CHAPTER 3: THE NATURAL HISTORY AND ARCHAEOLOGY

3.1 INTRODUCTION

It may seem a little strange to include an account of the islands' natural history in an archaeological report but just as the physical environment sets limits on the possibilities for settlement through time so also do the natural resources for flesh, fish, fowl and vegetation have an economic significance for early settlers. Between them, the physical background and the natural resources of an area define an envelope of potential for settlement which expands and contracts with the varying fortunes of time. Social organisation forms part of the definition of this envelope and by appropriate strategic adaptation facilitates or hinders settlement potential also. In this Chapter then the framework of this envelope is explored.

3.2 NATURAL HISTORY

The Western Isles can be divided into six general ecological zones which also constitute economic resource zones (Figure 8). Ranged west to east they form a series of parallel linear units consisting of open water, shore, machair lands, backlands, skinned lands and peatlands, before returning to shore and sea on the east side of the island.

Two of these zones are artificial, or at least partly so. Skinned lands consist of former peatlands that have been stripped down to a thin layer of peat which, when dug into the underlying mineral material, can form a useful agricultural soil. The backlands occur where calcareous sands from the machair combine with peats, a process which can produce the richest agricultural soils of the Western Isles. This can occur naturally when wind-transported machair-sand falls onto the peatlands. They are also artificially created or extended by the deliberate addition of sand, seaweed or other manures and by cultivation, grazing and trampling of livestock, ultimately to produce the rich plaggen soils known as Lewisian Black Earths (Whittow 1977, 285–6). The flora and fauna of these six zones are grouped below, into two ecosystems; the marine ecosystem, consisting of the sea and shore, and the terrestrial ecosystem, consisting of the other four zones.

3.2.1 The marine ecosystem

The marine ecosystem consists, for our purposes, of the open sea, the inshore waters and sea lochs and the extensive and varied shoreline of the Outer Hebrides. Both open sea and inshore waters are rich in a wide variety of fish. In the Mesolithic levels of the Oronsay shell middens, saithe (coalfish) constitute over 90% of the fish bone material and are in many contexts the only species present (Mellars & Wilkinson 1980; Mellars 1987). This species is probably the easiest to catch from the shore. Data from later period sites on the Western Isles is scarce but an Iron age midden on Lewis produced mostly cod as well as ling, pollock and saithe (Baden-Powell & Elton 1937, 359). This increase in the range of fish caught through time has been more clearly demonstrated on the Orkney Islands where ten species were noted on a Neolithic/Bronze Age site, thirteen on an Iron Age site and twenty-three species on a Late Viking site (Colley 1983, 159). Crustaceans, especially crabs, seem to have been caught for food from earliest times.

The shoreline of the Western Isles varies greatly ranging from large expanses of sandy beaches to rocky shores and cliffs and each of these provides habitats ranging from open water to cliff top and including the upper shore and the intertidal zone. This variety encompasses a wide range of vegetational and faunal resources and was of vital importance in early as well as more recent times.

At the highest levels of the shore can be found growths of channel and flat wrack. The bladderless form of wrack is the main vegetation of the intertidal zone. Also present in certain conditions are *Lithothamnion*, *Alaria esculent* (tangleweed) and various algae (Darling & Boyd 1964, 182). The shores of the sea lochs are dominated by fucoid weeds including knotted and flat wrack. These wracks can be used a fertiliser and as food for sheep and cattle. At low tide carragheen and dulse, both valuable foods for humans, could be gathered. Most importantly, however, the coastal zone contained the richest fauna of any of the islands' zones, including mollusca, mammals, fish and birdlife.

The marine mammals are, and probably were in prehistory, a much more important resource than their terrestrial counterparts. The grey seal population of the Western Isles is one of the largest in the world and the common seal is also plentiful in the area. Archaeological data provides ample evidence for their early exploitation. Indeed by the Early Christian Period, some rookeries were regarded as the private property of individual settlements (Anderson & Anderson 1961, 295–6; McCormick 1981, 317). Cetaceans, either deliberately hunted or accidentally stranded were an occasional resource available to the inhabitants of the area and their exploitation by early man has been demonstrated by excavation (Clarke 1960, 169).

The varied coastline of the Isles is rich in mollusca with a greater diversity of species in sheltered areas than on the more exposed and rocky shores (Smith 1979, 179). Excavations suggest that shellfish were collected at all periods. The mollusca of rocky shorelines, such as winkle and limpet, were relatively heavily exploited while the more valuable food species, like cockle or oyster, of the sandy shores, although present, are rare. Shellfish are also used as fish-bait and the apparent preference for less edible species may be explained by their use for fishing rather than their routine inclusion in the human diet. However, their use as 'famine food', ie as a resource to be exploited in times of food shortage may account for their occasionally abundant presence on the sites considered here.

3.2.2 The terrestrial ecosystem (including rivers and inland lakes)

Peatland

Peat now covers most of the surface of the Western Isles, ranging from the eastern seaboard to the western machair lands. The peatlands, especially of the Uists, are interspersed with fresh-water lakes (Plate 10), most of which drain to the sea and are colonised by migratory fish. While the fauna of the peatlands extend into the agriculturally rich black-, and skinned-lands, the flora of these zones is largely artificial and varies with their current agricultural use.

