognise the probability that Mesolithic populations in Britain and Ireland will have had at least a degree of familiarity (and quite possibly well-established social relations) with continental Neolithic groups for many generations, it is utterly implausible that the arrival of a few small agricultural communities could have induced them to adopt new cultural and economic practices at a stroke. But equally, it is impossible to imagine how anything other than a colossal invasion of Neolithic people could have completely displaced the indigenes within a couple of centuries (allowing for the resolution of radiocarbon chronology). I submit, then, that small-scale colonisation is the *least* likely explanation for the abrupt beginning of the Neolithic in Britain.

In his contribution, Richards (*ibid. 34*) proceeds to compare the British Neolithic with the spread of maize agriculture in the Americas, which was extremely gradual. He concludes that the most likely mechanism for the introduction of Neolithic innova-

tions into Britain is the spread of a new religion. However, as Barrett (*1994.50*) points out, there are difficulties with the notion of a 'Neolithic religion'. We can certainly identify commonalities of artefactual form and cultural practice that spread over enormous distances and great depths of time in Neolithic Europe. Yet the proposition that these were underlain by a shared structure of belief is problematic. The 'world religions' with which we are familiar today (Islam, Hinduism, Christianity, Judaism, Buddhism) are all 'religions of the book'. That is to say, their cardinal beliefs are set in scripture, while their forms of worship and ritual may be liturgical in character. In non-literate societies, oral tradition can successfully reproduce customary knowledge over very long periods of time. But equally, matters of eschatology and metaphysics may be the subject of continuous debate, and religious practices can be repeatedly transformed in the process of reconstituting them from memory (*Barth 1987*). So rather than material culture representing the outward manifestation of a fixed set of beliefs, it can provide the focus around which myths and ideas of the sacred are reconstructed. In these circumstances, the idea that stable religious beliefs were shared across regions or through generations during the Neolithic is questionable.

Discounting the idea that Britain in the early fourth millennium BC was subject to a sudden and overwhelming sea-bourn invasion, we are left with needing to explain why the indigenous Mesolithic communities should have abruptly taken up Neolithic cultural and economic resources. This question is particularly acute if we accept that there must have been a continuous flow of contact and exchange of personnel with continental Neolithic groups for centuries before 4000 BC. While the decorated bipartite bowls discussed above are a very minor element in the earliest ceramic assemblages in Britain and Ireland, fine, plain carinated bowls are founded in larger numbers, throughout Ireland, England, Scotland and Wales (*Herne 1986*). Broadly similar vessels are known from areas along the northern Atlantic coast of Europe, yet as Sheridan (*2003.5*) accepts, there are no examples of this style of pottery on the continent that are appreciably earlier than the British ones. The closest parallels, as at Hazendonk near Rotterdam in the Netherlands, are broadly contemporary with the British Grimston bowls (*Louwe Kooijmans 1976*). Sheridan further acknowledges that the artefacts and monuments found in early Neolithic Britain suggest connections with a variety of different regions in Europe. Passage tombs like that at Achnacreebeag have affinities with those in Brittany, yet the trapezoidal long cairns of the Cotswold-Severn region are more easily paralleled in Normandy. Grimston bowls are related to Dutch Hazendonk or Belgian Michelsberg pottery, but the globular pots of the southwest of England are more redolent of the Chasséen of western France. The earthen long mounds of eastern Britain, and certainly the linear timber mortuary structures that they contain, find close parallels in southern Scandinavia (*Madsen 1979*). Individual causewayed enclosures in Britain suggest affinities with those of western France, the Paris Basin, or Scandinavia (single or multiple rings of ditches; high-lying or low-lying locations; earthen banks or timber palisades). Faced with this cultural variation, Sheridan hypothesises 'multiple movements from various points of origin' (*2003.5*). Setting aside the objection that such small incursions could not have lead to sudden and sweeping cultural change in Britain, why should groups of people from Brittany, Normandy, Holland and Denmark all have set sail simultaneously for these islands, especially if some of them had already been established on the Atlantic coast for hundreds of years? Why did they wait so long, and then all go at once? And why did the arrival of these separate populations not result in a series of distinct cultural regions, each with a separate set of artefacts and monuments, rather than the multiple overlapping distributions that we actually observe? Is this pattern not more likely to have been generated by intensive contact and interaction between regions, including the movement of persons in both directions?

It is revealing that we can identify only broad similarities between continental material culture of the mid-fifth millennium BC and that of the British Neolithic. Megalithic tombs, earthen long mounds, causewayed enclosures, polished stone tools and pottery all occur earlier in continental Europe. But more precise parallels, seen in plain carinated bowls, simple passage tombs, portal dolmens, embanked linear mortuary structures and shaft-and-gallery flint mines, seem to date to a horizon around 4000 BC throughout Atlantic north-west Europe. My suggestion is that these cultural forms were not simply transferred from one region to another, but emerged out of a phase of cultural negotiation between communities of different kinds, including the indigenous population of Britain.

