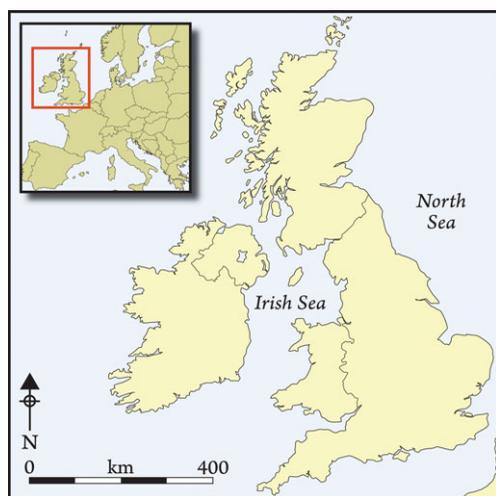


Grey waters bright with Neolithic argonauts? Maritime connections and the Mesolithic–Neolithic transition within the ‘western seaways’ of Britain, c. 5000–3500 BC

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Careful examination of the probable natural conditions for travel in the North Sea and Irish Sea during the late Mesolithic are here combined with the latest radiocarbon dates to present a new picture of the transition to the Neolithic in the British Isles. The islands of the west were already connected by Mesolithic traffic and did not all go Neolithic at the same time. The introduction of the Neolithic package neither depended on seaborne incomers nor on proximity to the continent. More interesting forces were probably operating on an already busy seaway.

Keywords: Britain, Ireland, Irish Sea, North Sea, Mesolithic, Neolithic

Introduction

The phrase we have used in the first part of our title is borrowed from Childe (1946: 36), who, drawing on Malinowski's famous ethnographic study, envisaged the western seaways of Britain as *'grey waters as bright with Neolithic argonauts as the western Pacific is today'*. We use this phrase to put across two key points: first, the need to study the evidence for maritime travel around the 'western seaways'; and second, to address the matter of 'greyness' in general. The Mesolithic to Neolithic transition has often been characterised in black and

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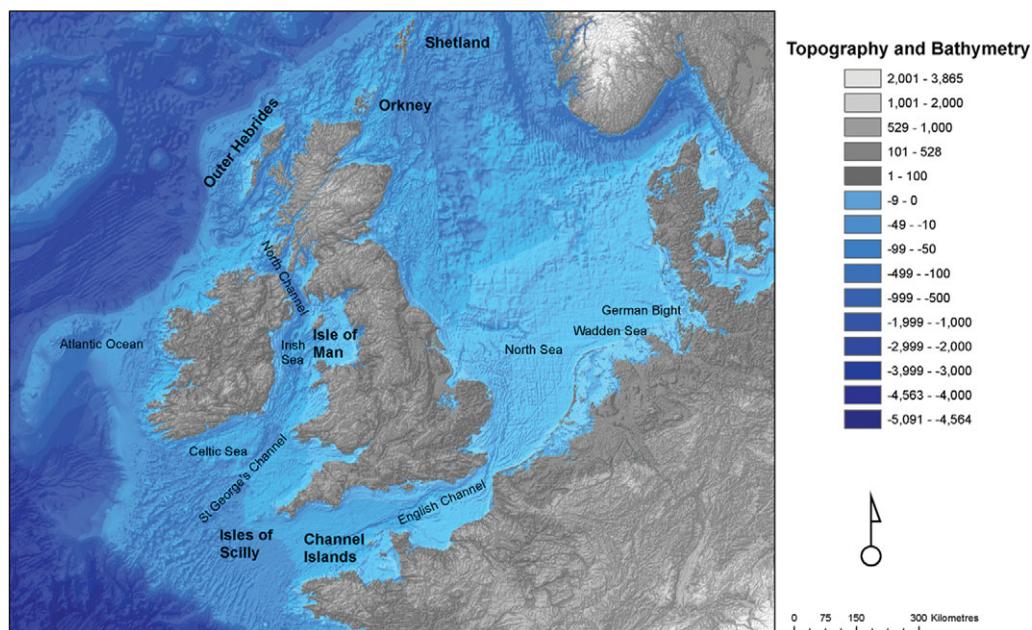


Figure 1. Map of the British Isles with key islands and bodies of water names. Underlying bathymetric data is derived from the GEBCO_08 Grid, version 20091120, <http://www.gebco.net>.

white terms: as a question of either colonisation *or* indigenous adoption. Some writers have suggested a greyer picture — one that allows room for both small-scale colonisation *and* indigenous acculturation (e.g. Whittle 2003; Cooney 2007; Cunliffe 2008). As will become clear, our review of the evidence suggests that a ‘grey’ picture, in which both ‘Mesolithic’ and ‘Neolithic’ mariners were involved, is probably more realistic.

