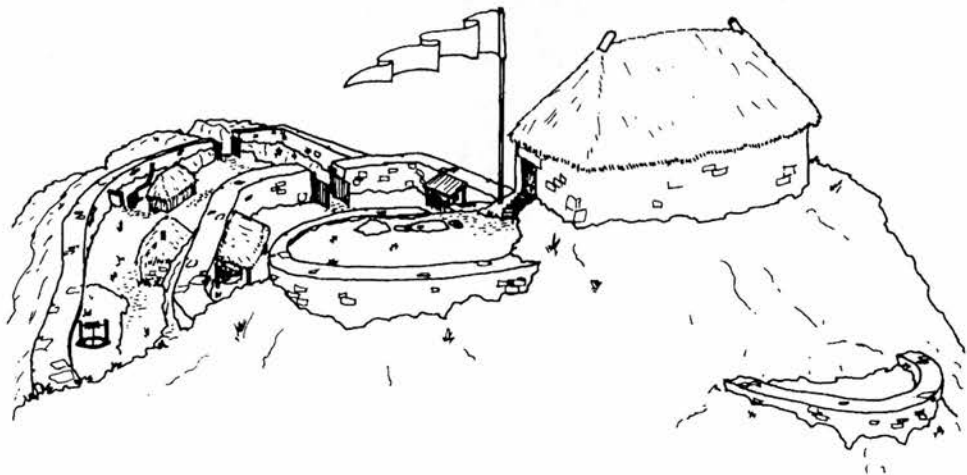

Later Prehistoric and Early Historic Settlement Archaeology of the Western Seaways

A Study of the Western Settlement Record from Shetland to Brittany in the
First Millennium BC and AD

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Ph.D. Thesis

The University of Edinburgh

January 2000



Statement of Originality

I declare that this is thesis has been ~~composed~~ entirely by myself:

Simon Gilmour
January 2000

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Preface

Many people have contributed to the completion of this thesis but I would very much like to thank Catherine Flitcroft, Michael Gilmour and Hilary Gilmour; without their continuous support and encouragement this would not have been possible. Dennis Harding provided not only supervision, advice and direction but also many hours of stimulating and enjoyable discussion on all aspects of archaeology, often over lengthy lunches. My friends Robert Sands, Jon Henderson and Michael Church, have been there when I needed them most. My gratitude also to Geraint Coles, Ian Ralston and Ian Armit who have read and/or contributed lengthy discussions on various draught chapters of this thesis although any errors are of course my own.

The following kindly provided unpublished material, which I acknowledge with many thanks: Andrew Dunwell, Andrew Heald, Barry Raftery, Dennis Harding, Edgar Peltenburg, Ewan Campbell, Geraint Coles, Ian Armit, Ian Ralston, John Barrett, Margaret Nieke and Peter Hill, John Pouncet, Marcia Taylor, Marek Zvelebil, Michael Church, Patrick Foster, Timothy Neighbour.

Conversations about specific issues related to this thesis are also gratefully acknowledged: Patrick Ashmore, Ewan Campbell, David Clarke, Murray Cook, Claire Cotter, Jim Crawford, Steve Driscoll, Andrew Heald, Jeremy Huggett, Fraser Hunter, Melanie Johnson, Sandro Lane, Anne MacSween, Hilary Murray, Timothy Neighbour, Margaret Nieke, Mike Parker Pearson, Edgar Peltenburg, Niall Sharples, Alex Woolf.

This thesis was born out of the research conducted by the University of Edinburgh Department of Archaeology in the Atlantic Seaways of Scotland. Many people have been involved in various projects that have stimulated numerous points within this work, my thanks to them all.

Abstract

Later Prehistoric and Early Historic Settlement Archaeology of the Western Seaways

Detailed scrutiny of the Iron Age settlement archaeology of the Atlantic coastal regions, from Shetland in the north to Brittany in the south, highlights the close connections made possible by the Western Seaways. From the Later Prehistoric to Early Historic periods these lands have been drawn towards similar expressions of identity and sequences of settlement development of varying intensity and duration. Discussions of individual site chronologies and taphonomic problems combined with analysis of architecture, site layout and, to a lesser extent, material assemblages across the area has allowed the definition of settlement development in each area across almost two thousand years. The Atlantic west offers a unique environment for the investigation of complex issues relating to settlement patterning as a result of its often remarkable archaeological preservation.

These frameworks provide the opportunity to examine the extent of contacts along the Western Seaways in greater detail and over a longer timespan than has previously been attempted. Some site-types have always been used to infer connections between western areas as distant as Brittany and Shetland including 'promontory forts' and 'souterrains'. By putting these into their local settlement and chronological context it becomes possible to interrogate their significance from particular economic, political and social perspectives, both as indicators of external contact and their place in local settlement patterns.

Conclusions range from the definition of new local settlement sequences and discussions of their social significance, to a greater understanding of the importance of the Atlantic Seaways as conduits of trade, information and cultural contact. The Atlantic façade is perceived, not as a peripheral backwater, but as a zone characterised by a dynamic society with powerful and wide reaching influences. Dramatic and important settlement developments in this area could shed light on the processes of social 'construction' that lead ultimately to the incipient kingdoms and states visible even today.

Chapter 1

Introduction

Previous analyses of the 'Atlantic Seaways' have focused on the architectural comparisons between structures such as the large drystone walled Chûn Castle in Cornwall, the cashels of Ireland, and the 'brochs' and 'duns' of western and northern Scotland. Consider, for example, Cotter's comparisons between sites in western Ireland and other structures in Scotland and even Iberia (1995). Indeed, the report on the excavations at Chûn was one of the earliest attempts to assess the Iron Age archaeological evidence behind contact across the 'Atlantic Seaways' (Leeds, 1927). Any movement along the Atlantic Seaways has generally been assumed to have radiated from the continent and southern England to the western fringes; rarely are traits thought to progress in the opposite direction. This stems from the perception of the western areas of Scotland, Wales and south-west England, not to mention the whole of Ireland, as peripheral to the continental mainstream. This thesis will consider the western façade on its own merits, assessing and comparing the settlement archaeology of the various regions. In addition, the detailed study of the distribution and use of various artefact types has suggested that long-distance trade and exchange took place resulting in contact between far-flung regions across the Atlantic coasts. Most recently these analyses have focused on the 5th to 7th century AD movement of imported pottery and glassware studied by Thomas (e.g. 1990) and Campbell (e.g. 1997), which is argued to accompany the trade in cask-wine from the continent.

Although there is a general consensus that the Atlantic Seaways allowed relatively easy communication, contact and perhaps even population movement between distant lands (Bowen, 1972; Champion, 1982, 42), a particular stumbling block in the analysis of this phenomenon has been the lack of a coherent framework from which to begin. This thesis aims to provide such a framework based mainly on the settlement evidence that is profuse in the area and often remarkably well preserved. A review of the major sites considered relevant to the study of each region of the Atlantic Seaways area will be attempted to illuminate the various developments that occur over almost two thousand years, from the early first millennium BC to the end of the first millennium AD. The study areas include Shetland in the north, through Argyll, the Inner Hebrides and south-west Scotland, Ireland, Wales, Cornwall and Brittany in the south (Figure 1). Detailed artefact studies are outwith

the scope of this thesis, although some reference will be made to particular objects when they are particularly relevant to the discussion. The main conclusions can be discussed at several different scales of analysis, from specific stratigraphic details and taphonomic issues relating to single archaeological sites, to much broader comparisons of settlement forms and sequence across the entire area of study and their interpretation.

This form of analysis requires a relatively sound chronological basis closely associated with site detail and taphonomy. Radiocarbon dates are used throughout the thesis although the suitability of early assays should be considered with caution. Recent work has highlighted the problems associated with bulk radiocarbon samples that could contain unknown quantities of 'old carbon', often residual from earlier occupation (Ashmore, 1999). Poor stratigraphic control and little understanding of the taphonomy of individual samples compound these problems, although future 'single entity dating' will reduce the possible errors (*ibid.*). However, the present study has had to rely on dates that were often produced from combinations of burnt organic remains from various locations within a particular phase or feature, sometimes containing different species and types of material. Entire sites, often exhibiting evidence of multiple phases, may only be dated on the basis of one or two radiocarbon assays, whereas multiple dates from single contexts would be preferred today. The same problems can affect typological dating, often using stylistic analyses based on linear evolution without absolute dating controls from site based contexts. Notwithstanding these problems, this evidence must be included owing to the complete lack of any other dating material on many sites, and the sheer number of sites that have been dated in this way that form the archaeological record for large areas of the western seaboard. To reflect the ambiguity in any absolute dating, all radiocarbon dates are quoted at two sigma variation of the date range produced, allowing approximately 95% chance of lying somewhere within the range. The dates have been calibrated on OxCal version 2.8 using the Stuiver and Kra (1986) calibration curve.

Terminology and classification have had an enormous impact on the way sites are studied across the Atlantic Seaways. In many areas these issues are only now being addressed and in some, they are still problematic. Each chapter in this study will examine a geographical area of the Atlantic west; these have been defined by previous analyses as homogenous areas, often separated by the presence of physical boundaries. Even within these geographical areas there have been classificatory distinctions that emphasise differences rather than similarities. The approach adopted here is to highlight the significant areas of comparability

between archaeological monuments, the material recovered from them and, importantly, the sequence of development on each site and within each geographical area.

Nowhere is the problem of adherence to strict architectural classification and terminology more apparent than in a consideration of what qualifies as a 'broch' or 'dun' in Atlantic Scotland. The definition of a 'broch' was one of the main concerns of previous work that tended to concentrate on these monuments at the expense of all other site forms in the Atlantic zone. The inherent problems of applying such a rigid classification to what is a ruinous group of monuments in varying stages of decay is obvious; specific architectural features have to be archaeologically visible before a site can be considered for the 'broch' class. The lack of just one of these features is enough for some scholars to reject a site as a 'true broch'. Such a site is then classified as a 'dun' even though its closest parallels are with 'broch' sites. The viability of such a definition, which relies so much on the visibility of architectural traits that have been subjectively decided in advance, has been discussed in detail elsewhere (Harding, 1984; Armit, 1990a; 1992; Gilmour and Cook, 1998; Gilmour, forthcoming).

Several schemes to classify drystone sites in Atlantic Scotland have been proposed and this would seem the logical place to discuss the problem of classification and terminology. Recently an overarching scheme of 'Atlantic roundhouses' has been introduced to resolve the problem of differentiation between 'broch' and 'dun', and cover the range of circular or sub-circular structures previously known variously as 'brochs', 'semi-brochs', 'duns', 'island duns' and 'galleried duns' (Armit, 1992). Armit's classification scheme elaborates upon Harding's roofed 'dun houses' and unroofed 'dun enclosures' (Harding, 1984, 218-19) and avoids pre-judging the relationship between sites in a subjective evaluation of architectural features. This terminology can be applied to drystone roundhouse sites throughout Atlantic Scotland. Within Armit's overall class of related drystone Atlantic roundhouses, he identifies two groupings - simple and complex. Complex examples feature a range of architectural devices such as galleries, wall chambers and scarcements which were previously ascribed to the 'broch' tradition (Armit, 1992). Within this complex grouping, Armit identifies a further sub-group which he rather anachronistically terms 'broch towers', and includes complex architectural features within a tall tower-like building (op. cit., 18). This grouping forms the most striking class and includes the well-preserved sites of Mousa, Shetland, where the tower walls survive to just over nine metres in height incorporating two floor levels and an upper parapet, and Dun Carloway, Lewis, which survives to around eight

metres in height. Owing to the problems of preservation, it is impossible to determine how many complex sites stood to such heights. Simple Atlantic roundhouses do not present such complex intra-mural devices or architectural details and may be chronologically earlier than complex sites. Armit insists his classification of simple and complex forms is a distinction that merely recognises the limitations of recognition in the field (1996, 115). Although devised originally for the Western Isles, this broad classification scheme is useful, with some small changes and additions (Figure 2), as a tool with which to study sites across Atlantic Scotland, and perhaps further afield. Architecture permeates all aspects of human life, defining the interactions between both people and their surrounding environment. Classification schemes therefore incorporate an implicit recognition of social and economic variation between monuments. The implication of 'roofed' versus 'unroofed' structures for example, is a difference in the way these buildings have been used, one presumably as a house, the other as a less permanent occupation for various functions. An attempt has been made throughout this thesis to assess each site on its own merits, allowing for significant variation in function across time, and incorporating a study of construction, layout and architecture that may be manifestations of social developments.

Discussions of first millennium AD material in Ireland are especially dominated by a rigid framework of both structural and artefactual types and chronological divisions. Some of this, again particularly in the first millennium AD, is perhaps a reflection of dendrochronological dating now used far more extensively in Ireland than in other areas of Atlantic Europe. The precise nature of this dating, and some of the patterns that have been interpreted from its use, encourages a more focused approach to chronology. In other areas, reliance on radiocarbon dating is still the most important factor in Iron Age chronology. Unfortunately, the 'flat area' in the radiocarbon calibration curve across the middle of the first millennium BC produces dates inevitably covering several centuries. In Brittany a series of well-defined pottery types aid in the relative dating of sites, and provide especially good chronological indicators for the final centuries BC. A similar sequence is now applicable in Cornwall (Chapter 8), although both are still heavily dependent on imported material towards the end of the first millennium BC to provide a chronological framework. Chronological sequences still need to be refined in Wales, where a relative lack of indigenous pottery throughout the Iron Age hampers detailed analysis. However, there has been some work on the classification of enclosed and unenclosed sites, and the excavation of several site-types has provided a useful database of information with which to study the settlement of the area.

In many areas across the Atlantic Seaways, building architecture is poorly preserved, often surviving only as the truncated remains of negative features. These features can represent post-holes, stake-holes, pits and gullies of various types, suggesting the use of timber as a construction material. These truncated remains can make it difficult to understand the taphonomic pathways of the material recovered. Several areas, however, have very good preservation of monuments, often owing to the presence of stone-built architecture. These have their own problems for the interpretation of taphonomy on-site, but present a much richer structural and material record for analysis. In fact, the preservation of buildings and enclosures across the western façade forms perhaps one of the best archaeological resources anywhere in Europe. A combination of factors has led to this preservation, including the relatively recent economic marginalisation of the area with the consequent lack of intensive agriculture and urban development. However, this was certainly not always the case and it will be argued that the Iron Age communities of the first millennia BC and AD across the area were dynamic, although often regionally diverse, societies closely linked by the Western Seaways.

Chapter 2

The Environment in the Western Seaways

The prehistoric environment of the first millennia BC and AD has been relatively neglected across the area of this study. Although much environmental work has been carried out (Figure 3), little has been designed to answer specifically Iron Age questions. Where this has happened, for example at Bolton Fell Moss and Walton Moss in Cumbria (Barber et al., 1994) or the Lairg Project in Sutherland (McCullagh and Tipping, 1998), the results can be enlightening, allowing the correlation of environmental and archaeological data to produce detailed models of possible human interaction with the landscape. In general however, the vast majority of environmental analyses are focused on earlier periods of time with little regard being given to the later prehistoric record. This is obviously detrimental to a coherent study of the period but is even more so when one considers the different and often contradictory evidence from different areas of the Atlantic façade. On-site environmental proxy records may provide a more period-based analysis, although great care must be taken in assessing the taphonomy of the samples recovered. These proxy indicators are mainly recovered from economic evidence such as cereal grains and their associated macrofossils (Boyd, 1988, 102). The Iron Age is an interesting period of time when perhaps social pressures became more influential in determining the local environment, and land-use became less climatically, geographically or topographically driven.

Across the western coasts from Shetland to Brittany, the description of the climate is unerringly similar – warm and wet. The environment along the Atlantic Seaways is defined by its relationship to the ocean, the warm North Atlantic Drift, the cyclonic and often strong winds, and the predominant percentage of rain days. There are however, very few snow days, heavy frost is rare and the overall amount of rain is often less than other areas of the British Isles, its mere frequency being the overriding factor. The winds are the most severe aspect of the climate, on many small and low lying islands and in the most westerly reaches the combination of high wind and salt spray driving across the landscape inhibits much of the vegetation growth that would otherwise flourish.

This same climate can affect environmental analyses; for example, pollen dispersal and taphonomy must be carefully considered at each core or soil profile site. Analysis of the surface pine pollen in current conditions on Barra has shown that the pollen rain is very localised, reducing from 98% within a plantation to 2% or less only 20m downwind (Gearey, 1992). With this sort of problem and an assumed tendency to favour only specific locations within such a windswept landscape, the recovery of generalised vegetation data for the Iron Age can be difficult. These factors must always be borne in mind when discussing the evidence for the Atlantic area of Europe. The palynological work undertaken to date, has been primarily focused on the question of tree cover, especially on the Outer Hebrides and in western and northern Scotland. Although important, other factors such as changes in agriculture require different analytical techniques and are therefore more difficult and time consuming. Detailed pollen work is also restricted to the immediate vicinity of the location analysed because of the taphonomic processes producing the fossil record. The use of modern palynological records for specific ecological niches may provide useful analogues for the fossil record (Brayshay, 1999, 290). Other studies, such as peat humification coupled with tephra-chronology, are perhaps more general in their approach owing to the relative ease with which they can be produced for many different sites across a landscape, thus accumulating different localised patterns that can hopefully be integrated into a cohesive whole. The methodology and analysis of humification samples and tephra recognition and identification are currently under development at the Departments of Archaeology and Geography in the University of Edinburgh. The results could allow a detailed consideration of climate change over much wider areas with more refined chronological correspondence. When linked to palynological studies it may therefore be possible to begin to understand the effects of environmental change on different ecological niches over a large area. Studies of peat profiles taken from various areas in Western Scotland have begun to produce a well-defined sequence of Iron Age climate change (Geraint Coles, pers. comm.).

All studies confirm a very general picture of climatic deterioration from the Late Bronze Age into the Early Iron Age around the turn of the first millennium BC (Bell, 1996; Turner, 1981; Lynch, 1981). It is often assumed that the Iron Age climate was similar to present day (cf. Barber, 1985, 52; Armit, 1992, 4; Astill and Davies, 1997, 35) and that descriptions of current climate and other factors provide a reasonable picture of the environment. Unfortunately, we have little evidence to base these assumptions on since we can generally only compare a particular fossil climate record to periods before and after. However, the detailed humification analysis of several Atlantic areas is beginning to support the idea that

climate was somewhat similar to today, at least during the summer months in terms of bog surface wetness. Again, using this same evidence, a relatively stable but constantly fluctuating climate during the Iron Age is indicated with more variable conditions around the end of the Late Bronze Age and the Early Iron Age (Geraint Coles, pers. comm.). The reasons for changes in summer surface wetness are still to be elucidated and could represent several different weather phenomena. For example, it is possible that the summer months experienced more rain, alternatively there may have been a change in the water input to the bog system or simply less sunshine producing less evaporation. These are important differences since they would affect social and economic decisions in different ways. It is these differences in weather patterns that are essential to understand because this is what the people would experience.

A brief résumé of the current evidence for the Atlantic façade will allow the definition of localised processes and will highlight the complexity of environmental developments throughout the Later Prehistoric period. This should help to highlight any underlying trends across the area.

The Shetland Isles

Shetland is the most northerly of the land masses examined in this thesis, its location between the Atlantic Ocean and the North Sea means it is the most exposed to extreme conditions. For example, pollen analyses suggest that local trees were a rare resource during the Iron Age. The latest dates for birch (*Betula* sp.) and hazel (*Corylus* sp.), possibly the most hardy of tree species, are *circa* 3000BP in the second millennium BC (Bennet and Sharp, 1993a, 21) well in advance of the Iron Age. At Dallican Water, woodland was almost completely cleared from the surrounding area within 150 years *circa* 3120BP. It is believed that this decline is a result of an increase in pastoralism in the vicinity that continues unchanged for the next 3000 years despite major cultural change (Bennet and Sharp, 1993b, 77). At Gunnister a similar picture of the local environment was obtained including a drastic reduction in tree pollen *circa* 2929BP associated with increases in charcoal. This evidence is argued to represent the main period of landscape change associated with permanent occupation (Bennet et al., 1993, 97). Murraster on the west, produced an early date *circa* 4650BP for the appearance of ribwort plantain (*Plantago lanceolata* L.) that continued to the present day with an increase in ling heather (*Calluna vulgaris* L.). It is suggested that this represents the use of the area by people and their grazing animals since the Neolithic (Bennet, 1993, 119). This latter pollen core is typical however, of the emphasis given to the

earlier periods with only ten samples examined over the upper 210cm of the core (op. cit., 120). Grasses and heather dominate the exposed peat landscape at Saxa Vord, Unst, with no cultivation or trees in the vicinity at any time (Edwards and Whittington, 1997, 79). It has been suggested that this hostile environment had forced settlement to the coastal zone by *circa* 1000BC (Butler, 1998, 8).

The first millennium AD spread of blanket peat over farmland at Scord of Brouster and Kebister (op. cit., 9) might suggest climatic deterioration, probably corresponding to a similar shift noted elsewhere (*supra*). “There is good reason to accept that Shetland was to some extent destined to experience a natural retrogression from limited woodland on brown-earth soils to heathland on acidic, podsolised and peaty soils, on account of its geographical and geological setting.” (Butler, 1998, 9). However, some sites such as Scatness emphasise the anthropogenic influence that is possible on the surrounding environment. A series of thickened anthropogenic soils underlying wind-blown sands date from the Bronze Age to the post-Iron Age (Simpson et al., 1998). The Iron Age soils extend several hundred metres beyond the main settlement concentration and may represent the remains of an infield system with evidence for “enhanced and systemically organised manuring practices” (op. cit., 121). The Iron Age also saw a development from application of domestic fuel ash waste on the fields to the introduction of animal manure and turf application in the later Iron Age (op. cit., 122). The use of animal manures suggests a close relationship with pastoral activities and may also imply the collection of fodder and the keeping of animals indoors (op. cit., 123). These analyses are still in progress and the further elucidation of the chronological sequences and distribution of the soils around the site may allow the investigation of social and environmental influences and changing land management practices.

The Orkney Isles

The Orkney Isles are similarly situated between the Atlantic Ocean and the North Sea but are much closer to the mainland. This may have an effect on the local climate but high winds and rainfall are still predominant. There seems to be a more complex development of heathland and peat growth than on Shetland (Bunting, 1996, 27) but evidence for landscape change during the Iron Age is still scant (op. cit., 29). At Loch of Knitchen, Rousay, a change in the charcoal signal during the Iron Age may indicate an increase in land management, possibly through deliberate fires. At Glims Moss, an increase in mugwort (*Artemisia* sp.) and ribwort plantain (*Plantago lanceolata* L.) *circa* 2100calBP, between the

4th and end of the 3rd centuries calBC, could signal an increase in human activity perhaps associated with pastoral agriculture (ibid.).

The integration of on-site sampling into the excavation methodology at the Howe complex Atlantic roundhouse allowed the detailed analysis of macrofossil evidence through various Phases of occupation (Ballin Smith, 1994). During Phase 7, the (secondary?) use of the complex Atlantic roundhouse and outer buildings, willow (*Salix* sp.) was the predominant charcoal recovered with smaller amounts of birch (*Betula* sp.), rowan (*Sorbus aucuparia* L.) and hazel (*Corylus avellana* L.) (op. cit., 121). However, during the earlier Phase 7 period larch (*Larix* sp.) driftwood was used as a structural timber while later structural remains comprised willow (*Salix* sp.) and spruce (*Picea* sp.) (Dickson, 1994, 127). Barley straw and naked six-row barley (*Hordeum vulgare* var. *nudum*) were also recovered, corresponding with the general Scottish evidence that this was the staple crop grown until the late first millennium AD (Boyd, 1988, 104; Michael Church pers. comm.). Six-row barley and heathland plants were also recovered from the early first millennium BC site at Bu (Dickson, 1994, 138). The main change in the Late Iron Age cellular Phase 8 farmstead was a diversification in arable crops including the introduction of 6-row hulled barley (*Hordeum vulgare* L. Emend.), flax (*Linum* sp.) and possibly cultivated oats (*Avena* spp.). A further change saw the cessation of wood as the dominant fuel and its substitution by heathy turves (Ballin Smith, 1994, 124).

Other possible proxy indicators of the local environment include an abundance of red grouse remains suggesting unimproved heath in earlier Phase 7 (op. cit., 122). Red deer decrease from 35% in Phase 5 to a mere 4% in later Phase 8 with a consequent increase in sheep and pig (op. cit., 124). Similar developments are visible in other faunal assemblages in the northern isles (Gilmour and Cook, 1998), suggesting this was a real decrease in animals rather than some restriction of access to the herds (*contra* Ballin Smith, 1994, 124).

Caithness and Sutherland

On the Northern mainland of Scotland there have been several detailed environmental studies, but few expressly interested in the changing Iron Age environment (Smith, 1998, 177 and figure 101). Richard Tipping has expressed the concern that few pollen diagrams, “have archaeological concerns foremost.” (1994, 24). This general lack of information has led to very generalised statements suggesting, for example, that Caithness was treeless in the Iron Age (Bell, 1996, 9). The most recent analysis was carried out during excavations at

Lairg, an upland area in Sutherland, where detailed evidence from the first millennia BC and AD was forthcoming (McCullagh and Tipping, 1998). By the Iron Age the majority of the upland, valley-side and valley-bottom areas were becoming dominated by open moor and open heath, associated with a peak in anthropogenic impact (Smith, 1998, 196). For example, the pollen record suggests that by 200BC *Calluna* type heath, covering blanket mire, dominates the landscape. Grazing indicators such as *Plantago lanceolata* are present but may decline after this date, and woodland was sharply reduced by an anthropogenic clearance between *circa* 400BC and 200BC. After AD750 grazing becomes more important and some cereal type pollens are in evidence (op. cit., 199-200). The combination of archaeological and environmental analyses has provided a uniquely detailed sequence of landscape development over the first millennia BC and AD beginning with an abandonment of the area around 1000BC. The area may have been used as pasture land until *circa* 200BC when settlement re-asserts itself and by *circa* 100BC had cleared the woodland from the valley floor. *Calluna* type heath was to dominate here for 900 years although oak charcoal from the settlements suggested it was available in the local environment, perhaps indicating preferential management of the extant woodland. Between *circa* AD50 and AD450 some areas recorded a lack of anthropogenic activity although renewed interest post-AD450 included the cultivation of available soils on much, but not all, of the excavated areas. These ridged fields even overlay older building walls and were associated with cross-ploughed ard marks (Tipping and McCullagh, 1998, 210).

At Suisgill further north, gradual woodland regeneration is recorded between *circa* 2650BC and *circa* AD200 with some woodland clearance *circa* 650BC. From *circa* AD200 there is a progressive woodland decline (Andrews et al., 1985). The most northerly information comes from the botanical evidence retrieved from Crosskirk complex Atlantic roundhouse and pollen analysis from the Loch of Winless, Braehour and Lochan an Druim. The Loch of Winless suggested a local drop in tree pollen *circa* 3000 to 2200 years BP after which heather (*Calluna* sp.), grasses (Poaceae) and sedges (Cyperaceae) all rose in relative percentages of the total pollen. Ribwort plantain and cereals were consistently present to the top of the column (Peglar, 1979). At Braehour, a similar change occurred with a moderately humified peat but without evidence of cereals or weeds (Dickson and Dickson, 1984, 148). Lochan an Druim recorded an agricultural intensification *circa* 500BC (Birks, 1993a).

The evidence from Crosskirk comes from four samples, all of which indicate very low levels of pine (*Pinus* sp.), birch (*Betula* sp.), alder (*Alnus glutinosa*), hazel (*Corylus avellana*) and

willow (*Salix* sp.) tree pollen (ibid.). This seems to indicate reasonably developed woodland somewhere in the local region but the taphonomy of the sample is unknown. One sample contained leaves of *Salix repens*, a short shrub. Cereals, mainly barley (*Hordeum vulgare* L.), are present in small quantities in all the samples but a marked reduction occurs in the pre-complex Atlantic roundhouse land surface associated with similarly low heather frequencies. Wood and charcoal macrofossils had no signs of marine mollusc boring suggesting local procurement, although some of the samples were small (op. cit., 149). The other macrofossils included cereals such as definite wild oat (*Avena fatua* L.), possible wild or cultivated oat (*Avena* sp.), naked barley (*Hordeum vulgare* var. *nudum*) and barley (*Hordeum vulgare* L. emend lam). A single seed of cultivated flax (*Linum usitatissimum*) was recovered and other species also suggested an open environment such as fat hen (*Chenopodium album*), often associated with disturbed ground (op. cit., 151). The evidence from this site was interpreted as indicating a prevailing treelessness in the locality and abundant evidence for pastoral and arable agriculture. It was also suggested that some of the 'weed' species may have been exploited for thatch or bedding (op. cit., 155). While these overall conclusions are so generalised as to be unassailable it must be noted that single samples located within a site with such a long history of use as Crosskirk and lacking in taphonomic analysis will not in this author's view be representative of the wider environment. For example, local woodland may have been present but simply invisible in the small number of specific samples. A more indicative picture might be surmised from Lairg where woodland is present, although competing with open pasture. Even upland areas were turned over to agriculture in the first millennium AD.

The general trend in the north of Scotland is therefore of early large-scale woodland clearance, probably well before the Iron Age. This would present a generally open Iron Age landscape, although there is evidence for copses of perhaps managed woodland. The large percentages of oak charcoal at Lairg and the mix of pollen taxa at Crosskirk indicate that at least some of this woodland is well developed on the mainland. There is also evidence for a mid- to late first millennium AD resurgence in agriculture, even in upland areas. Certainly large-scale woodland clearance is recorded at several sites at this time. Evidence for the north-west mainland indicates very little anthropogenic impact on vegetation, perhaps suggesting very low prehistoric populations in the area (Tipping, 1994, 25).

The Outer Hebrides

The environmental analysis of the Outer Hebrides has been focused on the woodland component and recent work has begun to investigate the initiation and spread of peat-bog. Although it is believed by some that the former was completely cleared early in the island chain's prehistoric past (Bell, 1996; Birks and Madsen, 1979; Wilkins, 1984, 256), some lines of evidence suggest that woodland may have survived, perhaps even in a managed form. Similarly, although some suggest peat initiation began soon after deglaciation and has been continuous since (Edwards and Whittington, 1997, 81), others have been less quick to generalise (Armit, 1992, 6).

In the later prehistoric period however, the climatic downturn of the Late Bronze Age and Early Iron Age resulted in a woodland retreat and renewed peat growth (op. cit., 9). A rise in sea level (Ritchie, 1985), possibly some 4-5m since *circa* 3100BC, has altered not only the coastline, and especially the current profile of the machair, but may also have influenced the coastal climate (Turner, 1981, 263). This rise, abundantly obvious from the erosion of archaeological sites on the coasts (Barber, 1985, 52), will also have had an effect on the local water tables and would affect the erosion and deposition of machair systems, inducing sand movement further inland. Loch na Beirgh, in west Lewis on the Bhaltois peninsula, was gradually infilled with sand producing higher water levels and a smaller surface area. At Borve, in the north-west of Lewis, peat initiation must have occurred relatively late, possibly towards the beginning of the first millennium AD, since here a substantial complex Atlantic roundhouse has been engulfed in peat up to its first floor (*circa* 2m high). A currently undated pollen and sediment sequence from Loch Ruadh Guinnerso on the west coast of Lewis has been recently analysed with due care taken over the taphonomic understanding of the immediate area (Flitcroft, 1997). The mainly grasses (Poaceae), heather (Ericaceae) and herbaceous pollen recovered from the site over a 10,000 year period invites comparison with the Little Loch Roag results (Birks and Madsen, 1979) and suggests that at least these localised landscapes were indeed largely treeless (Flitcroft, 1997, 79). Alternatively, the correlation between these areas could suggest the majority of the landscape was open with only small pockets of woodland in sheltered areas.

The expressly Iron Age evidence is scant considering the amount of archaeological activity focussing on the period. Evidence from Northton suggested an Iron Age clearance following woodland regeneration (Armit, 1992, 6; Turner, 1981). At Tob nan Leobag (Bohncke, 1988) pastoral and arable indicators are prominent for the period between 2000BC and 0BC/AD,

although they decrease in the later centuries BC with a regeneration of birch (*Betula* sp.). The implications of this suggest that at least the more sheltered eastern areas would be capable of supporting natural woodland (Armit, 1992, 8). From 0BC/AD to AD800 a regional increase in heather is visible and local conditions become wetter but cereal pollen persists until near the end of the profile (ibid.). From fossil remains of tree stumps stratified in peat (Wilkins, 1984) Armit has argued that pine at least survived into the second millennium BC in some areas and presumably continued later in the more sheltered Harris hills (1992, 8). A lack of work in this latter area has meant that a large geographical area of Lewis and Harris, with very different topography and geomorphology to the more intensively studied north and west, remains unexplored both archaeologically and environmentally. The crop plant assemblages from all Outer Hebridean Iron Age sites are dominated by 6-row barley (*Hordeum* cf. *vulgare*). Sites include chronologically disparate settlements such as Cnip wheelhouse and the later cellular phases at Loch na Beirgh both support this conclusion (Michael Church, pers. comm.). Barley was also the predominant crop in all phases at Dun Vulcan (Smith, 1999, 334). The majority of the macrofossil evidence from these sites derives from their immediately local machair environment, although the potential for growing crops in the 'blacklands' has probably been under-represented (op. cit., 335).

Further south at Glen Bretadale on Barra there seems to be no clear indication of tree pollen at, or near, the site throughout its undated sequence. Tree taxa typically constitute less than 15% of the total and are argued as possibly blown on to the island (Gilbertson et al., 1995, 28). Yet in more sheltered eastern areas of the island aspen (*Populus tremula* L.) grows today and these areas may once have supported a more developed woodland. The analysis of pollen on the Borge headland, on the north shore of western Barra, provides some evidence of at least scrub woodland. Similar work on the east of the island at Lochan an Cartach, suggests an analogous picture (ibid.). Pollen records from Loch Lang, South Uist (Bennett et al., 1994), Loch Hellisdale, South Uist (Pyatt et al., 1995) and Bharpa Carinish, North Uist (Crone, 1993a) indicate that at least parts of these islands supported diverse woodland during the early Post Glacial. It is likely that by the Iron Age any woodland was similarly restricted to the more sheltered eastern areas of the Uists and their surrounding islands. The same effect may be visible in Lewis and possibly Harris, although little work has been carried out in these areas. A further possibility is the presence of forests on the eastern slopes and in the glens of the inland mountains in both Lewis and Harris.

The faunal evidence from Dun Bharabhat and Loch na Beirgh complex Atlantic roundhouses and Cnip wheelhouse indicates that red deer was an important component of the economy (Gilmour and Cook, 1998). These animals generally prefer shaded woodlands, although today they survive in relatively exposed mountain areas. Their presence may support the survival and possibly the management of woodland in the Iron Age. Alternatively they may be poor proxy indicators, but their relative paucity in Northern Isles assemblages and their minimal representation on west coast sites in the Uists (op. cit., 331) might argue against this since these areas may have little woodland. Deer would need to be kept some distance from the local arable crops, and in Lewis and Harris the proposed mountain locations for both woodland and therefore deer herds are relatively easily accessible by boat down the west coasts from the sites examined to date. In South Uist it would be necessary to travel around much of the island by boat, from Dun Vulcan for example, to reach the same locations. Transporting deer, either as carcasses or as live animals would certainly be easier by boat than across the often difficult terrain of the interior of Lewis, Harris or the Uists. The variable nature of deer remains in Outer Hebridean faunal assemblages needs further study to elucidate the nature of their use and the differences in economy they may represent.