In this respect, it is instructive to contrast northern Atlantic Europe with the Bandkeramik occupation of inland central Europe. The Bandkeramik represen-

ted a relatively homogeneous combination of material culture and subsistence practices. While it is likely that Bandkeramik communities absorbed indigenous personnel, there is a strong argument that it spread by population movement, with new settlements being located in preferred landscape zones throughout the loess country (*Bakels 1982; Lüning 1982; Modderman 1988*). By contrast, the Neolithic communities that developed on the North European Plain can reasonably be claimed to have developed out of the interaction between agricultural colonists and indigenous foragers. The clearest example of this process is provided by the Dutch Swifterbant groups. Here, a continuous sequence of change demonstrates the adoption of first pottery and then domesticates by Mesolithic communities (*Raemaekers 1999. 182*). I suggest that the post-Bandkeramik horizon in northern Europe, the Cerny, Rössen and Lengyel, saw a reformulation of the Neolithic, in which novel forms of material culture were no longer coupled to a fixed and unvarying subsistence base. Many Neolithic societies in north-west Europe combined cereal agriculture with the keeping of domesticated animals, but not all did.

The consequence of this development was that as a cultural phenomenon, the Neolithic became a means by which social identities could be constructed, maintained, and transformed. I submit that this is the reason why it became attractive to the indigenous communities of Britain, Ireland and south Scandinavia, and why they chose to 'buy in' to the system at around 4000 BC. It is hard to see how this kind of transformation, over such a wide area, could be accounted for by population movement.

## DIET AND IDENTITY

Another significant development in recent British Neolithic studies has been the extensive use of stable isotopes in human bones to study diet (*Richards and Hedges 1999*). This method has apparently demonstrated that in the period after 4000 BC, no skeleton that has been studied has any trace of marine protein in their diet: no sea fish, no shellfish, no marine mammals. This has been taken by some as evidence of a swift change from a Mesolithic subsistence economy that made extensive use of shoreline resources, to an agricultural economy based on horticulture and stock-keeping (*Schulting 2000*). However, there are several problems with this argument. In the first place, if Neolithic people in Britain were not eating food from the sea, this was apparently not because scheduling conflicts embedded in an agricultural lifestyle precluded it. Intensive cultural contacts around the Irish Sea indicate that people were frequently travelling in boats, but choosing not to take deep-sea fish, while the chambers of megalithic tombs routinely contain large quantities of marine shells (*Fowler and Cummings 2003*). This suggests an explicit rejection, or cultural prohibition on marine foods, rather than a missed opportunity (*Thomas 2003.69*). If the scientific analyses are to be believed, this same pattern of rejection is also detectible in Scandinavia, Brittany and Iberia (*Richards, Price and Koch 2003*). This implies that the pattern was neither a response to a particular environmental factor, nor an attribute of a specific Neolithic economy (given the diversity of subsistence practice across Atlantic Europe). The notion of a dietary prohibition is further substantiated by Niall Sharples' arguments concerning the restricted and prescribed consumption of the meat of red deer in Neolithic Britain (*2000.114*). Like marine foods, venison may have carried the connotations of a Mesolithic identity that was now being repudiated.

Furthermore, stable isotope studies can discriminate between marine and terrestrial foods, and between plant and animal protein, but not between domesticated and wild resources. So although we may be entitled to say that people began eating exclusively terrestrial foods at the start of the British Neolithic, we cannot say whether they were wild or tame. This is important, because there is strong evidence that wild plants continued to contribute to diets. For instance, at the Whitwell Quarry long cairn in Derbyshire, a study of the dentition of six skeletons dated to c. 3900 BC demonstrated angles of occlusal wear indicating a diet including a high proportion of tough, fibrous material: wild plants rather than cereals (*Chamberlain and Witkin 2003.55*). This study is supported by Wysocki and Whittle's (*2000*) evidence from a series of skeletal populations from chambered tombs in southern Britain, which indicates that the dental pathologies (including caries) associated with a high carbohydrate diet were very rare in Neolithic Britain.