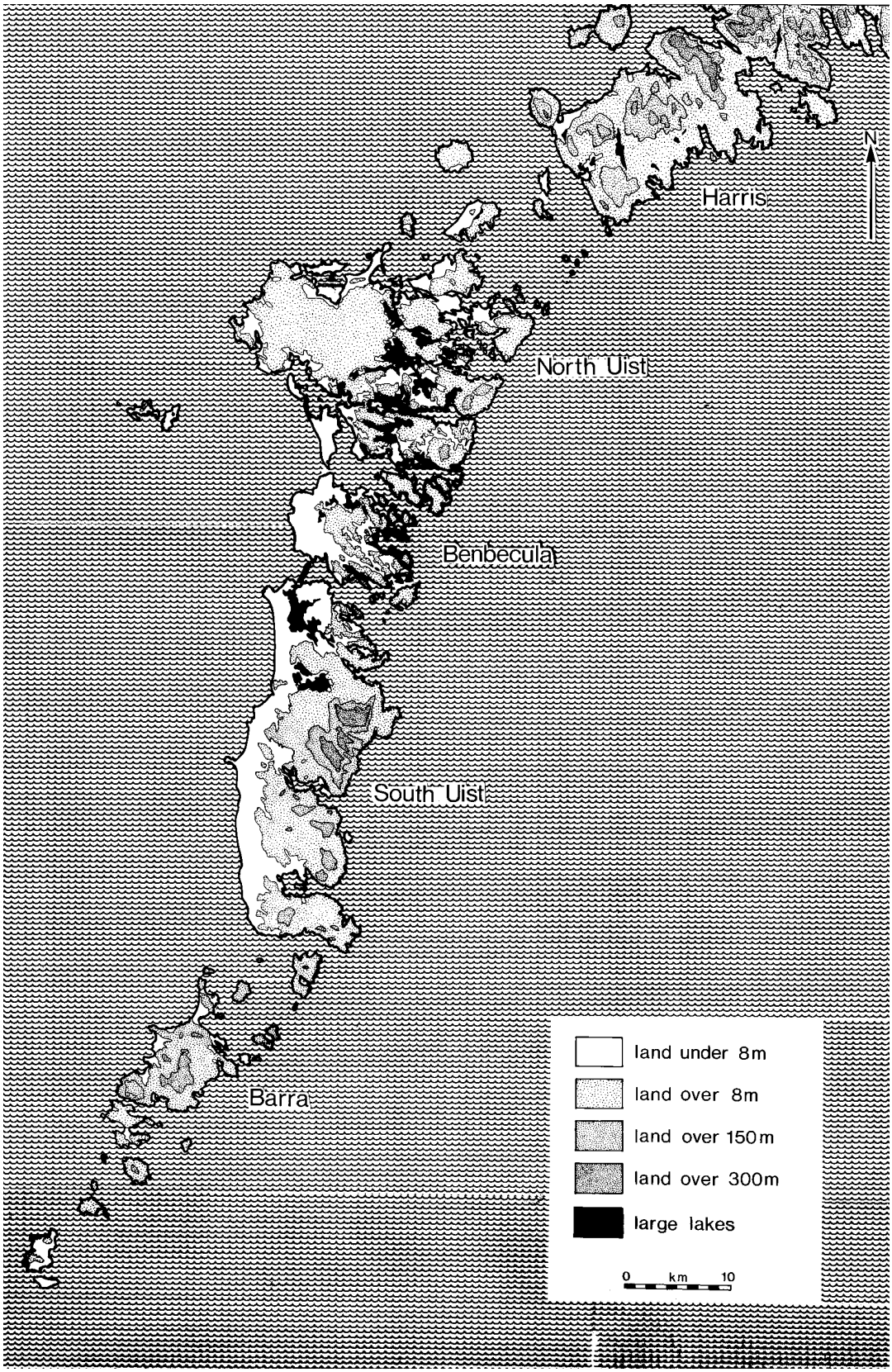

Figure 8. Ecological units on the Western Isles. The physical relief of the Outer Hebrides contributes to their zonation in north/south strips. Land under 8 m is concentrated in a strip of machair plains along the west coast. Small seasonal lochs (not illustrated on this scale) and extensive shallow permanent lakes lie between the machair and the high ground. The latter is peat covered and stretches north south along the east coast. The west coast descends into the sea in a shallow slope (averaging 1 in 250), while the east coast is steep-to and the sea plunges steeply to depths of 300 m or more.

Plate 10. Knock-and-lochan, or hill and loch, in North Uist

The peatlands today support a typical heathland vegetation dominated by *Erica tetralix* interspersed with mosses such as *Racomitrium lanuginosum*. On better drained slopes *Calluna* dominates the vegetation while deeper peat carries more *Molinia*, due to the high acidity of the drainage water. Less acidic peats carry a high proportion of *Eriophorum* (Darling 1955, 161). In the past, peatlands provided rough grazing and peat was used as fuel, animal bedding, roofing and as a fertiliser for machair soils. Peat is still extensively used as fuel but its other uses, evidenced in these excavations, have been largely usurped by modern materials.

Machair

The high pH of its calcareous sands is responsible for the machair's distinctive grassland vegetation now dominated by *Festuca rubra*, both on the low machair and the stabilised high machair. The agricultural potential and limitations of machair lands are discussed above (Chapter 1); they provide moderate to poor grazing which is susceptible to damage by overgrazing. Cultivation can only be sustained when accompanied by constant manuring and a generous rotation cycle.

The vegetational history of the terrestrial system.

Erdtman's pollen analysis (1924, 486 *et seq*) of material from some twenty sites in Lewis is the earliest pollen work to have been undertaken in the Isles, although it is now of little more than historical interest. Blackburn studied samples from Calvay Island and Stoneybridge, South Uist (Blackburn 1946; Heslop-Harrison & Blackburn 1946), but seems to have assumed that the sampled peat began to form about 6000 BC, an assumption which may have been unwarranted. In general her diagrams indicate that non-arboreal pollen predominated throughout prehistory. Analyses of now intertidal peats, undertaken as part of Ritchie's geomorphological researches (1966), are somewhat schematic and the results reflect conditions in the immediate environs of the freshwater lakes in which the peat deposits originally formed.