Argyll and the Inner Hebrides

In Argyll a general pattern of early tree clearance continues with evidence from the sites at An Sithean, Nosebridge, Guaidhre on Islay and Cul a'Bhaile on Jura. These sites indicate climatic deterioration, podzolisation of soils and increased peat and moorland from *circa* 5000BC, worsening from the mid-second millennium BC (Storrie, 1983, 552). At Newton on Islay, grazing pressure *circa* 3000calBC to 2590calBC lead to increased pasture land and slow peat accumulation (McCullagh, 1989, 38-42). A mire at Loch a'Bhogaidh also on Islay, indicates a change from a wooded to a treeless landscape *circa* 5000bp (Agnew, 1988, 199).

However, three sites in Glen More on Mull suggest that the expansion of grassland and *Calluna vulgaris* L. dominated heath did not begin until *circa* 3000BP. The extent of anthropogenic influence here is unknown and some evidence could be explained as natural soil degradation owing to accelerated leaching, expansion of mires and blanket bog and increasingly stormy conditions along the western littoral. Additional evidence for cereal pollen and ribwort plantain in the lower areas of Glen More, and possibly higher, might imply a combination of natural and anthropogenic factors (Walker and Lowe, 1985, 606). At Loch Cleat on Skye an open treeless landscape was present by *circa* 600BC (Tipping, 1994,

27). However, this is an exposed northern headland and is probably not indicative of Skye as a whole.

RY	Radiocarbon Date	Calendar Date	Cultural Period
V	2300bc	c. 2900calBC	Late Neolithic
IV	1200bc	c. 1450calBC	Early/Middle Bronze Age
III	500/550bc	c. 650calBC	Late Bronze Age/Early Iron Age
II	ad450	c. calAD550	Early Historic
I	ad1200	c. calAD1250	Norse

Table 1: Recurrence Surfaces (Data from Turner, 1981; Evans, 1976; Blackford and Chambers, 1991)

On the mainland of Argyll early environmental work at Aros Moss near Campbeltown, Kintyre has provided a series of over 30 borings with close interval analysis diagrams. Unfortunately, there are no radiocarbon dates for these samples and thus two fixed phenomena, 'Rekurrensytor' (RY) or 'Recurrence Surfaces', are used to provide chronological control. These represent significant boundaries between dry and wet periods and were first recognised in Sweden but have also been claimed as visible in Scotland (Table 1; Nichols, 1967; Piggott, 1972, 109). Of those in Table 1 obviously RYIII and RYII are most important to this study. More recent claims for the validity of these horizons as general chronological markers have been made through work in Cumbria (Barber et al., 1994 and *supra*). In particular, these latter studies provide radiocarbon-dated changes in humification relating to RYIII which, at two sigma, range between 770calBC and 390calBC. It is thus argued that the wide variation in date of this horizon both here and elsewhere, leading to disagreement over the RY's and their synchronicity, is probably the result of the calibration curve plateaux at this time (op. cit., 33). It is very probable that tephra dated humification studies will provide a much better chronological resolution for these climate changes. Radiocarbon dated humification evidence from sites in Wales (Migneint and the Brecon Beacons), Western Ireland (Letterfrack) and the Peak District (Wood Moss) demonstrate that at least RYII is visible across the Atlantic façade (Blackford and Chambers, 1991).

If one accepts the approximate dating of RYIII to somewhere between 800calBC and 400calBC at Aros Moss (Nichols, 1967), significant details in the changes in vegetation and possible human interference can be perceived. Prior to RYIII the forests, as elsewhere in Argyll, were being cleared, oak was felled for the first time and cereal pollen is present. It is suggested that this may indicate an emphasis on arable agriculture rather than pastoralism

during the Bronze Age. There is then further deforestation and more intensive and efficient farming in the period immediately before RYIII, although by this time (possibly the Late Bronze Age), pastoralism also became more important. After RYIII there is a very marked episode of cultivation abandonment shortly after a renewal of peat growth. For a brief time there is no evidence of farming in the vicinity of the Moss, which is one of the best areas of agricultural potential in all of Argyll (Coppock, 1976, 45). Trees show a marked degree of recovery, especially oak (*Quercus* sp.), ash (*Fraxinus* sp.) and elm (*Ulmus* sp.) after which settled farming is re-established and woodland reduced. There is active but less continuous cereal growing and elm and ash are preferentially felled, probably leaving oak woods on the hills to the north and south of the Moss while the plain is cultivated. Pastoral activity is then expanded and oak is felled again. Towards the end of the pollen diagram the arboreal element in the vicinity has almost vanished and agricultural activity increases, witnessed by high cereal pollen percentages (Nichols, 1967). The marked decline of farming activity around the time of the RYIII onset of colder and wetter conditions, and the initiation of peat growth, may be indicative of a decreased population density owing to poor harvests in the adverse climate (op. cit., 183). There is certainly a marked change from cereal or mixed cultivation in drier conditions to pastoralism in wetter periods. This type of farming has been emphasised in the pollen data from Ardnadam, Cowal, as early as the Neolithic (Rennie, 1984).

A study of the pollen from the basal layers of a field boundary near North Connel showed no evidence for agricultural activity between *circa* 3500BC and *circa* 500BC with the construction of the bank *circa* mid-second millennium BC (Ritchie et al., 1974, 69). A radiocarbon dated pollen diagram from Gallanach Beg, Oban, suggests a major period of woodland expansion principally of alder (*Alnus* sp.) and hazel (*Corylus* sp.), associated with a decrease in grasses (Graminaea) and ribwort (*Plantago lanceolata* L.) between 550cm and 400cm. Between 500cm and 400cm there is a change to less humified peat suggesting increased surface wetness. This is interpreted as a period of significant climatic deterioration probably around 300BC to 200BC when cooler and wetter conditions may have forced a retraction of agriculture in this area (Rhodes et al., 1992, 123). However, the chronology of this episode is extrapolated from the radiocarbon dates and again tephrochronology, or more AMS dating of single organic fragments within the core, would have provided more secure information. It is possible that this evidence however, supports the Aros Moss data, with a significant decline in arable agriculture in the mid- to late first millennium BC, perhaps replaced during wetter conditions by pastoralism. In Loch Shiel, the sediment record

indicates a post 300BC erosion of the surrounding landscape perhaps reflecting major clearance in this part of Ardnamurchan (Tipping, 1994, 28). Oronsay is perhaps treeless by *circa* 650BC owing to grazing pressure while evidence from Loch Cholla on Colonsay suggests that birch scrub was growing over previous agricultural land (*ibid.*). The macrofossil evidence from Dun Mor Vaul, Tiree, indicates the growth of both naked and hulled barley (*Hordeum vulgare* sp.) with a lack of weeds (Renfrew, 1974) suggesting it was processed before arriving in the building. The large quantities of red deer in the faunal assemblage on such a small island suggest that these were carefully managed during the Iron Age (Gilmour and Cook, 1998).

From around the 5th century AD, radiocarbon dated to between calAD430 and calAD640 (GU-3026, 1500±50bp), there was a marked depletion of woodland cover at Gallanach Beg (Rhodes et al., 1992, 123). Again this could perhaps support the later evidence from Aros for the felling of oak and the expansion of pastoral activity. At nearby Loch Cill an Aonghais, the environment may have remained wooded until post AD600 with only small-scale, short-lived previous clearances (Birks, 1993b). On Rhum there is evidence of intense land-use in a treeless environment after *circa* AD450 (Hirons and Edwards, 1990). In the south-west of Scotland a marked increase in the felling of oak in the mid-first millennium AD may also be visible in the construction of Buiston crannog (Crone, 1993b). A similar expansion and depletion of oak is generally recognised in Ireland (*infra*).

The picture in Argyll is somewhat more complex than elsewhere. Although early woodland clearance may have created a relatively open environment, the Iron Age sees a slight regeneration in woodland. Preferential tree management may be interpreted in the later clearances and throughout most studies arable agriculture is rarely dominant. A first millennium AD resurgence in agriculture is noted at Gallanach Beg and may also be visible at Aros Moss but is undated here. This is probably contemporary with, or succeeds, the RYII humification surface noted in other areas and associated with major clearances of woodland.

South-West Scotland and North-West England

In south-west Scotland and north-west England the general picture was of a landscape, “generally forested throughout the pre-Roman and Roman Iron Age.” (Turner, 1981, 273). However, others have suggested that the Cumbrian coastal plain may have been open since the 3rd millennium BC although large tracts of the inland valleys were wooded throughout

the first millennium BC and only cleared *circa* AD400 (Bell, 1996, 9). Radiocarbon dating of recurrence surfaces at Rusland Moss in Cumbria pinpoint a clearance phase noted at four different sites, dating to around the mid-first millennium AD. Radiocarbon dates of horizons just above the clearance phase resolved to between calAD390 and calAD640 at three of the sites (SRR-120, 1511±50bp; SRR-121, 1535±50bp; SRR-123, 1552±55bp) and the fourth lay between calAD560 and calAD780 (SRR-125, 1361±55bp) but in fact formed part of a pool and hummock complex (Dickinson, 1975). These horizons are indicative of wetter bog surfaces in summer. Similar radiocarbon dated recurrence surfaces at Bolton Fell Moss correlate with humification horizons at Walton Moss. At Bolton Fell Moss, the dates have wider calibrated ranges (calAD390 to calAD770) but there is a 70% chance at 2σ that the date lies between calAD390 and calAD600 (SRR-4555, 2410±40bp). Within this profile the later prehistoric period is typified by “very subdued agriculture” followed by a great expansion of cleared land in Romano-British times associated with increases in grass (Poaceae) and ribwort plantain (*Plantago lanceolata* L.) not seen again until medieval times (Barber et al., 1994, 40). Closer analysis of the Walton Moss data in particular has shown its relevance to the Iron Age and Roman periods; during the Bronze Age and Early Iron Ages the local area was largely forested with small temporary clearances but during the Late Iron Age substantial forest clearance associated with some cereal evidence suggests late first millennium BC and early first millennium AD agricultural activity (op. cit., 47). These changes have been argued as coincident with the Roman invasion and may reflect Roman troops cutting timber (op. cit., 48). At Bolton Fell Moss intense and rapid clearance, incorporating taxa of pastoral and arable agriculture, has been dated to between calAD10 and calAD330 (Hv-3085, 1860±60bp), with 96% chance of lying between calAD10 and calAD260 (ibid.). It has been further argued that the construction of Hadrian’s Wall, within 5km of both sites, may be the catalyst for this clearance activity. Once the Roman troops withdrew in the 3rd and 4th centuries AD there was a slight resurgence in woodland conditions at Bolton Fell Moss although both sites remain relatively open (op. cit., 49). This pattern is also repeated at Burnmoor and Devoke Water, where early first millennium AD agricultural activity was followed by deforestation. These same sites also show that cereals were being cultivated in upland areas (Turner, 1981, 273). In Northumberland, the site of Thinhope Burn produced a radiocarbon dated channel bed erosion event between calAD240 and calAD530 with a 96% chance of lying within calAD240 to calAD460 (Beta 37352, 1670±50bp). This was further refined by *terminus ante quem* dates for the event (Beta 55115, 1160±50bp; Beta 33435, 1230±60bp) suggesting the incision had slowed or ceased before a combined date of calAD710 to caAD960 (Macklin et al., 1994, 50). This

entrenchment is seen as coinciding with a possible change to wetter conditions, but earlier extensive deforestation in Iron Age and Roman times probably meant that such upland catchments were more prone to erosion (op. cit., 54). The dating of the erosion event succeeds a radiocarbon dated mid-6th to 8th century AD increase in summer surface wetness at Harold's Bog in North Yorkshire (Blackford and Chambers, 1991). Here a radiocarbon date (SRR-3491, 1390±65bp) calibrating between calAD555 and calAD730 probably represents the RYII horizon seen elsewhere (op. cit., 65).

The plant material from the earlier phases at Buiston crannog has been radiocarbon dated to between 100calBC and calAD220 (GU-3000, 1950±50bp; GU-1391, 1920±50bp). The deposits include a brushwood structure of hazel (*Corylus avellana* L.), willow (*Salix* sp.), birch (*Betula* sp.) and heather of the *Calluna vulgaris* L. variety. The moss accompanying this material suggests it came from a canopied woodland environment. Later re-use of the site in the 6th and 7th centuries AD was represented by intensive constructional activity including large oak (*Quercus* sp.) and alder (*Alnus glutinosa*) palisades and walkways. This suggests mature oak and alder was available locally since rebuilding and repairs were carried out continuously over an 80 year period dated by dendrochronology. The alder may have come from alder carr near the shore of the loch. Other structural timbers indicated the management of woodland, for example the coppicing of hazel (*Corylus avellana* L.). A small bone assemblage indicated processing of carcasses on-site and included cattle, pig and sheep but also some red deer, roe deer and goose. The cereals included mainly cleaned 6-row hulled barley (*Hordeum sativum*) but also oat (*Avena* sp.) and wheat (*Triticum* cf. *aestivum*). Flax (*Linum usitatissimum*) was also recovered. The presence of fat-hen (*Chenopodium album*) within the settlement suggests the presence of disturbed ground nearby and was perhaps introduced during work on the fields (Holden, forthcoming).

It seems therefore that the inland areas of south-west Scotland and north-west England were cleared relatively late. Some evidence suggests that this activity is closely associated with the Roman advance, presumably followed swiftly by opportunist agriculture. A mid- to late first millennium AD suggestion of increased land pressure might be inferred from the sudden erosion event at Thinhope, probably immediately succeeding wetter conditions also seen elsewhere.

Ireland

Ireland has a similarly refined Iron Age environmental sequence that focuses on agricultural change as part of the landscape development of the Iron Age. A well-dated 3m deep peat monolith from Cashelkeelty in County Kerry (CK-1), on the south-west coast of Ireland typifies the general picture of this area. Two Zones, 4 and 5, are important to the Iron Age; both have radiocarbon dates at their top and bottom. Zone 4 begins between 780calBC and 410calBC (UB-2370, 2490±60bp) and ends between calAD530 and calAD890 (UB-2371, 1360±85bp) when zone 5 begins. The latter ends sometime between calAD1440 and calAD1890 (UB-2372, 265±95). During the earlier Zone 4, tree pollen is seen to rise gradually with the development of secondary woodland of hazel (*Corylus avellana*) and birch (*Betula* sp.) accompanied by ash (*Fraxinus* sp.) and holly (*Ilex* sp.). Poaceae percentages fall but remain present although weed pollen such as ribwort plantain (*Plantago lanceolata* L.) disappears. The macrofossils suggest the drying of the surface and the peat is relatively well humified. This is interpreted as indicating a move to smaller scale cultivation and pastoralism and then a marked decline in human activity (Lynch, 1981, 83). There is a decline in the secondary woodland in late Zone 4 (dated originally to *circa* 350ad) but a single wheat pollen (*Triticum* sp.) associated with a rising tormentil (*Potentilla* sp.) curve suggests that arable agriculture was poorly established at this time and only makes a major impact somewhat later (op. cit., 95). *Potentilla* sp. is often associated with open grassland (Smith, 1999, 331) but some types like more peaty heathland (op. cit., 332). During Zone 5 *Poaceae* peaks at 74.9% towards the top of the profile and ribwort (*Plantago lanceolata* L.) is present throughout. Oats (*Avena* sp.) pollen is present for the first time at the lower boundary zone and poorly humified peat and macrofossils suggest wetter conditions. This is interpreted as an intensification of agricultural activity with a renewal of woodland clearance (Lynch, 1981, 83). The presence of oat is attributed to Early Christian missionaries arriving from Iron Age Britain and a slight intensification of both arable and pastoral indicators is dated to *circa* ad860 and correlated with the Viking arrival. A population movement to the west following this arrival may have forced occupation of marginal land (op. cit., 95). Although these boundary dates and their archaeological correlation are suggested based on the radiocarbon dates, modern calibration not only advocates more caution in applying single dates but may also push certain changes slightly earlier. For example, the Poaceae peak was considered to occur *circa* ad1400 from a final date on the column of ad1685, but perhaps a slightly earlier date may be suggested from the modern calibration spread, pushing the date back to the Norse or Viking period. Similarly, there is no *a priori* reason why various changes in pollen percentages, representing change in the local environment, should be

synchronous across Ireland between different sites. This is particularly important since many Irish pollen diagrams are dated in this manner.

Two other columns from Cashelkeelty were relatively shallow and uninformative, the basal levels of CK-3 being dated between calAD890 and calAD1020 (GrN-9272, 1060±30bp). At Dromatouk 1, in County Kerry, a peat monolith dated the inception of peat here to between 110calBC and calAD60 (GrN-9174, 2020±30bp) followed by pastoralism (op. cit., 103). In addition, a peat and soil sample from Dromteewaken 1, County Kerry, produced a date of calAD970 to calAD1170 (GrN-9283, 985±45bp) at its base. Prior to this there is some evidence from wheat (*Triticum* sp.) and barley (*Hordeum* sp.) pollen and grains, associated with ribwort plantain (*Plantago lanceolata* L.) and buttercup (*Ranunculus* sp.), for considerable mixed farming in the valley (op. cit., 104). Both the latter grow in and around cultivated fields (Smith, 1999, 331).

Situated in the south-west, but further inland in County Cork, evidence from Moughanasilly 1 suggests early to mid-first millennium AD clearance of secondary woodland but is undated (op. cit., 111). At Cullenagh 1, County Cork, a similar picture to Dromteewaken 1 is suggested with pastoral and arable farming prior to a basal radiocarbon date of between calAD980 and calAD1170 (GrN-9282, 975±45bp) for the inception of peat growth.

These analyses have underpinned a lot of the environmental evidence for Iron Age Ireland and indicate a broad sequence of woodland regeneration between *circa* 500BC and AD300 associated with podzolisation and gleying of the soils and the spread of peat. From *circa* AD300, clearance of secondary woodland resumes and mixed farming becomes more intensive (op. cit., 132-133; Bell, 1996, 9). This picture is reinforced by analyses at Red Bog, County Louth where *circa* AD300 agricultural revival and woodland clearance is visible in a recent pollen diagram, (Weir, 1995). It has even been suggested that later Irish texts and tradition preserve references to this clearance, 'the destruction-phase of Irish woodlands' (Kelly, 1997, 4). Further evidence of later first millennium AD possible agricultural pressure comes from Garradreen Townland, south Wexford, where between AD430 and AD770 woodland clearance was noted in conjunction with the probable establishment of a ringfort (Edwards, 1990, 52). Similarly, pollen evidence from peat profiles in the catchment area of the Rocky River have indicated reductions in hazel (*Corylus avellana* L.) coinciding with a gravel spread event and a rise in plantain (*Plantago lanceolata* L.), bracken (*Pteridium aquilinum*) and other indications of open ground. This

event is dated to between calAD410 and calAD610 (UB-2474, 1545±50bp) after which a major increase in Poaceae and Cyperaceae pollen is seen followed by Cerealia (Hirons and Sheridan, 1986, 88-89). A lack of evidence in the upper parts of the Rocky River catchment itself possibly suggests transhumance (op. cit., 90). Undated evidence for the clearance of oak (*Quercus* sp.), alder (*Alnus* sp.) and hazel (*Corylus* sp.) at the 325mOD site of the Bog of Donard to the west supports this (op. cit., 64).

It has been suggested that this slightly later evidence for renewed clearance may include the clearance of oak, as demonstrated by dendrochronological analysis of timbers from archaeological sites (Edwards, 1990, 52; Crone, 1993b; Baillie, 1995; Lynn, 1983). Horizontal mills for example, date from between the late 7th and early 10th centuries AD and some crannogs have been similarly dated to the later centuries AD. Pollen analysis at Corlea indicated that the fringes of the large bog were well wooded with birch, willow, hazel scrub and alder on the margins and oak and ash on the higher ground. In the middle of the 2nd century BC a phase of increased wetness prompted the construction of the 2km long wooden trackway across the bog. The large number of mainly oak (*Quercus* sp.) and birch (*Betula* sp.) trees felled in this endeavour resulted in concomitant decreases in local woodland pollen around this time (Raftery, 1994, 99).

At Derryville bog, new environmental analyses support the Iron Age forest regeneration although some archaeological activity is attested by the construction of several Early Iron Age trackways and rough platforms. Growth ring analysis and species identification also suggests woodland management, particularly of the crab apple (Gowen, 1997, 29).

The production of an as yet undated pollen diagram from Mooghaun Lough, supports a woodland regeneration, especially in hazel (*Corylus avellana* L.) in zones 6 and 7. These are dated through correlation with other diagrams to between *circa* 850BC and AD50. There is still some evidence for farming at this time with substantial ribwort plantain (*Plantago lanceolata*) and grass (Poaceae) although the cereal count is low. In zone 7, post *circa* 350BC, farming indicators continue to decline but a lack of tall canopy trees is interpreted as evidence of human presence. In zones 8 and 9, dating to between *circa* AD50 and AD350, the main feature is an increase in ash although yew, elm and oak also rise. Indicators of open landscapes and pastoralism decline and it is suggested that woodland regeneration is facilitated by a marked decline, 'or perhaps even a complete interruption for a short period' in farming activity (Molloy, 1997, 25). These zones are followed by a distinct arable

component dated, again by correlation only, to the 4th century AD. This site thus typifies the pollen profiles for western Ireland (e.g. Smith, 1975). A study of the pollen accumulation at Killymaddy Lough in eastern County Tyrone suggests however, that these drumlin belts were deforested in the early second millennium BC (Hirons, 1983, 111).

Cattle dominate the faunal evidence from most Iron Age sites in Ireland. At Leacanabuaile for example, cattle bone constituted 90% of the assemblage alongside numerous sheep remains. There are several young pig remains and possibly the remains of a red deer (Ó Ríordáin and Foy, 1941). This assemblage is probably typical of the Iron Age economic evidence in Ireland. Other animals represented include grey seal (including a tooth), small horse, dog and badger along with birds and marine molluscs. The latter mainly composed of periwinkle and limpet but also including oyster, cockle and mussels (op. cit., 95-96).

There is a possibility that because the majority of pollen analyses have been carried out in the west of Ireland, the central and eastern areas may follow a different landscape evolution. Considering the importance of these areas in terms of relatively good agricultural land this could have effects on the perception of the archaeological evidence from these different areas. The decline in agriculture and increase in woodland across the second half of the first millennium BC and early centuries of the first millennium AD has been generally interpreted as evidence for climatic deterioration and/or soil erosion by over-exploitation leading to the growth of blanket bog (Edwards, 1990, 60; Kelly, 1997, 4). This woodland regeneration is a very striking element in the environmental analyses of Iron Age Ireland although perhaps echoes can be seen elsewhere around the Irish Sea and maybe even in Argyll.

Wales

In Wales the woodland is not intensively cleared until *circa* 400bc when a reduction in arboreal pollen is associated with pastoral and some arable landscapes, even in so-called marginal landscapes (Bell, 1996, 8). During the subsequent Iron Age and Roman periods, tree pollen fell to similar levels as today (Campbell, 1990, 20). However, evidence from Gwynedd-Llyn Cororion suggests a decrease in trees between 3970calBC and 3640calBC (Watkins, 1990, 135), although this may not be owing to human activity which only made a marked impact *circa* 1000BC with an increase in ribwort plantain (*Plantago lanceolata* L.), members of the pink family (Caryophyllaceae), grasses (Gramineae) and dock (*Rumex* sp.). A subsequent drastic reduction in oak (*Quercus* sp.) and hazel (*Corylus avellana* L.) associated with elevated peaks of sedges (Cyperaceae), nettle (*Urtica*) and Poaceae is noted at *circa* the

8th century AD (op. cit., 136). This follows a period of increased summer surface wetness at blanket mires in Migneint, Snowdonia, and the Brecon Beacons. Both are radiocarbon dated to between the mid-6th century AD and late 7th century AD (Blackford and Chambers, 1991, 65). Only minor Iron Age activity was documented at Hiraethog, some 330mOD to 400mOD, after a cemetery at Brenig declined in importance *circa* 1100BC suggesting a retreat from the valley during detrimental weather conditions (Lynch, 1990, 142). Alternatively, this may only represent a change in the human use of the valley. In the Teifi valley in Dyfed, *circa* 170mOD, the Tregaron Bog peat growth seems to have increased in the second half of the first millennium BC associated with a large rise in grass pollen (Turner, 1981, 261 and 268). At both Borth Bog on the coast and Plynlimmon at *circa* 607mOD, increased grasses and ribwort plantain are attributed to the Iron Age although the dating is based on dubious stratigraphic relationships (op. cit., 268). Excavations at Bryn Eryr on Anglesey (Longley, 1998) have suggested that alder (*Alnus* sp.) woodland dominated the local environment until the site was constructed in the early to mid-first millennium BC. There then followed a period of progressive clearance including the expansion of grasslands and arable fields. It is possible that some hazel (*Corylus avellana* L.) stands remained, perhaps preferentially kept, until later when they are removed alongside a gradual decrease in oak (*Quercus* sp.) woodland. Cereal pollen is not evident until the 3rd to 1st centuries calBC but it is argued that this, “does not necessarily preclude arable activity” (op. cit., 260). This is supported by the uncertainties in identifying cereal pollen (Edwards and Whittington, 1997, 72). There is then a short period when ash (*Fraxinus* sp.) occurs and cereals are largely absent, which may relate to some woodland regeneration before the second cultivation episode in the early centuries calAD (ibid.). This general model of late woodland clearance is somewhat similar to the evidence from inland Cumbria and south-west Scotland, but is currently based on very few samples which may only relate to very localised conditions.

South-West England

The evidence for environmental conditions in the south-west of England, Devon and Cornwall, is mainly centred on investigations of the higher uplands of Dartmoor. In these relatively exposed areas there seems to have been an open landscape from at least the Bronze Age, *circa* 1300BC to 1100BC, when the reaves are in place. The general model of a reduction in anthropogenic pressure in these areas and a general environmentally-driven exodus to the lowlands is still possible, although there is, “little hard evidence for or against such a model” (Caseldine and Hatton, 1996, 60). Some sites such as Wotter Common,

Broad Amicombe Hole and Garrow Tor may suggest that there were later phases when the uplands were being used. Wotter Common has a single radiocarbon date from a lynchet placing its formation between *circa* 390calBC and calAD51 (op. cit., 61). High level peats at Broad Amicombe Hole have pollen profiles recording a reduction from 50% oak (*Quercus* sp.), alder (*Alnus* sp.) and hazel (*Corylus avellana* L.) to much lower levels in the first half of the first millennium AD (*circa* calAD144 to calAD417). A final clearance phase was dated to between the 8th and 12th centuries calAD (ibid.). At Rough Tor on Bodmin Moor, there was a decline in anthropogenic activity around the Late Bronze Age associated with some tree and shrub regeneration, although other areas were maintained. At Rough Tor North, this regeneration is short lived and a major clearance may date to *circa* 780calBC (Gearey and Charman, 1996, 118). However, at Rough Tor South the regeneration appears to extend between calAD240 and calAD440. Thus, the palynological data might suggest that there has been anthropogenic pressure on even the uplands of the south-west from the Late Iron Age through to Romano-British times and perhaps even the 'Dark Ages'. Pastoral land-use began in the Iron Age and continued until medieval times (ibid.). Similarly, in Exmoor, at both The Chains and Hoar Tor, there is evidence of increased farming activity in the Late Iron Age and Roman periods (Turner, 1981, 267). At Slapton Ley, a basically treeless landscape had been established in the Late Bronze Age with woodland confined to the valley sides and bottoms (O'Sullivan, 1996, 144), and in the Somerset Levels cereals are being grown alongside local pasture from the Middle Iron Age to the Romano-British period (Turner, 1981, 271).

Brittany

Excavations prompted by development of services in Brittany have been crucial to recent palaeoenvironmental investigations and syntheses of the area. A relatively detailed picture of the landscape and its use has been produced by analysis of peat-bogs and site based methods. Of the latter, a range of different site types spread mainly around the coastal fringes have been particularly informative (Figures 3 and 7). In Brittany too there seems to have been a climatic downturn *circa* 800BC to 700BC, to colder and wetter conditions (Marguerie, 1990, 116). Deforestation began much earlier, probably in the Neolithic, with both agriculture and stock rearing contributing (op. cit., 117). It was also at this time that the classic Breton moorland, called the *lande*, probably began to form around the coasts (*contra* Astill and Davies, 1994, 69). Composed of hazel (*Corylus avellana* L.), broom (*Cytisus scoparius*), gorse (*Ulex* sp.), bracken (*Pteridium aquilinum*) and *Calluna* type vegetation,

these moors are arguably the result of clearance by fire in the Neolithic but are without doubt anthropogenically induced (Marguerie, 1990, 117).

Further Iron Age inland clearances began to effect the woodland, shown in pollen diagrams from Cloître and Spezét peat-bogs, producing, above all, a decline in alder (*Alnus* sp.). On the coasts of Finstère the analysis of a peat-bog at Kervigen reflects the general landscape of the Baie de Douarnenez during the first millennium BC and the beginning of the Roman period. The data indicated the site was in the middle of a marsh surrounded by a generally deforested landscape with only several alder (*Alnus* sp.), hazel (*Corylus avellana* L.) and oak (*Quercus* sp.) stands remaining. The variety and quantity of hardy herbaceous plants and bracken suggested a great degree of anthropomorphisation of the central area, and the presence of cereal pollen in small quantity positioned irregularly throughout the profile (maximum 1% of total pollen) supports this view. Here, perhaps unsurprisingly, moorland pollen such as Ericaceae and *Calluna* sp. were rare. Further to the north at Saint-Egarec, an equally open and modified Iron Age landscape was evidenced where cereals were again present in low frequencies, although they increased within the top 20cm of the profile. However, heathers (*Calluna* sp.) indicate moorland was in place here (ibid.).

The archaeological evidence reinforces the palynological picture. For example, at Keriner traces of oak wicker fences with broom intertwined around the uprights suggests these were available in the local environment. Similar evidence from large wooden palisade enclosures at both Le Braden (Le Bihan, 1984) and Le Boissanne (Menez, 1996) as well as the proliferation of wooden buildings at these sites also indicates the presence of substantial forest. At Siant-Jacut-de-la-Mer on the Île d'Ebihens, the charcoal from a hearth and an occupation layer was composed mainly of oak (*Quercus* sp.) and broom (*Cytisus scoparius*) (Le Bihan, 1984). This again reinforces the idea that oak woods and moorland co-existed in the Iron Age. The somewhat earlier evidence from charcoal and pollen analyses on the Hallstatt and Early La Tène site of Mez-Notariou, on the island of Ouessant, suggests that it was completely deforested and consisted of open moor with broom and gorse (*Ulex* sp.) bushes (Marguerie, 1990, 117).

Other evidence from archaeological sites indicates that at least some dense forest survived. The archaeozoological analysis of bone from Le Boissanne revealed stag were an important component of the meat consumed on site (comprising 6.9% MNI) and confirmed the existence of forest in the area (Menez, 1996, 191). However, the pollen evidence suggests

that the original site in the 6th or 5th centuries BC was in an open environment which later developed into meadow (op. cit., 190), and that cereal cultivation was practised in the immediate vicinity. The environmental evidence from the Outer Hebrides also suggests a generally open environment, and yet here too red deer is an important, if not the most important, component of the faunal assemblages at Loch na Beirgh, Dun Bharabhat and Cnip (Gilmour and Cook, 1998). This might suggest that deer are not a good proxy indicator of forest cover. Alternatively, this suggests the forest may have been some distance away, probably inland. The woodland at Le Boissanne may have lain in the valley of the Rance below and to the east of the site. Charcoal from a layer within a souterrain at Ploubalay was composed mainly of hornbeam (*Carpinus betulus* L.), oak (*Quercus* sp.) and hazel (*Corylus avellana* sp.). This evidence, when combined with the plausibly widespread use of timber in palisades and buildings on 'native farms' across the entire peninsula, again indicates that large well-developed deciduous forests were being cut in the Iron Age. It has been suggested that certain wood types were being used for particular purposes and that the population was managing their woodland in a landscape interspersed with moorland (Le Bihan, 1984, 172).

Associated with this Iron Age deforestation is evidence of arable agriculture; on several archaeological sites cereal pollen has been discovered. Numerous querns and silos also attest to arable agriculture. Similarly, peat-bog profiles from both the coastal regions and the interior have some evidence for cereal. The peat-bog profile at Spézet suggests that the greatest agricultural activity, probably on the 'native farms' and later Roman Villas, was succeeded by a marked decline in anthropogenic activity. There was a notable decrease in hardy plants and wheat (*Triticum* sp.) and a concomitant rise in woodland species such as alder (*Alnus* sp.), birch (*Betula* sp.) and oak (*Quercus* sp.), and in smaller proportions, hornbeam (*Carpinus betulus* L.), beech (*Fagus* sp.) and ash (*Fraxinus* sp.). This distinct agricultural recession has been radiocarbon dated to around AD285 and was followed in the medieval period by renewed clearances and the re-assertion of arable agriculture with the development of rye (*Secale cereale* L.) and buckwheat (*Fagopyrum* sp.) (Marguerie, 1990, 118).

At Le Boissanne a cessation of agricultural exploitation has been noted sometime before the end of the 1st century BC and micromorphological analysis of a ditch indicated substantial erosion. It is suggested that cattle trampling on the plateaux summit initiated this erosion (Menez, 1996, 194). However, the cessation of agricultural exploitation here simply reflects

the change in use of the site during the later phases (Menez, 1996, 216). At Ebihens, the results of palynology, macrofossil and charcoal analyses suggested that the coast of Brittany in the 1st century BC was an open, herbaceous landscape with few trees such as oak (*Quercus* sp.) and alder (*Alnus* sp.). However, these may represent windblown pollen (Marguerie, 1989, 160) possibly from the interior or even from southern Britain. Very little agriculture was evident on the island (ibid.). However, archaeological evidence from this site includes rotary querns (Langouet, 1989, 165) traditionally associated with arable agriculture. Wood would have been essential for much of the constructions on this site, evidenced by an abundance of iron nails in the 'Habitat Isolé' and the presence of a salt workshop within the village (Langouet, 1989). It is possible that access to the mainland may have been easier during the Iron Age because of lowered sea levels (Marguerie, 1990, 117; Langouet, 1989, 163) and this may have been the source of the oak for the workshop and superstructures.

The general picture of first millennium BC Brittany is of increased woodland clearance and the expansion of moorland, the *landes*, with small but continuous evidence of cereal agriculture. It has been argued that coastal Brittany was cleared before the Iron Age but stands of trees probably survived in the interior, mixed with areas of uncultivated uplands and large field systems. After a period of some 300 years of Roman occupation there seems to have been a marked decline in agriculture, possibly associated with an expansion in woodland. This is followed during the later first millennium AD by renewed clearances as mixed farming plots developed and villages and small farms evolved in the landscape. However, the majority of evidence comes from coastal sites, where they are often more exposed, and there is little discussion of the taphonomy and geomorphology of the site locations themselves.