The dental evidence is consonant with the work of Mark Robinson (*2000*) and others, who have repeatedly demonstrated that the majority of charred plant assemblages throughout the British Neolithic are dominated by gathered fruits and nuts, such as hazel-nuts, apples, blackberries and sloes. Robinson stresses that his results do not indicate that cereals were unimportant in Neolithic Britain, but simply

that the relevant evidence contrasts with that from the Balkan and central European Neolithic on the one hand, and the British Bronze Age on the other. In both of these contexts, cereal remains are considerably more common that on British Neolithic sites. Recently, a number of arguments have been raised which suggest that the scarcity of cereals in the British Neolithic may be an artefact of taphonomic forces, to mixed effect. Jones (*2000.80*) and Monk (*2000.74*) both point out that the factors affecting the preservation of carbonised cereal grains and hazelnut shells are different: nut shells are discarded after the consumption of the nut, and may be used as fuel, while cereals are less likely to find their way into fires. This is a fair point, and it is reasonable to assume that the overwhelming dominance of the record by hazelnuts presents an inaccurate picture. Nonetheless, it does not explain why Bronze Age or Iron Age contexts, often on the same sites and in the same kinds of features as the Neolithic deposits under discussion, produce much greater quantities of cereal remains (*Hey, Mulville and Robinson 2003.82*). Similarly, Monk's argument (*2000.74*) that pitfills may be tertiary infills swept into features long after their primary use seems to betray a lack of familiarity with British Neolithic pits, which are generally small, and usually deliberately backfilled soon after opening (*Thomas 1999.64–74*).

Rowley-Conwy (*2003.303*) has criticised attempts to read the lack of cereals from Neolithic contexts in Britain 'at face value', and advocates a more taphonomically sensitive approach to the problem. Yet paradoxically he, Jones and Monk all proceed to interpret the carbonised plant remains from a number of large Early Neolithic timber buildings 'at face value', as representing a snapshot of a household-based subsistence economy. Indeed, Rowley-Conwy suggests that the best known of these, at Balbridie in Scotland, represents 'the tip of the iceberg', one of many Neolithic farmsteads that still wait to be found (*2002.24*). This rather flies in the face of the established wisdom of economic archaeology, which holds that the significance of any faunal or botanical assemblage can only be assessed in relation to the context from which it was retrieved (*Dennell 1978.20; Meadow 1975*). Thus, we can consider Jones' statement that: '*Accidents involving cereal grains or whole hazelnuts are likely to occur only when houses destroyed by fire are discovered. In these circumstances, both hazelnuts and cereal grains stand similar chances of recovery and, in a cereal-based economy, one would expect to find more cereals in these contexts*' (*2000.81*).

It is evident that Jones is assuming both that sites like Balbridie and Lismore Fields were 'houses' (that is, domestic dwellings), and that their destruction by fire was accidental, resulting in an assemblage which is representative of a broader economic pattern (*Garton 1991*). As we will see below, both of these assumptions are questionable.

The rejection of marine foods, the restricted consumption of deer, and the perhaps sporadic or uneven access to cereal foods are indications that the diets of people living in Britain at the start of the Neolithic were by no means homogeneous, and that understanding them will be a complex task. The pattern that is emerging is one of diversity, and this is underlined by the stable isotope data, which demonstrate that some people had diets dominated by meat, while others eat mostly plant foods (*Richards 2000*). Assemblages of animal bones are comparatively plentiful in southern Britain, and are dominated by domesticated cattle. But these are overwhelmingly derived from ceremonial sites, such as causewayed enclosures and long barrows. Cattle were undoubtedly of profound social and symbolic value, and represented a form of mobile wealth, but it is worth questioning how often their meat was eaten in other than ceremonial or ritual contexts (*Ray and Thomas 2003*). Recent work on lipids from Early Neolithic pottery in Britain has demonstrated that cow's milk may have formed an important food (*Copley et al. 2003.1527*). Most of the ceramics studied were again from causewayed enclosure contexts, but it is worth considering whether cattle milk (and indeed blood) was often an everyday element of diet, while cattle meat was reserved for special occasions. This is not to say that as a 'ritual' food beef would have been of purely symbolic value. In societies like the Betsileo of contemporary Madagascar, cattle are primarily slaughtered for funerals and other ceremonial events, but people generally enhance their diet by attending as many funerals as possible (*Kottak 1980*). As Whittle (*2003.31; see also Halstead, this volume*) points out, adult cattle provide over 200 kilograms of meat, and this is more than a small community can generally consume in the absence of technologically-sophisticated storage technologies. Such a large animal is more likely to be killed and consumed for an event at which large numbers of people will have been present, and in Early Neolithic Britain such events will have been overwhelmingly ritual or ceremonial in character. Given that Early Neolithic faunal assemblages are dominated by cattle rather than sheep or pig (which come in smaller 'packages', and could be eaten more

frequently by smaller groups), it seems probable that, like cereals, the consumption of meat was sporadic rather than continuous for many communities. Eating foods derived from domesticated plants and animals may not have been an everyday experience for all people in Neolithic Britain. But eating them in contexts of great social visibility might have been an important way of affirming a particular identity, as much of a statement of 'being Neolithic' as was the rejection of marine foods.