Pollen analysis was undertaken on a sediment sequence from Little Loch Roag, West Lewis, covering the period from 9140 ± 140 uncal BP (Q-1531) to date (Birks & Madsen 1979, 825). This reaffirms the general lack of woodland development, a factor the authors attribute to exposure. At its most developed, the vegetation cover seems to have consisted of a mosaic of grassland, heath and tall-herb communities with occasional birch and hazel scrub. The earliest evidence for human influence in this deposit was detectable at levels dating to approximately 1900–2000 BC (Birks & Birks 1980).

Peat deposits from Tob nan Leobag, near Callanish, were investigated by Bohncke (1988), as part of an investigation of sub-peat field fences in that area. The sequence runs from about 6000 BC to date. Bohncke suggests that, until roughly 2000 BC, the landscape supported pockets of birchwood.

Following some early, possibly Mesolithic clearances, a large-scale clearance took place in the period 2250 to 2000 BC, which effectively rendered the area treeless, in which state it has apparently remained ever since.

Palynological work at the Beaker site of Rosinish, North Uist and Killin, on Grimsay (Whittington & Ritchie 1988) and on peat deposits from Sheshader in the Eye Peninsula, Lewis (Newell 1989), also suggest that the arboreal component of the local vegetation was slight and variable. Newell's work further reveals the importance of 'muirburn' for tillage after peat formation. The deposits from Killin indicate phases of landuse in the area during the Neolithic Period (5340 BP), the earlier Bronze Age (3900 BP), and the Iron Age, together with Medieval and later settlement (Whittington & Ritchie 1988, 8–11).

The emphasis on the presence or absence of woodland, or even of trees, in the palynological literature, takes no cognisance of the other evidence for the existence of trees in the Western Isles in prehistory. Wood, tree-stumps and roots have been noted in peat at Garry Tigharry and Loch Eport (Beveridge 1911, 5), at the head of Loch Erisort (Martin 1703, 10) and at Vigdale, Loch Seaforth and other sites (Wilkins 1984). Intertidal peats with similar deposits have been noted at Sithean, Benbecula, Dik Mor and Hornish Point, South Uist and Vallay, North Uist and Ritchie (1966, 79–86) has radiocarbon-dated wood from submarine peats from Borve, Benbecula to 3750 ± 170 cal BC (I-1543).

Trees are still to be found in the Isles, albeit in small groups and isolated stands where local topography gives shelter from the wind and protection from overgrazing by sheep. The occurrence of bluebells and wood sorrel in the birch wood on the slopes of Allt Volagir, South Uist (Darling & Boyd 1964, 50) suggests that, in at least a few areas trees may never have been truly absent from the Isles, regardless of the contra indications from palynology! Both macroplant remains from excavated sites and the remains of woodland denizens like wildcat and blackbird from Galston, South Lewis (Baden-Powell & Elton 1936) support this view.

3.2.3 Fauna

In common with many islands, the fauna of the Uists and Benbecula is a sub-set of that of the adjacent mainland, at least, at the specific level. In comparison with the thirty-eight species of land vertebrates and 152 species of breeding birds of the Central Highlands, North Uist has only fifteen and 114 such species, respectively, Benbecula seven and sixty-three and South Uist nine and eighty-one. Amongst the vertebrates, only the seal and, on North Uist, the red deer, would have provided a useful protein resource for man. However, other species, such as the otter, may have been exploited for their fur.

It has been argued that the fauna of the islands necessarily arrived via a land bridge, which survived into the early part of the Post-glacial Period. However, Berry (1979, 34), has argued that only the pygmy shrew and the red deer can be said to have arrived in the Isles without the intervention of man. Even this estimate may be optimistic, since he includes red deer on the basis of the occurrence of their bones and antlers on prehistoric sites or in peat deposits. However, the finds of complete deer skeletons in midden deposits at Links of Noltland raises the possibility that they may have been, in effect, domesticated during the Neolithic period (Clarke & Sharples 1985, 77).

Berry (1979) suggests that all the other non-domesticated vertebrates must have arrived along with man and he suggests that their genetic similarities with Scandinavian vertebrates make a strong case for their introduction by Viking or Norse settlers. However, it is clear from excavated assemblages that most, perhaps all, were present in the Hebrides in prehistory. Perhaps those genetic traits examined in this study were, in the islands, swamped by the genetic contributions of the animals re-introduced by and with the Vikings. However, the possibility that links with Scandinavia also existed during earlier periods should not be forgotten.

The many lakes of the Western Isles, especially the Uists, contain salmon, trout of the migratory (sea) and non-migratory (brown) type and eel. Charr have a more restricted distribution but are presently found in several lakes in north Uist (Campbell & Williamson 1979, 389). There is no evidence to suggest that any of these fish were deliberately introduced.

The Western Isles is now rich in birdlife and it seems reasonable to assume that this was also the case in the past. Islands can contain a wider range of birds, per unit area, than mainland sites of the same area because they, the islands, contain a greater variety of ecological habitats. At present some 286 species are recorded in the Outer Hebrides, just over 150 of which are known to breed in the area (Cunningham 1979, 207). These consist of terrestrial birds, birds of prey (raptors), waders, seabirds and waterfowl. Birds can be found in all habitats but the coast and inland lakes are the richest in those birds which may be most readily considered as a food resource. The machair lands, which are the main concern of this report, also contain many breeding types. The machair wetlands presently contain many waterfowl including Mute Swan, Little Grebe, Shelduck, Gadwell, Shoveller, Tufted Duck, Wigeon, Pintail, Pochard, Scaup, Water Rail, Spotted Crake and Moorhen (Hopkins & Coxon 1979, 346–7) most of which are known to have been exploited as food. Waders commonly found nesting in the machair drylands include Oystercatchers, Ringed Plovers and Lapwings (Fuller *et al* 1979, 425).