We look first at the extent and nature of the sea itself *c.* 5000–3500 BC (cf. Rainbird 2007; Callaghan & Scarre 2009), and then at the archaeological evidence within the major offshore island groups in the western seaways (Figure 1): the Channel Islands; the Isles of Scilly; the Isle of Man; the Outer Hebrides and the Orkney Islands. In what follows, all radiocarbon dates are calibrated and given to two sigma. The novelty of our approach lies in combining previously dispersed archaeological evidence with new palaeo-oceanographic and palaeo-environmental modelling. In considering these islands together, we are not looking for uniform patterns across the whole zone, but rather seeking to gain insight into broad-scale connections and change.

Mesolithic–Neolithic transition(s) in Britain and Ireland: the story so far

Whether ‘the Neolithic’ arrived in Britain and Ireland through colonisation or indigenous adoption was a topic of debate throughout the twentieth century (e.g. Fox 1932; Case 1969), and there has been a marked revival of interest in the issue (e.g. Sheridan 2000, 2003, 2004; Thomas 2003, 2007; Cooney 2007; Whittle 2007; Callaghan & Scarre 2009; Paillet &

Sheridan 2009). Those in favour of colonisation have tended to emphasise the isolation of Mesolithic communities in Britain and Ireland, placing the dynamic of change firmly with the continental Neolithic. Sheridan (2007: 466), for example, has suggested that there is a virtual *'absence of evidence for any contacts between Mesolithic communities in Britain and Ireland . . . and their continental neighbours'*; and Tresset (2003: 25) supposes that it would be *'wholly far-fetched'* to suggest that Irish Mesolithic groups would have voyaged to the continent. On the other side of the argument, people have stressed that coastal Mesolithic communities would have been extremely familiar with the sea, and thus quite capable of significant and regular maritime travel (Whittle 2003; Thomas 2007; Tolan-Smith 2009).

Those arguing for colonisation also tend to see a direct link between the presence of 'foreign' material culture and the presence of 'foreign' people. The cow bones from Ferriter's Cove on the south-west coast of Ireland have become, arguably, *the* iconic material sign of fifth-millennium contact between Irish/British and continental populations. The bones were found on an occupation site dominated by Mesolithic material, and have themselves been radiocarbon dated to 4495–4195 BC (Woodman & McCarthy 2003: 33). However, despite the bones' apparently indigenous context, Tresset (2003: 25), for example, views them as evidence for the presence of continental people, describing an elaborate scenario in which the cow is viewed as having escaped from a colony of exotic 'Neolithic' settlers (and then been caught), rather than having been brought from the continent by the Mesolithic Irish inhabitants of the site. Another well known icon of the debate is the Achnacreebeag pot, with its notable similarities to the continental 'Castellic' style of pottery (Sheridan 2003). Sheridan has argued that it was also brought to Scotland by settlers from France. Other elements of the 'Neolithic package', including 'houses' and monuments, have also been drawn in to support the colonist side of the argument.

Those arguing in favour of indigenous adoption rather than colonisation (and indeed for a combination of the two) have viewed the same material evidence very differently. Cattle at Ferriter's Cove, it is argued, could have been brought back by Irish 'Mesolithic' seafarers (Thomas 2008: 64). A similar case can be made for the Achnacreebeag pot. Likewise, 'houses' and monuments need not be understood as evidence for actual population movement but rather the transfer of ideas.