## TIMBER HALLS AND THE NEOLITHIC IN BRITAIN AND IRELAND

Recent debates on the character of Neolithic economies in Britain and Ireland have to some extent become polarised between two points of view: one which stresses mobility and subsistence diversity, and one which emphasises sedentariness and the universality of a mixed farming economy. The former view is predominantly associated with archaeologists who work in southern Britain (*Barrett 1994; Edmonds 1998; Pollard 1999; Thomas 1999; Whittle 1996*), the latter with scholars of the Irish Neolithic (*Cooney 2000a; 2000b; 2003; Monk 2000*). The 'mobility and diversity' view originated as a critique of generalised models of the Old World Neolithic, which tended to presume that Neolithic economies were composed of much the same elements throughout Eurasia. These conflicted with the evidence from southern Britain, which gave little indication of the presence of settled farming communities, despite decades of research conducted in the conviction that they would eventually be located. Yet scholars of the Irish Neolithic complained that any supposition that this new view could be applied to their material amounted to a quasi-colonialist imposition. In Ireland, the evidence for Neolithic sedentism and a more thorough reliance on domesticated resources are seemingly stronger than in Britain. However, having pointed out that a model generated in Wessex is inappropriate in the Irish context, these authors generally reproduce the 'colonialist' argument in reverse, and suggest that the British Neolithic was sedentary and universally horticultural too (*e.g. Monk 2000.77; Cooney 2003.48*). In the light of the debates discussed above, it is now worth considering whether the ostensibly contrasting character of Early Neolithic activity in Britain and Ireland is purely attributable to differences in preservation and landscape history, or whether there was some fundamental disparity between the two (a possibility raised by *Barclay 2003.71*).

Ironically, the possibility that there were significant differences between Britain and Ireland in the Neolithic arises just as a series of cultural similarities between the two have begun to be appreciated. While archaeologists in the 1920s to 1960s were keen to stress the different cultural affinities of the British and Irish Neolithics, more recent work has emphasised the unity of the carinated bowl series on both sides of the Irish sea, and the similarities between the middle Neolithic Impressed Ware traditions in both regions. Portal dolmens and long cairns occur in both Ireland and Britain, and henge monuments, timber circles, cursus monuments and Grooved Ware have all now been identified in Ireland as well as Britain. Yet despite this growing sense that the 'Northwest European archipelago' may have represented an undivided cultural landscape during the Neolithic, rather than two hermetically sealed entities, there remain some important contrasts. For instance, although causewayed enclosures are characteristic of the Earlier Neolithic in southern Britain, there is at present only one 'true' causewayed enclosure in Ireland, at Donegore Hill (*Cooney 2002.80; Sheridan 2001*). Similarly, while the two coaxial field systems at Céide Fields have long been claimed as Neolithic, and there are a growing number of field systems in the west of Ireland that may also be of very early date (*Cooney 2000a.25*), the only serious contender for a Neolithic field system on the British mainland, at Fengate, has been refuted. The Later Neolithic Grooved Ware from the ditches at this site has now been demonstrated to have been redeposited (*Cleal 1999.6*).

The third and most significant contrast lies in the large number of rectangular timber buildings of Early Neolithic date that have been identified in Ireland in recent years as a consequence of intensive salvage archaeology generated by the current economic boom. Similar structures have been found in Britain, but there are two important distinctions between the two islands. The British buildings are far less numerous, and they are also somewhat larger than the Irish examples – in some cases very much larger (Figs. 1 and 2). Comparing the Irish evidence with that from Scotland, Barclay (*2003.71*) cites several reasons why Neolithic houses should have been more readily identified in Ireland. The reconstruction of civil and commercial infrastructure in Ireland has been accompanied by high levels of professional archaeological intervention; Ireland did not see the same degree of agricultural intensification as Britain during the twentieth century; some buildings in lowland locations may have been mas-

ked by denser deposits of alluvium in Britain. To this, Monk (*2000.77*) adds that some structures on slopes may have been eroded or truncated, removing traces of structures. These are all good points, but they can all be questioned. It is true that the post-war rebuilding of Britain was not always accompanied by adequate rescue archaeology. However, the extensive construction of pipelines and roads during the 1970s and 1980s was generally subject to archaeological monitoring (including the high quality work of Gas Board archaeologists connected with the construction of North Sea gas infrastructure), and yielded few Neolithic dwellings. Similarly, while the main taphonomic factors held responsible for the non-discovery of Neolithic houses in Britain are attributable to relatively recent (that is, post-prehistoric) agricultural practice, houses of Middle and Late Bronze Age and Iron Age date are very numerous indeed, even though they are often represented by ephemeral features such as eves-drip gullies. To give an example, one of the most recent discoveries of a rectangular Neolithic building was at Yarnton in Oxfordshire. Yet the same area of intensive investigation yielded no fewer than fifteen Bronze Age houses (*Hey, Mulville and Robinson 2003.81*). Unless we are to hypothesise some erosive agency that has preferentially destroyed rectilinear structures while preserving circular ones, the contrast between the Neolithic and later prehistory is a real one.