3.3 THE ARCHAEOLOGY OF THE WESTERN ISLES

3.3.1 The Mesolithic period

Mesolithic sites are apparently absent from the Uists and Benbecula. In contrast, there is an abundance of Mesolithic sites in the Inner Hebrides (Mellars 1987; Mercer 1979; 1980; Wickham-Jones 1991; Mithen 1989), on the adjacent mainland Scottish coast to the East (Lacaille 1954, 109; Bonsall 1989, 134) and on the Northern Irish coast (Movius 1942; Woodman 1978) to the south. The drowning of the coastline of the Outer Hebrides (Chapter 1) has removed the evidence for coastal sites of the period, while sand inundation and peat formation have covered inland sites. Given the abundance of Mesolithic remains in the region it must be concluded that the Outer Hebrides were also settled during the period and that Mesolithic sites will emerge in due course. In this context, the early, possibly Mesolithic episodes of deforestation noted by Bohncke (1988) in the pollen anal-

ysis of peat from Tob nan Leobag, and by Brayshay & Edwards (1996) at Loch an-t'Sil should be noted.

3.3.2 The Neolithic period

Funerary monuments

Henshall (1972) has identified thirty-four megaliths on the Western Isles most of which are located on North Uist. The majority are passage graves; round cairns which, where the internal features are visible, cover a short passage leading to a round chamber. The passage often opens out into small funnel-shaped forecourt. Three tombs of the Clyde type, with segmented rectangular chambers and cairns defined by peristyliths, also occur. Nine possible long cairns have been noted.

Inter-visibility between cairns characterises this group of sites, most of which are set in conspicuous locations. In North Uist cairns are frequently located on hill slopes and occur in juxtaposition with other monuments such as standing stones (eg Craonaval, Maari, South Clettraval and Marrogh). Nine possible stone circles are listed for the islands (RCAHMS 1928). The largest circles (Pobull Fhin; 27.5 × 28.0 m: Loch an Phobaill; 42.5 × 35.1 m: Carinish 41.5 × 39.0 m) are all located near large chambered cairns and Burl (1976, 147) suggests that these are, possibly, Neolithic.

There has been only one recent excavation of a Hebridean cairn, at Geirisclett, North Uist (Dunwell *et al* forthcoming). Little is known of the mode of burial in the tombs. Beveridge (1911) notes the presence of burnt bone in all the tombs he investigated and cremated human bone was also noted at Clettraval, North Uist (Scott 1935, 499). Acidification of the soils, widespread in the non-machair areas of the Hebrides after the Neolithic period, would have removed evidence for the deposition of unburnt bone. At Unival, North Uist, Scott (1948, 14) describes a badly preserved inhumation displaying evidence of partial burning.

Occupation sites

Seven Neolithic settlement sites are known in the Outer Hebrides. Two of these, Udal, North Uist (Crawford 1981; 1996) and Northton, Harris, (Simpson 1976, 221) are coastal sites now covered by shell-sand deposits. At Udal two rather insubstantial, circular stone settings with diameters of 4 m and 5 m, have been interpreted as buildings. They have been radiocarbon dated to 3650 ± 40 uncal BP (Q-3054) and 3710 ± 50 uncal BP (Q-3055) (Crawford 1980; 1981) and these dates seem rather late to be Neolithic but, until these excavations are published we cannot know their true significance. At Northton, the earliest of the two Neolithic phases is represented by a scatter of settlement debris on boulder clay. The second Neolithic phase did not have structures either. Shell-sand material from this phase has been dated to 4411 ± 70 uncal BP (BM-705; Simpson 1976, 222) so that the attribution of these deposits to the Neolithic period seems reliable.

Eilean an Tighe, an island site in Loch nan Geireann, North Uist, consisted of a series of much disturbed structures associated with a rich assemblage of Neolithic pottery. The site was originally interpreted as a kiln site (Scott 1951) but Simpson (1976) suggests that the site is domestic rather than industrial, because no wasters were found amongst the 4,000 sherds of pottery retrieved. The site produced a wide range of decorated styles including Unstan ware. A limited examination of the gritting in the pottery indicated that it was of local origin (*ibid,* 34). Neolithic settlement on lake islands was revealed again, recently, in the excavation of what had been thought to be an Iron Age dun on a small island in Loch Olabhat. This site produced a mixture of Hebridean and Unstan wares and plain bowls (Armit pers comm).

Excavations to examine pre-peat walls exposed in peat-cuttings just north-east of Caravat Barp, revealed a series of hearths in the mineral soil. These have been radiocarbon dated to the Neolithic period (Crone 1993). It is not improbable that much more of the islands' Neolithic settlement is similarly concealed beneath deep peat, or, perhaps, beneath Iron Age duns on islands within the freshwater lakes. As noted in Chapter 1, Neolithic sites have not been found lying on machair sands and it is improbable that the machair existed at this time, at least in the area it now covers.

A group of sites have been investigated at Allt Christal, Barra (Branigan & Foster 1995, 49) that have been radiocarbon dated to the Neolithic period. The group comprises areas of domestic activity, small shelters or storehouses, flint working areas and a large ring cairn. The excavators argue that these are probably all components of a single farmstead housing probably no more than a single extended family group (*ibid*, 51). Many of the structures are extremely small and it is unlikely that they could have offered anything more than temporary, or short-term shelter (Barber & Crone forthcoming). Given Crone's observations (1993) perhaps we should envisage these as the surviving stone-built elements of structures largely built of turves. While it is not impossible that some of the Neolithic associations at Allt Christal are based on little more than the presence of residual material they nonetheless attest to an area in which there was extensive Neolithic activity.