Thanks to the recent large-scale dating programmes (Whittle *et al.* forthcoming; Griffiths in prep.) the overall chronology of the transition is becoming better understood. The 'Neolithic' did not arrive across Britain and Ireland at the same time. While it is broadly agreed that the first signs of the Neolithic as a visible 'package' appear around 4000 BC (Whittle 2007: 379), there are occasional earlier glimpses of aspects of this package in the fifth millennium as well (Pailler & Sheridan 2009). Sheridan (2007: 453) points out that much of the material in Scotland associated with carinated bowls dates to 3950–3800 BC. Others suggest that a date of 3800 BC for the earliest Neolithic in many areas might be more realistic (Seren Griffiths & Graeme Warren *pers. comm.*). Equally, in southern England, different elements of the 'Neolithic package' seem to have appeared at different times (Whittle *et al.* 2008).

It will be clear from the summary above that the processes of transition remain, as Whittle (2003: 150) put it, *'stubbornly and frustratingly unclear'*. One way in which the debate might be moved forward is to turn attention directly onto the zone across which the necessary

ideas/people/materials are thought to have been transferred: the seaways themselves. Most writers have proposed that the key routes for Neolithic traffic would have been from Normandy/Brittany across to south-west England, Wales, Ireland and western Scotland. Interestingly, the North Sea and English Channel routes have not been considered in as much detail by early prehistorians.

Maritime conditions, 5000–3500 BC

Archaeologists have had a long and complicated relationship with the sea and seafaring. Discussion has often focused on specific issues, such as the lack of surviving vessels from this period (Cummings 2009) or the issue of sailing *vs* paddling (McGrail 1983). While these are important topics for debate, they may have distracted us from appreciating the changing nature of maritime space.

Callaghan and Scarre (2009) offer an important departure from previously limited discussions, focusing on the nature of specific journeys between France, Britain and Ireland in terms of feasibility and duration for both paddled and sailed vessels. This is achieved through computer-based modelling of hypothetical vessel performance in relation to modern tidal and wind conditions. The results propose journey times (paddled) from Brittany of eight days to Ireland and twelve days to Orkney. However, in seeking to understand the duration of a particular journey, we have to focus on start and end points, and the shortest traversable distance between the two. Archaeologically this is problematic, as while we can ascertain connections between regions through recovered material, we can never be sure of the directness of the route taken or the desire to complete it as fast as possible. Furthermore, we tend to be attracted to the longer, more remarkable voyages. This foregrounds a particular form of maritime activity, placing potentially more routine, shorter distance journeys out of sight and out of mind. As such, our grey waters become black, illuminated by white streaks of purposeful, optimally performing mariners.

If we remove the time taken to complete a journey as the determining factor in past seafarers' calculations of route, we open ourselves to other ways of thinking about use of the sea. It is quite possible that some longer distance journeys were completed via coastal tramping: shorter legs moving from landing to landing where possible (see also Waddell 1992: 29). In so doing, the division between long and short distance lessens. Just as Van de Noort (2006) has made a case for the social significance of long distance voyaging in prehistory, here we make the case for the crucial importance of more quotidian maritime activities.

There has also been an understandable tendency to generalise as to the nature of the sea during this period. Discussions are often either cursory (Cummings 2009: 8) or stipulate that little change has occurred (Callaghan & Scarre 2009: 361). Whilst McGrail's (1983) oft-cited statement — that by 4000 BC the shoreline of the UK was much as it is today — is *broadly* correct, it also glosses over the large impact that 'small' changes can have on land and sea formations, weather and seafaring. Fortunately the complex process of integrating and modelling data for the changing form of north-western Europe during the Holocene has been the subject of much research by oceanographic, earth and climate scientists (Shennan & Andrews 2000; Lambeck & Purcell 2001; Shennan & Horton 2002; Peltier 2004; Behre

2007; Brooks *et al.* 2008). This has produced a range of palaeo-geographic and palaeo-tidal models that offer us the ability to understand better the changing nature of maritime space in the past. It is important to note that no one model is correct and that the exact history of inundation is far from clear. For example, work by Shennan and Horton (2002) indicates submergence of the Brown bank off Kent by *c.* 5000 BC, while Peeters *et al.* (2009) argue that it may have persisted as a series of low lying islands until *c.* 3000 BC. In addition, regional sea-level curves will always produce higher resolution renderings of complex change than those indicated in large-scale modelling. These models are thus imperfect, yet still important, heuristic devices when it comes to considering maritime activity. This is an area that archaeology needs to engage with more closely in order to understand better the changing nature of the world that people were living in.