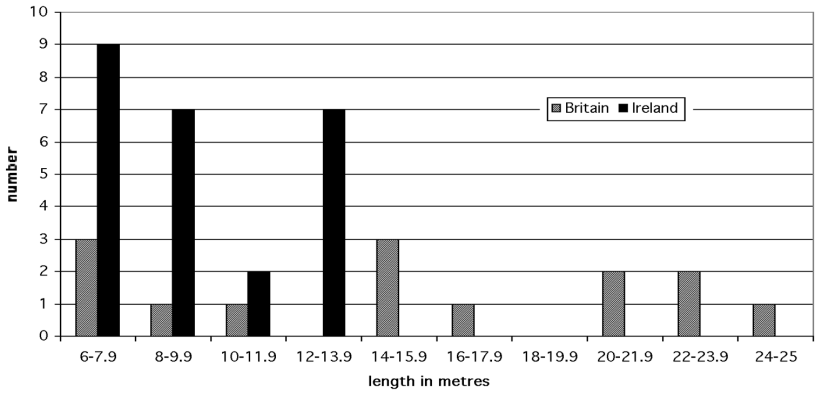


Fig. 1. Dimensions of Neolithic timber buildings in Britain and Ireland.

In both Ireland and Britain it is possible to question whether the 'timber halls' were representative of domestic settlement as a whole. Indeed, Sarah Cross (*2003*) has raised cogent arguments to the effect that the Irish buildings are more likely to have been feasting halls than domestic dwellings. It is also worth considering that in contrast to the timber houses of the early Neolithic in continental Europe, these buildings are seldom found in clusters or 'villages', and are most often isolated (*Topping 1996. 159*). Furthermore, a number of authorities have pointed out that these structures are not characteristic of the Irish and British Early Neolithics as a whole, and may be concentrated in the first two or three centuries of the period (*e.g. Whittle 2003.41*). Of those buildings with radiocarbon dates, Yarnton, Claish, Lismore Fields and Llandegai in Britain, and Ballyharry, Tankardstown 2, Enagh, Newton and Corbally in Ireland all fit into this early horizon. Pepperhill and Ballygalley had carinated bowl assemblages which might mark them as equally early. Only Ballyglass and Littleour (which was probably not a roofed 'house' at all) are appreciably later. One is tempted to speculate that this dating might identify these structures not as a standard attribute of a Neolithic settlement pattern, but as some feature of the transition from Mesolithic to Neolithic. In Andrew Sherratt's (*1995*) terms, might they represent 'instruments of conversion'? This might explain their distinctiveness in the Irish context, where all other domestic structures, permanent or temporary, throughout prehistory were small and circular (*Cross 2003.196*).

However, the case that I wish to make is not that all of these structures were exclusively non-domestic in character. It is simply that those in Britain are larger and less numerous than those in Ireland, and that while many of the Irish buildings may well have been dwellings, it is unlikely that any of the British ones were. If the 'idea' of the rectangular house was a continental one, it may have been adopted by indigenous British and Irish communities and put to a variety of uses. We might say that this formed part of a broader picture in which rectilinear spatial arrangements were introduced, transformed and elaborated, producing mortuary structures, cursus monuments and palisaded enclosures. Structures that are readily identified as 'houses' were only one aspect of this development, and it may be that dwelling in such buildings was only one amidst a number of possibilities: feasting, holding council, exchanging, laying out the dead, storing and redistributing domesticated and wild resources (*see Barclay 2003. 75*). It certainly seems that the artefactual assemblages associated with these structures are sometimes not those that one would expect in a living space. For instance, the structure at Ballygalley had an ex-