Other traces of Neolithic occupation were found on North Uist during excavations in advance of the causeway linking Berneray to North Uist (Downes & Badcock 1998).

3.3.3 The Bronze Age

The evidence for Early Bronze Age settlement on the Long Isle is rather limited. Beaker period material has been retrieved from excavations at Udal, North Uist (Crawford & Switsur 1977, 128; 1996), and Rosinish, Benbecula (Shepherd 1976, 209–16). Beaker pottery has been retrieved from a number of middens, notably from a deposit at Paible, radiocarbon dated to 4060 ± 135 uncal BP (GU-1088), and in smaller amounts from beneath later settlement deposits at Newtonferry, North Uist, and South Glendale, South Uist.

Excavations at Rosinish (Shepherd 1976) also revealed an area of ard marks cutting through the primary midden layer. The area was bisected by a ditch which was interpreted as a boundary separating two fields. Shell from midden material overlying the ard marks produced a date of 3850 ± 75 uncal BP (GU-1064) and a date of 3920 ± 60 uncal BP (GU-1065) was returned for the old ground surface. Carbonised remains of six-row barley with smaller quantities of emmer were also retrieved (*ibid,* 112–113).

Food vessel pottery was retrieved from deposits at the Udal which were overlain by a machair and shingle level, over which, in turn, was a triple kerb-cairn complex. A crouched inhumation from one of these provided a radiocar-

bon date of 3430 ± 85 uncal BP (Q-1458) (Crawford & Switsur 1977).

Little is known of Later Bronze Age settlement in the Long Isle except on South Uist where fourteen settlement mounds of the Late Bronze Age/Early Iron Age period are known. Field walls under or in peat, dating to the late second or early first millennium BC have been noted above. Palynological studies suggest that these were associated with arable and/or pastoral cultivation (see Mills *et al* 1994 for discussion). It seems reasonable to assume that these enclosures are associated with settlement sites but we have yet to locate the settlements. Excavations at Carinish have revealed field walls dating to 3180 ± 50 uncal BP (GU-2454) and 2750 ± 50 uncal BP (GU-2457), beneath 1 m to 1.5 m of peat (Crone 1993). Crone (*ibid,* 380) and Newell (1988, 81) have traced parts of wall systems in peat but neither survey was sufficiently extensive to locate the putative settlements.

Armit identifies the period following the Beaker settlement period at Udal and Northton as a 'settlement break' for the Hebrides as a whole or at least as a break in the evidence currently available. He has also suggested (1996, 108) that the settlers of the Beaker Early Bronze Age showed affinities with their predecessors of Late Neolithic date while those of the Later Bronze Age had more in common with their Iron Age successors. This view has much to commend it and implies that some substantial cultural change evolved or was imposed in the intervening period. Armit's identification of a settlement break may simply reflect this more significant change.

3.3.4 The Iron Age

Terminology

The concepts of 'the Mesolithic of Scotland' or indeed of 'the Neolithic of Scotland' are still tenable, albeit that even in these remote periods some elements of regionalism can be distinguished. In this context, regionalism is defined as the emergence of significant differentiation between the relevant material cultures in separate regions throughout Britain and Ireland. Sampling theory predicts that some regionally distinctive elements will necessarily appear in regionally collected data sets. Such regional variations do not constitute regionalism, in the sense meant here. As a working hypothesis the writer suggests that *significant* regionalism begins to be detectable in the archaeological record during the Bronze Age. By the Iron Age, clear regional differences are in evidence even within Scotland. While it remained unrecognised regionalism encumbered archaeological debate with a fruitless pursuit of continental prototypes and sources. However, over-emphasised, regionalism has introduced a probably unhelpful degree of parochialism to Scottish archaeology. Carter *et al* (1995) considered only the Iron Age in Shetland in their concluding discussion on broch sites. Armit, in his publications on the Atlantic Iron Age makes only passing reference to their larger national and international context (albeit that his more recent work is beginning to address this deficit). The inclusion of papers on Scottish Iron Age sites in *corpora* of British Iron Age studies (see for example, Gwilt & Haselgrove 1997; Bevan 1999) is encouraging but in the absence of synthesis, does little to redress the situation.

Limiting the study area contributes to more highly targeted research and perhaps to better and faster reporting but it is beginning to facilitate a fragmented view of the Iron Age in Scotland that lacks coherence. This is not the place to attempt to redress this balance. This monograph deals with some Iron Age sites in the southern part of the Outer Hebrides but their interpretation will be incomplete without some reference to the larger social and geographical landscapes in which they functioned (below).

The term 'Highland Iron Age' describes Iron Age remains in the, now defunct, administrative areas of Highland Region, the Western Isles Island Area, the Orkney and Shetland Islands Areas, and the western part of Strathclyde Region. This division roughly parallels the upland part of Fox's upland/lowland division, but also takes cognisance of latitude and oceanicity which may modify local conditions to make altitudinal highlands ecological lowlands, and *vice versa.*

Much discussion of the Highland Iron Age has centred on the origins of Childe's 'castle complex' (1935), the group of monuments which includes brochs, duns and wheelhouses and their several variants (see, for examples, Mackie 1965a; 1965b; Caulfield 1978). The relationships between these sites and sites of the Iron Age in lowland Scotland, has been but little debated (Mackie 1972) while the relationships of both with sites and cultures of the English, Irish and continental European Iron Age remain largely unexplored. The differences in regional archaeologies are exacerbated by the differences in significant cultural stimuli operating in each area during the later prehistoric and early historic periods. The highlands, for example, seems to have been largely unaffected by the arrival of the Romans, while the lowlands did not experience the Dalriadic migration.