The Channel Islands

This general picture is the same in the Channel Islands, where evidence from Jersey suggests that between 3000bp and 1000bp the majority of the woodland had been cleared. Pastoralism was important on the valley floors and coastal areas but cereal crops were present across the island with some hemp (*Cannabis sativa*) also being cultivated. There is evidence of a major soil and sediment erosion episode during the Iron Age perhaps related to increased anthropogenic pressures on a previously cleared environment (Jones, 1993, 38). From *circa* 580BC to 520BC there are only small areas of natural and semi-natural

woodland in the less accessible areas with some open vegetation and brackish wetlands near the coast (op. cit., 45).

Discussion

In general the majority of the work across the Atlantic façade is still focused on earlier periods and the question of woodland presence or absence. Important considerations such as changes in landscape management and agriculture are rarely examined in detail, and even more rarely relate to the Iron Age. Those analyses that do relate to this period are mainly site based and invariably produce very localised pictures of their immediate landscape. However, the preservation of environmental evidence analysed through various means either on- or off-site is often excellent across much of the Atlantic façade. The presence of raised bogs and blanket peat dramatically increases the amount of detailed climatic information that can be accessed from this resource. The generally upstanding and well-preserved nature of the archaeological resource contrasts notably with the lowland evidence, often truncated by agriculture and other developments, although this same problem is encountered in some areas of Brittany and south-west Scotland. This good preservation in the north and west provides the potential for not only proxy environmental indicators (Boyd, 1988, 104) but also their detailed inter- and intra-site analysis.

It is perhaps possible to draw a few of the various threads together since much of this regional evidence indicates a remarkably similar pattern. After the probable Late Bronze Age/Early Iron Age climatic downturn there is in fact rarely evidence for large scale deforestation during the first millennium BC. This stands in marked contrast to the suggestion that the introduction of iron provided the means for wholesale clearance of woodland remaining since the Bronze Age and the cultivation of poorer soils. In Scotland the period after *circa* 500BC has even been termed “A Late Iron Age Agricultural Revolution” represented by an intensification of arable activity (Tipping, 1994, 33). However, several areas actually show a notable increase in woodland during this period, especially in the early centuries of the first millennium AD, including Scotland (Edwards and Whittington, 1997). Arable indicators are generally low, with open and presumably pastoral landscapes dominating.

The generally warm and wet climate allows year round growth of grass and the keeping of animals outdoors throughout the winter is commonplace, even in the most western of areas. In general, much of the economic evidence, such as the early culling of young animals, is

interpreted as evidence of a harsh climate with a lack of winter fodder and poor husbandry practices. The lack of winter fodder is generally assumed on the basis of a lack of evidence for hay. However, it is rare for the probable locations for storing hay (outside or in external buildings?) to be carefully sampled or even excavated. An alternative view would suggest that the Iron Age landscape was full of resources both wild and domestic and that there is no reason to suspect that a lack of winter fodder was either a reality or a problem. For example, at the Howe animal dung with straw might suggest its use as fodder and other macrofossil remains such as spiral tassleweed (*Ruppia cirrhosa*) could be fodder alternatives (Dickson, 1994, 127). The suggested mechanism of harvesting cereals in the Outer Hebrides by uprooting the entire plant (Smith, 1999, 332; Michael Church, pers. comm.) would be conducive to the production of hay.

The lack of any clearly defined sampling of on-site data means that it is difficult to compare assemblages between sites, and even in some cases across single sites. However, notwithstanding the problems of preservation of on-site environmental evidence and the recognition of cereal cultivation in the palynological record (Tipping, 1994, 36; Marguerie, 1990, 118), it is suggested here that arable agriculture across the Atlantic Seaways was generally restricted to self-sufficiency. The preservation at Buiston crannog for example, was very good, with waterlogged deposits retaining uncharred remains. However, even here there was a low concentration of barley (*Hordeum* sp.), flax (*Linum* sp.) and oat (*Avena* sp.) suggesting that little was actually lost on-site (Holden, forthcoming). This may also suggest that only small volumes were brought to site, although the presence of crook ards and querns indicates that some arable agriculture was practised (Crone, 1993b). At Loch na Beirgh too the preservation of uncharred remains was exceptional and again the majority of remains were carbonised, probably during domestic accidents (Michael Church, pers. comm.).

If any surplus was produced this may have been seen as a bonus, or may even have been an indicator of some status, but most surpluses would be from pastoralism. Meat was probably a major economic mainstay of the Atlantic communities (Gilmour and Cook, 1998, 332), with dairy products perhaps of similar importance. Cattle would have been the major source, although almost all sites indicate the presence of some smaller animals such as sheep and/or goats and pigs. In Brittany it has even been suggested that many 'native farms' were primarily interested in stock rearing (Buchsenschutz, 1994). The secondary products available from animal husbandry include bone as a material for artefacts (e.g. Hallén, 1994) and hides for clothing. Fox pelts were processed at the Howe (Ballin Smith, 1994, 123) and

evidence for the skinning of cats at the site was also presumably for pelts (Hunter, 1997, 16). Leather is known to have been an important export to the continent during the Later Iron Age (Thomas, 1990, 16), although it was presumably important earlier too. Its uses also went as far as sails for the ships of the Veneti (Caesar, *Gallic War*, III.13). Wool was spun on many sites (Thomas, 1990, 16), perhaps increasing in quantity in certain areas through the Iron Age as smaller animals such as sheep and goats replaced larger animals such as deer and even cattle (Gilmour and Cook, 1998, 331 and 334). It is probable that this is linked to a general increase in personal items of decoration during the first millennium AD (see later chapters) paralleled by increasing attention paid to clothing.

However, animals were not just sources of food and other materials, they could also represent status. It is well known from various Early Historic literary references that ownership of cattle was an indicator of status and wealth. It is possible some Breton farms were the residences of the elite on the continent (Buchenschutz, 1994). Complex social situations prevailed during the Iron Age and these probably included systems of clientship and exchange (Gilmour and Cook, 1998). Such a situation would allow for different social inter-relationships between occupants of sites. One such relationship may have been based on a hierarchical system in which status was defined in terms of livestock and possibly displayed through architecture. If this system was strictly controlled to promote economic stability then the culling of animals within their first year might also be seen as a social response as well as an economic one, thus reducing the influence of the prevailing environmental conditions. In essence, any animal surplus to the social status as defined by a complexity of other factors was destroyed so as to avoid the consequences of unfettered growth both socially and economically.

It is possible that during the first millennium BC and early first millennium AD many areas were managing the woodland, evidence perhaps coming from the south-west and the northern mainland of Scotland in particular. The cultivation and utilisation of hemp in Scotland immediately after the first millennium AD has been interpreted as a cash crop for the production of rope and canvas (Whittington and Edwards, 1990). Similarly, other cash crops not directly involved in subsistence, including wood, may have been grown in Atlantic Scotland, and elsewhere. It is even possible that woodland management is under-represented in interpretations of pollen diagrams (Tipping, 1994, 37). The construction of settlements in the first millennium BC (e.g. Chapters 3 and 4) would have required quantities of wood not

directly available in the Western fringes and the mainland may have provided the islands with sufficient supplies.

It is not until the Late Iron Age, mainly the mid- to late first millennium AD, that there is a concerted resumption in large scale clearance. Surprisingly this period is also coincident with a climatic deterioration across the North Atlantic Seaboard (although Brittany has produced little evidence). The later first millennium AD clearances may also be linked with the coincident development of coherent and wide-ranging political powers. The effective control of the Atlantic Scottish landscape requires the control of communication and commerce centred on the sea-lanes, and that required a navy. The *Senchus Fer nAlban* records the existence of such a force during the mid-first millennium AD in Argyll (Bannerman, 1974) and it is probable that the construction and upkeep of a substantial naval presence in the Atlantic Seaways required large-scale cutting of timber for the ships.

This coincidence of climatic decline and political development raises interesting questions about the role of the environment in shaping the Iron Age. The difficulties of using a relatively small number of samples across such a large and varied area coupled with problems with the radiocarbon calibration curve and specific local taphonomic and environmental conditions means that local and regional patterns can still differ. However, there is probably a dominance of anthropogenic motives in these developments; social, political and perhaps even demographic factors could well have superseded environmental or technological possibilities. Alternatively, the increase in woodland clearance and agricultural indicators in pollen diagrams could reflect the desperate spread of activity to the limits of the cultivable and pastoral landscape in order to counteract the effects of low yields and cope with increased pressure on resources. The interpretation of this evidence is obviously of paramount importance, the resulting picture of late Iron Age life being dramatically different depending on which is correct. Either a prosperous Atlantic community was able to weather a relatively serious climatic downturn, and indeed increase productivity, or the barely sustainable economy was dealt a severe blow, forcing the use of increasing marginal areas and the destruction of previously carefully managed forests to allow the production of food. Several other factors should obviously be taken into consideration here, including the archaeological evidence for settlement across the Atlantic Seaways in the first millennia BC and AD that will be examined in this thesis.

Chapter 3

Northern Scotland

Recent work in the north of Scotland has begun to reveal a rich archaeological record of settlement across the first millennia BC and AD. This body of material allows more detailed re-analysis of older excavations and provides the depth of information necessary to assess the settlement development in the north over two thousand years. The introduction and development of large monumental Atlantic roundhouses and their subsequent re-use dominated settlement during this time.

Atlantic Roundhouses

Simple Atlantic roundhouses

In northern Scotland, the early to mid-first millennium BC is marked by the construction of a class of monument known as the simple Atlantic roundhouse (Armit, 1991; 1996; Mercer, 1985; 1997; Hedges, 1987i; 1990). Thick-walled roundhouses have been excavated at Pierowall (Sharples, 1984), Quanterness (Renfrew, 1979), Bu (Hedges, 1987i), Tofts Ness (Dockrill, 1988), St. Boniface (Lowe, 1998; Figure 12e) and Cnoc Stanger, Caithness (Mercer, 1996). Further sites are known in the landscape of Caithness but remain unexcavated (Mercer, 1980-1985). The very ephemeral remains of a possible simple Atlantic roundhouse were recovered during excavations at the Howe in Orkney (Phase 5), and assigned to the mid-first millennium BC (Ballin Smith, 1994, 38; *infra*). These structures are relatively thick walled and monumental compared to similarly early buildings at Clickhimin, Shetland (Hamilton, 1968) and the earlier 'Late Bronze Age' settlement at Jarlshof (Hamilton, 1956, 18). The latter developed into a second 'Late Bronze Age' settlement incorporating roundhouses with radial divisions (*op. cit.*, 32). Several sites such as Skail Site 5, Orkney, Sumburgh, Shetland, and perhaps Liddle, South Ronaldsay (Buteaux, 1997, 255), have oval structures with cellular compartments in the wall. The sites at Skail Site 5 and Bu both underwent a sequence of development including the thickening of the walls, suggesting the reinforcement of permanence on the same site over time. This is perhaps also illustrated at the Howe where a large simple Atlantic roundhouse was replaced by complex Atlantic roundhouses on the same site and settlement continued to the end of the

first millennium AD (*infra*). A similar horizon of construction is unrecorded in the Western Isles, replaced by smaller, generally revetted buildings (Chapter 4). This is significant since it means that the knowledge to build large upstanding monumental houses was either unknown or immaterial during the early to mid-first millennium BC, and that the construction of complex Atlantic roundhouses is introduced to the area. In Skye and Argyll there is a suggestion that simple Atlantic roundhouses may exist among the poorly defined mass of heterogenic 'duns' (Chapter 5; Gilmour and Henderson, forthcoming). Rahoy is an early site of this type (Childe and Thorneycroft 1938; Gilmour, 1994, 77). In view of the lack of evidence to the contrary these simple walled roundhouses are generally considered to be single storey buildings and may represent the development of distinct social hierarchies. The early dates and obvious comparisons with later so-called 'brochs', i.e. complex Atlantic roundhouses that incorporate several specific architectural details in their visible construction, are the basis for considering 2nd or even 3rd centuries BC construction dates for the latter. Early dates from several sites with complex architecture supports the suggested local evolution from simple to complex Atlantic roundhouse.

The development from simple Atlantic roundhouse to complex Atlantic roundhouse suggested by the Orkney evidence, and particularly the Howe, is yet to be conclusively proven as applicable elsewhere. Sites such as Clickhimin, Shetland (Hamilton, 1968; Fojut, 1998, 35; Figure 11b), Langwell, Sutherland (Nisbet, 1996; Figure 19d), and Crosskirk, Caithness (Fairhurst, 1984; Figure 19e), hint that a similar early development of complex Atlantic roundhouses could be argued here too. The excavations at Cnoc Stanger in Caithness (Mercer, 1996), have produced a sequence of structures the closest yet to simple Atlantic roundhouses in the Northern mainland. These presumably precede the early complex Atlantic roundhouses, for example Crosskirk, and also add to the growing body of evidence for a pan-North Atlantic development sequence. Further unexcavated examples have been suggested for Caithness, often sitting on raised areas of land, and uniquely present in groups of more than one (Mercer, 1981).

Complex Atlantic roundhouses

Armit has suggested a pre-200calBC construction for the original complex Atlantic roundhouse at Crosskirk, Caithness (1991, 189) and the radiocarbon dates and architecture certainly support such a conclusion (Fairhurst, 1984, 162-163). The site has intra-mural features including a staircase that would have led to an upper floor (Figure 19e). A wooden ladder may have been used to access this stairwell, or alternatively a first floor at this height.

This would suggest an early complex Atlantic roundhouse with multiple floor levels. An even earlier date around the 4th century calBC for a complex Atlantic roundhouse is recorded at the vitrified site at Langwell, Sutherland (Nisbet, 1996, 66). These sites suggest that intra-mural architectural devices on Atlantic roundhouse sites could have developed naturally from the increasing sophistication of drystone techniques initiated by simple Atlantic roundhouse construction.

Langwell has been used to support the contention that 'duns' were later than the 'hillforts' and reflect the 'miniaturisation' of timber-laced forts (e.g. MacKie, 1976, 223-224). It is also suggested that Langwell predates, "both plain and galleried duns" (Nisbet, 1996, 68). The intra-mural chamber is considered unique on a vitrified site and is compared to guard cells at hillforts in North Wales and in 1st century BC 'brochs' (ibid.). The 4th century calBC date of Langwell and the rectilinear nature of its intra-mural chamber (Figure 19d) are seen as comparable to those from Dun Ardtreck on Skye and the hillforts in the Welsh Marches, and interpreted as arriving as a concept from the latter via the west coast (ibid.). However, this feature was not visible without excavation and the presence of similar intra-mural architecture could be masked at other sites where there is no intrusive investigation of the walls. In this respect sites like Rahoy (Figure 19c) and other unexcavated sites in Argyll could be regarded as parallels (Chapter 5). The later date of the site at Langwell compared to these Early Iron Age simple Atlantic roundhouses reinforces the connections between this site and other complex Atlantic roundhouses suggesting it is a 'missing link' between the two types.

Gurness (Hedges, 1987ii) underpins the generally accepted contemporary dating of Orkney Atlantic roundhouses and their external settlement (Foster, 1989a; 1989b; Barret and Foster, 1991; Sharples, 1998, 204; Armit, 1990a). It is unfortunate that such a large and well-preserved site fell prey to early excavation methodology and thus proved very difficult to interpret and evaluate (Hedges, 1987ii, 14). The original excavations proposed a four-phase sequence including an original primary complex Atlantic roundhouse constructed and occupied before its re-use and construction of the external village. There were then smaller cellular buildings revetted into, and often re-using, these structures. Finally, the site was the focus for a Norse settlement (op. cit., 15-17). Hedges however, contends that the external village settlement and complex Atlantic roundhouse were only constructed separately out of necessity owing to the mechanics of the constructional sequence. They are therefore considered, in essence, to be contemporary (op. cit., 18).

MacKie argues for the reinstatement of the original excavation phasing (1987), although he does conflate the architectural evidence with social and cultural interpretations and explanation. Hedges has responded suggesting that such stratigraphic observations are, “niggling *reductio ad absurdum*”, like saying a, “roof...is later than the walls and that the furniture stratigraphically post-dates the carpet” (1990, 21). The two differing opinions on the stratigraphy of Gurness however, have fundamental implications for the understanding of society living in Orkney, and elsewhere from evidence presented in this thesis. MacKie has subsequently restated his conviction that the stratigraphic relationship between the complex Atlantic roundhouse and outer village is substantially sequential both at Gurness and Midhowe using a detailed critique of the architectural evidence at both sites (1994). His analysis is structurally sound although the subsequent interpretations of this evidence are considered untenable.

Several exotic artefacts indicate the dating of the original complex Atlantic roundhouse, and presumably the surrounding village according to Hedges. Two glass objects were found amongst sieved material from deposits, “which had subsided into the hole excavated for the well” (1987ii, 183). It was argued that a dumb-bell shaped toggle or bead was made from re-used Roman glass and the other, an imperforate light blue globule with blue and white decoration, dated typologically to the 1st and 2nd centuries AD. The dumb-bell shaped bead or toggle has a flattened profile (op. cit., 160) and therefore may not be entirely comparable with others discussed in this thesis. However, it is possible that this artefact actually belongs to a later chronological horizon (*infra*). Also in the interior, below the final floor level in the north-west of the complex Atlantic roundhouse interior were two sherds of imported Dressel amphora dating to the 1st century BC and 1st century AD and a third sherd was found from an unstratified level outside the structure (ibid.). These objects and their dating would not be inconsistent with the re-use and secondary occupation of a complex Atlantic roundhouse as argued both by MacKie and the original excavators and is examined in more detail in this thesis.

Doorknob spearbutt moulds recovered from the ditch and dated to the 3rd or 4th centuries AD, were also thought to provide dating for the original ‘Broch Period’ (op. cit., 183). However, since they were discovered in the ditch (Close Brooks, 1987, 303) they must post-date the construction of the casement wall surrounding the village and half filling the ditch because this was not removed during excavation. These pieces thus provide a *terminus ante quem* for

the village and a *terminus post quem* for the shamrock structure built partially overlying the ditch and presumably revetted into its fill material. Such a stratigraphy and chronology would fit well with similar remains recovered from Loch na Beirgh in the Western Isles (Chapter 4) and other sites.

Excavations at the Howe have been held to document settlement development at a 'broch' or 'complex Atlantic roundhouse' site that is probably analogous to others in the region. The excavator believes an Early Iron Age roundhouse preceded the development of two complex Atlantic roundhouses. These are assigned Phases 5, 6 and 7 respectively and dated 4th - 3rd centuries calBC, 2nd - 1st centuries calBC and 1st - 4th centuries calAD (Ballin Smith, 1994, 6-7).

The early roundhouse is presumably comparable to those discovered at Bu, Quanterness, Pierowall Quarry, Tofts Ness in Orkney and perhaps even the early phases at Clickhimin and Jarlshof in Shetland. This would suggest a Late Bronze Age or, more likely, Early Iron Age date for the structure presaging the development of more complex architecture in 'brochs 1 and 2' (Figure 13d and f). There is unfortunately, no absolute dating evidence for the roundhouse except the construction dates for 'broch 1', which provide a *terminus ante quem* and the underlying Neolithic deposits which provide a presumably much earlier *terminus post quem*. Comparisons with the other sites might indicate a date of construction in the first half of the first millennium calBC, lasting for anything up to 500 years but obviously limited by the construction of 'broch 1'. The radiocarbon plateaux make closer interpretation difficult since it catches almost all the relevant radiocarbon dates from these early sites. The construction of the first complex Atlantic roundhouse produced a monumental multi-storey building with complex architecture and two intra-mural staircases winding to the upper floors. Unfortunately, the construction and early occupation of the second tower is not securely dated (op. cit., 264) and can only be inferred by reference to the end of the previous building. A reassessment of the chronology at Howe (Appendix A) suggests that Phase 5 would date between the 8th to the end of the 6th centuries BC, a period of some 300 years approximately and Phase 6 to between the 5th and 3rd centuries BC, another 300 years maximum. Phase 7 is more complicated, including the construction of the second complex Atlantic roundhouse perhaps around the early 2nd century BC or even the late 3rd century BC. This is substantially remodelled around the 1st century AD and continues in use until the 3rd or 4th centuries AD.

Unfortunately, the lack of detailed evidence relating to the contexts of the material retrieved for radiocarbon dating means that it is difficult to discuss these finer points of phasing. Stratigraphic detail of this nature is very important as it forms the core of one argument for the dating of complex Atlantic roundhouses prior to the 1st century BC. It is possible, indeed probable considering later arguments, that all dates retrieved thus far from roundhouse sites may relate only to the *final* stages of use of any particular phase. For example, at the Howe it was recognised that any possible evidence relating to the original use of 'broch 2' was cleared and partially dug away in the later half of Phase 7 (op. cit., 85).

The architecture and layout of the Phase 7 settlement is also important in resolving the dating issue explored here. The excavator suggests that the six external buildings were contemporary with the original construction of 'broch 2' and included the porch feature or 'external door' with the passage through the buildings and either side of the roundhouse (op. cit., 40). The excavator argues that instability and partial collapse during construction resulted in the blocking of the intra-mural landing and staircase and necessitated a new internal layout (ibid.). This explanation of events and constructional sequence is remarkably similar to that argued at Gurness (Hedges, 1987ii, 17). MacKie has subsequently analysed the architecture at both Gurness and Midhowe and argues that the original roundhouse at both may have stood alone for some period before the construction of the surrounding buildings and internal furnishings (1994, *supra*). A crucial point in this argument is that the internal construction of the original roundhouse need not be similar to the secondary re-use (op. cit., 116). Thus MacKie would envisage a circular setting of post-holes within the original building to support the upper floors and a central hearth dominating the internal space (op. cit., 113). It is interesting to note in this model the original use of organic material contrasting with the secondary prevalent use of stone; this will be discussed in more detail later.

Analysing the purely architectural arguments defined in MacKie's paper, it is possible to apply many to Phase 7 at the Howe. It is necessary in doing this to ask whether there is positive evidence that the structural features are indeed contemporary. The excavator states that the roundhouse was obviously constructed first (Ballin Smith, 1994, 42) but presumably still falls within Hedges argument for contemporary stratigraphy; for example, the roof must be stratigraphically later than the walls but both are part of a conceptualised and contemporary whole (Hedges, 1990, 21). However, it is argued that the fully developed complex Atlantic roundhouse collapsed during construction (Ballin Smith, 1994, 40). The

evidence for this crucial aspect is not investigated in detail and it is perhaps worth considering that such an event was not dramatic or significant. It is possible, and given the forgoing arguments even plausible, that the original 'broch 2' was constructed earlier and used longer than the excavator gives credit. It was perhaps the need to see both the roundhouse and outer buildings as a Middle Iron Age phenomenon, as defined by Hedges (1987ii; 1990), that necessitated the mid-construction collapse of 'broch 2'.

The constructional sequence at Gurness, and argued here for the Howe, is comparable to other sites in Orkney. MacKie (1994) has already discussed Midhowe in some detail, but others also exist. Warebeth was partially investigated during a commercial exercise as a response to erosion of the site; re-use of an internal well within the complex Atlantic roundhouse produced a radiocarbon date from the 3rd to the 5th centuries calAD (Bell and Dickson, 1989; GU-2385, 1720±50bp). Outside the main roundhouse the remains of a building with orthostats and internal divisions were noted resting on the same ground surface. Other archaeological features spread from the main roundhouse westwards in front of the south-west entrance but none was examined (op. cit., 107). A distinct lack of large pitched stones within and outwith the main roundhouse led the excavators to conclude that the original roundhouse tower had been deliberately dismantled and the stone robbed (op. cit., 108). This evidence, together with the external buildings and radiocarbon date for some re-use of the site, suggests parallels with the more detailed investigations carried out elsewhere.

Burrian also incorporated secondary activity, at least some of which was recognised by the original excavator (Traill, 1890). Nevertheless, the later publication of the material from this excavation highlighted the probability that the secondary occupation horizons were not as clear cut as originally presumed (MacGregor, 1974, 65). However, it does seem that a fairly clear horizon of paving overlay earlier deposits, and structures were built on top of this (ibid.). The architecture of these structures includes vertical slab partitions and built walling that MacGregor argues were very similar to the assumed 'original' construction. It was therefore impossible in his view to differentiate the two phases easily but MacGregor then goes on to suggest that *all* the excavated features were secondary (op. cit., 67). However, there appear to be differences between the assemblages recovered from the external buildings and secondary internal features, and the assumed primary deposits within the complex Atlantic roundhouse (op. cit., 69). This would support the idea that the external structures and internal secondary features were contemporary and the complex Atlantic

roundhouse had perhaps stood alone for some time beforehand.

Sequences of roundhouse construction can be interpreted from Clickhimin (Hamilton, 1968) and Jarlshof (Hamilton, 1956) on Shetland. At the former site the 'broch' or complex Atlantic roundhouse (Figure 11b) replaced a large circular stone-built house (Hamilton, 1968, 8). The original interpretation saw the blockhouse and surrounding enclosure wall as preceding the complex Atlantic roundhouse (*ibid.*). However, it is possible that they are both closely associated chronologically since they have very similar pottery assemblages (compare *op. cit.*, 94-95 and 118-119). At Jarlshof the large Atlantic roundhouse (Hamilton, 1956, 44; Figure 11c) is later than the secondary Late Bronze Age settlement composed of roundhouses with radial partitions and associated with carinated vessels (*op. cit.*, 32-38). This suggests the construction of monumental roundhouses was an important development in the settlement record of northern Scotland, reflecting a more outward projection of the household.

An important aspect of the work carried out at Burrian was the discovery of vertically laid slabs stacked against the outside wall of the complex Atlantic roundhouse. These were assumed to be a buttress but no structural weakness in the solid base of the roundhouse could be found; MacGregor speculated that it might be an original architectural feature (*ibid.*). Exactly the same features were discovered at Midhowe and Gurness (although here stacked in the main ditch) and MacKie argues that they are the remains of the long lintels removed from the tall towers during its demolition and stacked for re-use in the secondary structures as and when necessary (1994, 128). The lack of any structural weakness at either the Burrian or Midhowe and their location within the ditch at Gurness indicates to this author that these are indeed merely stonework removed from the tall towers and awaiting re-use rather than structurally relevant architecture. Clickhimin also betrays evidence of possible piling of large vertical set blocks around the exterior of the enclosure wall.

A comparable stratigraphic sequence was recovered from modern partial excavation of deposits at St Boniface (Lowe, 1998). A large roundhouse (Structure 2, Phase 5; Figure 12e) was built over earlier deposits (Phase 4) on a possible islet site to the west of Papa Westray. This structure was then surrounded by an external settlement of more dense proportions than the preceding remains and included a causeway leading to a possible enclosure formed by a rampart and ditch (*op. cit.*, 49). This settlement (Phase 6.1) included a passage around the exterior of the roundhouse allowing access to the south-east facing entrance. From the small

areas excavated in plan the external structures seem to have been relatively large, sub-rectilinear buildings laid in an organised radial plan (op. cit., 202). The subsequent development of this settlement (Phase 6.2) included the re-cutting of the enclosure ditch and some additions to the external area, perhaps re-organising access through the site to the roundhouse. A buttress was built against the external wall of the roundhouse near the entrance and large stones were placed transversely in the ditch (op. cit., 203). By the end of Phase 6 (6.3) the settlement is considered to be in decline, this is suggested by the blocking of some areas, the construction of buttresses, stone robbing and a breakdown in the radial layout (ibid.). The following period (Phase 7) is termed Late Iron Age and probably begins in the 3rd century calAD (op. cit., 115).

Unfortunately, the absolute dating of the site is almost entirely based on radiocarbon dating of shell samples with some bone material in the earliest (Phases 1-4) and latest relevant periods (Phases 6.3 and 7). Although the shell samples were corrected for the reservoir effect (op. cit., 97), there may still be problems with this dating material, and even animal bone from a small island such as Papa Westray may have an unknown marine reservoir component affecting its carbon retention. This could account for the relatively early dating of what may be a complex Atlantic roundhouse (Structure 2) on the site, although these definitions are considered problematic by the excavators (op. cit., 200-201). A construction date of 390calBC (ibid.) is not outwith the possible dating of early complex architectural features in Atlantic roundhouses (Armit, 1991), although the suggested date of 750calBC to 500calBC does stretch any current interpretation of such sites. However, the lack of larger-scale area excavations and the disturbance of the entrance area preclude a detailed analysis of architectural features on the site. The possible location of a 'guard cell' *in front* of the vertical orthostats representing doorjambs is improbable and would be unique. Thus a simple Atlantic roundhouse without intra-mural features could have been built early in the first millennium BC, supported by the dating of similar sites (*supra*), with the continued use and re-use of such a site into the early first millennium AD. The presence of a secondary internal facing in this roundhouse warns against relying too highly on the recovered architectural features since the site may have been substantially remodelled, especially around the entrance, in succeeding phases. The small-scale excavations were not able to investigate this aspect of the roundhouse development in detail. Taking all this into consideration it is perhaps wise simply to state that St Boniface also illustrates a general three phase sequence; an Atlantic roundhouse with a few external structures developing into a more organised complex and enclosed settlement finally succeeded by a post-roundhouse

phase of cellular construction.

Wells and Souterrains – the underground

A feature often associated with complex Atlantic roundhouses is a deep rock cut cellar or well inside the building. The exact function of these structures is unknown, although some may have performed multiple functions, perhaps both as a well and a cellar. Of the excavated examples very few still contain water, an exception being that at Gurness where a spring rises next to a ledge in the floor accessed by a flight of stairs (Hedges, 1987ii, 11). Many such underground structures had steps of various constructions, and several included further passages and niches. Again, the Gurness example included two small storage chambers and two larger chambers (*ibid.*). At Netlater in Orkney, a passage led underground to a flight of steps and thence to a 'cistern' although this was dry (Ritchie, 1995, 113). Rescue excavations at Warebeth investigated deposits that had accumulated in a well after its original use (Bell and Dickson, 1989, 102-104). There was water at the base of this and access was available down a set of steep steps into a corbelled chamber incorporating vertical slabs for support (*op. cit.*, 109). At Burrian, the well was also accessed by steps and partially supported by a vertical orthostat. At the Howe this underground feature was constructed by re-using an earlier Neolithic tomb chamber (Ballin Smith, 1994). On the mainland, the Crosskirk underground feature had been well sealed by large slabs but when investigated proved to be empty save for a single piece of Bronze Age Urn (Fairhurst, 1984, 59). It is generally assumed that these structures are contemporary with the construction of the complex Atlantic roundhouse to which they belong, although in many cases it is impossible to ascertain stratigraphic relationships with original or secondary material. None has provided firm dating evidence for its construction and original use but clearly some were more than simple cellars or wells. At Gurness, the multiple chambers, one of which was only large enough for a single person to stand, suggested to Ritchie that rituals may have been carried out in this structure (1995). Certainly the re-use of a Neolithic burial chamber at Howe indicates it was not a well and probably incorporated religious overtones whatever its function. The cleanliness of many of these structures, as at Crosskirk and even Warebeth where the midden material recovered is secondary, also suggests some special function with very careful and organised use.

Similar problems exist for underground structures that seem to be structurally related to the wells or cellars, called earth-houses in the north but better known as souterrains. Examples are generally not associated with complex Atlantic roundhouses although some incorporate

detailed architectural similarities to the wells/cellars. Ritchie records some twenty-five on Orkney (supported by the National Monuments Record for Scotland (NMRS)) although more no doubt await discovery (Ritchie, 1995). At Grain for example, a lintelled long, low, narrow and curving passage accessed by steps, leads to a wider and higher partially corbelled chamber with a lintel ceiling supported by orthostats (op. cit., 115). Later excavations at this site recovered parts of two other possible souterrains and the remains of surface settlement. At Rennibister, a carefully constructed partially corbelled and lintelled chamber supported by four orthostats also incorporated five niches in its walls. The chamber was accessed down some steps from a slightly curved passage with a vertical hatch at one end. This type of access is more typical of souterrains. At Rowiegar, a souterrain was constructed in a Neolithic tomb chamber (ibid.) and one at Dale may have been set into an earlier cairn whilst at Yinsby, a cairn lay nearby. Three others have been found associated with human bone, three with possibly later cists and one with a chapel. Only nine probable souterrain sites are recorded on Shetland in the NMRS and although some of those that have been recorded sufficiently sound similar to the Orkney sites, including such features as long curving lintelled passages with access to expanded ends such as at Wadbister, Setser and Ungirsta, few have comparable detailed architecture. There are no reports of vertical slabs supporting roofs and the finds associated with these sites are generally stone artefacts including saddle querns. At Brandisclett, a souterrain incorporates a lintelled roof and vertical slabbing as its lowest course surmounted by horizontal coursing. The feature is very low and one of the orthostats may incorporate a broken saddle quern (NMRS HU35NE5). An 'Eirde House' at Eriboll in Sutherland is probably a souterrain with long curving lintelled passage and an expanded end incorporating partial corbelling to form a vaulted roof. However, no orthostats are recorded as supporting this roof. Jarlshof incorporates souterrains in its Late Bronze Age cellular structures (Hamilton, 1956) and it is possible to surmise, from the stone artefact evidence alone, that the majority of souterrains in Shetland are of a similar early date. However, without any absolute dating of secure contexts it is equally possible that these structures are used over a long period across the first millennium BC. Deep underground wells are not a feature of Shetland complex Atlantic roundhouse sites and even well-preserved sites such as Mousa, Clickhimin and Jarlshof have failed to produce such subterranean features. It is possible that they may lie hidden under secondary walling and paving, as was the case at Crosskirk (Fairhurst, 1984), but the fully-excavated site at Scalloway also failed to discover a cellar or well feature (Sharples, 1998). This lack of subterranean wells or souterrain features at Atlantic roundhouse sites in Shetland reinforces a distinct regional difference indicated by the presence of wheelhouses on Shetland and their

absence in Orkney and the northern mainland.

Promontory Enclosures

Another site type that may be contemporary with the later prehistoric and perhaps Early Historic period, but almost certainly begins earlier, is the promontory enclosure. Several complex Atlantic roundhouse sites are associated with bank and ditch features, often cutting off the promontory or raised area of land that the roundhouse is built on, but also enclosing the landward side of sites next to the sea. In many cases these seem to be at least in contemporary usage with the associated Atlantic roundhouse, for example at Gurness and Midhowe in Orkney and Burland and Houbie in Shetland (Lamb, 1980). In some cases modern excavation has shown that the enclosing bank and ditch were constructed either with the roundhouse or soon after, for example at Scalloway on Shetland (Sharples, 1998) and St Boniface in Orkney (Lowe, 1998). Such sites form a small proportion of a typological group located on promontories of land enclosed on one side only or predominantly by univallate or multivallate banks, with or without ditches. These have generally been called 'promontory forts' or 'cliff castles' (Lamb, 1980; Armit, 1992) but are here given the rather less functionally suggestive term 'promontory enclosure'. The banks encompass a variety of constructional techniques from complex intra-mural architecture in stone-built walls to simple dumps of earth, and the ditches are similarly diverse with wide shallow bases or steep V-shaped profiles. The original overall layout of these sites is often difficult to judge since their major threat is coastal erosion and unless a circuit wall can be traced it is generally impossible to determine the original size of the site. There are still however, a variety of enclosed areas ranging from only a few metres square such as at Castle Strand Geo, Orkney (Lamb, 1980, 68), to larger enclosed areas such as Dun Mhartin, Sutherland (op. cit., 25-26). Lamb has also emphasised the prominence of multivallate sites in this area, although univallate sites are also present and were least explicable in his opinion (op. cit., 68). Multivallation was related to sling warfare since Wheeler's interpretation of Maiden Castle (Wheeler, 1943), and these ideas were carried through to his analysis of promontory enclosures in Northern France (Wheeler and Richardson, 1957). Lamb has noted that in general the ramparts cutting off promontories of land in the north of Scotland are too small and short for this type of defence and suggested that the defenders would simply throw stones at the enemy (Lamb, 1980, 59).