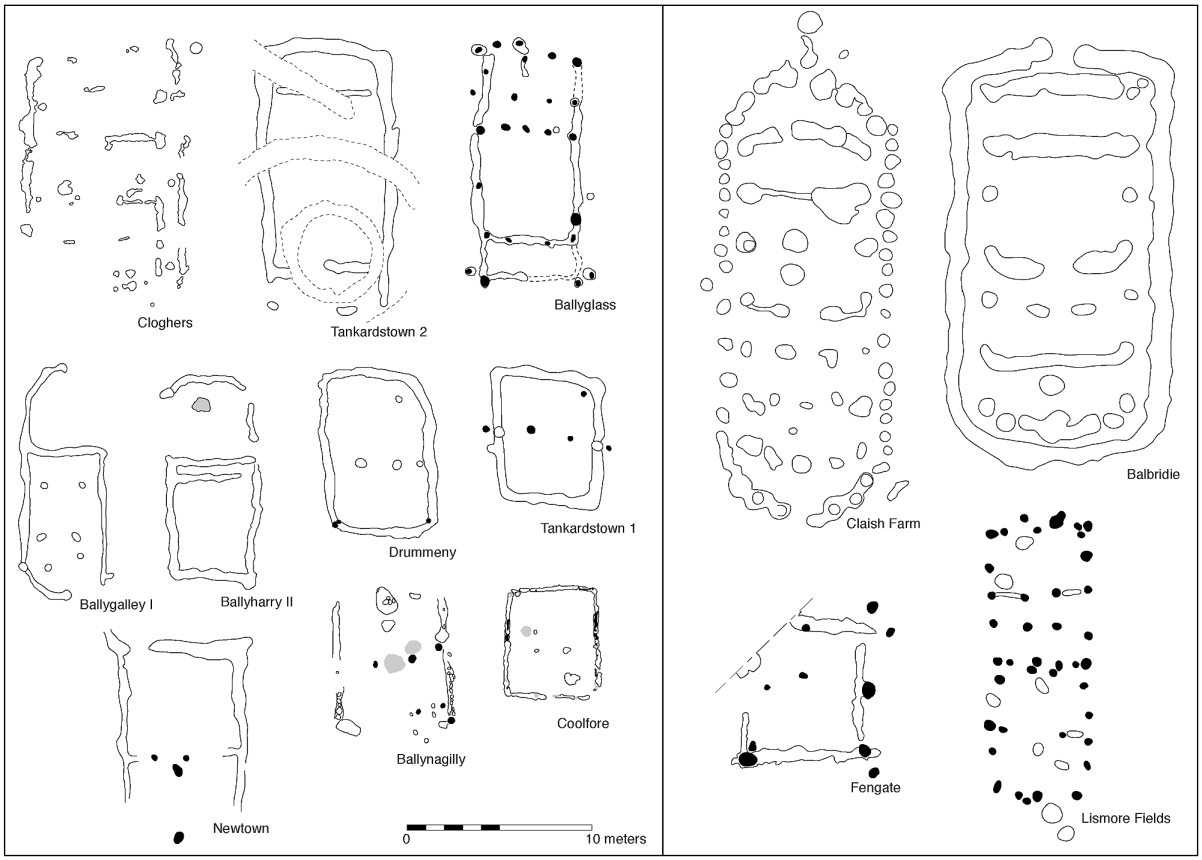


Fig. 2. Plans of a selection of Neolithic timber buildings from Ireland (left) and Britain (right).

tremely rich lithic assemblage, including fragments of porcellanite, Cornish greenstone, Aran pitchstone and Langdale tuff (*Simpson 1996.129*). At Yarnton, the bone assemblage contained both animal and human remains, the animal element being dominated by meat-rich body parts (*Hey, Mulville and Robinson 2003.81*). A similar pattern of meat-dominance was identified at Tankardstown (*Cross 2003.199*). Moreover, at sites like Yarnton, some structures appear to have served as foci for deliberate pit deposits for centuries after they had fallen into dereliction. The implication is that these were special enough places to have survived in memory or tradition for generations.

That at least some of these structures were not dwellings, or not exclusively so, appears to refute Monk's argument that: '*while building structures per se does not indicate sedentism, the size of these buildings and the building timbers used, mainly oak, suggest a level of investment in energy unlikely to be expended by a nomadic or pastoral society*' (*Monk 2000.80*).

For if such buildings were council halls, feasting places, cult houses or mortuary structures, one might expect them to be monumental in character. Furthermore, oak was the wood that appears to have been used for preference in mortuary structures, post-defined cursus monuments, post alignments and palisaded enclosures throughout the Neolithic, and it is to be supposed that it had a particular significance.

The individual structures of some of the Neolithic timber buildings in Britain and Ireland also mark them out as somewhat more complex than might be expected for a purely functional dwelling. Tankardstown, for instance, had been rebuilt on the spot, while Ballyglass and Ballygalley had both been systematically demolished, the latter having a cobbled surface constructed over it (*Simpson 1996.124; Topping 1996.167*). Ballyharry I had been rebuilt following its destruction by fire, and an arrowhead and a basalt axe had been deposited in the foundations. Following final demolition, a number of shallow pits had been dug on the site, containing deliberate deposits including a jadeite axe (*Moore 2003.158*). Other sites, like Lismore Fields, Balbridie and Claish had also been burned down (*Fairweather and Ralston 1993.314*). Indeed, Claish appears to have been rebuilt after burning, and then burned again (*Barclay, Brophy and McGregor 2002.72*). If these fires

were accidental, this would seem to indicate uncommon carelessness on the part of Neolithic people in Britain. Indeed, it is interesting to contrast the relatively high proportion of the timber buildings in Britain and Ireland that had been burned with the large timber houses of the Bandkeramik in central Europe, which appear to have seldom if ever caught fire. Instead, most Bandkeramik houses seem to have been left to gradually fall into dereliction after occupation had ceased (*Bradley 1997.247*). Of course, the probability that the British and Irish structures had been deliberately destroyed by fire does not necessarily mean that they were not dwellings. In Southeast Europe, houses in Neolithic tell settlements were routinely burned, and Ruth Tringham has argued that this may have taken place upon the death of the head of the household (*Tringham 1991*). However, it does strengthen the pattern of timber structures being purposefully destroyed rather than left to decay, and it also emphasises that the botanical remains recovered from them cannot be treated as the chance product of a domestic accident. Any deliberate burning of a major timber structure is likely to have taken place with great ceremony, and the contents of the building will probably reflect this, rather than its previous use.