Given the variety of models available, the decision was taken to adopt the broad images of palaeo-geography first proposed by Shennan and Andrews (2000), but also to include consideration of outcomes from more recent publications (Shennan *et al.* 2009) for this discussion. Figure 2 shows the changing geography of north-western Europe between 5879 BC and 3193 cal BC, according to Barlow and Shennan (2008). This rendering of space can be matched to the discussions of changing palaeo-tidal regimes and wave climate presented by Uehara *et al.* (2006), Scourse *et al.* (2009) and Neil *et al.* (2009).

Naturally, our eyes are drawn to the largest change in Figure 2, the complete submergence of the Dogger Bank. However, if instead of focusing on the land we focus on the sea, a distinct pattern emerges. At *c.* 6000 BC the western seaways represent a clear and open maritime route, a route that had been open and in existence for over 5000 years. By contrast, the North Sea was still undergoing considerable change: an area dominated by low lying islets, large intertidal sand/mud flats and shallow swift-moving water was gradually being replaced by a widening expanse of open water. Yet this was an area that would still have played host to a myriad of shifting eddies around these subsurface features. Much of a North Sea crossing would have been as shallow as 10–30m at the mid-point of the tidal cycle. This shallow water basin, a large area exposed to northerly and easterly winds, would have made for an unpredictable marine environment.

The western seaways offered a very different maritime environment — and, perhaps as importantly, a different potential history of use — to that of the North Sea. We do not want to give the impression that little changed across the western seaways; as Lambeck and Purcell (2001), Shennan *et al.* (2006), Brooks *et al.* (2008) and Neil *et al.* (2009) document, there were significant changes in local coastal configuration, movement of tidal streams and wave climate. Equally, we certainly do not want to suggest that navigation across them was easy: there were challenging currents, tidal streams and large waves at the edges of the Atlantic and Celtic seas. However, the changes that occurred there were smaller in scale and more localised in terms of impact than those in the North Sea.

In addition to the modelling of sea-level changes, we are now also in a position to add to our understanding of seafaring through consideration of changes in climate and, potentially, weather patterns. Figure 3 draws together palaeo-environmental data from a range of sources to allow greater appreciation of the changing climate in north-western Europe over the Holocene. Of particular interest is the increase in river flooding and inferred rise in precipitation (linked to lake levels and flooding). As Tipping (2010: 69) notes, this