Closer analysis of the forms of enclosure suggests that defence was not a primary concern and this is supported by the layout of many sites. Small-scale investigations at both Scatness

and Ness of Burgi in Shetland have highlighted the presence of a ditch *within* the rampart, conspicuously not a typical defensive feature (Carter et al., 1995). This aspect was not discussed in the excavation report. The recently excavated sections of multivallate ramparts at Broch of Burland, Shetland, has indicated that the series of banks and ditches may not all be contemporary, at least two of the stone revetted outer banks are later than the ditches (op. cit., 466). It is possible that similarly complex sequences exist at other multivallate sites and indicate a more gradual accumulation of features rather than a comprehensive defensive layout. At this, and indeed the majority of promontory sites enclosed by multivallation, the entrance to the site is simple and runs straight through the ramparts and ditches. Only at Brough of Staal, Shetland, is the access offset by the central rampart, requiring movement along the front of two defences. Many sites also incorporate relatively small outer banks and shallow ditches with a single substantial inner wall. Lamb argues that in missile warfare these low defences were too narrow for efficient use of slings. For example, the Broch of Burland was originally described as having a large blockhouse as its internal rampart with two smaller outer dump ramparts (Lamb, 1980, 34). Excavations have proven that all three ramparts were stone revetted dumps of earth and that only subsequent erosion modified their appearance (Carter et al., 1995, 466). It is likely that Iron Age warfare in Atlantic Scotland (and perhaps elsewhere) was not endemic but probably strictly controlled (Mercer, 1985, 98; Sharples, 1998, 207; Carter et al., 1995, 476-477) and the multivallation may therefore be a symbolic expression of power and control. Warfare certainly existed, perhaps restricted to small war-bands, but it is unlikely that the construction of either large roundhouses or promontory enclosures actually performed any useful defensive role. They were much more likely to impress and play a symbolic role in social interaction.

Other coastal promontory sites include a series of similar enclosures, defined by their topographic location and the presence of various often sub-rectilinear buildings of turf or stone (Lamb, 1973; Morris and Emery, 1986). These are invariably situated in "remote, desolate and often quite dreadful places" (Lamb, 1973, 86) on precipitous headlands and rock stacks. Often the promontory is sloping down towards the sea and thus lies below the level of the mainland and their small size and uniformity has prompted comparisons with eremite monasteries elsewhere such as Sceild Mhichíl in Ireland. However, excavations were recently carried out at Gob Eirer in West Lewis on a small stack site that also incorporated the possible foundations of rectilinear stone and turf buildings behind a substantial cross-wall. Radiocarbon dates indicate a possible Late Bronze Age date for the site but the pottery recovered from the buildings suggests that at least some could be Norse

(Burgess et al., 1997; Church and Gilmour, 1999; forthcoming). The location of Gob Eirer is also very similar, lying below the surrounding mainland and therefore indicates that some of these sites may be of a very different period to that suggested by Lamb.

Blockhouses

One of the most dramatic of northern promontory enclosures is the site at Burgi-Geos, located on the north-west coast of Shetland. A promontory surrounded by 10m deep peat in a remote area is enclosed by a series of outer and inner works. The outer works comprise a bank running along the south side of a slightly sunken avenue with a line of boulders marking the other side of the access passage to the interior. These latter stones may be the remains of another revetted bank. The southern bank incorporates a stone *chevaux-de-frise*, the most northerly of its kind and unique in Atlantic Scotland. Across a lower saddle the interior enclosures incorporate a possible blockhouse, or drystone wall with intra-mural features, set to the north of the access passage. A ring wall was visible at this site although, in common with all such features, it was of a significantly lesser construction (Lamb, 1980, 27-29). There can be no doubt that the *chevaux-de-frise* and the enclosing wall and banks at this site provided very little in the way of defence and probably even guided safe access to the inner area.

Blockhouses are a feature currently only well known in the north although at least one possible example is known to the author at Saibost in West Lewis (Chapter 4). The example at Clickhimin, Shetland (Hamilton, 1968), is perhaps least typical of the class including as it does a scarcement and intra-mural stairs. However, it is unknown whether the latter is a secondary addition and others aren't preserved well enough to indicate whether a scarcement was originally incorporated. The presence of intra-mural spaces suggests that all these structures are architecturally related to the Atlantic roundhouses. Some share other details such as the rebated, low and narrow entrances with barholes at Ness of Burgi and Loch of Huxter (Lamb, 1980, 11 and 15), an intra-mural staircase and traces of upper galleries or some form of first floor space as is present in both Clickhimin (Figure 11b) and Nybster in Caithness (op. cit., 13 and 20). All appear to represent the construction of a substantial forework to an internal area, have not eroded from larger and longer walls and are complete entities in themselves. Where a continuing wall or ringwork is present, as at Clickhimin, Burgi-Geo and Loch of Huxter, it is again of relatively insubstantial construction and at the latter, visibly abuts the blockhouse. Modern excavation of a blockhouse on a promontory at Scatness in Shetland, confirmed this general layout and highlighted the possibility of re-use

and thus longevity of such sites mirroring the use and re-use of complex Atlantic roundhouses described in this thesis (Carter et al., 1995).

The excavation at Scatness blockhouse and comparisons with other similar sites suggested to the excavators that the blockhouse was a distinct class of structure, although only four were clearly acceptable as definite examples of the class. At least three were originally single structures in an enclosed area (op. cit., 477), and all were restricted to Shetland. Clickhimin was different from the others but nevertheless shared the intra-mural features and central entrance passage (*supra*), and Scatness as well as Loch of Huxter were considered very similar in size and construction. Scatness and Ness of Burgi both incorporate smaller intra-mural cells accessed from a larger one (op. cit., 475), Clickhimin and Loch of Huxter are considered to have evidence of upper storeys and at Scatness a series of projecting stones is interpreted as steps up to a first floor (ibid.). To this evidence the presence of weight relieving voids above the entrance lintels to the larger intra-mural cell at Scatness can also be added as suggestive of a further significant amount of stone above the ground floor. This evidence also supports the close architectural comparisons with complex Atlantic roundhouses and the re-facing and re-organisation of space at Scatness parallels the secondary developments at complex Atlantic roundhouses and suggests not only architectural but chronological links also. The evidence from this site and the re-analysis of the Clickhimin site suggest that blockhouses were constructed sometime in the mid- to late first millennium BC, at least partially contemporary with complex Atlantic roundhouses and their later re-use. Some promontory enclosures and blockhouses must therefore have formed an integral part of the economic and social landscape.

It seems unlikely in many cases that these sites were permanently occupied because of their extreme locations and exposed environment. Several seem excellently placed to act as centres for trade located beside wide shallow bays and beaches, others have only very difficult access to the sea and may have performed very different functions. A lack of modern excavation on these sites restricts any discussion of function but comparable sites have been excavated elsewhere (Chapters 6, 8 and 9) and could be considered good models for the northern and western promontory enclosures.

Secondary Occupation

In Shetland there has been relatively little modern excavation of large complex Atlantic roundhouse sites (Fojut, 1998). The Scatness project (Dockrill, 1998) is particularly exciting

in its potential to provide a benchmark of understanding to which the earlier excavations at Jarlshof and Clickhimin may be compared. Excavations at Scatness, Shetland, have revealed a shamrock shaped building and a figure-of-eight house revetted into the rubble and detritus of earlier occupation (ibid.), discussed in more detail later. The Atlantic roundhouse itself could survive up to several metres high and has a secondary skin of masonry added to its internal wall face (Figure 12f). There are other buildings on this site too, including a wheelhouse, a circular structure in-filled with midden and other debris, and an associated pierced building (ibid.). Currently the earliest evidence consists of Bronze Age pottery (Dockrill et al., 1996, 105).

The excavations at Scalloway revealed multi-period remains and provided important cultural evidence for the use and re-use of complex Atlantic roundhouses in Shetland (Sharples, 1998). Armit has discussed the structural evidence from both Jarlshof and Clickhimin (1992; 1991) and dated the construction of the Atlantic roundhouses at these sites to before *circa* 200BC on quern replacement evidence. The architecture of the buildings compared to other structures with similar features and radiocarbon dated early contexts would support this conclusion. Both these complex Atlantic roundhouses also incorporate secondary internal wall faces, originally interpreted as wheelhouses (Hamilton, 1956, 73; 1968, 8). However, neither structure has the compelling evidence of carefully constructed multiple radial piers, and at Clickhimin many sequential wall faces have been built within the original complex Atlantic roundhouse. The Jarlshof site was re-occupied by an aisled structure (Hamilton, 1956, 48), very similar to the building being uncovered at Scatness (Dockrill, 1998; Figure 11a), and described by Armit as a wheelhouse and dated to around 200BC on the basis of a mix of saddle and rotary querns (1991). However, this dating is based on an assumption that rotary functionality would swiftly replace saddle querns ignoring the potential for retention of saddle querns for grinding products other than cereals. This does not negate the introduction of the rotary quern technology around *circa* 200BC, but supports the possible continuation of saddle querns alongside rotary querns. Armit's dating of the aisled structure at Jarlshof could therefore be too early and it could date to any period after the introduction of rotary querns. Only detailed analysis of the comparable structure at Scatness will be able to shed some light on these structural sequences, but what is certain is that both the aisled structure and the wheelhouse at Jarlshof are secondary to the complex Atlantic roundhouse.

Secondary roundhouses

Rescue excavations and section recording at East Shore (Carter et al., 1995) indicated that, as

with other Shetland sites there were few if any external structures surrounding the complex Atlantic roundhouse, although a possible stone revetted bank may surround the landward side of the site (op. cit., 449). Under the badly eroded complex Atlantic roundhouse (Figure 13e), early midden deposits were recovered (Phase 2) suggesting a Bronze Age occupation. Unfortunately, the consequences of site use and re-use compounded by erosion had either covered or removed any remains corresponding to the actual construction and use of the original complex Atlantic roundhouse (Phase 3). The only recovered sequence came from a secondary structure (Phase 4) inserted into the complex Atlantic roundhouse and incorporating a re-facing of the original internal wall and at least two excavated radial piers, the larger of which corbelled slightly (op. cit., 455). The remains here are similar to elsewhere, for example Scalloway (*infra*) and Eilean Maleit, North Uist (Chapter 4). The complex Atlantic roundhouse was probably in use for a significant period before the structure was purposefully reduced and a secondary structure with radial partitioning inserted. This may explain why there is so little rubble on the site, which surprised the excavators, until the inferred collapse of the roundhouse during cellular occupation (Phase 7) much later in the first millennium AD (op. cit., 464). Far from the roundhouse standing to its full or nearly full height for centuries after its original use the structure was probably carefully dismantled and only this lower, less imposing structure, with a surrounding midden that eventually practically covered the external walls (op. cit., 463), began to decay in the late first millennium AD.

Excavations at Scalloway (Sharples, 1998) have highlighted the problems of use and re-use of complex Atlantic roundhouses. Sharples has suggested that the early material recovered from the site represents only the final year of occupation of the complex Atlantic roundhouse (op. cit., 205). Radiocarbon dating of the occupation of the original complex Atlantic roundhouse thus indicated a *terminus ante quem* for its construction and occupation of *circa* 1st and 2nd centuries AD. The site was then re-structured including the refacing of internal walling of the complex Atlantic roundhouse incorporating radial piers (Figure 12a and b). The final use of this building provided a *terminus post quem* for the succeeding use of the site utilising smaller cellular structures. The published report suggests the complex Atlantic roundhouse (Phase 2) was constructed in the first centuries BC/AD with no extensive external settlement and a bank and ditch may have enclosed the site to the south only (op. cit., 204). The complex Atlantic roundhouse was then destroyed and much of the material from the roundhouse itself appears to belong to this destruction horizon (op. cit., 205). However, the succeeding occupation (Phase 3) included a radical change in architecture. A

complex of at least seven cellular buildings surrounded the roundhouse, the interior of which was still occupied in a modified form, but the enclosure ditch was filled in and the bank removed. Associated with this marked change in settlement layout was the increased production and use of artefacts including metalworking of bronze, silver and possibly gold and the smelting and smithing of iron. During late Phase 3 another major re-organisation occurs, associated with a change in the perceived economy. Sometime between AD650 and AD700 the external settlement decreases in size and incorporates only two buildings and a poorly-built structure re-using the roundhouse. One of these structures is interpreted as a poorly-preserved figure-of-eight cellular building comparable to those discovered at Birsay (ibid.). The other building retains the earlier multi-celled architecture incorporating four compartments opening off a central space with a hearth. The quantity of material associated with these structures increases dramatically although the metalworking evidence decreases but does not disappear. A very abraded brooch mould possibly of the 8th or 9th century AD was recovered from a midden to the south. The economic change also includes an increase in the importance of pig and the end of Phase 3 is represented by large quantities of animal and fish bones recovered from rubble overlying the complex Atlantic roundhouse. Sharples suggests this represents the use of the site in the Norse period for fish processing.

The stratigraphy at Jarlshof (Figure 11c) suggests that a secondary structure was inserted into the complex Atlantic roundhouse soon after it was dismantled (Hamilton, 1956, 73). Whether this building was a secondary roundhouse with some radial piers or a distinct wheelhouse is not entirely clear, but the stratigraphic relationships between the structures are secure (Fojut, 1998, 21) and include a new facing to the old wall comparable to Clickhimin (Hamilton, 1956, 73; 1968). Scatness also incorporates a secondary roundhouse structure within the Atlantic roundhouse (Dockrill, 1998; Figure 12f) and to its west, a large circular building predates the other secondary activity in the exterior (op. cit., 69). This structure was infilled by midden material with a high fuel ash content, but preserves at least one possible pier structure and a lintelled entrance to the south-east (ibid.; Figure 11a).

The re-use of a complex Atlantic roundhouse with internal wall facings is also recorded at Crosskirk (Figure 19e) where artefactual remains and analysis of radiocarbon dating evidence suggests a date between the 2nd century calBC and 1st century calAD, with no evidence for a break in occupation (Fairhurst, 1984, 64). It is possible that the secondary phase of the Crosskirk site was followed by the construction of smaller cellular structures inside the Atlantic roundhouse sometime within the first three centuries AD, accompanied by

a change in pottery (op. cit., 66). The architectural details of this phase include a possible three-sided hearth with cobbles at two corners and a probable change in entrance orientation. Also associated with this phase are sherds of Samian, a fragment of Roman glass and a nail-headed bronze decorated pin. Outwith the Atlantic roundhouse this period was characterised by a massive re-organisation of the external settlement. A long passage accessed several possible paved platform areas and well-laid paving covered much of the large area south of the now filled ditch and reduced rampart (op. cit., 91). There is therefore a distinct threefold sequence visible here. The primary construction and occupation of the complex Atlantic roundhouse with some subsidiary external structures is followed by re-use incorporating an internal casement wall and a more organised and populated external area between the roundhouse and a possibly earlier rampart and ditch. Finally, a re-organisation of the settlement incorporates the construction of perhaps only a single smaller, less well-built structure with a different layout and large external paved areas accessed by a long well-built paved passage. Other poorly-recorded and unexcavated sites have the suggestion of secondary skins of masonry as at Keiss and Road Broch in Caithness, Carn Liath and Blackies in Sutherland, Levenwick and Burland in Shetland and Oksrtow in Orkney (Young, 1964). Internal burning at the Broch of Ayre is perhaps comparable to the secondary re-use of the complex Atlantic roundhouse at the Howe.

Roundhouse buildings excavated at Skail Site 6 North have been compared to the solid-walled simple Atlantic roundhouses at Howe, Bu, Pierowall Quarry, Quanterness, Tofts Ness and Calf of Eday (Buteux, 1997, 41 and 43). Detailed studies of radiocarbon dates and the individual architectural features in this construction indicate however, that this paired structure may relate to the period between *circa* 1st century BC and 3rd/4th centuries AD. Several comparisons can be made between these buildings and the re-use of complex Atlantic roundhouses, and perhaps also the wheelhouses. The main significant feature is the incorporation of radial piers in the structural layout of the site and the use of an annex, possibly a workshop, clearly functionally different from the main roundhouse (Figure 12c). This pre-occupation with radial division of space is often reflected in internal secondary roundhouse architecture as has been noted at Scalloway (Figure 12a and b), East Shore (Figure 13e), Clickhimin (Figure 11b), Gurness, Midhowe, Jarlshof (Figure 11c) and perhaps also Mousa (Figure 12d). This division of space reaches its apogee in the construction of wheelhouses. The south-east facing entrance is common on complex Atlantic roundhouse sites and their re-occupation and the elongation of this entrance by internal piers is comparable to both these and wheelhouses (*infra*). Buteux argued that Skail may have been

abandoned during the construction and occupation of 'brochs' and their surrounding nucleated settlement (1997, 256). However, if the argument presented in this thesis is accepted that nucleated settlement is invariably secondary to original complex Atlantic roundhouse occupation, then Skail, possibly contemporaneous with secondary settlements, would suggest a further expansion outwith the boundaries of complex Atlantic roundhouse locations during the first two centuries AD.

Pool, Sanday, has been compared to the structures at Skail and incorporates a sequence of settlement revetted into a Neolithic midden (Hunter, 1997; 1990, 179). Initially a paved passage was possibly used as a dwelling associated with a sub-rectangular structure with troughs down one wall. This original building, an "earth-house", may have utilised an earlier Neolithic tomb chamber but is only dated by a single parallelepiped bone die suggested as belonging to the "broch period" (Hunter 1997, 7). A single circular building (Structure 18) dated to the 4th or 5th centuries AD subsequently replaced this phase of activity (ibid.). This was conjoined with a smaller circular annex (Structure 19) interpreted as a workshop during which time Structure 18 was re-organised internally and included a three-sided kerbed hearth (op. cit., 12).

Howmae and Stenabreck have revealed evidence of complex multi-phase construction, poorly understood by the original 19th century excavations (Traill, 1885; Trail, 1890). Little meaningful data can be obtained from these sites because of relatively poor excavation and recording standards although some details might be informative. Stenabreck incorporated paved floors at varying heights with sill-stones and a pivot-stone for a door-post (Traill, 1885, 19). Under the paving was sand and some thin layers of midden material (op. cit., 22). Although the inner walls were well-built, the outer faces were generally rough where examined, much like some wheelhouses in the Western Isles (Chapter 4). Pottery from the site was coarse with no decoration and Traill compared it to material from the Western Isles (op. cit., 23).

Howmae is a particularly complex site with various 'rooms', at least two of which (A and D) incorporated vertical slabbing in their walls. All the rooms are revetted into earlier middens (op. cit., 25) and various chambers began to corbel although none were preserved sufficiently to note whether this was full or partial. Two other rooms (C and F) were partitioned by edge-set stones (op. cit., 25-28), of which two in F had holes drilled in them. A small underground passage or drain feature 1.5m deep and wide at its base led out from an

entrance to one room. This may represent a souterrain-type structure as observed in many wheelhouses and cellular sites elsewhere or alternatively might compare to the small lintelled passage or drain at Galson, Lewis. Again the outer walls at Howmae were rough and unfinished (Trail, 1890, 456). The pottery remains were described as being of “rude character” and limited in quantity (op. cit., 437) compared to the large amounts of bone objects, pumice and hammerstones (op. cit., 456 and 461).

Another site with little published detail, the Howe of Hoxa, was located on a promontory in South Ronaldsay (Petrie, 1873). The site, a possible roundhouse with elongated entrance passage, was described as near another roundhouse and perhaps connected by an “avenue of stones” (op. cit., 361). The presence of lintelled passages and galleries in the walls (ibid.) and the presence of a saddle quern may be indicative of an earlier structure on this site, possibly a complex Atlantic roundhouse. These three sites may represent constructions comparable to Pool and Skaill, with earlier activity at Howe of Hoxa and later re-use on Howmae and Stenabreck.

Wheelhouses

At both Jarlshof and Scatness in Shetland the secondary re-use of a complex Atlantic roundhouse includes the construction of a single wheelhouse at the latter and multiple wheelhouses at the former (Hamilton, 1956; 1968; Dockrill, 1998). These structures are roundhouses, often revetted into earlier material, with a symmetrical arrangement of projecting piers of stone in the interior. These piers expand in size as they rise from the floor and meet the internal wall-face of the roundhouse, and eventually form corbelled cells surrounding a central space. The piers in these Shetland wheelhouses are bonded to the wall from the outset but at sites in the Outer Hebrides (Chapter 4) they are sometimes offset, producing a narrow ‘aisle’ between the wall and pier. These latter are sometimes referred to as ‘aisled roundhouses’ but their piers join the inner wall face higher up and are therefore referred to in this thesis as ‘aisled wheelhouses’.

At Jarlshof the re-use of the site includes at least two wheelhouses outside the complex Atlantic roundhouse, and perhaps the remains of a third within (Hamilton, 1956, 60 and 67; Figure 11c). The external buildings replace an earlier ‘aisled roundhouse’ which was also secondary to the Atlantic roundhouse (op. cit., 48). The roundhouse has probably been reduced to provide the stonework for the construction of these secondary structures. However, the ‘aisled roundhouse’ is not a true wheelhouse since it is distinctly irregular in

shape, but more importantly has a scarcement ledge above the piers, presumably for a floor. This would preclude the construction of the corbelled chambers around the central space and the structure is therefore not comparable to the western 'aisled wheelhouses'. The external sequence then incorporates the construction of a large wheelhouse with a hearth in a paved central area and several sill-stones in the entrances to some of the cells. This structure has subsequently been re-organised, perhaps at the same time as a second smaller wheelhouse was constructed. The building within the Atlantic roundhouse may be either a wheelhouse or a secondary roundhouse like those elsewhere (*supra*) and cannot be directly related to the sequence of occupation outside. The second wheelhouse incorporated a north-west entrance and sill-stones across two of the bays. The pier to the right of the entrance is offset slightly from the wall, perhaps for some door mechanism and paving dominates the central area. The 'wheelhouse' claimed at Clickhimin (Hamilton, 1968), was probably a secondary roundhouse with radial partitions (Figure 11b).

At Scatness the wheelhouse is revetted into material that has accumulated against the complex Atlantic roundhouse that itself incorporates secondary re-facing. An underlying curvilinear structure may incorporate radial piers but is larger and more irregular than a wheelhouse (Dockrill, 1998, 71). The wheelhouse has six radial piers and a south-south-west entrance (Figure 17b). This structure saw considerable re-use including the blocking of at least one cell, paving and a new hearth (*ibid.*). The cell and pier to the right of the entrance are again constructed slightly differently from the rest, the pier being thinner and the cell incorporating at least one orthostat. To the west, an irregularly shaped piers structure with a scarcement is directly comparable to the 'aisled roundhouse' at Jarlshof (*op. cit.*, 70) and adjoins, but is later than, the larger circular structure to its north (*supra*; Figure 11a). The precise date and relationship between this latter roundhouse structure and the complex Atlantic roundhouse is unknown but the 'aisled roundhouses' at both Scatness and Jarlshof differed from the wheelhouses in that they obviously incorporated a first floor supported by the scarcement and the underlying piers.

Wags

An analysis of Curle's excavations and discussions of the 'Wag' at Forse (1941; 1947; 1948) indicates that these wags are secondary structures on a multi-phase site with an obviously long occupation, not all of which were completely understood during the mid-20th century investigations. The central 'circular wag', which was deemed to be the earliest building of its type on the site, is comparable to a ruinous and re-occupied complex Atlantic roundhouse.

It has intra-mural stairs and cells, typical well-built masonry (entirely different from the oblong wags) and a very large, almost triangular, lintel over the entrance similar to those found at Dun Grugaig, Skye, and Culswick, Shetland. The material possibly associated with this early structure is sparse but the pottery is generally finely made and includes pieces with decoration. There are the remains of much re-built associated external buildings, not unlike those seen at complex Atlantic roundhouse sites in Orkney, of a sub-rectangular or linear nature compared to the overlying smaller cellular buildings. It was these later smaller cellular buildings however, that produced the majority of the finds from the site, and these buildings quite obviously overlay the 'oblong wags' which themselves overlay the supposed 'circular wags'. The identification of the latter buildings in the landscape is well documented, as are the 'oblong wags', but little is reported on the nature of the overlying cellular structures. What is immediately obvious is their figure-of-eight shape (Figure 23g and h). Curle argued for at least one of these corbelled buildings to be earlier than the complex Atlantic roundhouse but there is no clear evidence except for the lack of a doorway into the structure. Since only one small area of this building was excavated, and a single part of its wall later sectioned, there is no stratigraphic proof of its age compared to the large circular building. Indeed, these sites have been so successfully occupied over many centuries that it becomes very difficult for even recent excavation to discern different phasing using modern archaeological techniques and methodology (Ballin Smith, 1994, 116); it is likely that many phases, complexities and structures were missed by the workman's shovel.

If this argument is accepted and the site is re-interpreted in the light of modern excavations of similar sites, then the structural sequence, appearance and artefactual assemblage fits well with what we already know. The original building may be reinterpreted as a complex Atlantic roundhouse, located equidistant from similar sites (Curle, 1947, 21; Fojut, 1982) in a typical liminal position in the landscape (Parker Pearson et al., 1996, 60). There was perhaps a growth of external buildings, as seen at many northern sites (with their own complex phasing); the 'ex-wag' structures and underlying material from below the wags recovered by Curle typify this sequence associated with the decorated, finely-made pottery. Several phases of building and re-building preceded the small 'circular wags' or secondary roundhouses, following which the 'oblong wags' were built. These were then slighted and modified and cellular figure-of-eight buildings inserted into the rubble. Underlying these were smaller cellular buildings such as Structure F. The figure-of-eight building, structures C and D, is typical of the 'type' (*infra*), with a central hearth in the larger cell and an

entrance into it comprising door checks and sill-stones. The smaller cell was perhaps used for a specific function; Curle believed it to be a grain store with a paved floor, a drain, perhaps some clay caulking and a 'loading bench'. The pottery recovered from these buildings is typically undecorated and thick, described by Curle as 'cooking wares'. The underlying material is similar but included an impressed decorated piece and a piece with an internal ledge on the rim. Decoration on the later sherds is minimal - only one sherd having impressed decoration similar to pieces found in rubble which seemed to underlie a figure-of-eight structure (op. cit., 31). This is typical of the intermingling of pottery styles across time on a continually occupied and developing site.

Another 'wag' was excavated at Langwell during the Royal Commission survey for the Caithness Inventory Volume (1911, 68, No.250). The roughly rectangular building was partially excavated and found to be revetted into the ground. Three upright slabs on either side held up massive lintels springing from the walls. Few remains were recovered but included a rotary quern, some iron fragments and a saddle quern *in-situ* in the floor. This structure was appended to both a circular structure with an intra-mural recess near the entrance and a large cairn. Neither was excavated and their relationship to the wag is unknown, although there may have been contemporary access between the wag and the circular structure.

At the Howe there was a long oblong building that preceded a figure-of-eight cellular structure and a similar type of structural stratigraphy is plausible at Gurness. Both included vertical slab partitions. The structural sequence at the Howe is comparable to that at Forse but Gurness is impossible to sequence except to suggest that the rectangular structure was later than the removed shamrock structure. It is possible that a similar sequence is recorded at Loch na Beirgh in Lewis where the penultimate Pictish structure as identified and described in this thesis could be a stalled sub-rectangular building with a hearth (Chapter 4). This lay between a shamrock type building and a succeeding figure-of-eight cellular structure. Also in the Outer Hebrides sub-rectangular buildings have been found stratigraphically succeeding wheelhouses as at Allasdale (Figure 16a) and Clettraval in North Uist (Chapter 4). The structure at Clettraval was also stalled and incorporated a possible hearth (Scott, 1948). Rectangular structures outside the complex Atlantic roundhouse at Dun Vulan in South Uist are dated to the 6th to 8th century AD (Parker Pearson et al., 1999, 150).

A circular structure called Tigh na Fiarnain has been reported as having similar architecture

to a wag, with vertical slabs set radially around its periphery. These supported massive covering slabs. The site is located at some 330mOD, on the shores of Loch Eribol, Sutherland, and would appear to indicate the widespread use of such architecture in the northern mainland (Mathieson, 1925). Presumably these are similar to the small circular wags at Forse and may represent the mainland equivalent of wheelhouses and secondary roundhouses. This theory needs more investigation but the current lack of detailed evidence, including absolute dates, makes evaluation difficult.

A site often quoted as a typical Late Iron Age figure-of-eight building (e.g. Hunter, 1990, 193) is the Calf of Eday, Orkney, excavated by Calder (1939). Although this building seems to have many of the details found within the figure-of-eight buildings described in this thesis, such as the hearth, possible box bed nearby and use of vertical slabbing in the wall masonry, the associated assemblage is much poorer. There were no fragments of composite bone combs, indeed very little bonework seems to have survived at all. The pottery is plain like the Late Iron Age Plain Style defined by Lane (1990) yet seems to be of better quality and thinner. In general, there are no carinated bowls in a Late Iron Age assemblage. The actual plan of the site is no longer definitely figure-of-eight if one removes Structure 1 from Structure 2 stratigraphically and thus chronologically. In any case figure-of-eight buildings only rarely contain a hearth in *both* main cells, and the layout of the underlying Structure 1 paving is not defined. The proliferation of chipped stone and the location of the site near an early tomb might suggest that this site is Late Bronze Age or Early Iron Age in date and comparable to sites in similar situations such as the early roundhouses at Howe, Quanterness or Pierowall. Possible support might be gained by dating the overlying burnt mound to the Early to Middle Iron Age (Armit and Braby, 1996). However, it is equally possible that this site is comparable to a multiphase early first millennium AD roundhouse incorporating several specific features such as the subsidiary passage and rectangular kerbed hearth that are characteristic of this period. Hunter has suggested the architecture might be comparable to that at Pool on Sanday (1990, 193). The relatively fine pottery may also support this idea and may be comparable to the material recovered from Skaill Site 6 North.

Cellular Structures

Buckquoy has a sequence of excavated structures that typify the development of first millennium AD cellular structures (Ritchie, 1979). In Phase 1a small roughly 2m diameter cells opened off a central area with a hearth (Figure 21c). This structure was revetted using vertical slabs and drystone coursing, and subsequently replaced by Phase 1b, a more

curvilinear but similar building (Figure 21c). This was also revetted and included vertical slabs to demarcate the cells from the central area that included a three-sided kerbed hearth. No diagnostic material was recovered from either of these structures.

Phase 1 was dismantled to construct the larger Phase 2 figure-of-eight building (House 4) with vertical slabbing and drystone coursing at least partially revetted into the earlier material (Figure 22b). The interior was split into four distinct areas demarcated by low walling and sill-stones. A central three-sided paved hearth was flanked by possible benches against the walls and aligned on the southern entrance. A second entrance led into this main space from the west, a feature paralleled at Bostadh Beach where it led to a non-domestic byre area (Chapter 4). It is possible that this entrance is secondary or led to a similar but poorly-preserved structure. A bone spoon, a bone mount and a bone comb from the walls of house 4 were used to date the underlying buildings of Phase 1 to around the 7th century AD. From the interior of House 4 a zoomorphic bone pin and an ogham-inscribed spindle-whorl were used to date the structure to *circa* the 8th century AD. However, it is clear this is a multiphase building with secondary works clearly represented in the northern corbelled circular cell. Much of the material from this phase of occupation, including coarse plain pottery, hipped shanked pins, a painted pebble and a bone mount with *in-situ* pegs was discovered to the south-west of the figure-of-eight building and probably represents an external midden.

The Phase 1 structures at Buckquoy are comparable to the 'shamrock' at Gurness that was removed and rebuilt during excavation of the external village (Hedges, 1987ii, 65). The shamrock was a lobate structure with cells arranged around a central area and a central three-sided hearth (Figure 21a). An adjoining structure was called the 'annex' and re-used some masonry from earlier periods. The shamrock was constructed using mainly vertical slabbing and drystone coursing revetted into earlier material. The surrounding cells were probably corbelled and both structures produced multiple floor levels indicative of multi-phase activity. These structures are also poorly dated, placed into the 7th to 8th centuries AD on the basis of artefacts in the vicinity, including a Class 1 symbol stone and an ogham-inscribed knife handle (Hedges, 1987ii, 184). A possible hand-pin mould fragment was recovered from the latest floor of the annex and dated to the same period (Close-Brooks, 1987, 303-304).

A similar shamrock shaped building is currently undated within the complex Atlantic

roundhouse at Scatness (Dockrill, 1998), but is certainly secondary to re-use of that structure (Figure 12f). Excavations at Scalloway revealed a possible shamrock type building (House 1) outside the complex Atlantic roundhouse dated by radiocarbon to between the 5th and 10th centuries AD (Sharples, 1998, Figure 46). This building lay below a slightly more rectilinear version with a three-sided hearth (House 8) and a probable figure-of-eight structure (House 9) compared to the Birsay buildings (op. cit., 205). There is however, no stratigraphic link between these two later buildings and they need not be contemporary. A fragment of penannular brooch was recovered from deposits preceding House 9 that incorporate some metalworking debris that probably originated from the earlier phase (op. cit., 73). These later buildings date to the 8th century AD, providing a *terminus ante quem* for the underlying structures. Sunken “passage houses” were revetted into the sand and midden deposits to the east of the complex Atlantic roundhouse at Jarlshof and were one of the final building phases on the site (Hamilton, 1956, 85-88; Fojut, 1998, 21). These buildings incorporated two circular structures with vertical slabbing joined by passages with rebates and sills for wooden doors. The associated pottery was plain, upright wares (op. cit., 90). A distinctly shamrock-shaped structure, with single and triple door-sills and vertical slab construction, was also revetted into material to the north-west of the second wheelhouse that seems to re-use the latter, perhaps like the annex at Gurness (Figure 11c). The material from the latest period at Clickhimin between AD120 and the 8th-9th centuries AD (Hamilton, 1968, 8) produced plain vessels in its later phases (op. cit., 159) associated with a dumb-bell glass bead with yellow stripes (op. cit., 143).