The intentional burning of timber buildings also underscores the connection between such structures and 'ritual monuments', which are conventionally assumed to relate to an entirely different sphere of practice. The timber mortuary structures beneath earthen long barrows, post-defined cursus monuments, and fenced or palisaded enclosures were all often burned during the Earlier Neolithic (*Barclay and Maxwell 1991; Kendrik 1995; Thomas 2000*). In a sense, colossal structures like Claish and Balbridie are better considered under the heading of 'monuments' than 'houses'.

## IRELAND AND BRITAIN: CONTRASTING NEOLITHICS?

Whatever the proportion of Neolithic timber structures that were routinely occupied, it appears that the Irish examples were at once more numerous and more diminutive. We have argued that this pattern is not an artefact of preservational conditions and archaeological recovery, and that it may be connected with some other contrasts between Britain and Ireland: the presence of field systems, and the comparative paucity of causewayed enclosures and formal pit deposits in Ireland. Both of the latter two phenomena have been associated with the characteristic activities of mobile communities: periodic fission and aggregation for ceremonial activities, and the 'marking' or 'fixing' of significant locations with cultural media (*Edmonds 1998*).

If, on this basis, we were to hypothesise a British Neolithic which, while diverse, regionalised and heterogeneous, overall contained a greater degree of mobility than an equally diverse Irish Neolithic which had a greater overall investment in a fully agricultural way of life, can we establish any reason why this should have been the case? We might begin with Peter Woodman's recent observation that although the Neolithics of Britain and Ireland are broadly comparable, the late Mesolithic period was very different on each island (*2000.247*). For Woodman, then, the question is one of how two disparate situations converged with the opening of the Neolithic. If, however, we argue that the differences between Britain and Ireland in the Neolithic were deeper than appearances suggest, we should ask whether these differences can be attributed to preceding Mesolithic conditions. In Britain, the later Mesolithic saw diverse economic activities, ranging from encounter hunting of red deer and aurochs to the intensive exploitation of fish, shellfish and seals. But as we have seen above, the later Mesolithic in Ireland saw the development of a distinctive lithic assemblage based around large flakes and blades, while microliths were not used (*Woodman and Mc Carthy 2003.31*). Scrapers and burins were also absent, and this has been related to the absence of red deer in post-glacial Ireland (*Anderson 1993.16; Woodman 2000.237*). Indeed, there were no aurochs, elk or roe deer either, and this is the principal reason why Mesolithic activity became focused almost exclusively on riverine, lacustrine and shoreline resources. Pig was the only mammal of appreciable size found in Ireland during the Mesolithic period.

The singularity of the Irish later Mesolithic has therefore been attributed to the restricted variety of natural resources that were available. It seems probable that migratory fish were of considerable importance, and that both marine and freshwater contexts were made use of, but there is little agreement over the degree of mobility that was involved in this way of life (*Anderson 1993.17; Cooney and Grogan 1994.22*). There is certainly no evidence for the development of large sedentary communities of the sort that are familiar from southern Scandinavia (*Kimball 2000.33*), and it is possible that seasonal moves took place between coasts and river valleys.

The indications are that the start of the Neolithic in Ireland saw radical discontinuity and displacement from the Mesolithic. While in the Ballyloch area of Waterford there are suggestions of continuity in settlement patterns from Mesolithic to Neolithic, for the most part the lithic scatters from the two periods are found in entirely different areas (*Cooney and Grogan 1994.26; Cooney 2000.56*). Likewise, finds of Early Neolithic carinated bowl pottery are quite distinct from Mesolithic sites (*Sheridan 2004.12*). This discontinuity can be connected with radiocarbon evidence that the shift from Mesolithic to Neolithic was, in pan-European terms, exceptionally swift in Ireland (*Gkiasta et al. 2003.60*).