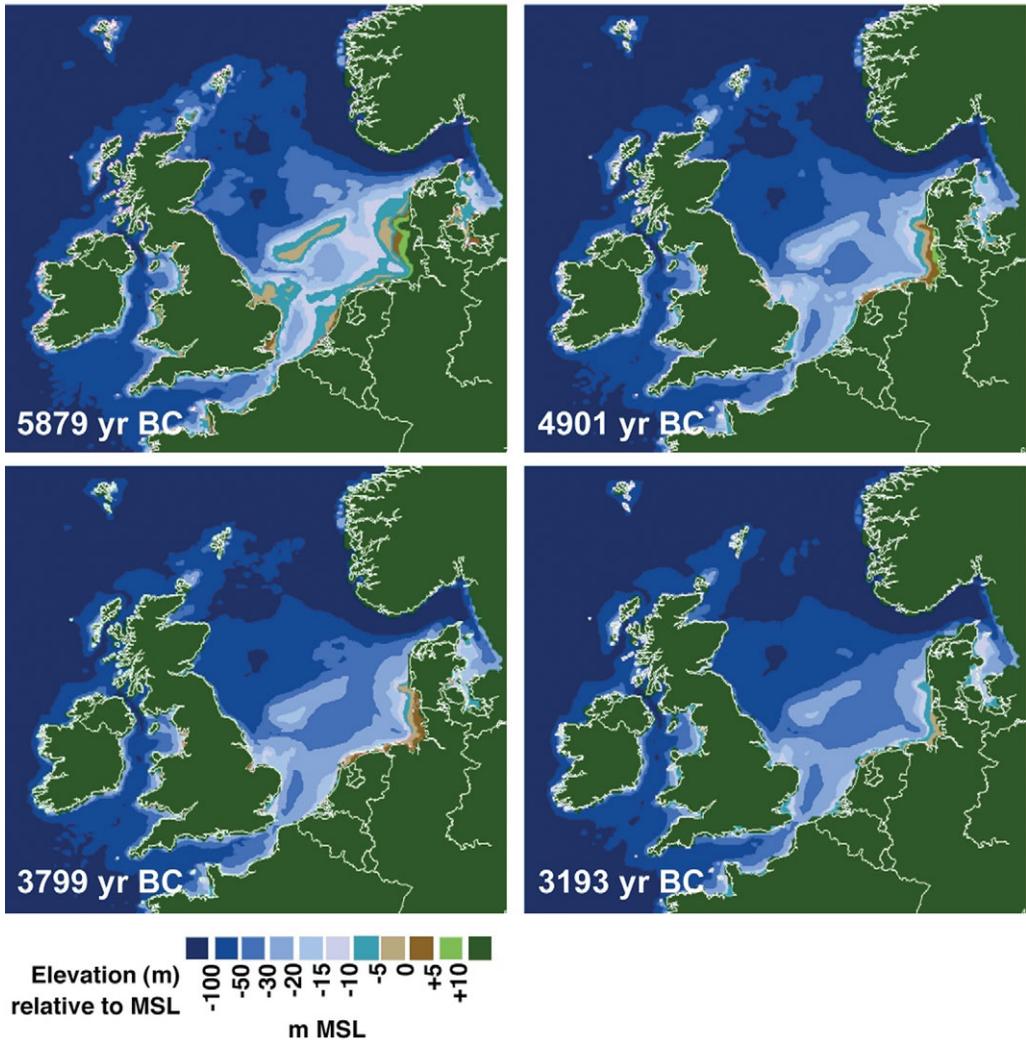


Figure 2. Maps showing the changing palaeo-geography of north-west Europe (after Shennan & Horton 2002, reproduced with the authors' permission).

shift in rainfall patterns and locally recorded changes in shoreline morphology may be indicative of increased storminess between 4500 and 3500 BC. In terms of navigation, again the morphology of the North Sea would have produced a very different response to storminess in comparison to the western seaways. The constriction of the Dover Straits and the large area opened to north/south and east/west winds creates an environment within which the effects of storm events can last much longer. Effectively, choppy waters created by wind can remain within the basin for a number of days past the event. As with tidal currents, it is clear that the North Sea had a very different texture, which may have led to a different tradition of seafaring (McGrail 1990; Westerdahl 1992).