During the 3rd or 4th centuries calAD, following the dating argument presented earlier in this chapter, the complex Atlantic roundhouse at the Howe was used as a dump and subsequently an iron-working shed was built into the rubble. The focus of settlement moved outwith the complex Atlantic roundhouse to a nucleus of domestic settlement in the east with a cluster of associated yards described as a farmstead. This phase of building is certainly cellular in conception being a complex of domestic areas and yards. Focus then shifts to an apsidal ‘stalled’ building in the west that was interpreted as a domestic building. This building has parallels with the oblong wags of Caithness just described and, although Curle interpreted the Forse building as a byre of some type, it should be noted this was based on a lack of evidence rather than positive proof of non-domestic use. Indeed, a large kerbed hearth found in the corner of that building was dismissed as a protective device to scare wild animals from the area. The Howe building is ascribed a 5th to 6th century AD date on the basis of a design which “indicates suitable accommodation” during that period in Orkney (Ballin Smith,

1994). It is not made clear exactly what this last statement means. The focus of settlement seems then to have moved back to the modified building in the east. This settlement grew and then contracted and gradually moved back to the west side of the site where a figure-of-eight domestic building with ancillary cells was constructed over the stalled building. This was repeatedly modified until a gradual contraction of available useable space produced a final move to the north-east before the excavated area was abandoned (op. cit., 100).

The figure-of-eight building described by the excavator (Building U) is different from other buildings discussed in this thesis (Figure 23d and e). There is no well-built three-sided hearth at any point during the development of this site, neither are there any box-like aumbries, nor any doorway into the second cell. It consists of two circular/oval areas bonded together to produce a building more like an oval with a slightly constricted centre. A similar building was discovered at Red Craig, Orkney (Figure 23c), and this is discussed before returning to the Howe evidence.

Red Craig was discovered and excavated during the Bay of Birsay Project and is a mere 90-100m from the Buckquoy site (Morris, 1996a; 1989). The building had a similar figure-of-eight shape with two rooms created by constricting the central part of the walls. The entrance lay in the south wall of the western room and consisted of a paved threshold and a small area of paving immediately inside. Again this building had no formal kerbed hearth until a later phase associated with some rebuilding. Instead there were two fire-pits in the eastern room associated with a stone lined gully. Against the eastern wall of this latter room was added an oven (op. cit., 44). The late phases of collapse and lack of any internal roof supports led the excavators to believe that this structure was corbelled. There is possible evidence to the east for an *annulus*, described more fully in the Irish context later. This may alternatively be the poorly preserved remains of an external wall higher than the internal basal courses, a technique exemplified at Bostadh, Lewis (Chapter 4). The site was at least partially revetted into subsoil and lined by well-built horizontal coursing. A carbonised seed produced a radiocarbon date of calAD600-calAD1000 (GU-1958, 1250±110bp) for the use of the fire-pits and thus the primary phase.

This structure was modified several times and further structural changes included the construction of a solid stone partition between the two rooms with a narrow passage allowing access. This seems to have brought the structure more in line with other buildings discussed in this thesis, where access between the main cell and the subsidiary cell was

through a narrow doorway or short passage. It may be in this context that the excavator compares the site to the double *clochán* at Reask, County Kerry (op. cit., 45) described in more detail later. The lack of any diagnostically Pictish material is also notable; for example, composite combs, bone dice *etc.* The only artefact with parallels to Buckquoy was a stone gaming-board from a late phase, dated by radiocarbon to calAD610-calAD1010 (GU-1959, 1240±110bp), with the phase of disuse dated to calAD800-calAD1160 (GU-1230, 1060±60bp) (op. cit., 47).

Red Craig also produced a truncated vertical-slab-built and revetted structure comparable to the subsidiary 'head' cell at Buckquoy. Unfortunately, the main cell was completely eroded but the access between the two rooms was preserved and consisted of three 'socket' holes that may have supported a single face of vertical slabbing (op. cit., 46). It is possible that they were originally used to support a wooden partition.

There is also a more plausible 'figure-of-eight' building incorporated in the multiple phasing of the later period at the Howe (Building East with cell G). This building has the same 'jelly baby' shape as the Udal (Chapter 4) and Buckquoy buildings and incorporates a segmented main space with three-sided hearth features and possible spatial demarcation. The smaller cell off the main area was paved (stage 6; Figure 22c) and subsequently slighted and rebuilt (stage 7; Figure 22d) similar to both Loch na Beirgh (Chapter 4) and Buckquoy. There are also a series of attached cellular spaces, accessible from the main area of this new 'figure-of-eight', which resemble a slightly skewed lobate 'shamrock' type building with several cells opening off a central space dominated by a paved three-sided hearth. A paved 'annex' type structure to the east then leads off this over a vertically-set sill-slab. Although more complex than the Beirgh example (Chapter 4), this is analogous to the Gurness shamrock and annex. The main problem with this interpretation is the association of a possible figure-of-eight building with a more polycellular 'shamrock' building, an unlikely combination given the relative chronologies of all other such buildings so far excavated.

The plan of this building also incorporates several architectural details not normally associated with figure-of-eight structures such as a pillar and possible wall placed centrally in the main area, and the hearth placed very off-centre to the west. This may mean that the shape is simply fortuitous, or perhaps foreshadows the impending figure-of-eight in the west of the site. There is no discussion of the relative chronologies of specific architectural elements at the Howe and it could be that the loose 'jelly-baby' figure-of-eight (Building

East with cell G) is added to the possible shamrock at a later date. It is certainly still the case that these buildings pre-date (with intervening structures) the final Red Craig type figure-of-eight as defined by the excavator. Such fluidity in the construction of cellular buildings, and presumably the underlying social strategy producing them, should warn against too tight an architectural definition which may constrain the analysis of these structures in the same way as architectural typology straight-jacketed complex Atlantic roundhouse studies. An unstratified dumb-bell shaped green glass bead was excavated from Late Phase 8 deposits (Henderson, 1994, 235) and could date between the 2nd century BC and 8th century AD on the evidence from Kiltierney and Dun Ailinne in Ireland (Chapter 6) and Close ny Collagh, Isle of Man (Chapter 7). Others have been recovered from Leckie complex Atlantic roundhouse in southern Scotland, Lagore, Ballinderry 2, Deer Park Farms in Ireland (op. cit., 236) and other sites.

Directly across the water and visible from Buckquoy is the Brough of Birsay site, best known for its extensive Norse occupation. Its earliest phases preserve partial remains of what seem to be at least one large figure-of-eight building on Site 7 (Structure 19; Figure 22f). This building is represented by earth cut gullies that may mark the remains of either organic screens or removed vertical slabbing (Hunter, 1986, 32). It is also possible that this building utilised internal posts to support the roof but unfortunately the deposits were badly truncated by later settlement (op. cit., 30). Fragmentary remains of other curvilinear walls and hearths were also uncovered but the most important discoveries were the artefacts. Pottery, clay moulds including those of zoomorphic brooches, crucibles, bronze- and bone-work were recovered (Curle, 1982). Other finds included an engraved lead disc and these seem to indicate the site was an important production centre for decorative metalwork during the final centuries AD. Radiocarbon dating for Site 7 indicates occupation sometime between the late 7th to early 11th centuries calAD (HAR-2755, 1150±80bp; HAR-2742, 1150±70bp; HAR-2743, 1140±70bp). A single slightly earlier date was also recovered (HAR-2751, 1350±60bp). All of the pottery was coarse ware recorded as crude 'cooking ware' (Hunter, 1986, 37). On Site 9 similar curvilinear buildings (Structures 13 and 14; Figure 23a) were radiocarbon dated to between calAD640 and calAD980 (GU-1599, 1280±60bp; GU-1598, 1250±90bp; GU-1597, 1195±60bp) (op. cit., 54-60). Metalworking at Site 8 was associated with a vertical slab revetted structure considered contemporary with secondary metalworking at Site 7 (op. cit., 46-54).

Further work by the Birsay Bay project (Morris, 1989; 1996b), has highlighted the continuity

of archaeological activity between Birsay village and the Brough. A similar density of archaeological sites to the south of the village has prompted the view that this was an area of Pictish activity comparable in scale to the Viking and late Norse periods. These include the post-complex Atlantic roundhouse phases at Oxtro, Saevar Howe and more monuments recently discovered by the survey project, including a possible Atlantic roundhouse structure at Beachview and several occupation mounds (Morris, 1996b, 257-259).

Plans of the Broch of Burrian suggest a revetted figure-of-eight building inserted into earlier material (Traill, 1890; MacGregor, 1974). This structure may have been associated with composite bone combs, hipped and swollen-shanked pins and decorative pieces such as a double spiral decorated phalange and an ogham-inscribed carved cross-slab, perhaps datable to the 5th to 8th century AD. A similar revetted building was constructed against the outer wall of the complex Atlantic roundhouse at the Broch of Ayre (Graeme, 1913). Again a mixed assemblage may incorporate later first millennium AD material contemporary with this structure.

By the end of the 5th century AD at Pool the entire area of exposed Neolithic mound material has been carefully covered by well-laid paving associated with a large sub-rectangular structure, possibly a courtyard (Hunter, 1997, 14; 1990, 185). Settlement has expanded south from the earlier Structures 18 and 19 with cellular buildings linked by passages and incorporating multiple phases of use and re-use, building and re-building. These structures include the use of partial corbelling (Hunter, 1990, 184) and the paved area incorporated a stone with Pictish symbols and an orthostat with an ogham inscription. The deposition of the symbol stone with the large-scale paving of the mound are seen as significant acts requiring careful consideration and presumably incorporating social implications (op. cit., 187).

During the 7th and 8th centuries AD the flagged area gradually fills with midden material and the cellular structures deteriorate (op. cit., 189; Hunter, 1997, 14). Dog coprolites suggest the area was an open pit, and finally the courtyard and cellular structures are filled in during the late 8th or 9th centuries AD, possibly as Viking consolidation for the construction of a sub-rectangular building (Hunter, 1990, 189). The earlier circular Structure 18 continues in use throughout the life of the site although by the end it had a new entrance with steps into the interior (op. cit., 190).

In Caithness the excavation of the complex Atlantic roundhouse at Skitten, Kilmster, seems

to have produced evidence similar to that from Crosskirk and Gurness (Calder, 1948). Two exterior buildings, utilising some vertical slabbing in their construction, were investigated with the main complex Atlantic roundhouse. The latter produced indications of secondary re-use with multiple phases represented by a deep layer of peat ash, a pit located partially under one wall, a central wall in the interior, and several post-holes, drains, tanks, door-sills and post sockets at various levels. The interior seems to have incorporated radial partitions of vertical slabbing and the same technique was noted in the two sub-rectangular outer buildings. Very large vertical slabbing was also used at the base of the complex Atlantic roundhouse wall itself and may indicate an early date for the site on comparison with similar architecture at Crosskirk (Fairhurst, 1984, 59) or, less likely, possible secondary rebuilding. The material recovered from the site is a mixed assemblage entirely without provenance and again all that can be gleaned is the presence of several different pottery styles which, if compared with Loch na Beirgh complex Atlantic roundhouse, are indicative of a very long period of use.

Animal bone deposits mixed with large amounts of rubble including broken quern-stones within the fill of Feature 13 on Site 6 North at Skaill were also interpreted as structured deposition within a small building used for rituals (Buteux, 1997, 48). A light timber and skin roof was inferred from the relatively insubstantial walling (*ibid.*). However, analysis of Plate 6.8 (*op. cit.*) suggests that the collapse within this structure is comparable to that discovered at Loch na Beirgh, Lewis (Chapter 4), with larger stones oversailing smaller ones forming the remains of a corbelled roof. The building is a small 2.1m diameter circular structure with a south-eastern entrance located at the eastern edge of the excavated area. The walls utilise vertical slabbing surmounted by horizontal drystone coursing revetted into earlier material (*op. cit.*, 48). Two larger slabs with a low sill-stone suggest a relatively elaborate slightly elongated entrance. A vertical slab opposite the entrance has a ground-out depression in its centre and is suggested to be a re-used pivot stone or quern-stone (*ibid.*) although it could also be a re-used cup-marked stone. This suggests a focal point opposite the entrance much like those from other cellular buildings in the north and west (Chapter 4), and the architecture of the structure would support this interpretation. The mix of material within the building could indeed reflect structured deposition but is more likely to be midden material used as packing behind the corbelling for stability and warmth. This building could even represent the remains of a figure-of-eight structure, the rest of which was destroyed or poorly preserved and not recovered during excavation. The careful demolition of similar structures and preservation of single cells is paralleled at Ceann nan Clachan, North Uist

(Armit and Braby, 1996) and Cladh Hallan House 640, South Uist (Marshall et al., 1999).

This possible cellular structure is associated with two rectilinear structures and curvilinear walling on a large area of paving (Level 2) that sealed the earlier roundhouse and annex (*supra*). This phase has several radiocarbon dates suggesting an early 5th century calAD to 9th century calAD date, but unfortunately these are mixed samples with various species and types of charred material (Birm-762, 1350±100bp; Birm-763, 1420±100bp; Birm-765, 1360±100bp). These dates should therefore be treated with caution, although they may be supported by a Fowler Type E, 4th to 5th century AD, copper penannular brooch found below the paving (Buteux, 1997, 45).

Notwithstanding the poor dating evidence and difficulties of interpreting this site second-hand (op. cit., 38-39), it is evident that there was a substantial re-organisation of this settlement sometime between AD400 and AD600 (op. cit., 52). This phase of settlement included large areas of paving and the proliferation of revetted structures, three-sided hearths and a radically different architectural tradition (ibid.). The dating of this change is comparable to architectural developments at the Howe, Pool and Loch na Beirgh (Chapter 4) and suggests a fundamental re-adjustment of society at this time in Atlantic Scotland.

Discussion

This chapter has proposed a development sequence of settlement for the first millennia BC and AD. Analysis of the available chronological and structural evidence indicates the probable evolution of complex Atlantic roundhouses from a local simple type. These multi-storey monumental buildings were subject to major re-organisation and re-use including their demolition to single storey structures and the contemporaneous construction of wheelhouses or external, planned villages. Sometime around the 4th century AD these settlements are again subject to dramatic architectural changes and small cellular structures are built in the ruins of earlier settlement. These develop into at least two recognisable types, the earlier 'shamrock' and the later 'figure-of-eight'. Each dramatic change also incorporates a major re-organisation in the use of space and the type and size of structure built. They may therefore imply a certain fissioning of the occupying social units. Many wheelhouses and roundhouses such as Skail are located in new locations and later cellular structures are also built on virgin sites as at Red Craig and Buckquoy. These sequences of development are recorded on all modern excavations and can be inferred from earlier reports.

The social implications implied by these architectural upheavals include possible fissioning of the extended family settlements and presumably changes in land ownership. However, various social groups appear to have reacted differently to the changes, presumably adopting the settlement patterns most applicable to the local social and political situation. For example, post-complex Atlantic roundhouse settlement in the Shetland Isles and Outer Hebrides are characterised by the proliferation of wheelhouses as well as secondary roundhouses inserted into complex Atlantic roundhouses. Orkney and the Northern mainland of Caithness and Sutherland appear to be unique in the construction of well-planned 'villages' surrounding the complex Atlantic roundhouses, themselves undergoing modification and sometimes the insertion of secondary roundhouses.

Why is it necessary to build secondary roundhouses within the original structures? In almost all cases the original internal facing of the roundhouse is structurally sound and seems to have been well kept. There is no overriding engineering reason for a revetment of this sort. It might be argued that the secondary face produces a new 'scarcement' within a lowered tower structure; however, the evidence at many sites including Gurness, Loch na Beirgh (Chapter 4), the Howe and Dun Mor Vault (Chapter 5) indicates that the original scarcement is perfectly adequate and undamaged. Indeed, at both Gurness and Loch na Beirgh this feature is perfectly placed to be utilised in the secondary reconstruction but is purposefully avoided. It may also be argued that the second skin of masonry, being a revetment, is an easy way to construct a new building in deep piles of original deposits. However, this is never the case; the wall fills of these revetments are complex deposits which have invariably been purposefully placed behind the stone face. Further, the sheer depth of deposit necessary before such a structure is even partially revetted into it must be unlikely considering the abundant evidence for regular 'cleaning' of sites in the Iron Age (Sharples, 1998; Armit, forthcoming). Finally, such an argument cannot be upheld for sites such as Clickhimin where the quantity and complexity of facing and re-facing episodes is bewildering and impossible to disentangle from visual inspection alone.

This concept of re-facing the interior of Iron Age drystone sites is not limited to Atlantic Scotland. In Ireland the *cashels* and *cahairs* of Northern and Western areas often display several internal faces, such as at the Grianan and Staigue (Chapter 6). How much of this might be antiquarian reconstruction in the absence of excavated evidence is unknown at many sites but several suggest an Iron Age date for the feature. Excavations at Dún Aonghasa for example, have shown that the multiple re-facings of the original central

drystone cashel were completed in the Iron Age. The exact dating of the re-facings is difficult but presumably should predate the later first millennium AD material found in the interior of the site, around the walls (Chapter 6). Again, there was no over-riding structural or engineering reason for the re-facing of the site (Claire Cotter, pers. comm.).

The re-facing of these sites across the Atlantic seaboard must have been instigated almost entirely for socio-political reasons, possibly with ritual overtones. At Scottish sites, there is arguably evidence that this re-facing is associated with an unprecedented sea-change in settlement layout, distribution and construction. There is also an apparently abrupt change in the portrayal of monumental symbolism; the majority of sites become very much less outwardly monumental during this period, although some grandeur is retained nevertheless. For example, although Gurness is lowered and cloaked in an external village, the massive ditch and ramparts are still visible, indeed the 'curtain wall' within the ditch necessary to support the external structures actually heightens their visually impressive nature. The long access path through the ramparts, past the outer 'gate-house', between the village buildings and finally through the new porch added to the lowered central roundhouse surely had a symbolism all its own. The power and its method of display may have changed but was still very apparent. Similarly, wheelhouses are in no way externally monumental but the towering interiors and technically superb vaulted architecture indicate an underlying strength and perhaps social position.

The internal secondary roundhouses at a few sites may have incorporated much-reduced upper storeys, certainly in some new staircases were built in the interior. However, the architecture used inside these buildings, often large vertical stone slabs or carefully built drystone walls, niches and corbelling, would probably not have supported an entire first floor. At Gurness, and perhaps the Howe too, it is possible that new cell-like structures were built into the walls of the main Atlantic roundhouse, or perhaps a partial floor (a mezzanine) may have been built. Again none of the architectural changes *required* the construction of a second skin of walling; indeed some sites chose to do without such a construction, as at the Howe.

However, several sites do display re-facing of the interior of the central roundhouse structure, perhaps as a response to social changes being wrought at the time. It is likely that this carried with it a symbolism, perhaps the conscious divorcing of the new building from the previous. Yet the wish to live on a site which had been established for generations, and

presumably involved an entire background of family history, stories, gossip and folklore as well as a powerful symbolic link to the local landscape, runs contrary to these ideas. It is even possible that the very same people who lived in the previous tall Atlantic roundhouse, perhaps had lived there their entire lives as their parents and grandparents had done before them, carried out the reconstruction. The gesture of re-facing may not be seen as a powerful detachment from the previous layout; at Clickhimin many re-facings seem to have been instituted, presumably not all of them reinforcing some reduction of the tower or rearrangement of the entire socio-political power structure. Yet the symbolism is there, and it must have meant something to those who chose to undertake the renovations. Whatever the precise social meanings, the re-facing of sites is obviously an important development in settlement across the Atlantic façade. It is suggested here that these structural changes may reflect the introduction of a form of partible inheritance whereby the heirs divide ownership of possessions and land after the death of a family head. This model suggests that some sites may continue in use with the eldest or most powerful heir retaining the original site and perhaps its associated obligations. It may even be that in certain circumstances no heirs exist and the site is either abandoned or transferred to a different lineage. Such large structures as complex Atlantic roundhouses would incorporate many obligations of clientship in its construction and upkeep and are presumably associated with ownership or control over certain lands. The fissioning of the resources required to honour the clientship obligations and the construction of several new buildings, some needing specialised masonry skills, would obviously incorporate a reduction in production potential and a re-ordering of obligations. This would be a period of social tension, perhaps negotiated by the inauguration rituals suggested for some sites, or the ritualised reduction of buildings and construction of internal secondary roundhouses. These lower structures use less timber and also reflect a change in access to these labour intensive resources.

This does not imply that all status previously accrued by the construction and upkeep of a large monumental and outwardly visible building was also divided equally between the various heirs. Indeed, it is probable that land and wealth were not equally redistributed, and thus social obligations and hereditary power negotiation would be maintained resulting in a complex framework of social contacts. The multiplicity of settlements at this time, and the need to continue control over the foundations of wealth and status, may also have introduced the increased necessity for face-to-face contact with internal space becoming the arena for more and more political and bureaucratic communication and decision making. Whereas previous complex Atlantic roundhouses required the visitor to pass through what was

effectively a basement prior to accessing the domestic quarters, the new buildings were more immediate and perhaps welcoming. Access patterns were re-organised as these structures deteriorated but the fundamental concepts were retained.

The construction and layout of these secondary buildings are closely related to the earlier complex Atlantic roundhouses. The internal areas are dominated by radial divisions and compartments that are also the most likely layout for the original interiors, albeit utilising more organic materials. This possible difference in the use of organics in construction may also highlight changes in access to this precious material in the open environment of Atlantic Scotland. In fact the demise in use of organic material in internal furnishings would have had serious effects on the way structures were utilised and the taphonomy of material recovered in the archaeological record. For example, if one accepts that both Loch na Beirgh and Dun Vulcan once had wooden flooring in their intra-mural galleries at first floor level at least (Chapter 4), then the accumulation of material in these areas must be carefully analysed. A wooden floor is much easier to keep clean than an uneven stone lintelled or natural earthen or sand floor. It is possible that material representative of the initial occupation of the original complex Atlantic roundhouse is unlikely to accumulate to any great depth in these areas unless it was left on a wooden floor that subsequently degraded. However, the re-use of these sites included access to intra-mural galleries and the lowered wall-head, and lacked the conspicuous use of organic materials. This would raise the likelihood of mixing of any original material that may have been left *in-situ* and the secondary deposits would outweigh any such material. The latter would be more likely to accumulate given the postulated lack of wooden flooring in secondary occupation. Only in exceptional circumstances would such areas of re-used complex Atlantic roundhouse sites produce material contemporary with the original use; for example, the ground floor levels at Loch na Beirgh, where rising loch levels have meant that deposits are more likely to be stratified rather than truncated or disturbed (Chapter 4).

Access from the secondary roundhouse to specific re-used intra-mural galleries, or the layout of corbelled cells within a wheelhouse, are closely comparable to the architecture and use of space reflected in intra-mural cells and galleries in complex Atlantic roundhouses. Both structures also retained long entrances (secondary roundhouses tend to re-use the original entrance), often keeping the same orientation and incorporating a 'guard cell' off the entrance passage. Internal staircases were built in secondary roundhouses to allow access to the wall-head or reduced first floors while the original intra-mural staircases were blocked or

severely remodelled. Presumably this too reflects an important change in the use and layout of the building. However the most important result of this secondary activity is the reduction of the tower proportions to a lower living area with little or no access to multiple upper floors.

The dismantling of complex Atlantic roundhouses and the construction of wheelhouses and secondary buildings cannot be dated with any great precision using current evidence. A chronological span of perhaps three centuries between *circa* 100BC and *circa* AD300 is indicated by radiocarbon dating and *terminus ante quem* provided by the subsequent construction of small cellular buildings. Unfortunately the imprecision of the calibration curve and a lack of any detailed study of possible indigenous typological material during this period in the context of more detailed chronological and stratigraphic sequences restricts greater accuracy. Of course, the change could have been a gradual one, with individual localities developing and incorporating the new architectural style as and when local social, economic and political conditions necessitated. Four centuries is still a relatively short period of time considering the previous concept of single monumental roundhouse structures as defining position in the political, social and landscape environments lasted from *circa* 800calBC to 100calBC, perhaps even calAD100, or seven to nine centuries. However, the gradual progression suggested for this episode of settlement development comes to an abrupt end about calAD300 with the rapid and dramatic change in architecture that arrived in the 4th to 5th centuries calAD.

In Orkney and the northern mainland the dismantling of complex Atlantic roundhouses and construction of sites like Skaill is accompanied by the growth of external villages within the enclosed sites. This suggests a subtly different form of social change from that in Shetland, with fewer new settlements and a concentration of population, and presumably power, at significant locations in the landscape. This continued connection with the past is also reflected earlier in the construction of numerous Atlantic roundhouses in the same location over hundreds of years and the re-use of ancient Neolithic and Bronze Age cairns as sites. This continued social cohesion might account for the success in Orkney and the northern mainland in brokering power and sustaining wealth that led to the development of potential power centres such as at the Brough of Birsay (Morris, 1996a, 37). These may in turn have attracted the attention of the Vikings and Norse who used Orkney as a centre for the Jarldom (op. cit., 39). The structures discovered at Birsay are dominated by the figure-of-eight architectural tradition that is visible across Atlantic Scotland and further afield at this time

(Gilmour and Cook, 1998; Gilmour, forthcoming) and contrast with the buildings used as power centres in Argyll and elsewhere (Chapters 5 and 6).

Cellular buildings are radically different from the preceding roundhouse type settlements and even nucleated villages. They incorporate a more curvilinear architecture with separate, discrete cells often divided from others by narrow doorways and are mostly revetted into earlier deposits. This type of semi-subterranean building style often uses only single faces of vertical slab masonry, very much more ephemeral than the preceding substantial roundhouse construction. The size of various units of buildings is also dramatically affected by this change, with substantial reductions in floor area and internal height. Corbelling or partial corbelling, is often suggested by the surviving remains and patterns of collapse, suggesting some continuation of masonry skills.

Comparable 4th-5th century AD dates for this re-organisation of settlement have been recovered from Skail, Howe, St Boniface and Pool and can be inferred for other sites displaying cellular architecture. Further comparisons are available from the Western Isles (Chapter 4) and suggest this is the manifestation of an important social change affecting much of Atlantic Scotland. These cellular buildings continue and develop over several centuries, incorporating at least two distinctive structural arrangements. The 'shamrock' is visible at Gurness, Buckquoy and Scatness and variants may be inferred for other less well-preserved sites such as Scalloway. The 'figure-of-eight' may itself incorporate two different shapes, a dumb-bell type typified at Red Craig and the Howe, and perhaps a more anthropomorphic shape visible at Buckquoy and Brough of Birsay and inferred on other sites. The relationship between these figure-of-eight structures is unknown although the Red Craig site produced less diagnostic Early Historic material than the assemblages usually recovered from the more anthropomorphic cellular buildings. Figure-of-eight structures are also paralleled at sites in the rest of Atlantic Scotland (Chapters 4 and 5) and further afield (e.g. Chapter 6) and their contemporary occurrence towards the end of the first millennium AD suggests a significant social and cultural contact across the Western seaways at this time.

Chapter 4

Outer Hebrides

The Iron Age of the Western Isles of Scotland has long been characterised by several well-known monument types. The fine preservation of sites such as brochs and duns (both simple and galleried), now known as Atlantic roundhouses, and wheelhouses has led to their dominance in the archaeological record. Over the last ten years however, several other monument types have been recognised in the Iron Age building repertoire. For example, cellular structures are seen as the non-monumental settlement that succeeded the more monumental Atlantic roundhouses and wheelhouses (Armit, 1990a; 1992). Yet the nature of settlement patterns during the Iron Age has been difficult to elucidate. What follows is an interpretation of the mounting evidence from the Western Isles for a sequence of Iron Age settlement; recent excavations in Lewis, the Uists and Barra have provided detailed evidence for the chronology, structure and possible functions of Iron Age buildings throughout the island chain.

The studies made by Armit into the 'broch and dun complex' of the Outer Hebrides have produced a sound framework for this analysis (Armit, 1988; 1989; 1991; 1992; 1996; 1997a). The recognition that a series of large circular thick walled buildings, with or without complex architectural details such as intra-mural spaces, could be subsumed under a general heading of 'Atlantic roundhouses' has permitted a much more detailed and comprehensive analysis of Iron Age settlement than was ever possible before. There is beginning to form a settlement pattern for the area incorporating structures such as wheelhouses, souterrains (and other linear buildings), cellular buildings and promontory enclosures with similar architecture (Armit, 1992, 128). However, others working in the Outer Hebrides have sought to challenge the fundamental concept of an Atlantic roundhouse on various grounds (e.g. MacKie, 1995; Parker Pearson et al., 1996; Sharples and Parker Pearson, 1997). Armit (1997b) has contested these arguments and the work produced in this thesis is seen as a logical development from his basic model of Western Isles archaeology.

Early Iron Age non-monumental structures

Under the Atlantic roundhouse at Dun Bharabhat (*infra*) hearth material was dated to between the 9th and 6th centuries calBC (GU-2436, 2550±50bp). Unfortunately, there are no building remains associated with this date but the deposits run under the inner wall of the later roundhouse suggesting a slightly larger internal area at least. Several other excavations have recovered early material generally associated with relatively small revetted structures that may be analogous to the postulated structure at Bharabhat.

Radiocarbon dates for the unpublished sites at Baleshare and Hornish Point (Armit, 1991, 211-212; Barber et al., 1989) calibrate to the mid-first millennium calBC but unfortunately a lack of full publication means their contextual information is difficult to assess and the use of sea-shell makes their calibration and interpretation problematic. The structure at Hornish Point is a small irregular building with radial partitions revetted into a 1500m² area of midden and other structures on the north coast of South Uist. A series of four pits was cut into earlier deposits and overlain by occupation material and in one case a radial pier of the structure. Within these pits were the dismembered remains of an adolescent male accompanied in three of the pits by animal remains (Barber et al., 1989, 774-775). The radiocarbon dates came from material above and below the pits.

At Eilean Olabhat on North Uist, recent radiocarbon dates from organic residues on pottery have placed the site between the 5th and 3rd centuries calBC (Ian Armit, pers. comm.). The site's early phases comprise an oval building with later piers lining the south-eastern entrance and leading to a central triangular area of paving. This latter seems to split the interior space into three unpaved areas that may be further divided by cobbling to the north-east and a collapsed stone pier to the south. In the earlier phase it is possible that wooden partitions performed the same function.

A mid-first millennium BC date has been obtained for a similar oval structure at Coile a'Ghasgain on Skye (Armit, 1996, 104). The entrance to this structure has also been lengthened, albeit by an increase in wall width rather than internal piers, and faces south-east. Unfortunately, the single radiocarbon date has a very wide variation (B-66137, 2370±190bp) calibrating at two sigma across almost the entire first millennium BC. The 5.2m diameter is comparable to the 5m by 4m structure at Eilean Olabhat and both may have utilised wooden posts to support an organic roof. Although Eilean Olabhat has no central hearth in its second and best-preserved phase, its earlier phase was comparable in layout and

incorporated an arched or 'horseshoe-shaped' hearth; the hearth at Coile a'Ghasgain is also arched in shape.

Armit and Braby have recently excavated the eroding site of Ceann nan Clachan and revealed a possible Early to Middle Iron Age oval structure underlying a series of multiphase constructions (1996; *infra*). Unfortunately, these later constructions meant the underlying oval buildings were severely truncated. However, it appears to have been built using large basal stones perhaps with a superstructure of turf (Ian Armit, pers. comm.). There was a drain in the centre of the building and burnt mound debris began to accumulate around the structure. Although no material was recovered securely stratified within the earth fill as a result of the later re-use of the site, sherds of incised decorated pottery have been found on the beach and may have eroded from this building. The combination of this pottery style, the large boulder architecture and the burnt mound debris strongly suggests this is an early building, probably dating to the early to mid-first millennium BC.

Excavations by the author and Michael Church on a series of structures on the Uig peninsula, west of the Bhaltois peninsula on Lewis, have recovered two sites, relevant to the Atlantic Iron Age, but each of very different character. An Dunan is reasonably well dated to between 400calBC and 100calBC (OxA-8478, 2215±40bp; OxA-8479, 2145±40bp; OxA-8613, 2165±40bp; OxA-8480, 2250±35bp; OxA-8575, 2155±45bp; OxA-8577, 2230±50bp) and represents a ritual island site associated with human cremation. The building was a small sub-rectangular structure with a west facing entrance and a large central hearth area. Deposits from this hearth may have been dumped from elsewhere and included burnt human bone, incised and applied decorated pottery and quartzite pebbles. The walls of the building were constructed from a low outer wall or rough stonework revetted on the interior by large orthostats and may have had a superstructure of turf or other organic material. A similar construction might be envisaged for the small double chambered structure revetted into a Neolithic cairn at Unival, North Uist (Scott, 1947b). This site produced relatively coarse pottery with fingernail decorated rims and furrows below the rim compared to early phases at Jarlshof (op. cit., 4-5) suggesting an early date for this structure. Early first millennium BC sites at Howe and Quanterness in the north (Chapter3) were also located on the remains of Neolithic cairns and this may support the Early Iron Age interpretation suggested here

Guinnesso, on the west coast of Lewis in the middle of the peat 'blacklands' of the Uig peninsula, has revealed a sequence of small buildings underlying medieval constructions.

Within the upper of the underlying buildings was pottery with globular profiles, upright rims and applied and incised geometric decoration. The style of decoration is poorly executed compared to that found on the Dun Bharabhat pottery; the incised designs are also not paralleled at Cnip wheelhouse (Ian Armit, pers. comm.; Anne MacSween, pers. comm.). Excavations are incomplete but there is a visible sequence of buildings probably dating to the Iron Age incorporating an upper structure with an east facing entrance passage one metre long (Church and Gilmour, 1999; forthcoming). It is possible that the differences in pottery from that discovered at the nearby sites of Cnip, Loch na Beirgh and Dun Bharabhat may imply an earlier date for this pottery at Guinnerso since succeeding wares are probably more refined in their decoration. Alternatively, these differences could simply represent the difference in structure type, location and presumed function. The overall dimensions of the upper building are somewhat smaller than Eilean Olabhat or Coile a'Ghasgain but several structural similarities do exist. The entrance to the later phase has been elongated by the addition of external 'hornworks', as at Coile a'Ghasgain, and all the visible structures have been revetted into earlier material, the lowest butting onto bedrock like Eilean Olabhat. The upper building at least has a multiphase rectangular central hearth. A pollen diagram from Loch Ruadh Guinnerso indicated that this site had been open and probably marginal since the beginning of the Holocene (Flitcroft, 1997; Chapter 2).

The structure at Coile a'Ghasgain is "in a fairly marginal inland valley setting" (Armit, 1996, 103). Eilean Olabhat is located on a promontory jutting into Loch Olabhat surrounded by marshy peat bog (Armit, 1997d, 899), although it is perhaps less marginal owing to the nearby presence of several Atlantic roundhouses and wheelhouses in the Vallay area. Dun Bharabhat was also very close to other Atlantic roundhouses and wheelhouses, although its location in an upland loch surrounded by peat bogs is similar. Given the generally poor environmental conditions and comparisons with today's climate (Chapter 2), it is possible that without recent demographic pressure and technology the area around Eilean Olabhat could have been considered marginal in the Iron Age. It is also possible (especially considering the lack of a hearth in the later phase at Eilean Olabhat) that this is a site uninhabited for at least part of the year (probably winter). The location of Coile a'Ghasgain and Guinnerso suggests they are transhumance sites. If these seasonal sites were contemporary with the permanently occupied Atlantic roundhouses, it would imply a relatively early date for the construction of large monumental roundhouses in the Western Isles. Only detailed analysis and dating of the different assemblages and their associated structures will enable this distinction to be made.