In a variety of ways, this pattern is at variance with that in Britain. The British Neolithic chipped stone industries replace microliths with leaf-shaped arrowheads, and have polished stone axes, but in technological terms there is much continuity. Assemblages remain flake- and blade-based, and there is considerable similarity in reduction sequences (*Edmonds 1995.37*). This is quite unlike the demise of 'Bann flakes' in Ireland. In many parts of Britain, traces of occupation are found in much the same parts of the landscape in the Early Neolithic as in the Late Mesolithic (*Holgate 1988.31; Barrett, Bradley and Green 1991.31*), while Neolithic artefacts such as leaf-shaped arrowheads are often found on Mesolithic sites (*Edmonds 1995.35*). There are strong indications that particular locations maintained their significance across the Mesolithic/Neolithic divide. For instance, many Neolithic chambered tombs have scatters of Mesolithic artefacts located beneath them (*e.g. Saville 1990.13–14; Case 1986.24*). Arguably, some aspects of established patterns of mobility survived into the Neolithic, and people continued to return to clearings, campsites and landmarks that had been frequented for generations.

These different pathways followed between Mesolithic and Neolithic begin to be comprehensible when we consider that the principal economic change experienced by communities in Britain was the substitution of cattle (and to a much lesser extent pig and sheep) for large wild mammals such as red deer and aurochs. People may have used the same places and pathways, but they now herded domesticated stock rather than hunting wild beasts. Yet as we have argued, the meat of those beasts may only have been eaten periodically, and wild plants may have continued to be of considerable importance to some communities. Some may have relied on cereals from early on, while for others grain may have been a special food, infrequently eaten. In Ireland, though, the substitution of one species for another was not an available option. Domesticated animals could not be fitted into an established routine: adopting cattle and cereals involved abandoning Mesolithic practices altogether. It was for this reason that settlement and residential patterns seem to show such complete dislocation. In Ireland, the beginning of the Neolithic may have involved entire communities 'buying in' to a sedentary and agricultural way of life to a far greater extent that was the case in Britain.

What we should perhaps take from this is an indication of the flexibility of the kind of Neolithic that developed in Atlantic Europe. The rejection of foods from the sea was a widespread marker of Neolithic identity – a cultural phenomenon which is to be distinguished from the more localised variations in subsistence practice. Like mortuary monuments, pottery, enclosures and polished stone axes, it forms one element of an apparatus which enabled people to craft group and personal identities for themselves. Unlike the central European Bandkeramik, these material culture forms and cultural practices were not attached to a particular economic formation. It was the translatability of the Atlantic Neolithic that enabled in to be adopted by very diverse Mesolithic societies in Britain, Ireland and Scandinavia, resulting in highly distinctive Neolithic patterns in each of these regions.

## CONCLUSION

I end by recapitulating a series of related points:

❶ The assumption that Britain and Ireland were isolated in the Later Mesolithic is unwarranted, and appears to be undermined by the presence of early domesticated animals in Ireland;

❷ Consequentially, Mesolithic populations in Britain and Ireland will have been aware of the various elements of the Neolithic 'package' long before 4000 BC. The adoption of domesticates and novel forms of material culture by indigenous people cannot be explained in terms of the sudden arrival of boatloads of continental people in these islands;

❸ In these circumstances, it is simply unfeasible that the abrupt spread of pottery, monumental funerary structures and polished stone tools throughout Britain and Ireland could have been triggered by the

movement of small groups of agriculturalists from the north-west seaboard of Europe;

❹ Only two scenarios could explain the suddenness of the Neolithic transition: either a colossal movement of population from the continent, swift and thorough enough to entirely displace the indigenous foragers within a couple of generations, or an equally sudden adoption of the Neolithic cultural repertoire on the part of Mesolithic communities;

❺ In the absence of any single donor population identifiable on the continent, the only realistic possibility is that Mesolithic societies in Britain and Ireland (and, for that matter, in southern Scandinavia) 'became Neolithic' in the two centuries after 4000 BC;

❻ If, as we have argued above, these foraging communities had long been aware of the character of the Neolithic, and had interacted with continental Neolithic groups over a prolonged period of time, some critical factor must have changed for the shift to a new way of life to have proved so universally desirable. I have argued that this was a change in the character of the Neolithic, which rendered it suitable as a means through which personal and group identities could be constructed and maintained;

❼ As a consequence of the radically different developmental pathways followed by Later Mesolithic groups in Ireland and Britain, the ways in which they drew on and made use of the Neolithic repertoire at this point were equally distinct;

❽ In Britain, domesticated cattle were substituted for wild ungulates, maintaining patterns of mobility and sociality across the Mesolithic-Neolithic boundary. The extent to which cereals were adopted may have varied from region to region and community to community. Some groups of people certainly grew cereals in small fixed plots, but probably not all. In Britain, timber halls were large and few in number; possibly none of them were used as dwellings at all. From these beginnings, the shift to a fully agricultural landscape and a fully sedentary population may have been quite gradual;

❾ In Ireland, the change to the Neolithic was just as sudden as in Britain, but involved the total relinquishment of existing patterns of subsistence, residence, and landscape use. Consequentially, the degree of investment in a fully agricultural way of life may have been much more complete than in Britain, from the very start of the Neolithic.

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