The term 'Atlantic Iron Age' has been popularised by Armit and others (see Armit 1996 for bibliography) and means the subset of the Highland Iron Age concentrated in the Western and Northern Isles and on the adjacent mainland. It is a useful term because it highlights the role and significance of the sea and seafaring along the Atlantic sea coast throughout this period and part of that role must, necessarily have been to facilitate some expression of cultural contiguity throughout the Atlantic province. In rehearsing above the opposition of regional to extra-regional interpretational frameworks for the Iron Age this writer is merely revisiting a major theme of the 1969 CBA Conference on *The Iron Age in the Irish Sea Province*. Alcock's summary paper therein remains as readable and relevant now as when he published it (1972, 106–8).

The sites

The many recent publications on the Iron Age structures of the Hebrides and of the Atlantic Iron Age in general, obviate the need for much by way of descriptive text here and the reader will find in Armit 1996, a bibliography that provides access to the relevant literature. The following is a brief review of the relevant trends in discussion of the nature and interrelationships of the various forms identified.

Armit decried the 'typological morass' that included broch towers, galleried duns, semi-brochs, island duns and an assortment of other variants, into which the sites of Childe's castle complex had been classified. He proposes instead a broad class of Atlantic Roundhouses which subsumes the whole panoply of variations (1996, 114–5). That said, the terms broch, dun, wheelhouse, etc continue in use as descriptors; perhaps their general usefulness has not been altogether lost. In his BAR report (1992), based on the work

undertaken for his PhD thesis, this re- or possibly, de-classification, is allied to an analysis of the landscape, using Thiessen polygons (*ibid,* Chapter 12) and their functional interpretation based on some elements of geographical locational analysis. The terminology of his description of the chronologies of these sites is Darwinian: '...recent work is beginning to point to a gradual development of complexity from early simple versions to the elaborate broch towers... ' albeit that he acknowledges that simple forms can also occur in the later period. In general, and despite many closely argued criticisms of the 'established view' Armit has not moved very far from an essentially typological and distributional paradigm for his interpretation of these sites; *Plus ca change plus c'est le meme chose*.

Harding (1997) also uses the older class definitions adding, after Mann, the class of dun-house or roofed dun. Unlike Armit, however, he considers the interaction of these sites in their social landscapes (*ibid,* 139–40) and explores the possibility that some form of social ranking may explain part of the bewildering diversity of Hebridean and west coast Iron Age sites. Only wheelhouses were discovered in the excavations reported upon here and, on the basis of the evidence from excavations and from surveys, the latter undertaken before and after these excavations, the wheelhouse is virtually the type-site of the machair plains.

Wheelhouses

Wheelhouses are circular, drystone-walled structures characterised by the radial subdivision of their interiors into a number of bays by means of short piers, leaving a clear central area. The bays are occasionally divided from the central area with small upright stones, as at A Cheardach Mhor, (Young & Richardson 1960, Figure 2). The bays were converted to cells by the addition of corbelled domes whose upper surfaces were probably built up into a single, annular roof, leaving a relatively small central area to be roofed by other means. At floor level, the clear central space usually contained a hearth and postholes found in that area are interpreted as supporting the inner roof structure whose outer rim rests on the annular stone roof.

Wheelhouses have been subdivided into several groups on structural and morphological grounds. The term 'earth-house' was formerly used to describe wheelhouse-type structures dug into the soil, the walls of which are often non-load bearing, lining walls, one stone thick, eg Foshigarry, North Uist. Entrance is sometimes effected through a passageway as at Bac Mhic Connain, or directly through the outer wall.

Aisled roundhouses are a sub-group of the wheelhouses, characterised by a gap, between 0.20 to 0.80 m wide, which lies between the inner edge of the piers and the inner face of the outer wall. Examples of this type were found at Allasdale and A Cheradach Bheag. At Jarlshof, Shetland, however, this space was in some cases filled by rough stonework. In other cases the piers were tied to the outer walls by means of pairs of lintels; at Machair Lathan, for example, the lintels were set some 1.2 m above floor level.

The Hebridean wheelhouses are found as isolated monuments or in small groups of two or three, usually of varying dimensions as at A Cheardach Bheag, and in complexes of wheelhouse structures as at Foshigarry. At Allasdale and Clettraval, the wheelhouses were set in 'yards' and are said to be accompanied by subsidiary structures, interpreted as barns or byres.

The distribution of the different wheelhouse types reflects the adaptation of the basic architectural concept to local conditions. They are 'dug-in', ie of wheelhouse type, wherever they occur on, or in, machair sand, eg A Cheardach Mhor, A Cheardach Bheag, and Kilpheder. On the east, where the landscape is more hilly and the soils shallower, the wheelhouses are free-standing and commonly located on hillocks, as at Usinish. It is possible that the known distribution of such sites in the machair may not represent their 'original' distribution because virtually all of the known examples were sand-covered in the recent past and only revealed by the accidents of erosion.

Although they are generally built on a more modest scale, wheelhouses have very many features in common with brochs. Where the monuments are found together, excavators have argued for occupational continuity between the two. Thus, at Clickhimin and Jarlshof in Shetland, wheelhouse structures were interpreted as secondary components, inserted within and around the walls of the brochs in the second or early third century AD (Hamilton 1956; 1968). This seems to suggest that the origins of the wheelhouses must be sought in the brochs. The apparent replacement, on the same site, of the highly defensive broch by the wheelhouse, which is common on the Northern Isles, does not seem to have occurred in the Western Isles, where, in general the wheelhouses are located some distance from the brochs. Nonetheless, Hamilton's view has become, in default of other views, the 'established view' and suggests that wheelhouses are later from and in some way devolved from the brochs.