Atlantic roundhouses

One of the earliest published dates in the Outer Hebrides for an Atlantic roundhouse is inferred from *terminus post quem* and *terminus ante quem* radiocarbon dates at Dun Bharabhat on the Bhaltois peninsula in West Lewis. The site is a small complex Atlantic roundhouse located at 40mOD on an islet in Loch Bharabhat (Harding and Armit, 1990; Harding forthcoming). Carbonised material from below the occupation of the interior of the roundhouse calibrates to between 820calBC and 520calBC (GU-2436, 2550±50bp) and material from the secondary occupation at the site dates between 360calBC and calAD90 (GU-2435, 2100±50bp; GU-2434, 2010±50bp). However, of the latter two dates the earlier (GU-2435) has a 90% chance at 2σ of lying somewhere between 250calBC and calAD10. This suggests the occupation of the original roundhouse lies somewhere between *circa* 500calBC and 250/200calBC.

Dun Bharabhat, is a relatively small structure only 10m by 11.5m with an eastern entrance. The original complex Atlantic roundhouse incorporated three intra-mural galleries at ground floor level with the smallest of these to the south-east incorporating the intra-mural staircase winding clockwise. A multiphase central hearth may have been associated with this occupation phase alongside some vestiges of peripheral paving and alignments of rounded stones (Harding, forthcoming). This building collapsed and a secondary structure was inserted into the remains, probably associated with a certain amount of remodelling of the original layout. This occupation included the continued use of a well-built central hearth and a trough like feature obstructing the entrance to the south-east gallery with access to the intra-mural stair. The latest phase of the hearth was crook-shaped and had a double line of disarticulated animal teeth arcing around its north-west side. A pit was cut to the south of the hearth incorporating the fragmentary remains of a pottery vessel with applied decoration, along with orange clay, some charcoal and a mixed brown earth. At the base of this pit were small and friable fragments of animal bone below a patch of charcoal and cremated bone. The radiocarbon dates for this secondary structure originate from a horizon of burnt material that may represent the collapsed remains of its roof (Dennis Harding and Michael Church, pers. comm.). The earliest date was recovered from a context that positively underlay the original stone walls of the original Atlantic roundhouse and may have been associated with a layer of cobbles and another hearth.

To date, only secondary structures have been excavated inside and around the original complex Atlantic roundhouse at Beirgh, on the Bhaltois peninsula. This was located on an

island in Loch na Beirgh, and some 500m from Dun Bharabhat, but situated on the lower machair zone behind the Traigh na Beirgh beach and sand dunes. This fertile valley is bounded by high hills to the east, west and south with the roundhouse located in a typically liminal position between the good land and the rough grazing (Gilmour and Cook, 1998; Harding and Gilmour, forthcoming; Parker Pearson et al., 1996; Parker Pearson and Sharples, 1997; Sharples, 1998). The Atlantic roundhouse is one of the largest in Scotland with an overall diameter of some 17m and two concentric drystone walls some 1m wide set 1m apart. Within the intra-mural space thus provided are a series of cells and longer galleries at ground floor level, the north-western of which accesses an intra-mural staircase winding clockwise (Figure 12g). The site is preserved to first floor level where a gallery could be accessed from the internal first floor on the north-west and originally ran round the entire circumference except where the intra-mural stair rises through it. Secondary uses of the original eastern entrance passage removed its roofing lintels and thus access from the south-eastern portion of the gallery to the north-eastern portion (Harding and Gilmour, forthcoming). The surrounding machair environment has encroached upon the loch, gradually filling it with layers of sand and peat and raising the water level. Currently the entire north and east sides of the site are landlocked with water to the south and west only. Excavations have so far determined that a complex sequence of at least twelve major phases of construction occurred on this site and none of the material recovered to date is conclusively original (Harding and Armit, 1990; Harding et al., 1994; 1995; Gilmour and Cook, 1998; Harding and Gilmour, forthcoming). It is possible that extrapolation back from the earliest radiocarbon date, keeping in mind the multiple phasing and almost two metres of unexcavated deposit, places the original construction of the complex Atlantic roundhouse into the late first millennium BC (Harding and Gilmour, forthcoming). It would thus be potentially contemporary with Dun Bharabhat and other complex Atlantic roundhouses.

Other complex Atlantic roundhouse sites on Lewis remain unexcavated but have been extensively reviewed by Armit (1988; 1992). The excavations at Dun Carloway recovered only secondary material from one cell of this well-preserved site (Tabraham, 1977). Excavations of Atlantic roundhouses on Barra have been restricted to two main sites at Dunan Ruadh (John Pouncet and Patrick Foster, pers. comm.) and Dun Cuier. Dunan Ruadh incorporated only partial excavation of a severely eroded site with only one arc of walling still *in-situ* (John Pouncet and Patrick Foster, pers. comm.). Limited discussion and interpretation is possible from this site owing to the nature of the excavation and the

deposits, but incised decorated pottery was recovered from lower levels with greater quantities of applied decorated wares and everted rims in upper layers.

Dun Cuier has become synonymous with the problems of interpretation associated with secondary structures on Iron Age sites in Atlantic Scotland (Figure 14f). A secondary skin of walling was built inside a 'galleried roundhouse' (Young, 1956). However, the excavator regarded the site as essentially single period and assigned it to the 5th-7th centuries AD on the basis of the material remains recovered. These included a single fragment of a zoomorphic brooch mould (op. cit., 315), bone parallelepiped dice and decorated composite combs, one of which is a high backed single-sided comb (Foster's Group 4, 1990) comparable to that found at Lagore crannog, Ireland (Young, 1956, 316). These were associated with the floor level and multiple hearths within the single faced wall of the 'dun' (op. cit., 299). It has been convincingly argued by Armit (1988) that this internal structure was secondary, an interpretation also supported by Harding (1997, 126-8). MacKie has consistently supported the original interpretation (1989; 1997) although recent arguments against the new reinterpretation have conceded that the internal wall face may indeed be secondary and associated with featureless coarse pottery and a late horizon above the main hearths on the site. However, the sand in which the hearths were set and diagnostic artefacts discovered is still considered by MacKie to be contemporary with the main galleried structure (1997, 153). Evidence to the contrary is portrayed in the cross-sections drawn by the excavator, which plainly indicate the sand abutting the stone foundations of the secondary walling (Young, 1956, 298, fig.6b).

The excavator explains this multi-faced wall by comparison to the evidence excavated at Kildonan Dun in Kintyre (op. cit., 303); however, it has been argued elsewhere (Gilmour, 1994; Chapter 5) that the so-called 'medial' facings at such sites also indicate secondary construction. Further evidence as to the secondary nature of this walling might be afforded by the description of an interior full of collapsed rubble lying upon a sand layer sealing the floor deposits, and the finding of three fallen overlapping slabs in stone tumble in a recess (Young, 1956, 301). Similar stonework is recurrent at Loch na Beirgh where it is certain that it represents the remains of collapsed corbelling; the large amounts of rubble here may be similarly indicative. Large slabs lying collapsed between the northern secondary walling and original roundhouse doorway in another recess may represent similar corbelling. It is unlikely that a 'galleried dun' would be corbelled inside - such architecture is usually reserved for the intra-mural spaces or for different structures entirely. It is more likely that

this represents the corbelling of the secondary building's recesses or subsidiary chambers and may include the partial corbelling of the main central area. This structure is similar to that excavated at Dun Vulcan and perhaps analogous to figure-of-eight structures elsewhere. A layer of sand sealing the occupation deposits and underlying the rubble is probably an accumulation of windblown material from the surrounding machair environment after the removal or decay of the wooden roof. Alternatively, it may have been imported to lay as a clean floor surface as discovered at both Cnip, Lewis (Ian Armit, pers. comm.) and Dunan Ruadh, Barra (John Pouncet and Patrick Foster, pers. comm.). Further structural evidence lies in the nature of the hearths uncovered, which are rectangular with kerbing on three sides only; such hearths predominate in cellular structures.

The pottery recovered from this site is important as it has been used to date other sites elsewhere (e.g. A'Cheardach Mhor, *infra*). The mixture of plain, coarse pots with flaring or straight rims and more globular pottery with applied cordon decoration on the body, has led many sites with similarly decorated pottery to be placed into the later first millennium AD. However, the majority of the pottery recovered was of the plain type and definitely associated with Hearth 2 and a nearby post-hole (op. cit., 301). The only decorated sherds given provenance in the report come from an upper layer in the intra-mural gallery (op. cit., 311 and 315) and a small pile of sherds in the entrance, apparently collected for some specific purpose (op. cit., 299). The only incised sherds are well worn and come from the lowest sand layer over the bedrock outcrop (op. cit., 312). That there is so little incised decorated wares should not be surprising considering the findings of the recently excavated secondary structures at Beirgh. Similarly, the galleries at Beirgh produced applied decorated pottery in their upper levels and incised pottery in the basal layers, with little plain pottery owing to the inactivity of later occupants in these areas. More applied decorated pottery would be discovered in the Dun Cuier material behind the secondary walling of the site and presumably more incised sherds may also exist in the lowest layers of these deposits and the galleries, unless these were accessible by the later occupants as at Loch na Beirgh. The other artefacts also suggest a mixed assemblage at this site. Recent excavations at Scalloway, Shetland (Chapter 3), have recovered a series of parallelepiped bone dice from the original complex Atlantic roundhouse (Smith and Wilson, 1998, 174). A lack of contextual information for the finds at Dun Cuier means these could indeed date somewhat earlier than previously supposed and may be earlier than the brooch mould.

On South Uist, excavations at Dun Vulan have claimed to investigate primary complex Atlantic roundhouse material (Parker Pearson et al., 1995; 1996). However, this author has refuted these claims (Gilmour and Cook, 1998). Although more details have since become available, it is still probable that primary deposits were not investigated (*infra*; Gilmour, forthcoming). The site itself comprises a sub-circular, almost pear shaped building that originally sat on a small island in a loch behind the beach dune system to the west, very similar to the location of Loch na Beirgh (Figure 14e). The entrance to the site faced south-east with a courtyard area in front. A revetment was built against the outer wall of the complex Atlantic roundhouse to the south and west. Intra-mural galleries incorporate a staircase to the north rising clockwise through the walls, and excavations in the final season revealed that this site too was well preserved to first floor level (Parker Pearson et al., 1995; Parker Pearson and Sharples, 1999). Bronze Age material was recovered from waterlogged deposits at the base of a deep test-pit next to the site suggesting the location was used over a long period of time (Parker Pearson and Sharples, 1999, 345). Excavations within the site only investigated the intra-mural cell at the base of the stairs and part of an intra-mural gallery opposite (op. cit., 32-35), neither of which retrieved definitively primary deposits. The main internal area was cleared of debris but not fully excavated (op. cit., 65-67).

Two radiocarbon dates are considered primary to the construction and use of the complex Atlantic roundhouse by the excavators (Parker Pearson et al., 1999). A date from beneath the outer revetment (AA-14004, 2086±55bp) calibrates at 2σ to between the 4th century calBC and the 1st century calAD, and at 1σ between 190calBC and 40calBC. The other date (AA-13997, 1940±60bp) originates from a deposit lying on the floor of the intra-mural stair-cell and calibrates to between 100calBC and calAD220 at 2σ. Neither date comes from a context necessarily related to the original use of the complex Atlantic roundhouse (Parker Pearson and Sharples, 1999, 31 and 40). Indeed, the single carbonised grain used as dating material in the intra-mural cell, comes from a context that is described as, “disturbed and contaminated” (op. cit. 31). These dates could therefore support the early dating of the Dun Vulan complex Atlantic roundhouse to between the 4th to 1st centuries calBC with secondary re-use, including external midden deposits (op. cit. 129), beginning to accumulate in the 1st century calBC.

Settlement Development

Secondary Roundhouses

The structural sequence and related cultural changes recovered from Loch na Beirgh allow a detailed analysis of settlement development because of its unique preservation. The rising water level, produced by the expanding machair, consistently encouraged the inhabitants into raising the floor levels of their buildings. Whilst in normal dry-land circumstances continued occupation and structural re-organisation would result in the truncation or even destruction of earlier deposits, the stratification and preservation produced at Beirgh has meant that a relatively complete sequence of environmental, cultural and structural remains has survived (Harding and Gilmour, forthcoming). It is argued in this thesis that the remains from this site are comparable to various fragmentary material recovered from less well-preserved sites both within and outwith the Western Isles. From this evidence it will be assumed that the sequence at Loch na Beirgh is not unique in its character, only its preservation.

Recent radiocarbon dating combined with artefactual studies has shown that the currently excavated material from Loch na Beirgh dates from the late 2nd century AD to the 9th century AD. The former dates the final use of a secondary roundhouse and the latter the construction of a distinctive form of figure-of-eight cellular building. The full sequence visible to date runs from the original complex Atlantic roundhouse, through a secondary use of the site to a tertiary development of cellular buildings. This very general scheme is argued here as relevant and applicable to the rest of Atlantic Scotland and is particularly detailed in the Western Isles.

The first visible structural phase to re-use the complex Atlantic roundhouse at Beirgh is represented by the insertion of a secondary roundhouse into the shell of the original structure (although this latter had already seen some re-organisation). This building, only partially excavated, was a single storey construction with an eastern entrance and access to several intra-mural cells at ground level as well as the first floor intra-mural gallery (Figure 12g). The access to the north-western ground floor gallery incorporating the intra-mural staircase was blocked and it is unknown if access was available to the original small cell off the entrance. Access to the stairwell was probably blocked in an even earlier phase before this secondary roundhouse, although the gallery was left accessible. The secondary roundhouse incorporated several different sub-phases and by the last there was no access to any ground floor intra-mural space since the floor level had risen to the height of their entrance lintels.

The internal space has only been examined in a small area of the north-east quadrant but already the remains of radial divisions and peripheral paving have been uncovered. Either side of the entrance, which re-used the original and by the final phase necessitated the removal of its roof lintels, two piers jut into the interior enhancing the length of the passage and reinforcing the impression of radial divisions. Just in front of these piers, immediately inside the original Atlantic roundhouse wall, a cell was constructed on the north side of the passage. This cell mirrors the original 'guard cell', albeit on the opposite side. On one phase of paved floor in this cell the degraded remains of a peat stack were discovered underlying a later midden deposit. In one of the internal radial divisions in the excavated internal area of the roundhouse laminated layers of straw were discovered on the peripheral paved flooring. These organic remains, and others of later periods, are the remarkable result of the unique preservation system on the site set up by the rising water levels and the sponge-like effect of the peat later used as foundation and flooring material.

There is good reason to suppose that several sequential buildings were constructed outside the complex Atlantic roundhouse at this time. In the north-east of the site a relatively small trench uncovered evidence for a multi-phase sequence of structural remains that could represent circular or oval buildings. These are revetted into layers of alternating peat and sand although one structure with a hearth and deposits of incised decorated pottery seems to have been a free-standing building with a double faced wall approximately 0.5m to 1m wide. Above these structures were stone features and deposits that probably relate to later cellular use of the site, immediately after the secondary roundhouse. The pottery recovered from the outer building is comparable to that from Bharabhat and also the small amounts of secondary roundhouse material recovered from the interior to date.

A radiocarbon date from the deposits on the lintelled first floor of the Atlantic roundhouse intra-mural gallery suggests a date between the late 2nd and 4th centuries AD for the accumulation of this material (GU-4923, 1760±50bp). This material is almost certainly secondary and contemporary with the inserted roundhouse. *Terminus ante quem* dates from the succeeding phases, both radiocarbon dates and typological artefact associations, lie between the 3rd and 4th centuries AD (GU-4927, 1700±50bp; AA-23724, 1650±55bp). A date for this latest occupation between the late 2nd century AD and 3rd century AD, and the evidence for earlier phases of this structure, would place this structural development into the same era as the construction and use of wheelhouses (Armit, 1996). This suggests that incised geometric decoration and applied cordon motifs may be in use from the mid-first

millennium BC up to the end of the 3rd or 4th century AD. This long period of use presumably also included developments in the style of incised decoration and an increasing proportion of everted rims and applied decoration.

Secondary roundhouses within original Atlantic roundhouses are also prominent on excavated sites elsewhere in Atlantic Scotland (Chapters 3 and 5). At Dun Vulcan a recent reinterpretation of the published evidence (Gilmour and Cook, 1998) suggested that midden material, argued as contemporary with the complex Atlantic roundhouse by the excavators (Parker Pearson et al., 1996), may in fact be associated with later cellular use of the building. Since this article appeared, radiocarbon dates have been published (compiled by Ashmore in DES 1997, 116-117; Parker Pearson and Sharples, 1999) which suggest that this material is actually earlier than the current dating for cellular structures in the Outer Hebrides (*infra*). However, there is still no stratigraphic link between the primary occupation within the interior of the Atlantic roundhouse and the external midden (Gilmour and Cook, 1998) and this author would still disagree with claims that any of the radiocarbon dates accord with the site's primary construction and occupation. Dun Vulcan probably incorporates an unexcavated secondary roundhouse structure within its well preserved interior analogous to Loch na Beirgh and it is probable that the earlier 1st century calAD dates from this midden (Parker Pearson and Sharples, 1999, 129) are contemporary with this secondary re-use (Gilmour, forthcoming). It is also argued that these represent the late use of this area for the deposition of midden material since earlier material would be deposited closer to the complex Atlantic roundhouse entrance (Parker Pearson and Sharples, 1999, 97). However, it is more likely that the midden material would originally be dumped furthest from the door and gradual accumulation would begin to encroach upon the route of deposition. Thus the deposits examined during excavation would be the earliest and the latest would be expected to lie unexcavated near the re-used complex Atlantic roundhouse entrance.

Wheelhouses

Secondary roundhouses share several structural similarities with wheelhouses. Both structural types include radial divisions of space and the use of enclosed spaces off the main central area. In the case of wheelhouses these compartments are formed by very careful and specialised construction of radial piers, often but not always, set away from the inner wall face (aisled wheelhouses). These are built using relatively small stones at the base that gradually increase in size with height, until the gap between two piers is bridged by a lintel. The piers are also met by the rear wall that has begun to corbel inwards instigated by the

placing of 'Y' pieces, long lintel stones set at an angle to the piers and bonded into the inner wall. The overall effect is the creation of a series of tall arched entrances to completely corbelled cells. The central area is presumably roofed with organic materials (Armit, 1996, 140-141). Other architectural features include a central hearth and often one or more subsidiary spaces entered from the corbelled cells. At Cnip this may originally have comprised a partially-built wheelhouse next to the main building (Figure 17f); this however, was never completed and was possibly filled in early in the site's history and replaced with a small paved and lintelled passage (Armit, 1996, 142; Figure 17g). At Sollas, two subsidiary areas may originally have been accessed from entrances in the north and south of the wheelhouse (Figure 17d). These were re-structured in the second phase of use to include a large oval cell to the north and a long passage structure to the south (Campbell, 1991). Many other wheelhouse sites also incorporate such structures, and several include the remains of long passages analogous to souterrains (Figures 16 and 17).

The wheelhouses in the Western Isles have recently been attributed to the early first millennium AD (Armit, 1996, 145-147), although some, such as Cnip, may have been built as early as the 1st century calBC (Ian Armit, pers. comm.; forthcoming). Radiocarbon dates for bone and charcoal remains from Sollas Site B that support this view have been augmented by AMS radiocarbon dates on pottery residues (Ewan Campbell, pers. comm.). These suggest the main wheelhouse (Site B) was built and utilised sometime between the 1st and early 3rd centuries AD, "with a probable date in the second century AD" (Campbell, 1991, 141). Armit has argued that such lavish structures are unlikely to be left to accumulate significant detritus until near the end of their use or during their final use (Armit, 1996, 146) following Fairhurst's suggestion that buildings were repeatedly cleaned (Fairhurst, 1971, 74). Sharples has similarly argued that datable material on the floor of such structures is likely to represent only the last phase of use of a site (Sharples, 1998, 205).

That these were truly monumental structures, at least on the inside, is inferred from the sophisticated architecture and internal scale. At Cnip, although the wheelhouse is one of the smallest yet discovered, the structure was very well preserved (Armit, 1988; Harding and Armit, 1990). The central area was only 4m in diameter once the overall 7m had been reduced by the corbelled cells, yet the lintels bridging each set of piers were probably some 3.5m to 4m above the floor (Harding and Armit, 1990, 86). Assuming a 45° slope on a central organic roof, the apex of the ceiling would have been some 6m above the floor. These are impressive statistics, especially when considering the whole structure is revetted

into sand. A recent reconstruction of sand-revetted buildings at Bostadh Beach, Great Bernera, further to the east may suggest how this was done. The mason cut out the shape of the building in the turf on the machair and then proceeded to excavate and build in segments allowing speedy construction of the walls in a dynamic environment by only two people. At Cnip the central pile of stone found lying in the unfinished wheelhouse (Armit, 1988) was probably for the construction of the piers and upper corbelling of the cells once the main wall had been inserted. This technique would suggest to the author that at least here the construction was carried out by a relatively small workforce who split their time between building and stockpiling stone (*contra* Campbell, 1991, 167). Once built, revetted wheelhouses would be well insulated by the surrounding sand that would also drain the rainwater from the relatively small organic roof. Seen from the exterior these buildings would probably only show the conical roof, which would soon be overgrown with grass and machair plants and covered by sand. Only the rising smoke seeping through the roof from a central and substantial hearth may have betrayed their presence.

The 1st century AD reorganisation of the wheelhouse in Phase 2 incorporated vertical slabbing and the re-use of at least some of the wheelhouse bays and a smaller cell off this main area. The entrance passage to the wheelhouse was redesigned to incorporate a cell with vertical slabbing rising in height around the floor area to culminate opposite the entrance. Within this cell was a succession of three central hearths, of which the best preserved may have been truncated by a later structure (Ian Armit, pers. comm.), and a niche or aumbry were also incorporated to the right of the entrance. Another notable point is the incorporation of discarded rotary querns in the cell walling (Armit, 1992, 76) similar to their re-use in the roundhouse at Beirgh (Harding and Gilmour, forthcoming). Radiocarbon dates recently published for Phase 2 at Cnip overlap with those for the succeeding Phase 3 building, possibly indicating the continued and immediately successive use of the site. The dates range from 159calBC-calAD268 (GU2746: 1930±90BP) to calAD28-calAD284 (GU2751: 1850±50BP) (Armit, 1996). Close contextual analyses of these dates suggest an early first millennium AD period of use, probably in the 1st century calAD (Ian Armit, pers. comm.).

The assemblage from Cnip includes a faunal assemblage with a large percentage of red deer (Murray Cook, pers. comm.; Parker Pearson et al., 1996, 65). The pottery from Cnip wheelhouse includes many parallels to the assemblage from the secondary roundhouse at Loch na Beirgh (Anne MacSween, pers. comm.), including incised decoration, everted rims

and applied cordons. Both sites may have elements in common with Bharabhat although the percentage of applied cordon decoration and everted rims may be less in these earlier contexts. Material from other wheelhouses is notoriously mixed owing to early excavation techniques and strategy (Armit, 1992; 1996, 145). Several sites however, have produced assemblages worth discussion here.

The excavation plan of Dun Thomaidh, located on an islet in the Vallay Strand, North Uist (Beveridge, 1930), is an agglomeration of several different phases and structures including an Atlantic roundhouse (Armit, 1992, 31; Figure 15b). This probably produced a mixed assemblage of early and late material, although the presence of applied and incised decorated vessels and barrel vaulted, hole-mouth and everted rim pottery together (Beveridge, 1930, 347, figures 23 to 25), is also paralleled at sites such as Cnip, Sollas and Loch na Beirgh.

Garry Iochdrach seems to have been a multi-phase wheelhouse site with a separate building to the north (Figure 15a). This latter incorporates two buildings well below a modern sheepfold. One of these is an oblong paved structure with a central circular hearth of ashes and a passage leading west. Under this there was material associated with an earlier building that consisted of a paved floor and a large paved hearth with “indistinct” walling (Beveridge, 1931, 40). The recovered artefacts included a bronze square headed and ornamented pin with a movable ring. The majority of material from this site is not attributed to any particular phase or building, and is described as originating “in or near” the wheelhouse (op. cit., 41). Again this assemblage is probably mixed and includes a pottery assemblage with a majority of incised decorated sherds compared to applied decorated pieces, as well as decorated composite bone combs, round headed pins and a 4th century AD Roman coin of Constantius II (op. cit., 41-42). Armit has suggested that the confusing layout of Garry Iochdrach, with its galleries running around a possible external wall-face, might indicate an underlying complex Atlantic roundhouse (Armit, 1992, 32). A similar suggestion has been convincingly argued for Cnoc a Comhdhalach and Eilean Maleit (ibid.). Excavations at the latter have confirmed this impression (Armit, 1999). The site incorporates a secondary wheelhouse with up to nine piers and at least one elongated curving passage leading off to the north-west (Figure 15f). This latter is accessed from a bay opposite a western entrance to the wheelhouse incorporating cells off the long passage similar to those at Cnip in Lewis. However, it is clear that a lot of use and re-use has taken place on this site and although Armit has argued for significantly different access patterns it is more likely that the blocking

of the bays to the north is a secondary or even tertiary development. This wheelhouse definitely overlies the remains of an Atlantic roundhouse with better masonry.

On Barra, a wheelhouse at Alt Chrisal on the slopes of Ben Tangaval (Foster, 1995, 54) has been partially excavated (Foster, 1999). Unfortunately, no radiocarbon dates were recovered but the wheelhouse was found to overlie an Atlantic roundhouse (John Pouncet and Patrick Foster, pers. comm.). The site also had evidence for re-use of the wheelhouse including the expansion of the central hearth area and insertion of sills at the entrances to the radial cells. Cnoc a Comhdhalach wheelhouse incorporated a south-west facing entrance, seven aisled piers and an intra-mural cell (Figure 15d). The central area contained a hearth and kerbs at the entrance to the bays. The piers were bonded to the wall by paired 'Y' lintels (Beveridge, 1911, 200-207). The complexity of the site plan, including multiple subsidiary cells and steps to a raised wall area, an elongated passage leading east and almost 2m of deposits attests to its long period of use and re-use, perhaps including an underlying Atlantic roundhouse.

Foshigarry was one of several sites excavated by Beveridge in North Uist and subsequently published by Callander. All six structures on the site are revetted single-faced buildings and many phases are represented on the plan of the site (Figure 16d). There were three discernible aisled wheelhouses on the site (Structures A, B and C) but the contexts of some of the more diagnostic finds might indicate later secondary settlement. For example, the assemblage from C contains a double-sided circle-and-dot decorated comb found "on radial no. 4" (Beveridge, 1930, 312). This pier must have been out of use as a support for a corbelled bay and probably dismantled by the time of deposition. Site A is perhaps smaller than the other wheelhouses, although a minimum projected diameter for Site B is very similar, and removed from the focus of activity therefore suffering less re-use. Unfortunately, coastal erosion has removed at least half of this structure as well. Out of three surviving piers, none appear to incorporate aisles and only one (A2) may have a kerb at the entrance to the bay. It seems that all four surviving bays have incorporated aumbries in the main wall. The site produced applied cordon pottery when excavated in 1911 to 1912 (Callander, 1931, 303).

Other late artefacts possibly include everted rim pottery with applied cordon decoration (op. cit., 303), although this material could be expected in earlier assemblages too. There are no immediately distinguishable later buildings on the site, although the smaller structures D, E

and F *may* qualify. However, their location immediately behind what is known to be a single-faced building type and their deeper floors, would seem to place them earlier than, and possibly slighted by, wheelhouse C. The latest structure on site, according to the excavator, was passage H, almost certainly a souterrain with associated burning evidence and a kiln type device built within the structure. That souterrains are associated with other buildings is now well attested and in the west their association with cellular buildings is commonplace (Armit, 1992) although they often form part of original wheelhouse constructions. Foshigarry may have later cellular occupation (Armit, 1992) but these were simply not recorded or fully understood by Beveridge.

Of the other structures only individual details can be discussed since it is impossible to distinguish what features are contemporary. Small oval structure D had five niches in its walls and was only paved to the north (op. cit., 313). A mass of fallen slabs recovered from deposits overlying the floor is interpreted as the remains of a corbelled roof. Structure E is possibly connected to D and certainly accessible from F. It incorporated no less than twelve aumbries or niches in its walls. To the south-west, a shaft was discovered but not discussed and to the west a shelf produced forty-one pieces of pumice; this structure must be considered a workshop of some sort. Building F is described as having a plastered wall to the west incorporating more niches (op. cit., 314).

Unfortunately similar sites such as Sithean an Altair, Eilean a Gallain and Dun a Ghallain, North Uist, were investigated and briefly published by Beveridge (1911) with little information as to their exact nature. Scott (1947b) excavated Unival, North Uist, with hindsight a possible cellular structure, and the complex remains at Dun Ban, North Uist, were the subject of very early excavations by Thomas (1890).

Publication of the excavations at Clettraval by Scott was accompanied by his detailed arguments that Gallo-British colonies arriving in the west and north were responsible for the construction of Atlantic roundhouses and wheelhouses (1948). This idea has subsequently been taken up and developed by MacKie (1988). At Clettraval, four main phases were discerned beginning with the construction and occupation of the aisled wheelhouse (Figure 15e). There was then a period of reconstruction and refurbishment incorporating subsidiary piers to the south-east, a new hearth and the laying of a new floor. The collapse of the roof and the infilling of the structure were followed by the construction of a new wall to create a smaller building using the same entrance, which was repaved. Finally, the entrance passage

was allowed to fill and a small structure was built over it and in the thickness of the wall (Scott, 1948, 48).

The wheelhouse incorporated eight piers, although the one to the south of the entrance may have been constructed differently. The bays around or near the western entrance were paved, becoming less so towards the rear or east of the interior. Those opposite the entrance were not paved, the exception being Bay IV which incorporated a small, low entrance to an intra-mural chamber. This was later blocked and the description of the position of a sill, located in front of this blocking material at a higher level than the base of the entrance yet at the same level as the paving, suggests they may be secondary. There was little remaining of the intra-mural space and it is possible that this may simply have been a deeper aumbry feature subsequently blocked. Between all the outer ends of the radial piers were low stone kerbs and the central area was almost totally paved except in a small quadrant to the north outside Bay VIII (op. cit., 51). This latter was also unique in incorporating a large orthostat in the middle of its entrance; a similar construction was noted during secondary re-use at Cnip although in wood.

The original building seems to have been a variant on the revetted wheelhouse incorporating a vestigial outer wall face, roughly built in those places investigated by Scott (op. cit., 50). This may have produced what Scott interpreted as a double-faced wall with a core of earth and rubble, possibly with a turf 'parapet' (op. cit., 50). However, the very poor nature of the external wall face, except at the entrance, and the turf capping on the wall core material indicates that the structure would have looked very similar to the fully revetted machair wheelhouses. Indeed, section EF (op. cit., plate V) suggests that the northern wall was fully revetted. It is probable that the poor outer walling soon became overgrown and redundant and the turf capping represents attempts at encouraging natural growth and better drainage around the outside of the building (op. cit., plate VII). The reconstruction of Cletraval by Scott as a series of low cells roofed with lintels with a wooden central roof structure (op. cit., 49) seems incongruous considering the wealth of information from other better-preserved sites. This evidence and the slightly oversailing nature of the piers indicate this site was probably constructed a lot higher than found and incorporated corbelled radial cells subsequently much robbed.

Similarly, the reconstruction by Thomas of the wheelhouse at Usinish is probably wrong, the completely corbelled centre being inferred from the upper oversailing stones of the aisled

radial piers (Armit, 1992, 65; Harding, forthcoming). In fact Thomas' own report states that the cells were the only roofed areas and the centre was left open (Figure 16c). Other details are the same as those recovered during modern excavations; lintels were present across the radial bay entrances and the piers were linked to the main wall by lintels (Thomas, 1868, 166). The structure also seems to have incorporated at least one 0.5m high passage that increases in height to *circa* 1.6m (op. cit., 167). Other details such as the widening of the passage into a corbelled oval chamber with a niche, and a constructional mix of masonry and bedrock in the gallery suggests similarities with other souterrains.

At Bac Mhic Connain (Beveridge, 1930, 1931; Callander, 1932), little meaningful data can again be extracted from the surviving information (Armit, 1992, 57). However, at least one wheelhouse, structure D, incorporated eight radial piers bonded into the surrounding wall and rising to form corbelled cells over 2.5m high. Although there is great difficulty in understanding which features are related to which phase, the plan in Beveridge (1931) and reproduced here (Figure 15c) might suggest the presence of kerbs between the ends of at least some piers. Structure A at Foshigarry may also have incorporated the same feature in the entrance to cell A2. At Bac Mhic Connain, a preponderance of aumbries built into the cell immediately to the south of the entrance passage may indicate a special function for this area.

Another series of unpublished wheelhouses exist at the Udal, north of the Vally area of North Uist. Here a development into the classic aisled wheelhouses has been claimed (Crawford and Switsur, 1977, 129) but is impossible to evaluate without further data. The wheelhouse period at this site, located in a large sand mound called the Udal south, has been associated with a *terminus ante quem* radiocarbon date from above a level of presumed contemporary cultivation in a different mound, the Udal north. The date (Q-1131; 1610±120bp) relates to level XIV, which is considered to approximate to a series of secondary buildings on the wheelhouse site. This date calibrates to between calAD100 and calAD700 but at 1σ has a 92% chance of lying between calAD330 and calAD590. The three wheelhouses at the Udal have south-facing entrances and at least two are fully revetted. A third, with a cell off the entrance passage and access from the bay to the east of the entrance to a subsidiary piers chamber, incorporates some partial external walling (Selkirk/Crawford, 1996, 91). A smaller wheelhouse, seven metres in diameter and incorporating eight piers, was built over the outer wall of a larger eleven pier and ten metre in diameter wheelhouse (op. cit., 92). The southernmost wheelhouse is described as being

identical to the large central one except without the additional cells and it also appears to have layers of clay plaster preserved on its inner wall face and traces of red and black peat ash on its piers (ibid.). The wheelhouses produced painted pottery, a “good stone industry”, a little slag, a few metal objects and five painted pebbles (ibid.). Unusually, none of these structures had central hearths and the excavator claims that the central area was left open (op. cit., 91). The sites were re-used and the main structure is described as incorporating a roofed cellular building demarcated by vertical slabs outlining the central area, although again no hearths were recovered. Unfortunately, without further contextual evidence it is difficult to evaluate these various intriguing details. A photograph of one of the excavated wheelhouses suggests that pits were discovered in the interior central area and the bays (op. cit., 92).

One aspect common to all wheelhouses excavated to date is their re-use. After a generally unknown period of occupation in their original form, wheelhouses often incorporate some restructuring of the original stonework and layout. In many cases this incorporates relatively simple works that are primarily aimed at shoring the structure and supporting weakened areas. At many aisled sites for example, the space between the wall and the piers is blocked, often to remedy the visible degradation of the ‘Y’ lintels. At Cnip at least one lintel spanning two piers was supported by wooden post (Ian Armit, pers. comm.) comparable to the stone orthostat at Foshigarry (*supra*). Alongside this restructuring, subsidiary elements are added such as the cells at Cnip (Ian Armit, pers. comm.) and Sollas Site B (Campbell, 1991), and access to various areas within the building may have become more controlled. For example, at Cnip a wall in the entrance way channels movement around the south of the hearth (Ian Armit, pers. comm.), and at Sollas it is possible that several of the cells were blocked (Campbell, 1991). At Ben Tangaval the re-use of the wheelhouse modified access around the central hearth and incorporated the placement of sill-stones at the entrances to the radial cells (John Pouncet, pers. comm.). However, throughout these developments the wheelhouse retained its shape and form with radial divisions of space and a large-central area.