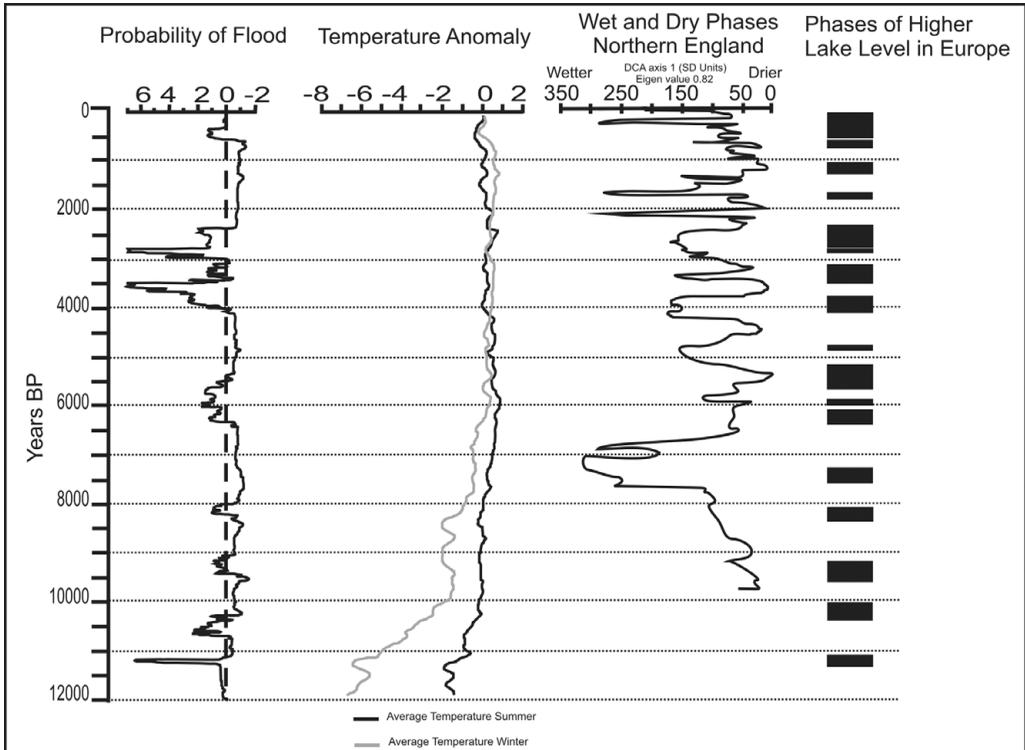


Figure 3. Evidence for changing climate within the Holocene of the British Isles. Probability of flood is derived from Macklin et al.'s (2005b) determination of flood rates for central England. Temperature anomaly data is derived from Davis et al. (2003). 'Wetter' and 'drier' data is taken from Hughes et al.'s (2000) work at Walton Moss Cumbria. European lake level data is derived from Macklin et al. (2005).

Working their way along the western seaways, travellers would thus have been following a well-known and long-established routeway. The pattern of tidal streams and flows enabled movement along a north/south axis, with only a minimal period of exposure to wind and waves blowing in from the Atlantic Ocean. In comparison, the North Sea, while navigable, represented a more changeable maritime space. Both zones were traversable, but the nature of each may have promoted different forms of interaction with the continent. The western seaways were arguably better suited to (sometimes long distance?) linear coastal tramping, or shorter circular contact with Britain. The North Sea offered an environment better fitted to short-hop circular movements around the basin, which importantly included the continental margins. Thus, we can imagine two different, yet connected, interaction zones.

Fifth-millennium archaeological connections

The fifth-millennium BC archaeology of the Orkney Islands and the Outer Hebrides has not been extensively explored, and a Mesolithic presence in these island groups was recognised only recently (Saville 2000). It is difficult to establish whether the current patchy picture of occupation reflects the past, or is a construct of archaeological research. This situation

is exacerbated by significant sea-level changes since then which have caused large coastal areas to be submerged. The palynological evidence on both island groups suggests relatively sustained episodes of clearance (Edwards 2004), which in turn probably implies sustained occupation. In the Inner Hebrides, substantial archaeological investigation over the past 20 years (Mithen 2000 a & b; Hardy & Wickham-Jones 2009) has revealed a picture of routine 'island-hopping', leading Hardy & Wickham-Jones (2002: 832) to argue that the sea there must have been an '*important highway*', although it is worth noting that Mithen (2000: 603) argues for variability in the character and extent of inter-island mobility over time. It seems quite possible, as Henley (2003: ch. 2) suggests, that on further investigation, the character of Late Mesolithic occupation and maritime connectivity in the Outer Hebrides and Orkney will be revealed as similar to the picture of significant maritime activity proposed for the Inner Hebrides.

The Isle of Man has traditionally been viewed as isolated, especially from Britain, during the Later Mesolithic (e.g. Woodman 1978). One reason is that, like Ireland, the Isle of Man witnessed a different trajectory of stone-working techniques to those seen in Britain (Woodman 2004; McCartan 2004), and in comparison to the Neolithic, there was only limited movement of raw materials between Ireland/the Isle of Man and Britain at this time (cf. Cobb 2007). This has been seen as evidence for social insularity, an interpretation which itself has been drawn upon by some to support an absence of maritime connectivity prior to the Neolithic (Sheridan 2007: 466). However, others have pointed out that discrepancies in stone-working techniques cannot be read as necessarily resulting from an absence of social connections (e.g. Woodman 2004: 295). Indeed, it might be argued that those differences actually arose in response to *high* levels of contact and a resultant desire to signal social identity (McCartan 2004: 280).

In the Isles of Scilly, the record for the Later Mesolithic is extremely sparse, but nonetheless certainly present (Berridge & Roberts 1986: 30). On the basis of the limited evidence recorded, Robinson (2007: 64) has suggested that while the islands may not have been permanently occupied, they nevertheless witnessed seasonal fishing and hunting visits.