At the excavation of the broch site of East Shore, in Shetland, the writer's field observation could detect no physical evidence to suggest that the construction of the radial piers within the broch post-dated the construction of the broch wall by anything more than the necessary interval required in construction. Carter *et al* (1995, 462), in writing up the site have described the piers as 'Later Broch Features' but acknowledge that the interval between the construction of the broch wall and that of the piers is difficult to assess. Similarly, Hedges and Bell (1980, 88) have argued that radial segmentation is a primary feature of the brochs. Perhaps, therefore, we should consider radial segmentation another common architectural feature of all the sites of the 'Castle Complex', albeit that the case has yet to be fully made for the other site types.

At the Udal a radiocarbon date of 340 ± 120 ad (Q-1131) marks a *terminus ante quem* for the end of the wheelhouse occupation (Crawford & Switsur 1977, 129). Armit's attribution of wheelhouses to a period earlier than the first century BC (1992, 68–9) is based largely on the results of the excavations reported on here. Previously wheelhouse sites have been dated, principally by the pottery which, in the Western Isles, must be regarded as a particularly unreliable method, or on Roman inclusions which seem to place them in the second century AD. However, Campbell (1991), on the basis of radiocarbon dates, Roman inclusions and comparanda, suggests that the sites at Sollas also probably date to the second century AD.

3.3.5 Discussion

The architecture of HIA structures is remarkably consistent along the Atlantic coast. The structure of entrances and the entrance 'furniture' of almost all the known structure types are virtually standard features. The hollow-wall construction of brochs, semi-brochs, duns, forts, promontory forts and blockhouses indicates a consistency of approach which, in prehistory, is only paralleled in the megaliths. As has been argued above, a shared emphasis on the radial segmentation of the outer annulus of the enclosed areas may be a another part of their common architectural inheritance.

Material culture

The greater part of the evidence for the material culture of the Iron Age inhabitants of the Western Isles is based on the large collections of uncontexted finds made during the last two centuries, mostly from eroding sand faces. A much smaller group of material has been retrieved from archaeological excavations. This consists mainly of pottery, of which thousands of sherds are recovered from the Hebridean sites, and bone and antler objects which are similarly numerous but less chronologically diagnostic, at this time.

Pottery

The wheelhouse sites of A Cheardach Mhor, A Cheardach Bheag, Kilphedir, Allasdale and Foshigarry, have all produced pottery, as have the nearest excavated brochs, Dun Mor Vaul (Tiree), Dun an Iardhard (Skye), Dun Carloway (Lewis) and Dun Vulan (South Uist), and the excavated dun site at Dun Cuier (Barra). The assemblages have generally been categorised on the basis of form and decoration.

Young (1956, 48) suggests that the sequence of Iron Age pottery begins with the incised- and pin-stamped decoration on S-shaped vessels with inverted rims (*ibid,* Fig 4, 2). Some also have raised bosses or an applied cordon under the rim. These are found on most wheelhouse sites. The shouldered pins, used for the decoration, have been dated at Dun Mor Vaul, to between 700 and 250 BC (Clarke 1971, 30) while Young (1966) places their dates earlier than 200 BC. Inverted-rim vessels continued in use throughout the period, even after the appearance of other forms.

The second type consists of globular vessels with everted rims, either undecorated or with an applied, fluted, zig-zag, decoration around the 'shoulder'. Some sherds have an arcaded finger channel decoration between the shoulder fillet and the rim. This type is referred to as 'Clettraval-ware' from the type site (Scott 1935). Young suggested a date of the 1st or 2nd century AD for the everted rim ware, based on the dating of the annular yellow glass beads found in association with it. However, these are now dated to the period 300 BC to AD 200 (Guido 1978). Guido's date range is based on her perception of the date range of the broch complex and so some element of circularity is involved here, but the existence of a number of supporting radiocarbon dates from sites in southern England suggest that the proposed range may not be entirely misleading (Ritchie & Lane 1980, 219–20).

In a final Iron Age phase Young identified a coarse plain ware from the upper levels of wheelhouse and dun sites. This she saw as intrusive, possibly following the Dalriadic settlement of the Western Isles which she dates to about AD 500. However, Ritchie and Lane (1980, 220) suggest that the Udal provides a *terminus ante quem* date for undecorated bucket-shaped wares of *circa* 400 AD. Crawford and Switsur (1977, 129) suggest that the change occurs somewhere in the range AD 200 to AD 400.

At Dun Mor Vaul, Mackie found a ware with two form types – inverted and S-shaped (his 'Vaul ware') from the pre-broch levels (Mackie 1974a), radiocarbon dated about 500 uncal BC, and from all the subsequent phases. The everted rim ware of characteristic Hebridean type was found in all phases of the broch from its construction onwards. Campbell (1991, 168) suggested 'with some diffidence' that the introduction of the everted rim wares may be contemporaneous with the construction of the wheelhouses. Armit, while accepting this possibility (1996, 152) suggests that the absence of everted rim ware from the earlier features on this site may simply reflect functional differences between the earlier and later structures, eg the earlier could be byres and the later houses.

An additional type, termed 'Dunagoil ware' (Marshall 1964) was found in small quantities in the pre-broch levels at Dun Mor Vaul. Mackie describes this as thick, gravelly and plain, and possibly related to the wares of the vitrified forts of the Scottish mainland. The final phases at Vaul include a 'degenerate' Clettraval style which Mackie likened to that from Dun Cuier, and which, he suggests, was of Dark Age date.