Cellular Structures

Later, re-use of both wheelhouses and Atlantic roundhouses incorporated dramatic site re-organisation and transformed the space into more discrete structural elements which were often revetted into the original building. At Cnip, this restructuring in the final phase takes a unique and poorly-dated elongated shape (Harding and Armit, 1990), but elsewhere small

cells are typical. The final Phase 3 rectilinear building at Cnip re-used only two of the wheelhouse bays and may have incorporated two different entrances. The published dates for this phase range widely from 108calBC-calAD215 (GU2742: 1940±70) to calAD54-calAD419 (GU2744: 1770±80) with a late midden producing a date of calAD132-calAD684 (GU2753: 1570±140) (Armit, 1996). Comparable structures are currently unavailable although rectilinear buildings have been found at other sites within a first millennium AD context, such as the Howe (Ballin Smith, 1996), the Wag at Forse (Curle, 1941; 1947; 1948) and Howmae (Trail, 1890). Generally, they seem to be associated with occupation prior to the development of the figure-of-eight building and this would seem to have some credence on the Bhaltois peninsula as the published pottery (Armit, 1992, 91) includes everted rims and at least some decoration. The Beirgh figure-of-eight, by contrast, produced Late Iron Age, slack-profiled, plain forms.

At Loch na Beirgh the deposition of a layer of peat over the final secondary roundhouse interior marks a definitive change in architecture. Structures built after this deposit conform to a model of discrete structural units with connecting doorways, sometimes incorporating actual doorpost holes. The overall floor area of these structures is substantially less than the preceding building. The same is true of wheelhouses such as A Cheardach Mhor, A Cheardach Bheag (Figure 17c), Foshigarra and others discussed below. The architecture of these constructions have several recurring features, including the prevalent use of upright vertical slabs, often graded in height and/or incorporating aumbries and niches to emphasise particular areas, and surmounted by horizontal drystone coursing. The inception of this phase at Loch na Beirgh is associated with the cessation of incised decorated pottery. The vast majority of material securely stratified in this phase is of smaller generally everted rimmed wares with applied cordon decoration. The cordons include twisted, pinched and some slashed designs and are generally found around the waist or body of the vessel. Other decoration includes lightly channelled arches above the cordons, a style that may continue from the earlier periods, and called 'Clettraval' after the site excavated by Scott (1948). In general, there is a much wider repertory of applied decorations including 'horseshoe' shaped features, roundels and unfinished arches.

The cellular structures at Loch na Beirgh all comprise some form of vertical slabbing and many include drystone coursing (the roundhouse has yet to be fully excavated and its architectural details are still obscure). They also share several smaller architectural details such as aumbries, drains and the development of three-sided hearths. There are structures

that seem to have been fully revetted into earlier material utilising a combination of vertical slabbing and drystone coursing (such as cell 6). Some may have been partially revetted and partially double-faced and also comprise drystone coursing on top of vertical slabbing (such as cells 3 and possibly 1b). A few may have been fully free-standing but still utilised vertical slabbing and drystone coursing (possibly cell 1a) and at least one (cell 5) used vertical slabbing only, possibly as a kerb for an organic superstructure. Wood was used in the construction of all these buildings, although some used more than others, and all required significantly less and smaller pieces than the preceding roundhouses. A lack of any external debris or naturally accumulated soil layers or sand lenses would seem to indicate that the site was fully roofed during at least the majority of its lifetime. This author would argue for a single roof utilising the scarcement ledge and broch walls as a base during the earlier phases, only eventually giving way to several smaller compartments such as the fully corbelled cells 1a and 1b. During the earlier stages internal wooden divisions may have been used to separate various areas, possibly set on the relatively low walls of each individual cell.

Several of these structures can be compared to others discussed in this thesis. There is a distinctive 'shamrock' type building very similar to that excavated at Gurness (Chapter 3), and represented at other sites (Figure 21), and the figure-of-eight building is now well known across the Atlantic Seaboard. Recent radiocarbon dates place the early cellular phase as a whole between calAD220 and calAD610 at two sigma (GU4923, 1760±50BP; GU4927, 1700±50BP; AA23724, 1650±55BP; AA23723, 1595±60BP and GU4926, 1580±60BP).

The 'shamrock' structure is one of the latest buildings of the early cellular phase, dating to the mid-first millennium AD. The structure is lobate on plan with a combination of vertical slabbing and horizontal coursing used in its construction (Figure 21d). The two best-defined cells, 1a and 1b, were corbelled with large slabs and incorporated edge-set sill-stones at their entrances in exactly the same fashion as the Gurness structure. They were arranged around a central space with a three-sided paved hearth that was later replaced by a smaller unpaved three-sided kerbed hearth. Cell 1b contained several fragments of quern stones at its base, possibly used as paving but almost certainly with some special significance. Both cells utilised drains running under their walls into an earlier structure, although the cell 1b example was better built; that of cell 1a was simply a low hole in the wall. Wrapping around cell 1a was a souterrain type corbelled curvilinear passage which incorporated a drain running half way down its length and had an edge-set sill-stone at its entrance. This passage was paved at least twice and produced a pot smashed *in-situ*, a zoomorphic bronze stickpin

and a Samian sherd. Also attached to the shamrock building was a further cell (cell 3) containing the remains of a central hearth, possible paving and evidence of multiple floor levels. These additional structures may be comparable to the paved annex of the Gurness shamrock.

The later figure-of-eight building was also constructed of vertical slabbing and drystone coursing and incorporated at least partial corbelling in its design. It re-used the broch entrance to lead into a large sub-circular room with a central three-sided hearth and a pair of aumbries opposite. Entry to a second, elongated cell (owing to the constraints of the broch walls) was via a series of steps to the right of the entrance. This cell was relatively poorly preserved and did not produce evidence of a hearth and little by way of occupation debris. It was also at least partially corbelled, presumably conjoined with the main area, and was divided internally by a secondary wall at a later date.

The material recovered from between these two structures indicates a date in the late first millennium AD and acts as a *terminus ante quem* and *terminus post quem* for the respective structures. The radiocarbon dates place the shamrock in the 5th to 6th centuries AD and the figure-of-eight possibly into the 7th to 8th centuries AD or later. The pottery from both these buildings and the very truncated remains of intervening phases is generally plain, with slack profiles and poor manufacture. The pottery of the preceding cellular phases is generally decorated with applied cordons of various designs and the earliest pottery on site, probably attributable to the secondary roundhouse period, is mostly finely made incised decorated ware (Johnson, 1996).

The material recovered during these excavations is currently undergoing post-excavation work. Preliminary analysis indicates that diagnostic material includes two penannular brooches, a pair of bronze tweezers, several decorated bone and copper alloy pins including a stick-pin, composite bone comb remains, a Samian sherd and several other artefacts such as a stone lamp and several bone weaving or hair combs. Metalworking slag, crucibles and moulds were recovered from the primary cellular phase. The moulds include fragments for the manufacture of doorknob spearbutts and pins, including proto- and developed handpins (Andrew Heald, pers. comm.). Radiocarbon dates suggest this material dates between the 4th and 5th centuries calAD. X-Ray Fluorescence analysis of the crucibles suggests silver was wrought in at least one and indicates precious metals were worked on the site too. This is important since previous precious metalworking of the mid- to late first millennium AD has

only been forthcoming from high-status enclosed sites. The detailed analysis of the pottery sequence from this site, and its allied material, will be of great importance in providing a benchmark against which other assemblages can be compared. The preliminary study of this material has already devised a basic working hypothesis of devolving pottery manufacture over the first millennium AD (Johnson, 1996). The environmental evidence recovered includes both on- and off-site work, the former focusing on macrofossil and soil sediment analyses (Church, 1996) and the latter on the analysis of pollen and sediments recovered from cores in the immediate vicinity of the site.

Only the preliminary results of the macrofossil and sedimentological on-site work are available for comment, but they indicate a site capable of sustaining an arable agriculture on the machair, generally growing barley, and provide detailed evidence of intra-site functionality and inter-site co-operation (Michael Church, pers. comm.). The preliminary analysis of a sub-sample of the massive faunal assemblage so far recovered has also highlighted some significant features of the late cellular Penultimate Pictish and Pictish figure-of-eight phase diet (Cook, 1995). This includes large proportions of red deer recovered from the site with a kill pattern equivalent to a modern deer farm. This might indicate the management of red deer on the island during the later centuries of the first millennium AD.

At Eilean Olabhat, North Uist, the phases overlying the oval structure (*supra*) comprise a cellular structure, lobate on plan, consisting of a series of cells arranged around a central space (Figure 21b). One cell retained evidence of corbelling and all were at least partially revetted into the remains of the underlying structures. The location of a door-post at the entrance and the nature of the internal deposits suggest that these compartments were all part of a single roofed building (Armit, 1996, 176). The substantial debris recovered from this structure was mostly secondary (Ian Armit, pers. comm.) and included hearth waste dumped in the cells from metalworking carried out in the centre. The largest cell was found to be almost free of hearth waste and thus possibly represents the living area of the structure. Within the waste were 150 fragments of clay moulds, 185 crucible fragments and tuyere pieces and other metalworking products. This represents a highly specialised tool kit, possibly associated with precious metalworking as well as that of copper alloys, as at Loch na Beirgh. There were no formal furnaces or kilns and a simple cobble-lined bowl hearth seems to have been sufficient for the purpose. No actual products were found but the moulds suggest pins, ingots, penannular brooches and at least one developed hand-pin of Early

Historic type, possibly indicating a date of around the 6th to 7th century AD. There is also a possible roundel mould with triscele bosses, paralleled for example at Dunadd in the 7th century AD (op. cit., 177).

Radiocarbon dating of the hazel and birch remains, used as fuel for the hearth, produced dates across a wide range and suggest that the fuel was recovered from a variety of residual sources, maybe even including the Neolithic site nearby (Ashmore, 1999, 127). The excavator argues however, that the metalworking must have been later than the latest date from the charcoal (*circa* 5th to 9th centuries calAD), consistent with the metalwork (Armit et al., forthcoming). The latest published date (GU-3233, 1400±90bp) suggests a period between calAD460 and calAD860 for the metalworking debris and exemplifies the problems of bulk radiocarbon dating (Ashmore, 1999, 127). The lack of material associated with the primary phase of this building unfortunately deters any detailed analysis or dating of the original construction of this shamrock type building. It remains possible that the only means of dating this structure is by comparison to the relatively well-dated building at Beirgh, around the 6th century AD. This would fit comfortably with the later 6th to 7th centuries AD re-use for metalworking.

The pottery recovered from this phase of activity would also seem to indicate a later rather than earlier first millennium AD date for the site. Armit describes the assemblage as dominated by flaring rim vessels with restricted decoration and seemingly few, if any, short everted rims. There does not seem to be the variation in decoration visible in earlier assemblages (Armit, 1992, 80). The similarly constructed 'shamrock' building at Beirgh seems also to contain only plain or rarely decorated pottery on preliminary examination.

The excavator also postulates that the site was used by an itinerant smith working for a short time or a specialist from a nearby settlement working away from the rest of the community. Such a large metalworking assemblage is more often associated with high status sites such as Birsay and Dunadd, indicating control by a possible elite. Eilean Olabhat is obviously unusual in that it lies away from high status sites and the excavator postulates that there may have been only a petty aristocracy on the Western Isles reliant on itinerant specialists. This aristocracy was unable to support such craftspeople in larger nucleated settlements (op. cit., 178).

Phase 2 at A'Cheardach Mhor wheelhouse (Figure 16e), South Uist was represented by ephemeral structural remains re-using only part of the original roundhouse structure (Young and Richardson, 1962). This coincided with the appearance of applied cordon decoration with vertical embellishments on pottery (*op. cit.*, 154) comparable to several secondary assemblages from Loch na Beirgh, Dun Cuier, Bac Mhic Connain and Cletraval. The later Phase 3 buildings are poorly-preserved, curvilinear cellular structures associated with Plain Ware pottery, hipped pins and a hooked artefact paralleled (*op. cit.*, 156) at Bostadh Beach and Foshigarry. Phase 4 incorporates a revetted structure with vertical slabbing surmounted by drystone coursing, associated with a bronze loose ring-headed pin of a type common in Ireland (*op. cit.*, 92). An unstratified sherd was originally thought to be B-ware (*op. cit.*, 157), but has since been identified as local pottery (Ewan Campbell, pers. comm.). Finally, Phase 5 is composed of disturbed and unstratified material, including a late double-sided composite comb fragment, plain pottery and an iron knife, and is attributed to the period of Norse incursions (*op. cit.*, 160).

This site is obviously in need of review in light of various reinterpretations of the sites used to underpin its dating (e.g. Dun Cuier). The general stratigraphic progression is however similar to that now visible at many other sites across the Atlantic Seaboard. The truncated nature of the remains set into the wheelhouse are reminiscent of the later structures found at Beirgh underlying the figure-of-eight building and overlying the cellular phase. These are poorly preserved owing to use and re-use. The associated material would also fit well into the assemblages retrieved from many sites and the vertical slabbing is now typical of cellular architecture. Of particular interest is the development of the pottery on this site from the incised decorated type to the plain 'Pictish' period pottery now seen as characteristic of the later first millennium AD (Lane, 1990). The Phase 2 applied cordon decorations in particular are very reminiscent of some of the designs found on the Beirgh pottery and may support the idea of widespread and intimate contacts during the developments of the first millennium AD. They are also paralleled at Dun Cuier, Barra and Cletraval, North Uist.

Armit (1992) has recognised and analysed 28 sites in the Western Isles that display aspects of cellular settlement. Unfortunately, this work merely aggregated all cellular settlement together as a post-complex Atlantic roundhouse phenomenon and made no attempt to analyse the sites in detail. Closer examination of associated assemblages and site layout suggests these cellular settlements span a long period of time and undergo many structural and artefactual developments.

Armit classifies the later first millennium BC re-occupation of Dun Bharabhat, Lewis as cellular. However, this author would object to this on several grounds. The Dun Bharabhat re-occupation did not require any significant building or re-building of the dun structure itself, apart from the small scale insertion of walling into one of the collapsed galleries to produce a small cell off the main area with a pair of niches. There was no new skin of walling added to the main dun walls, no vertical slabbing was introduced and the overall structure is simply one of re-use after a major collapse. This type of cellularity is comparable to a complex Atlantic roundhouse as discussed earlier, or the secondary roundhouse re-use of Loch na Beirgh. At the latter site, a gallery was also adapted by the insertion of a blocking wall during the earlier re-use of the complex Atlantic roundhouse structure prior to the insertion of the secondary roundhouse; this stopped access to the intra-mural stairs. At Bharabhat, the insertion of a trough or tank in front of the entrance to the intra-mural stairs could be comparable. Although some of the features of cellular architecture are apparent such as the niche and basic possible figure-of-eight layout, the host of regular features such as three-sided hearth, vertical slabbing, paving, and traces of corbelling were not discovered. However, the external additions, possibly later again, do show these features. The material retrieved from the secondary structure, and the radiocarbon dates, indicate occupation in the last centuries BC and no occupational material from the later first millennium AD is recorded.

Several sites arranged around a possible 'tel' of settlement at Galson, Lewis, produced features and structures that may be classed as cellular (Edwards, 1924). At sites A and B only ephemeral and poorly-preserved features such as a three-sided hearth and curvilinear revetted walling were recovered (op. cit., 187-190), comparable to features preserved in the cellular phase at Loch na Beirgh. Site C however, incorporated a series of four *circa* 2m diameter oval chambers associated with a covered drain feature (op. cit., 192). All the cells were probably revetted into the sand and had lintelled south-facing entrances, floors of paving or clay and were filled with midden material, some of which was found on the floors. The recovered assemblage appears to be mixed with incised decorated pottery sherds alongside classic Plain Ware and Cletraval style-arcade decorated and everted rim wares and several composite comb fragments (op. cit., 196). Some evidence of metalworking was also recovered including slag and vitrified material comparable to artefacts from Loch na Beirgh, one of which may be a tuyere (op. cit., 199).

The general arrangements of the Galson site tally reasonably well with those already discussed. The pottery is generally plain with few decorated sherds, similar to the 'shamrock' type cellular buildings at Loch na Beirgh, and the rest of the material certainly would not look incongruous in the first millennium AD. The presence of bone combs suggests a mid- to late first millennium AD date for at least part of the site but the lack of any detailed contextual information for the finds makes analysis difficult. The cellular buildings all open to the same direction and may well cluster around a central and unexcavated area similar to other cellular buildings of the type such as at Gurness, Eilean Olabhat, Buckquoy and Loch na Beirgh. Alternatively, the presence of incised decorated pottery, presumably residual, and the description of 'benches' in the corners of some of at least one cell may indicate that these were the upper and re-used remains of wheelhouse bays. The benches could be the 'Y' lintels bonding the piers to the main wall and it has already been discussed how several excavated wheelhouses incorporated often small covered passages from their internal areas. Modern excavations on a cemetery of extended inhumations to the east of the location of Site C at the edge of the 'tel' have radiocarbon dated three skeletons to the early first millennium AD (GU-7400, 1770±60bp; GU-7401, 1850±50bp; GU-2115, 1710±70bp) (Neighbour et al., forthcoming). These inhumations contrast markedly with the earlier 4th to 1st century calBC cremation evidence from An Dunan (*supra*) suggesting perhaps that a change in mortuary practice occurred between the late first millennium calBC and 1st or 2nd centuries calAD. One of these burials, dated between calAD110 and calAD410, contained an incised decorated everted rim pot apparently built especially for incorporation in the burial (Johnson, forthcoming).

Bac Mhic Connain, North Uist, was also a multi-phase wheelhouse site with additional external buildings and several indefinite structures, emphasising that the site had undergone considerable reconstruction (Beveridge, 1931, 43). Structure A is a circular building without the radial piers but incorporating a door-sill, a paved passage and a secondary three-sided hearth (Figure 15c). Of the other buildings, only B has recognisable cellular features, such as vertical slabbing, in the wall opposite its entrance. It was accessed off a main, multi-phase passage to the wheelhouse (*op. cit.*, 45). This site seems comparable to the multi-phase wheelhouse at Cnip, with re-use of the wheelhouse itself and the possible addition of subsidiary cells such as structure B. None of the material is ascribed a context or provenance but included bone handles, some with rivets, one with dot-and-circle decoration and one inscribed with ogham. There was also a possible parallelepiped die (*op. cit.*, 59-60) and an ornamented whalebone artefact with a resemblance to mirror handles that incorporated a

groove at its base, presumably for such an attachment (op. cit., 58 and figure 14). The ceramics included a small fragment of a Samian bowl and there were several clay mould fragments, one of which may have been used to cast a flat “ring”. There seem to have been no incised sherds although there were applied cordons, one with a peculiar high arched moulding springing off, and two everted rim sherds had grooves below the rim (op. cit., 61). This assemblage has several parallels with the Beirgh ‘cellular’ assemblage which also shared the applied cordon designs and the peculiar high-arched motif. The mould may have been used for the currently unique flat type zoomorphic penannular brooch found at Beirgh. A bronze artefact at Lochlee crannog in Ayrshire parallels the bone ornament, thought to be a mirror handle.

Scott’s investigation of a chambered tomb at Unival, North Uist recovered a small Iron Age structure revetted into the cairn material (Scott, 1947b). The building had two chambers, one with an earth floor and the other paved; both had quantities of charcoal and peat ash on their floors. During this occupation the tomb chamber was used as a fire pit and pottery from here and the floors of the structures include relatively plain pottery with fingernail decorated and furrowed rims that can be compared to material from the early phases at Jarlshof. Other pottery from later contexts outside the structures had everted rims and applied cordon decoration (op. cit., 4-5).

This site would seem to conform to our cellular structure criteria of flimsy buildings revetted into earlier material. It also has a similar layout to a fully-formed figure-of-eight building with a ‘main’ outer room, and an inner room with specific and different features and presumably function. However, the pottery associated with the structure is very different from the early to mid-first millennium AD material (Armit, 1992, 82) outside and later. The site may therefore be another early example of a revetted structure comparable to sites such as Eilean Olabhat and Guinnerso (*supra*).

Post-wheelhouse occupation at Cletraval included a smaller structure revetted into collapse in the western half of the original structure (Scott, 1948). This building re-used the wheelhouse entrance but this was eventually filled in and a small ‘hut’ was built on top and into the thickness of the wheelhouse wall (op. cit., 48). These sparse descriptions and the lack of attention paid to this later occupation mean that little detail can be elucidated from the material. However, it is obvious from the reconstruction of the wheelhouse (*supra*) that

it had been comprehensively dismantled or destroyed prior to the construction of the later buildings.

Armit's discussion of the excavated evidence from Dun Ban (Thomas, 1890) aptly summarises the problems of interpreting early excavations. The structures discovered here seem to be of corbelled cellular single-faced buildings inserted into a complex Atlantic roundhouse (Armit, 1992, 83) that the excavator believed represented primary occupation. No details of the material from the excavation are available for analysis (*ibid.*). Thomas also investigated several other sites in the Outer Hebrides and emphasised the continuity of building techniques up to the blackhouse tradition (1868). One of the sites, at Valaquoy, North Uist, consisted of a possible corbelled or partially corbelled figure-of-eight building. The site was composed of single faced masonry revetted into a sand mound with circular or oval inner and outer chambers linked by a short, narrow passage or entrance (*op. cit.*, 170 and Plate XXXVII No.21).

Figure-of-Eight Buildings

The figure-of-eight building dominates Phase 1 at Loch na Beirgh. This structure encapsulates many of the architectural developments of the preceding phases (Figure 22a). It is built mainly of vertical slabbing and drystone coursing, it incorporates a central three-sided hearth with small rounded stones at its corners and two aumbries were built opposing the entrance. The main Cell A allows access to a further curving Cell B, which was subsequently divided into two. This division of space meant that access to the smaller Cell C thus created was only possible from the entrance 'passage'. The partial corbelling of Cells A and B (and presumably Cell C) is a major engineering feat developed from the corbelling of previous smaller structures. Alignments of stone within the interior may demarcate areas to either side of the hearth, the southern being the more prominent where the use of vertical slabs running from south of the entrance may indicate a bench-like feature similar to those of previous phases.

The physical constraints of the complex Atlantic roundhouse walls at Beirgh meant that several architectural details of figure-of eight buildings occur differently here. For example, although the smaller Cell B (and later Cell C) contains the majority of the vertical slabbing it does not preserve any aumbries and is not oval in shape. However, the very same constraints imposed by the previous roundhouse architecture may have allowed both the main and the subsidiary cells at Beirgh to be partially corbelled. The solidity of the foundations would be

paramount in such an endeavour. The inner complex Atlantic roundhouse wall would have provided a strong base from which to develop corbelling. The technique of corbelling is a particularly specialised one, especially in its partial form, incorporating an organic roof, and this engineering may only have been available to certain of the occupants of sites during the Late Iron Age.

Beirgh also has a larger floor area in the main Cell A (*circa* 35.5m²) than any of the main cells at the other sites. Bostadh (*infra*), for example, has main areas ranging from 27m² to 29m². Cell B at Beirgh is *circa* 11m² in area and the comparable cells at Bostadh are 6m² to 8m². Further subsidiary cells are attached to the main cells at Bostadh, mostly smaller still (one, for example, is *circa* 4.8m²) although at least one, an elongated chamber *circa* 13.7m², incorporates its own subsidiary cell, its own hearth and a further lintelled area and may be the re-used remains of an earlier building. Interestingly, the overall floor area of this latter building, including its subsidiary cell (16m²), compares well to the shamrock and associated structures in Beirgh Phases 5 and 6 (*circa* 19.5m²), although again smaller. The presence of metalworking debris, including pipe-bowl shaped crucibles, from the later phases at Beirgh and the conspicuous absence of such evidence at Bostadh is also noteworthy in this context.

Parker Pearson and Sharples' excavations at Dun Vulcan, South Uist, have similarly highlighted the re-use of a broch structure, again possibly at first floor level, by the insertion of a cellular structure (Parker Pearson et al., 1995; Parker Pearson and Sharples, 1999, 65-67). The cellular structure inserted into the Atlantic roundhouse around first floor level is comparable with that revetted into Loch na Beirgh Atlantic roundhouse (Figures 14e and 22a) incorporating a main roughly circular area accessed from the east and incorporating a somewhat elongated secondary chamber to the south. This latter is demarcated from a smaller adjacent cell nearer the entrance, again directly comparable to Loch na Beirgh. This structure was however, not fully excavated. Dun Cuier may also incorporate a figure-of-eight building similar to that at Dun Vulcan (*supra*).

External rectilinear structures at Dun Vulcan face the same easterly direction as the cellular building (Parker Pearson and Sharples, 1999, 131). The structures are stone buildings located in a forecourt to the complex Atlantic roundhouse, and at least two of these were rectangular stone platforms with covered drains running in an east-west direction. Analysis of the soils on the first platform (Building A) suggests its use as an outhouse and not a dwelling (*op. cit.*, 137) although it also incorporated some unusual features such as cetacean

bone devices (op. cit., 135). A drain associated with the overlying structure (Building B) produced a human mandible and analysis of the deposits in the building again suggests this was never used for long-term habitation (op. cit., 137). The final structure (Building C) had a hearth comparable to the early cellular trapezoidal hearths at Loch na Beirgh. This feature was multi-phased and incorporated a baked clay surface with finger-dragged lattice decoration (op. cit., 140). The excavators compare these buildings to the chronologically diverse rectilinear structures at Cnip, Lewis, Tungadale, Skye and the Wag of Forse, Caithness (Parker Pearson et al., 1996, 63), discussed in more detail in other chapters. The sequence of radiocarbon dates from these buildings suggests they date between the 2nd and 7th centuries calAD (AA-18150, 1750±70bp; AA-18146, 1560±65bp; AA-14705, 1495±55bp; AA-18149, 1595±70bp). Disturbed *terminus ante quem* dates range between the 2nd and 10th centuries calAD (AA-14702, 1750±70bp; AA-14704, 1245±70bp; AA-14703, 1495±65bp). Early to mid-first millennium AD dates are comparable to the sequence of cellular settlement at Beirgh, and the close comparison in hearth design in Building C suggests this structure at least may be contemporary with cellular settlement below the figure-of-eight buildings at Dun Vulcan and Loch na Beirgh. The other buildings may be associated with earlier secondary activity also unexcavated and relating to the midden debris accumulating nearby.

Udal North Tell, North Uist, has revealed evidence of Iron Age to Medieval settlement including Pictish and Viking phases. The Pictish period is defined by a group of figure-of-eight type buildings which, although poorly preserved, had a long history of use with many building phases lasting from AD300/400 to AD800 according to the excavator (Selkirk/Crawford, 1996, 90). One of these (MNORS/XI.I) is detailed in an earlier publication as having no less than eight successive re-builds and supposedly developed across 500 years from single large cells to the complex cellular Pictish building (Crawford, 1974, 9). Unfortunately, no published evidence is available for this important structural evolution. The internal arrangements of the later figure-of-eight houses include a substantial stone-lined (four-sided) hearth flanked by low stone revetted platforms in buildings consisting of vertical slab-lined large central areas with smaller cells opening off. There are often opposing entrances to these cells and vestibules. There are associated timber enclosures which seem to encircle the buildings, at least one of which was reportedly replaced 15 times (Crawford, 1996, 90). Radiocarbon dates from this period of settlement indicated use between the 5th to 10th centuries calAD (Q-1137, 1502±80bp; Q-1139, 1271±115bp) and a radiocarbon date from the immediately succeeding Norse period (Phase

10) provides a *terminus ante quem* between the 9th and 11th centuries calAD (Q-1136, 1091±40bp). The pottery of the cellular buildings is characterised by plain types with only two or three decorated sherds and mainly ‘flower pot’ shapes of poor fabric coiled by hand. Other finds included metalworking moulds of an ‘unusual style’ and crucibles, bone and bronze pins (Crawford, 1974, 12). Again a lack of published evidence does not allow in-depth consideration of the assemblage. Excellent bone preservation in the sand and use of floatation techniques indicates great potential for the economic analyses when published.

Excavations by the Centre for Field Archaeology and the University of Edinburgh Department of Archaeology have recently uncovered the remains of three figure-of-eight buildings partially revetted into the machair at Traigh Bostadh, Bernera, Lewis (Neighbour and Burgess, 1997; Figure 22e). These buildings lay under the severely truncated remains of Norse buildings and a large Norse midden. They were constructed of a combination of vertical slabbing and drystone coursing and incorporated multiple phasing and possible smaller earlier buildings in their plan. The outer walls surrounding each building were higher than the inner foundations so that little of the structures appear above ground. The smaller cells off the main circular cells, which incorporated central three-sided hearths, were slightly oval in plan and were sufficiently well preserved to indicate the use of partial corbelling in their roofing. They had multiple aumbries, often opposite the entrance to the cell and seemed not to have hearths or other furniture regularly found in the main cells. These latter may also have been partially corbelled although at least one wall, standing sufficiently high, indicated instead the use of a wooden roof. A lack of rubble from the fill of the site also suggests organic roofing. One building also produced evidence of a possible intra-mural recess, perhaps comparable to the partitioning found alongside the hearths at the Udal, Beirgh (*supra*) and Buckquoy (Chapter 3). A further building produced a partition with raised bench that may also be considered analogous to these. All these structures were investigated using *total* sampling of deposits that will allow a full comparison with Beirgh and similar sites in Lewis after post-excavation analysis, and will provide detailed evidence as to economy and the various functions of the structures investigated. Preliminary results already indicate that a small subsidiary chamber to the south-west of one building (House 1) was used as a byre (Timothy Neighbour and Michael Church, pers. comm.). These structures also incorporated subsidiary cells into their overall plans. It seems that when given space, as here in the open machair and in the similar location at the Udal, the basic figure-of-eight design can spawn multiple cells which only reinforces their links to the earlier ‘shamrock’ type or more amorphous cellular buildings.

These structures produced an assemblage of coarse, plain pottery with flaring or upright rims and little if any applied decoration (Melanie Johnson, pers. comm.). This material was associated with such finds as hipped, nail-headed and globular-headed bone pins and decorated composite bone combs. The pins are typical, although undecorated, examples of the short, hipped, Group D type, invariably dated late in the first millennium AD (Foster, 1990, 156). One of the combs is almost identical to that found at the Broch of Burrian and designated as a Group 5 type by Foster (op. cit., 160-161). At least one other is also comparable to a Broch of Burrian example, this time a Group 6 type (ibid.). This type of assemblage is commonplace for the later centuries of the first millennium AD (op. cit., 161-162) although a full survey of the material now being recovered from numerous modern excavations would merit analysis. A brief excavation into a stratigraphically underlying building at Bostadh recovered the only decorated sherd with an applied cordon. While the evidence of only a single sherd in a small sampling trench is not unequivocal, it currently fits well into the pottery sequence proposed for the Outer Hebrides. Other interesting items of note include a bone carved 'hook' object with a possibly zoomorphic motif. There was no evidence of metalworking recovered from any of the buildings, an important piece of information considering the finds of pipe-bowl crucibles and other metalworking debris from the Pictish levels at Loch na Beirgh.

Ceann nan Clachan, North Uist, has produced evidence of a symmetrical possibly figure-of-eight building revetted into an earlier collapsed burnt mound (Armit and Braby, 1996; Figure, 23f). The original interpretation of this building as Early Iron Age, based on only two decorated pottery sherds, has been revised to that of a typical Late Iron Age figure-of-eight structure (Ian Armit, pers. comm.). The use of the inner cell seems to have been somewhat more complex than other buildings discussed here but still fits the general theme laid out for such ventral structures. However, the structure has two small cells budding off the secondary inner cell; both seem to be functionally specific to the use of this latter cell which had no central slabbed hearth like the main outer cell. One seems to have been a cupboard of some kind, possibly analogous to the aumbries often found in such structures and found in exactly this architectural location at Bostadh for example. The other seems to have been specifically built as a hearth (Ian Armit, pers. comm.). Taking the evidence of all other buildings of this type, the smaller inner cell seems always to have had a function removed from the main probable habitation area. At Ceann nan Clachan, this is perhaps related to the processing of agricultural crops. The small hearth cell could function as a corn

drying kiln, although it may legitimately be expected that at least some macrofossil evidence of this usage would survive. Only interim work has been carried out but full post-excavation results are eagerly awaited.

Recent work in South Uist has uncovered evidence for figure-of-eight buildings such as at Cladh Hallan houses 640 and 401 which have been dated to the Late Bronze Age/Early Iron Age (Marshall et al., 1999). House 640 at least may need reinterpretation as a later first millennium AD structure, considering the overwhelming evidence so far discovered for the late dating of figure-of-eight structures and specifically the directly comparable Ceann nan Clachan (*supra*). The various structural types of figure-of-eight buildings in the north (Chapter 3) warns against tight architectural definitions, and it is possible that these buildings are smaller versions on the figure-of-eight theme without the diagnostic assemblages. Alternatively, House 640 and especially House 401 may reflect the underlying cellularity in Hebridean architecture before the Atlantic roundhouses. In this case revetted circular or sub-circular structures of the early to mid-first millennium BC (*supra*) might betray close links with these similarly revetted cellular structures.

Discussion

Settlement development in northern Scotland (Chapter 3), from the culmination of the complex Atlantic roundhouses to the Norse incursion, is very similar to the model proposed for the Outer Hebrides of Western Scotland. However, the evidence is also subtly different in several respects. The comparisons become more interesting the more detailed the analysis, and the similarities and differences need to be explained. Shetland for example, shares the wheelhouse with the Western Isles while Orkney has not a single one. Both Orkney and Shetland share a relative lack of decoration on Iron Age pottery compared to the West.

It is possible to interpret the current evidence for the Iron Age in the Outer Hebrides in a very detailed manner, allowing a discussion of possible settlement patterns and their changes and continuity. Several structures exist in the west that can be dated by pottery styles and decoration (Guinnesso, Sollas Site A, Eilean Olabhat), radiocarbon dating (An Dunan, Eilean Olabhat, Hornish Point) and stratigraphic association or constructional technique (Ceann nan Clachan) to a period around the middle of the first millennium BC, perhaps continuing into the later first millennium BC. These structures are at least superficially similar in form and layout and may include radial division of internal space. How these buildings relate to the

complex Atlantic roundhouses is a matter of debate; we currently have only one site, Dun Bharabhat, excavated to basal levels and this only has *terminus ante quem* and *terminus post quem* dates. However, the pottery at Dun Bharabhat compares well with the earliest Loch na Beirgh, Cnip and Sollas Site B material, which is later, and thus these small sites could represent earlier structures. Alternatively, differences in function across the sites would introduce differences in the assemblages, including perhaps pottery decoration. More work is currently under-way to compare these assemblages and the continued excavations at Loch na Beirgh should eventually produce a very well-defined chronology for the development of the massive complex Atlantic roundhouse. An Dunan may also have pottery comparable to the Sollas Site A assemblage and could also date to this same period. Forms at An Dunan, such as relatively straight-sided vessels with applied slash decorated roundels and impressed decoration, are associated with crude incised decoration and a penannular shale bracelet (Burgess et al., 1997). The latter artefact would not be out of place in a first millennium BC context (Fraser Hunter, pers. comm.) and the site has been radiocarbon dated between *circa* 400calBC and 200calBC (*supra*). This is important because it is almost certainly a building relating to ritual and religion, incorporating cremation and burial. It cannot therefore be compared directly with secular domestic or transhumance sites, but may for the first time provide detailed information on the mortuary record of the first millennium BC Iron Age in this area.