Any discussion of the Channel Islands within the fifth millennium BC necessarily confronts a different set of issues, as Neolithic practices arrived there probably towards the beginning of that millennium (Patton 1995: 21). Material culture links — in tomb types, pottery styles, axes etc. — suggest strong connections amongst the Channel Islands themselves, and between the islands and the continent. It is clear that maritime connections were strong and regular across that part of the Channel.

Early fourth-millennium archaeological connections

In the Channel Islands this pattern continued in the fourth millennium — pottery and monument styles are similar to those on the continent — while axe exchange patterns also suggest a considerable degree of interaction (Patton 1995). Moving north to the Isles of Scilly, it is a rather different picture. Overall, only a handful of fourth-millennium occupation sites have been identified, including pits and postholes at Old Quay and East Porth and a shell midden at Carn Windlass (Robinson 2007: 65; Charlie Johns *pers. comm.*). The presence of Hembury ware pottery implies close connections with south-west England

(although similarities between Hembury and contemporary ceramic types in Normandy have previously been argued). No radiocarbon dates have been obtained. However, Hembury associations suggest an earliest date of 3750–3500 BC (cf. Pailler & Sheridan 2009: 47). The ephemeral character of the sites revealed suggests occupation not entirely dissimilar to that of the preceding millennium — perhaps seasonal visits rather than permanent occupation.

The occupation evidence for the Isle of Man is similar. Two sites are known, at Billown and Phurt/Port Cranstal (Burrow 1997: 43; Darvill 2000, 2001). Burrow (1997: 15) has suggested close stylistic affinities for the ‘shouldered bowls’ found on these sites with north-east Ireland and south-west Scotland. The Early Neolithic radiocarbon dates obtained at Billown clustered within the middle of the fourth millennium (Darvill 2000: 22, 2001: 15), a date span which fits well with those obtained elsewhere for ‘shouldered bowls’/Mull Hill pottery (Burrow 1997: 9).

The evidence from the Outer Hebrides is substantial by comparison. Henley (2003) identified several sites potentially occupied within the first half of the fourth millennium BC. The best-known of these is Eilean Domhnuill, an artificial islet with stone- and timber-built structures (Armit 2003: 95); comparable sites have also been found at Eilean Tighe (Scott 1950), Alt Chrìsal (Branigan & Foster 1995) and perhaps An Doirlinn (Sharples 2005). A midden site, containing two Neolithic layers, is also known at Northton (Simpson *et al.* 2006). All of these sites produced pottery assemblages which included Unstan bowls. The radiocarbon dates obtained range from 3720–3370 to 3350–2890 BC.

Until recently, the only known Earlier Neolithic settlement in Orkney was at the Knap of Howar (Ritchie 1983), also associated with Unstan pottery. The radiocarbon dates obtained suggest a date span of 3690–2490 BC (although these should be treated with some caution since they were obtained on bulked samples of bone (Ashmore 2000: 300)) Over the past 15 years, several other earlier Neolithic settlements in Orkney have come to light, at Stonehall, Wideford, Crossiecrown and the Knowes of Trotty (Jane Downes & Colin Richards *pers. comm.*), and at Braes of Ha’Breck (Antonia Thomas *pers. comm.*). All of these sites (and associated radiocarbon dates) are awaiting full publication. However, they too appear to date to the middle not the earliest part of the fourth millennium.

Discussion

We have seen that the western seaways — as a maritime environment — were probably *relatively* stable in the fifth and fourth millennia BC, especially in contrast to the North Sea. This stability would have facilitated a certain continuity of practice over that period in terms of the voyages being made across them. In the fifth millennium, there is very good evidence for regular short-distance sea travel: people were moving between islands close to the shore, arguably as part of the normal routines of life. There is also definite evidence that longer distance voyages were commonly made, for example, between the different Channel Islands and the continent; to and from the Isles of Scilly; between the Isle of Man, Scotland and Ireland; between the continental mainland, Ferriter’s Cove and perhaps even Achnacreebeag too.

In terms of our broader understanding of the processes of ‘transition’, two key attributes of the evidence reviewed stand out. The first is that the dates obtained for the earliest Neolithic

settlement on the islands around Britain do not fall within the first centuries of the fourth millennium, but between *c.* 3750 and 3300 BC. The second is that the earliest Neolithic pottery styles on each island group share strong stylistic similarities with the mainland regions close by, rather than with the continent, or necessarily with each other (although the Unstan ware links between the Hebrides and Orkney should be noted).