A few Roman sherds have been found in the Western Isles. Samian sherds of the second century AD, have been found on Bac Mhic Connain (Beveridge 1931, 61), Berie (Lewis), Dun Ardtreck, and Dun Mor Vaul (Robertson 1970). Dun Mor Vaul also produced a spindle whorl made from a sherd of Roman coarse ware (Mackie 1974a, 155), also of second century date. Most recently, the excavations at Dun Vulan have produced a radiocarbon-dated sequence Iron Age ceramic styles between *circa* 400 BC and *circa* AD 700 (Parker-Pearson & Sharples 1999).

Metalworking

The date of the inception of the Iron Age in Scotland in general, and in the Highland Zone in particular, is simply not known. The sites of the 'Castle Complex' all contain some evidence of metalworking, in iron and bronze, and in some instances this is abundant. A furnace, constructed of stone slabs and associated with some 17 lb (*circa* 8 kg) of iron slag has been found in the cave site of Rudh 'an Dunain, Skye, dated to the 1st century BC (Scott 1934). On the wheelhouse site of Bac Mhic Connain, Vallay, North Uist, an almost square, stone built hearth was identified as a furnace because of its association with bronze slag and crucibles (Beveridge & Callander 1932). Iron slag, iron rivets and a fragment of haematite were also found on this site (*ibid,* 48). However, the metal-working debris was probably associated with a furnace which had been dug into the secondary deposits infilling the wheelhouse. The debris therefore post-dates the wheelhouse, the latter being dated to the Roman or post-Roman Iron Age on the evidence of the Samian sherd from the site.

At A Cheardach Mhor, South Uist, Hearth 3, in the Phase I wheelhouse, was encrusted with peat ash and contained two pieces of slag while other fragments of slag were found in the subsequent phases (Young & Richardson 1960, 142 & 172, Figure 2). Iron slag was found on other wheelhouse sites including Garry Iochdrach, Vallay Strand (Beveridge & Callander 1932) and Foshigarry (Beveridge & Callander

1931), Allasdale (Young 1953), on the dun site of Dun Cuier, and the broch at Dun Mor Vaul, and on the midden at Galston (Baden-Powell & Elton 1937). At Sollas, a mould for a projecting ring headed pin was found together with a triangular-cross-section crucible that had contained bronze and an iron ring. Apart from these '...there were a few iron fragments...' (Campbell 1991, 164). Of note also is Campbell's identification of crushed haematite ore used as a filler in pottery fabric, given that there are no sources of haematite in the Hebrides (*ibid,* 150).

Metalworking was carried out at wheelhouse sites, mostly evidenced by finds of slag, but the smallness of the individual pieces and the low total weight of slag from any one site, suggest that smithying rather than smelting was being practised. This is confirmed by the admittedly negative evidence of the absence of furnace parts, furnace bottoms (ie molten wasters), and the paucity of iron objects. The wheelhouse at Garry Iochdrach produced twenty-two fragments of much corroded ironwork, including rivets, pieces of knife blades, '... an instrument 5" long with two prongs...', a pin and the slag noted above (Beveridge & Callander 1932, 41). A plough share from A Cheardach Bheag has been identified as possibly of Romano-British date (Fenton 1963, Fig.4:8).

Tylecote (1986, 124) notes that no part of the British Isles is completely devoid of iron ore of some form. However, the Western Isles has no local source of the carbonate, limonite or haematite ores (see above). These may have been imported from mainland Scotland or the north-east coast of Ireland.

The evidence for bronze working comes from broch, wheelhouse and dun sites in the form of crucibles, clay moulds, tongs and bronze slag, and bronze objects found on excavated sites consist of small personal ornaments, rings and pins. A trumpet brooch of Roman origin was found on the wheelhouse site of Kilpheder (Robertson 1970, 207). Warner (1983, 165 *et seq*) has noted, from the Western Isles, cast-bronze, ring-headed pins and waisted, cast-bronze 'spear-butts', together with mould fragments for the latter, all of which have clear affinities with Irish material of the same period, which he terms 'Early Iron Age'. There are no known deposits of copper ore in the Western Isles and no known sources of tin in Scotland. The presence of bronze-working slags, suggests that ore, as well as finished products was traded and Warner (ibid) has argued quite convincingly that a large part of this trade was with Northern Ireland. The existence of inbound trade goods implies the existence of tradeable commodities, perhaps food surpluses and other organic materials, in the Hebrides. In turn this implies a level of social organisation consistent with the accumulation of those surpluses.

The metal objects from the Hebridean Iron Age sites are not, in general, indicative of a high level of acculturation. They compare very poorly with the quality of the Late Bronze Age assemblages like those of the Adabrock hoard, Lewis, *circa* seventh century BC; (Coles 1960, 48–50) or the seventh century BC leaf shaped swords of Minch type (*ibid,* 45), etc.

Trade played an important role in the economy of the island settlements. Long distance trade connections can be inferred from developments in the Dark Ages and later, but Mackie (1971, 50) postulates a link with the south of England, on the basis of the occurrence of spiral finger rings in both areas. He suggests that the influx of the Belgae into south-east England displaced the native populations, some of whom travelled thence, by sea, to the Western Isles (*ibid,* 25). Clarke (1971) has highlighted the dangers inherent in using exotic objects for the definition of chronological events or cultural connections. In particular he refutes Mackie's arguments mainly on the basis of the chronological insensitivity of spiral finger rings.

3.3.6 Conclusion

While in general, it may be fairly claimed that the physical structures of the Hebridean Iron Age are well documented and their architecture relatively well understood, our ignorance of their chronology and their social and economic organisation, both within and between sites, has been until very recently, almost complete. The domestic products of the period seem singularly undiagnostic and lacking in chronological significance while the exotic imports may have done more to mislead us than to clarify the situation (Clarke 1971).