In terms of our understanding of the timing and location of the transition, these two points are, in combination, very revealing. It has been suggested that the earliest colonisation episode occurred between 4300–4000 BC, from Brittany right around the western seaways to south-west England, south-west Wales and western Scotland (Pailler & Sheridan 2009: 32). If this was indeed the case, it is perhaps surprising that we see no evidence for the Neolithic at this time on the islands discussed here. It is possible that early colonists were seeking only large land masses on which to settle, or that they did indeed tramp along the shore of the mainland rather than carrying out long-distance sea voyages. However, to our mind, what the material evidence actually best describes is not full-blown population movement from the continent, but rather general patterns of connectivity within the fifth millennium — involving small-scale, relatively routine movement in both directions — which we have been discussing above.

The lateness of the island dates also has significant implications for our understanding of the more generally accepted period of transition between 4000 and 3800 BC. In contrast to much of Britain and Ireland, there are still no clear signs of the Neolithic on our island groups during this phase. Unfortunately, this realisation does not clarify things particularly well in terms of the main broader argument. It could be seen as suggesting, as Pailler and Sheridan (2009) have argued, that this important phase of colonisation (for Britain at least) did not focus on the western seaways, but rather perhaps on the English Channel or even the North Sea. Equally, in taking the dynamic away from the seaways and placing it firmly within mainland Britain, it also fits fairly well with the indigenous adoption argument.

Intriguingly, according to the evidence reviewed, the processes through which the Neolithic finally arrived on the islands within the western seaways *c.* 3750–3300 BC appear to have had immediate origins on the close mainland, not the distant continent. According to this evidence, local rather than long-distance connections — which, as we have seen, had been established for centuries amongst ‘Mesolithic’ seafarers — were the mechanism by which ‘the Neolithic’ arrived on these island groups (interestingly, *after* the mainlands either side).

Conclusion

This paper has brought together data from across the western seaways to make two simple, yet important, points. First, it appears from the evidence available that the waters of the European continental shelf were, if not bright, then certainly strongly illuminated by ‘argonauts’ throughout the fifth and early fourth millennia. These relatively shallow waters saw both short and long distance journeys taking place; from localised fishing activity to broader scale movements of people, animals, things and presumably ideas.

This realisation leads us directly to our second main conclusion — that grey is indeed the best colour with which to paint a picture of the transition. Up to now, the *process*

of transition has generally been discussed in black and white terms. We suggest that it might be more productive to view that process as being grey: a mixture of black and white. Given the evidence discussed, there is no need to attribute a single directionality to the changes witnessed. Quite possibly, both 'Neolithic' colonists and the indigenous 'Mesolithic' populations of Britain and Ireland were responsible for those maritime connections, and so there is no real reason to see any one 'side' as holding sole responsibility for the resultant changes observed. The process of transition had long-term origins and a dynamic in both directions.

Our point about black, white and grey arguments is also pertinent to discussions of 'the Mesolithic' and 'the Neolithic' as entities in themselves. Put simply, while we maintain a mode of discussion within which only two states — black and white — are seen to exist we cannot easily discuss variation, difference and process in a meaningful manner. This binary reading of the transition has a deep culture-historical legacy, but it has also been built upon and reinforced in recent years. In so doing, we have risked losing any *feel* for the nuances of change, something which was inherent in the work of earlier scholars such as Childe (1946) and Case (1969).

Luckily, such a detailed understanding is precisely what new programmes of radiocarbon dating and reconsiderations of the evidence for settlement now offer us. What we really need to do is examine where patches of 'Neolithic' black — in different sizes, different places and at different times — gradually begin to alter the 'Mesolithic' white. There was no sudden change from one colour to another. We need to focus on the grey period, and the changing composition of that grey, if we are to understand the 'transition' better. It is hoped that through our wide-scale, yet also detailed, examination of both millennia, and our focus on arguably the most important region within this debate, we have begun just such a discussion. These were indeed grey waters, and it is a somewhat grey narrative of transformation; we would argue that, following Childe, it is important to celebrate that.

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