What stands out about these early structures when compared to the Atlantic roundhouses, is their total lack of visible monumentality. They are less regular and symmetrical than the more strictly defined circular roundhouses with massive walls. If they are contemporary with Atlantic roundhouses, they are almost certainly functionally ancillary. Whether they represent the domestic structures of the lower classes in this context is debatable, although the distinct marginality of at least one (Guinnesso), the possibility of the same for the others, and their lack of any evidence for long-term occupation, would seem to argue for temporary use by people living elsewhere. They may have been functionally specific sites within the Atlantic roundhouse settlement pattern. The excavated sites at Eilean Olabhat, Sollas Site A and Hornish Point all incorporated pits cut into the floors before use, a practice which was to become more prevalent in later phases, such as at Sollas Site B (Campbell, 1991). Perhaps these were special buildings, or perhaps the pits are regular occurrences on all sites of the Iron Age. Dunan Ruadh complex Atlantic roundhouse produced at least one pit in possible primary deposits (John Pouncet and Patrick Foster, pers. comm.). Hornish Point included the burial of a young boy, deliberately dismembered and buried in pits under the floor, which

has been argued as being different from the usual, presumably votive, deposition of animal bone (Barber et al., 1989). Yet animal bone was incorporated in some of the pits and could signify that although different this act was still related to general ritual practice. Indeed, the very act of burying the partially decomposed skeleton in pits is analogous to the animal and artefact burials found elsewhere.

The evidence of the pottery and the plausible early dates of these non-monumental structures suggests an alternative interpretation as chronological predecessors to the complex Atlantic roundhouses in the Outer Hebrides. If this is the case they would be contemporary with simple Atlantic roundhouses discovered in northern Scotland. However, no simple Atlantic roundhouse has yet been claimed for the Western Isles (Armit, 1990c, 55; 1992), although a series of large circular and oval buildings with thick turf or similar walls have been recently discovered in South Uist dating to the Late Bronze Age (Mike Parker Pearson, pers. comm.). A possible simple Atlantic roundhouse may also be lying beneath the wheelhouse at Ben Tangaval, Alt Chrisal, Barra (John Pouncet and Patrick Foster, pers. comm.) but is impossible to evaluate without full publication. It would be remarkable if this dearth was entirely the result of archaeological visibility considering the amount of fieldwork which has been carried out in the area. Until a simple Atlantic roundhouse is discovered and excavated, it will be assumed that they do not exist in the Western Isles. This would make the heterogeneous sample of structures so far discovered the progenitors of a sudden and fully-developed series of large monumental buildings with complex and sophisticated architecture. There is none of the gradual development evidenced in the northern Scottish archaeological record. Structures excavated around their basal levels such as Dun Vulcan and Bharabhat have no earlier simple Atlantic roundhouse under them, nor even sequential developments of complex Atlantic roundhouses. Similar arguments could be suggested for the majority of visible structures such as Carloway, Dun Loch an Duna in Bragar, Dun Borranish in Uig and so on, although none of these have been fully excavated. Sites in the north, by comparison, such as the Howe, Clickhimin and Jarlshof, have reasonably clear evidence for earlier roundhouse structures (Chapter 3).

It is necessary therefore to explain the sudden introduction of complex Atlantic roundhouses into an area with no previous evidence of similar constructions. The easiest suggestion is a migration of ideas (or people) from the north into the Western Isles. However, similar developments may have been occurring in Argyll during the first millennium BC that may include the construction of simple Atlantic roundhouses (Gilmour, 1994; Chapter 5). If so

then Argyll would also be a possible origin point for the complex architecture seen in the Outer Hebrides. Indeed, the relative wall-base percentages increase from Argyll into the Western Isles and then into the north (*ibid.*), suggesting differences in monumentality in the various areas. However, numerous aspects of the indigenous material culture and architecture continue into the construction of complex Atlantic roundhouses in the Western Isles. Radial division of space may be continued, although only through analogy to Atlantic roundhouses elsewhere. The main evidence for continuation is the pottery assemblage; not only does decorated pottery continue to be made but also the incised and applied styles continue and develop. Similar decoration is rare on northern pottery (Chapter 3) and, although some decorated wares have been recovered from Argyll, the majority of excavations seem to produce little or no pottery at all (Chapter 5). This decoration and pottery style is probably indigenous to the Western Isles from the first millennium BC and continues until the early centuries AD, presumably indicating that the sites were occupied by locals and not incomers. It is thus much more likely that only the idea spread indicating close contacts at this time, perhaps including the movement of specialist 'architects'. The development of complex Atlantic roundhouses in the Western Isles, at a period roughly contemporary with other areas, therefore reflects wider social changes albeit with distinctly local effects. This is reinforced by the later contemporary reduction in height of complex Atlantic roundhouses and the insertion of secondary roundhouses. These structures share many affinities with wheelhouses including pottery styles, radial layout, and use of subsidiary chambers and peripheral paving. The most important similarity is that they too are single-storey structures.

Construction of monumental roundhouses might reflect the development of the clientship system in the area, allowing much greater differentiation of social position, or at least the outward expression of these differences. Society may have become more stable, allowing communal effort to be expended on the construction of individual houses and homes. The statement made by these structures in relation to the surrounding landscape indicates a more secure tenureship of the land and a projection of control over an economic base.

The original wheelhouse construction at all the sites discussed here is very conservative. The methods of construction are almost identical, varying only in general orientation and size. There are only two or three sites at which the aisled effect is not present, and Armit has argued that this may be a later development at Foshigarry (1992, 54) and perhaps elsewhere (*op. cit.*, 70). This would make constructional sense, especially since the evidence from

most sites indicates that the aisles were often later blocked with masonry to support failing lintels. At all sites the presence of a well-built and carefully faced external wall is only visible at the entrance. The rest of any encircling external works are poorly-built, rough revetments that probably quickly became overgrown. The majority of excavated sites are revetted into the machair sands, and although there may have been earlier middens there is often no evidence for previous structures underlying the buildings. Many wheelhouses can therefore be considered as built *de novo* in whatever environment they are found, although exceptions exist, such as Eilean Maleit and Ben Tangaval, that include sites where much earlier roundhouses once stood. Wheelhouses certainly replace Atlantic roundhouses as at Eilean Maleit, North Uist, Ben Tangaval, Barra, and Scatness and Jarlshof on Shetland. Further, it is possible that several sites incorporated more than one wheelhouse, for example the later phases at A'Cheardcach Bheag or the earliest phase at Cnip. Subsidiary chambers are often present, usually of the long passage form. The parallels between these passages and souterrains are hard to ignore and also suggest a conceptual link with the intra-mural galleries of the earlier Atlantic roundhouses. At many wheelhouse sites larger oval or circular chambers either replaced the passage or were added to the overall layout. It is perhaps worth noting that this construction of a discrete secondary space in many ways presages the chronologically later cellular structures introduced *circa* the 4th century AD. At Cnip this is graphically highlighted by the constructional similarities between the Phase 2 cell off the entrance to the modified wheelhouse and the later cellular structures at Loch na Beirgh and other sites.

That all wheelhouses were so similar in construction suggests that the structural type is chronologically contemporaneous across the Outer Hebrides and perhaps relatively short-lived. It would seem unlikely that such a complex architectural style and building technique could be re-invented at various times in various places. These same arguments also suggest that the layout and architectural details of the original wheelhouse were important and carried some significance. Although Atlantic roundhouses all seem superficially similar, no two are exactly alike (Gilmour and Cook, 1998, 329); indeed it is partly this variability in design and layout that some use to argue against the viability of the class as a whole (Sharples and Parker Pearson, 1997). Many wheelhouses are uncannily similar and the layout of Cnip wheelhouses for example is identical down to the exact positioning of the radial piers. If the second structure were ever completed it would have looked exactly the same as the well-preserved wheelhouse. However, if it is accepted that bonded piers are later than aisled piers then it is arguable that all the aisled wheelhouses excavated to date

were constructed within the same time span. Once these sites began to degrade and the aisles were blocked it would have been clear that bonded piers offered structural stability and greater longevity. However, it could also be argued that bonded piers are aberrant and that the aisles were important to the original layout and thus continued to be built in the face of obvious instability. Either way some significance is attached to the aisled effect, whether it be chronological or perhaps constructional or even functional. Of course the latter need not exclude the former and it is perhaps useful to analyse the wheelhouse as both a chronologically discrete monument with a carefully designed and conceptually important layout and architecture.

The wheelhouse differs from the earlier complex Atlantic roundhouse in one important detail – it is single storied. Although possessing a majestic internal height there are no obvious remains of internal staircases or scarcement ledges. Very few wheelhouses have remains of internal post-holes and those that do can be argued as internal furnishings rather than the supports for a first floor. The entrance to these structures, where it can be recognised in its original form, is generally relatively short although it may incorporate door checks and even bar-holes. The exterior wall at this point is often well built and can incorporate a forecourt. This effect, produced by expanding walls running from the entrance could be for entirely functional reasons but it would also have focused attention on the doorway and entrance to what is otherwise a potentially invisible building. It is generally only in the later phases that the longer entrance passage is added to the front of the site, perhaps as a result of sand movement, although this often included a subsidiary cell replacing the forecourt space.

The focus of these sites is undoubtedly inward. The corbelled bays and their widening piers arranged around an open area with a central hearth would present tall and graceful arches contrasting to the low and narrow main entrance. The bays in each wheelhouse are relatively similar in size, with larger sites incorporating more piers. Some similarities might be perceived in the use of certain cells, those to either side of the entrance are often paved and incorporate additional architectural features. Those to the left and right of the central area may have access to subsidiary passages or cells. The bays to the rear of the wheelhouse are often distinguished in some manner from the rest. At some sites they are slightly larger than the norm, at others they incorporate special features such as aumbries or slab-lined boxes set in their floors. At Sollas, the cell opposite the entrance incorporated the majority of the pottery recovered from the interior of the site.

The subsequent provision of relatively large subsidiary chambers would have affected the layout and use of the site in a significant manner. In fact, many sites were already rearranging the rather simple access patterns in the wheelhouses at this time; for example, at Cnip it became necessary to move round the central hearth in a particular direction owing to the insertion of large upright slabs. Other changes were also occurring, aisles were blocked with masonry and it is possible that some of the entrances to bays were blocked too. The use of a discrete subsidiary space would have introduced a separate area, accessible from certain of the bays, or perhaps the entrance passage, and reflects a more explicit partitioning of various activities. On many sites the wheelhouse continued to be used and re-used over a long period of time, with successive building and modifications to the original structure. These secondary re-uses have generally confused earlier interpretations of stratigraphy and structural layout, as well as the phasing of sites and their possible longevity. An abbreviated analysis of the pottery recovered from the sites excavated to date highlights the preponderance towards a mix of everted-rimmed applied-cordon decorated wares and wares with incised decoration with or without applied cordons and everted rims. Some sites with a long sequence of structures also produce the plain, undecorated wares now characteristic of the mid- to late first millennium AD. However, these latter pottery assemblages almost certainly originated from secondary cellular structures. The radiocarbon dating and its analysis from Cnip and Sollas indicate that wheelhouses were constructed and used in the 1st and 2nd centuries AD, perhaps even as early as the 1st century BC. The *terminus ante quem* dating from the Udal, however tenuous the stratigraphic link, and the cellular structures at Loch na Beirgh would support this dating. This same period may also have seen a change in burial practice, at least in Lewis, from cremation as evidenced at An Dunan, to inhumation recovered from a cemetery at Galson, although this suggestion should not be pushed too far on the basis of material from only two sites. The pot recovered from this site and radiocarbon dated to between the 2nd and very early 5th centuries AD supports the possible sequence and chronology of pottery proposed here.

The original construction of succeeding cellular structures recovered from many wheelhouse and re-used Atlantic roundhouse sites in the Outer Hebrides could be dated to around the 4th to 5th centuries AD by comparison to the Loch an Beirgh structures and their dating evidence. The suggested dating is comparable to other cellular structures elsewhere in the Atlantic province (Chapters 3, 5 and 6) supporting this interpretation. Artefactual remains, though generally undiagnostic, would not be out of keeping with this dating horizon. For example, the possible recognition of a door-knob type spearbutt at A'Cheardach Mhor

(Andrew Heald, pers. comm.), with a suggested dating of 3rd to 4th century AD, would be consistent because it was discovered in secondary contexts. A brief analysis of the recorded artefacts suggests that there may have been an increase in bonework from the secondary re-use of Atlantic roundhouses and wheelhouses during this period of time.

The location of the first millennium AD cellular settlement is obviously in many ways constrained by the prior needs of the original inhabitants where these existed, as on wheelhouse and Atlantic roundhouse sites. However, the excavations at Dun Vulan, and to a certain extent also Dun Bharabhat on Lewis and many sites in the north (e.g. the Howe, Chapter 3), would argue for the long-term use of a specific location over many hundreds of years. At Dun Vulan this is represented by Bronze Age material below the complex Atlantic roundhouse, and to some extent may also be true of Eilean Olabhat with the close proximity of a Neolithic site. Thus these locations have presumably been favoured throughout the prehistory of the Western Isles at least and must therefore indicate some form of continuity throughout this time span. This continuity may relate to function, for example proximity to good arable or grazing land, or social factors, for example the continuing and possibly hereditary nature of land ownership. Discontinuity of settlement may be suggested by the construction of first millennium AD structures on much earlier sites without continuous occupation as at Eilean Olabhat. Other cellular settlements may have been built *de novo* in locations, such as machair environments, where their ephemeral nature is often quickly eroded once exposed leaving only midden deposits. However, to date no modern excavations have produced good evidence of early first millennium AD cellular structures without earlier settlement remains in the Western Isles. This contrasts with the shamrock type structure discovered at Buckquoy in Orkney (Chapter 3). Such *de novo* construction might be inferred from the recovery of a single applied decorated sherd from a structure underlying the figure-of-eight buildings at Bostadh Beach, or the poorly reported Udal sequence of structures. The greater number of instances of settlement discontinuity illustrate the possible complexity of land ownership and its changing nature through the Iron Age.

Although beginning as significantly smaller structures compared to the previous variations of roundhouse, cellular buildings develop into larger figure-of-eight structures. The latter are considered domestic buildings and, while it is probable that functional differences existed between individual cells, the smaller cellular structures are probably domestic as well. This conclusion is supported at Loch na Beirgh by the presence of a material assemblage common to other domestic sites, including sooted pottery and burnt and split bones. These buildings

therefore represent a profound architectural, and presumably therefore social, change around the 4th to 5th centuries AD in Atlantic Scotland. This issue will be developed further in the following chapters.

Finally, the general construction of developed cellular buildings, called figure-of-eight structures, while often utilising parts of earlier structures, are always major re-builds (Loch na Beirgh, Buckquoy, Gurness) or completely new buildings (Bostadh, the Udal, Birsay). These are conceived as entire cellular entities and inserted into earlier material. The layout of a figure-of-eight building is now well-known in the Atlantic Late Iron Age (Harding and Armit, 1990; Barrett and Foster, 1991; Armit, 1992; Gilmour, forthcoming), with a narrow entrance from a large main cell to a smaller cell. The Beirgh and Dun Vulcan figure-of-eight buildings were even constrained within a roundhouse rather than utilising the remains of the earlier complex Atlantic roundhouse walls. This is an important distinction that nevertheless reinforces the concept of an underlying cellularity in indigenous architecture since at least the Bronze Age. These cellular buildings have a long currency, lasting perhaps from the 4th century AD to the development of the figure-of-eight in the 7th to 9th centuries AD. During this period a distinct development sequence can be suggested including the mid-first millennium AD construction of 'shamrock-shaped' lobate structures (Gilmour, forthcoming) and immediately pre-figure-of-eight construction of rectilinear buildings across Atlantic Scotland.

Chapter 5

Argyll, the Inner Hebrides and South-West Scotland

Argyll and the Inner Hebrides comprise one of the richest archaeological landscapes in Europe. During the first millennia BC and AD the settlement record is characterised by a diverse range of well-built drystone structures. The study of these has been hampered by an adherence to an excessively strict and now outdated architectural classification scheme which fails usefully to identify and separate the multiplicity of site types, inhibiting detailed analysis of a massive archaeological resource. The south-west of Scotland, including Dumfries and Galloway, is an understudied area that has a few well-known sites but little understanding of the range of monuments in the area that may date to the first millennia BC and AD. This chapter offers a more flexible classification of the Argyll monuments developed from modern archaeological research elsewhere in Scotland (cf. Armit, 1992, 1996; Hingley, 1992) and brings the Argyll sites more in line with developments and discussion elsewhere in Atlantic Scotland. Other major site types in the area include Early Historic ecclesiastical sites such as Iona and Whithorn.

Argyll and the Inner Isles are a major part of Atlantic Scotland across which there seems to exist a basic cultural homogeneity represented by monumental drystone architecture (Armit, 1990b, 2-3; Harding, 1990, 5). While recent work in the Outer Hebrides (Armit, 1996; Parker Pearson et al., 1996; Parker Pearson and Sharples, 1999) and the north of Scotland (Hedges 1987i, ii and iii; Nicholson and Dockrill, 1998; Foster, 1989a) has begun to clarify the development of drystone architecture and the area has become a forum for archaeological debate (e.g. Sharples and Parker Pearson, 1997; Armit, 1997a and b), the situation in Argyll, the Inner Hebrides and the south-west has been one of comparative neglect.

Nieke (1984; 1990) has tried to redress this imbalance by examining all the later prehistoric sites in Argyll as classified in the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) Inventory volumes for Argyll. However, Nieke's work followed the strict traditional classifications of 'broch', 'dun' and 'fort' outlined by the RCAHMS and as a result did not separate and analyse the multiplicity of structures in the area. Nieke concluded that all the dun sites in Argyll were homesteads or defensive structures of a high social class and were mainly, with the exception of a very few early sites,

associated with the Dalriadic Kingship around AD500 onwards. Such conclusions, especially the dating of the drystone roundhouse sites included within the dun classification, do not comply with the trends seen in other areas of Atlantic Scotland. While there is no *a priori* reason why Argyll should follow these trends, evidence produced here supports the proposition that it does. This same situation can also be applied to the less well-known south-west sites that include 'duns', 'brochs' and 'forts' (RCAHMS, 1986).

The existing classification scheme for Argyll as exemplified in the RCAHMS Inventories and used by Nieke can be summarised thus:

- 'broch' - a very rigidly-defined class based on strict architectural details which a drystone roundhouse must possess before being accepted as an example.
- 'dun' - basically a 'catch-all' term for drystone sites which do not conform to the 'broch' definition and enclose an area under 375m².
- 'fort' - any site larger than 375m².

(after Maxwell, 1969)

The diversity of drystone monuments in Argyll can be clearly seen when one compares the circular 'broch' with complex intramural architecture at Tirefour Castle, Lismore, Lorn, to the rectangular, solid walled 'dun' at Dùn Fhinn, Kintyre or the vast, sprawling, irregular shaped 'fort', Dùn Ormidale, Lorn (Gilmour, 1994, figure 6). Within the 'dun' class itself there are several disparate structural types such as the circular Kildalloig, Kintyre, the rectangular Dùn Mucaig, Seil, Lorn and the sub-triangular Dùn Aorain, Seil, Lorn (op. cit., figure 7). Within the 'fort' class there is also a range of structures; compare Dùn Nosebridge, Islay with Duntroon in Mid-Argyll or Beinn a'Chaistel on Islay (op. cit., figure 8).

An attempt has been made to separate examples of the 'dun' class on the basis of roofability (Harding, 1984). Harding considers any dun with a diameter of 50 feet or less as capable of being roofed and accordingly classed as a 'dun house'. Anything larger is considered a 'dun enclosure'. Although this goes some way to improve the situation it still means that widely disparate types can be considered together. Armit developed a new classification scheme for the drystone sites of the Outer Hebrides that avoids many of the problems discussed above (Armit, 1991; 1992, 18-19; Chapter 4). This scheme has merit because it claims to make no initial assumptions about origin or function. 'Forts' are outwith this classification because they are not a major site type of the Outer Hebrides. The majority occurs in a mainland

context with most of the Atlantic examples in Argyll and Dumfries and Galloway. Many of these sites are promontory enclosures. Forts are only well dated at Balloch Hill (Peltenburg, 1982) and Eilean an Duin (Nieke, 1985; Nieke and Boyd, 1987) or by analogy to the more established types in north-east and south-east Scotland.

A 'dun' is an arbitrary definition based on internal area that takes no account of the morphology, topography or architectural features of a site. The term was proposed as a division of convenience (Maxwell, 1969, 43) to separate smaller drystone structures from larger structures ('forts'). The distinction becomes dubious in some instances (Harding, 1984, 216-218) and may not be properly applied across the class. Some 'dun' sites have areas over 375m², for example Ballywilline in Kintyre (RCAHMS, 1971, 65) or An Dun, Clenamachie in Lorn (RCAHMS, 1975, 77-88). Other 'forts' such as Dun Eibhinn on Colonsay (RCAHMS, 1984, 89-90) have areas under 375m². Such a loosely-defined site-type is what makes it possible for drystone roundhouse sites, that do not display the full range of 'broch' architectural devices, to be classed as 'duns' together with rectangular sites too small to qualify as 'forts'.

Duns encompass a range of monument types that includes rectilinear and circular or oval sites. These distinctions are the most basic physical characteristic that can be defined from visual inspection of plans and site surveys. They do not at this stage incorporate a chronological, functional or social differentiation; however, they do include two very different types of construction and the difference in architecture must hold some importance. The separation of rectilinear and roundhouse sites from the 'catch-all' term 'dun' can only be done by rejecting the RCAHMS classification scheme and considering the development of the Argyll sites on their own merits and as part of a wider, related Atlantic drystone tradition.

The classification scheme suggested for Argyll and the Inner Isles (Figure 2) has been developed from Armit's (1992) classification of monuments in the Outer Hebrides and overcomes the problems inherent in the RCAHMS scheme (Gilmour, 1994). There have been some changes from Armit's scheme as the range of site types Argyll is greater than that for the Outer Hebrides. For example, Argyll features rectilinear forms and large drystone-walled enclosures, originally classified as 'forts', not found in the Outer Hebrides. In Armit's system sites are initially separated on whether or not they could be roofed, the arguments for which have been presented elsewhere (Harding, 1984, 218-19; Armit, 1992, 21; Nieke, 1984, 133-36; Nieke, 1990, 136). No such distinction is made here; 'roofability'

is subjective and unquantifiable, based on unknown carpentry skills and the availability of timber. The author considers that access to timber would not have been a problem in most regions however, and certainly not insuperable in others; for example, the pollen evidence indicates possible managed deforestation of hardwoods in Iron Age Kintyre and possibly the Oban area (Chapter 2). This would leave only size as a limiting factor on roofability and brings us back to the original problem of arbitrary area distinctions. It is often impossible to discern whether a structure incorporated possible roofing architecture, which might include scarcements, from survey alone. Furthermore, this initial distinction between sites *does* imply function because a roofed structure is likely to have been used differently from an unroofed one. There is also no room here for smaller sites that may not have been roofed or larger sites that were partially roofed. This distinction must therefore become one of the final, not primary, tiers in any classification system.

Classification

Figure 2 outlines a possible classification of drystone monuments applicable in Argyll and the Inner Isles and divided into several distinct structural groups: circular/oval, rectilinear, cellular, linear, promontory sites, irregular and incomplete. Each occurs within and across the previous 'fort', 'dun' and 'broch' classes. The analysis of these new classes in terms of location, structure and excavated evidence allows the recognition of a tentative chronological and structural development for Argyll that is more in line with the rest of the Atlantic Province. To begin some discussion of the structural groupings is necessary:

Circular/Oval

These structures are prolific in Argyll with the identification of 188 sites, compared to the 140 identified in the Outer Hebrides, which included the wheelhouse class, currently unknown in Argyll. Atlantic roundhouse sites in Argyll have been identified in this classification using the same criteria used for the Outer Hebrides (Armit, 1992, 101-105); previously they would have been classed as 'brochs' and 'duns'. Following this, further subdivision of the roundhouse class into 'simple' or 'complex' structures has been made, based on the presence or absence of intramural architecture. This allows the recognition of 24 definitely complex sites while 144 are classed as simple (Gilmour, 1994, 26). The rest were originally classed as 'unknown' but are better described as 'possibly complex'. That these 188 sites are members of a discrete and meaningful class is suggested by an analysis of the three most quantifiable attributes: External Diameter, Internal Area and Wall-Base Percentage (Armit, 1992, 103).

External Diameter

The external diameters reveal a very broad size range of simple roundhouses from 6.5m at Eilean Rìgh II, Mid-Argyll (RCAHMS, 1988, 194-95), to approximately 34m at Saddell, Kintyre (RCAHMS, 1971, 76). This exceeds the range seen on the Outer Hebrides where the largest site, Eilean Scalaster, is 24m (Armit, 1992, 103). The external diameter of complex sites, from 15m at An Sean Dun, Mull to 26m at Ardifuair I, Mid-Argyll (Gilmour, 1994, Appendix 6, No. 3), sits comfortably within this overall range.

Internal Area

In common with the Outer Hebrides (Armit, 1992, 103) this again produces a normal distribution with complex sites sitting comfortably within the overall broad distribution. There is a distinct leptokurtic skewing towards the smaller areas from 17m² at Queens Bay, Colonsay (RCAHMS, 1984, 121), to 378m² at Dun Skeig II, Kintyre (RCAHMS, 1971, 70-71), with a mean of 147.2m² (Gilmour, 1994, Appendix 6, No. 4). This maximum is much closer to the 375m² division of monument class applied to Argyll monuments but does not differentiate the class from other structures with similar high frequency low internal areas albeit over a wider range. The Outer Hebrides internal areas are similarly skewed to the lower end of the scale (Armit, 1992, 103). There are also six simple oval outliers beyond this concentration ranging to a maximum of 1037m² at Largiemore II, Kintyre (RCAHMS, 1971, 73-74). On reflection this site is comparable to Duntroon and should probably be classed as an irregular oval rather than a distinct roundhouse. Of the others Saddell, Kintyre (op. cit., 76) is incomplete and measurements are based largely on assumptions of regularity.

Again the complex roundhouses vary over a broad range, from 46m² at Dun Bhuirg, Mull (RCAHMS, 1980, 105-106), to 284m² at Ardifuair I, Mid Argyll (RCAHMS, 1988, 171-172), with a mean of 118.7m². This indicates the largest is approximately 6 times larger than the smallest compared to approximately 4.5 times in the Outer Hebrides (Armit, 1992, 104). It must also be remembered that some of these sites probably incorporated multiple floor levels which could at least double the usable floor space. However, with a lack of excavated examples it is unknown how many possess scarcements or other architectural features such as intramural stairs reflecting upper floor levels.

Wall-Base Percentage

Representing the proportion of overall mean diameter formed by the walls at their base, this variable provides, "a crude index of 'massiveness' or potential for height and monumentality" (Armit, 1992, 104). The narrowing of the walls as they rise exacerbates the problems of accurate recording of wall widths in the field due to lack of excavation and poor

preservation, and thus only limited accuracy is possible. However, Argyll roundhouses again display a broad range from 15.38% at Eilean Rìgh II, Mid Argyll (RCAHMS, 1988, 194-195), to 54.3% at Dun An Caisteal, Mull (RCAHMS, 1980, 95-96), with a mean of 36% (Gilmour, 1994, Appendix 6, No. 5). The Outer Hebrides wall-base percentages however, have a mean of 46% and are statistically greater than that of Argyll (*op. cit.*, Appendix 5, No. 5). On Skye an analysis of 'broch' wall-base percentages provided a distribution between 31% and 48%, with a mean of 40% (MacSween, 1985). This is also statistically greater than Argyll, and similar to the Outer Hebrides. These differences would repay closer examination under the classification scheme proposed here. Furthermore, in Argyll wall-base percentages of complex roundhouses are statistically greater than those of simple roundhouses with a mean of 38.7% compared to 34.6% for simple sites (Gilmour, 1994, Appendix 5, No. 4). This contrasts with the Outer Hebrides where no difference could be discerned between simple and complex Atlantic roundhouses using all three measurements (Armit, 1992, 103-104) although Armit defines wall-base percentage as the variable most likely to differentiate complex sites from simple ones (*op. cit.*, 105). This might support the proposition that there are no simple Atlantic roundhouses in the Outer Hebrides (Armit, 1990c, 55; Chapter 4).

The broad range of all the variables reflects the wide variation in scale of construction. That this also relates specifically to complex sites must cast some doubt on theories based on the uniformity of scale and construction of 'brochs' as a separate class.

Rectilinear

In the Outer Hebrides this category consisted mainly of blackhouses and was thus omitted from Armit's study; in Argyll however, there are 95 possibly Iron Age rectilinear sites. Under the RCAHMS classification these sites were classed as either 'duns' or 'forts'. Here they are grouped according to the rectilinear shape of the structure. An examination of the internal area frequency demonstrates that sites range from 24m² at Bonveh, Colonsay (RCAHMS, 1984, 105), to 25,000m² at Cnoc Araich (RCAHMS, 1971, 67-68) with a mean of 968.8m² (Gilmour, 1994, Appendix 6, No. 1). The majority of the sites lie within a broad range from the smallest to c.700m². The previous division of monuments based on a 375m² internal area is impossible to substantiate on this basis and the use of a 700m² area division would merely re-instate the arbitrary system. This is therefore a large field that may prove to contain homogenous groups within it. One such may be distinctly rectangular sites, often positioned on rock stacks or the equivalent.

Cellular

Cellular structures, thin-walled and often clearly revetted into earlier material, are usually discovered as later occupation at complex Atlantic roundhouse sites or wheelhouse sites elsewhere in the Atlantic Province, for example, Loch na Beirgh, Lewis, Dun Vulcan, South Uist, The Howe, Orkney and Scatness, Shetland. Free-standing examples of cellular buildings have also been recovered from Bostadh Beach, Lewis and Buckquoy and Red Craig, in Orkney. Ten cellular sites in Argyll include the possible re-use at Kildalloig or the structures discovered within Dun Mac Sniachan and possibly Dun Ghirgeadail and An Caisteal (Gilmour, 1994, Appendix 1, No.'s 1, 18, 21, 29; See also No.'s 2, 4, 8, 9, 22, 31). A revetted cellular settlement was recovered from the machair sand at Machrins, Colonsay (Ritchie, 1981). Early excavations may not have recognised these structures owing to their ephemeral nature as seen at Dùn Mhic Choigil (Hedges and Hedges, 1977, 376), and it is likely that modern excavation will recover more.

Linear

This class incorporates the three structures known as souterrains in the RCAHMS Inventories. Their distribution, two on Tiree and one on Coll, is possibly a result of the extensive machair landscape in these areas and thus availability of depth into which to sink such structures; for example, the site at Greenhill was discovered in sand-dunes (RCAHMS, 1980, 118). There may therefore be a visibility bias owing to a lack of machair surveys in Argyll. This same problem affects the distribution of cellular structures in Argyll too.

Promontory Sites

There are 34 promontory sites where single or multiple walls cut off a jutting peninsula of land often with cliffs falling away on the unenclosed sides. This class probably overlaps with the 'incomplete' class of site. However, promontory sites also exhibit distinct topographical positions that warrant special mention. The nature of this class makes erosion an especially important consideration when calculating areas or interpreting function. Sites where a wall or walls demarcate or defend a certain area of land by cutting of the approach route have an unknown relationship with sites in a similar position but incorporating an entirely enclosing wall. Erosion however, may make the entire perimeter of the former site impossible to trace, while the latter site would be classed as an irregular, rectilinear or even circular/oval site. This highlights just some of the problems in creating a classification scheme for a structurally diverse area such as Argyll. Internal areas have a mean of 5736m², but range from 72m² at Rubha na Meise Baine, Islay (RCAHMS, 1984, 121-122), to a

massive 45,000m² at Sidhean Buidhe, Mid Argyll (RCAHMS, 1988, 169). This is the largest site in Argyll.

Irregular

This is a new class devised especially to account for the 154 sites that exhibit distinct shapes that cannot be classed as completely oval or circular but equally cannot be described as rectilinear. These sites can include forts that follow the contours of their hilltop locations, or are perhaps strung out along a ridge. Analysis of internal area indicates a similar but perhaps more random distribution compared to rectilinear sites, varying from 65m² at Port an t-Sruthain, Islay (RCAHMS, 1984, 120), to 30,625m² at Creag a'Chapuil, Mid Argyll (RCAHMS, 1988, 147), with a mean of 1556.6m² (Gilmour, 1994, Appendix 6, No. 2). This distribution is not significantly different from rectilinear sites (Gilmour, 1994, Appendix 5, No. 2). Again this field may encompass homogenous groups of sites within its boundaries. Further sub-division may include, for example, irregular oval sites that have some relation to the more regular, and often smaller, ovals of the roundhouse class. Certainly, the comparable dating of Duntroon (Christison et al., 1905) and Balloch Hill (Peltenburg, 1982), both of which could be classed as irregular ovals, do not preclude this (*infra*). The irregular sites do have many problems that must be borne in mind when examining their data, for example their very classification could be deemed subjective; what one person believes is irregular may be regarded as containing rectilinear elements to another.

Incomplete

This is not a true class of monument but merely a small collection of 15 sites that cannot at present be attributed to any other class due to very poor preservation inhibiting recognition of shape.

This new system allows more flexibility in a structurally-varied area and recognises Atlantic roundhouse sites as a definite discrete group of circular/oval monuments. The rectilinear and irregular classes are less well defined, but may contain discrete structural elements that encourage subdivision. Cellular and circular structures can be inserted into earlier debris in a similar way to linear structures, which are generally inserted directly into the ground, and thus may be difficult to recognise without excavation. Promontory sites can present particular problems for classification due to the increased erosion at coastal sites. The incomplete class has been excluded from any detailed analysis due to their poor preservation.

Chronology

Nieke dates all the Argyll 'duns' to the first millennium AD and 'forts' to the pre-Roman Iron Age, *circa* first millennium BC (1990, 132). This view also dictates that small 'dun' sites replace large 'fort' sites. According to Nieke, the "majority of the large defended sites belong to the pre-Roman Iron Age" (*ibid.*). Excluded from this are the small number of 'nuclear forts' (Alcock et al., 1989, 206-214; Harding, 1997, 121) associated with the early kings of the Dál Riata such as Dunadd and Dunollie. Nieke believes this is borne out by the visible sequences at the unexcavated sites of Dun Skeig and Dun MacSniachan (1990, 132). However, there is no reason why the sequences of these two sites should not be more complex and neither has been properly dated. Balloch Hill incorporated three concentric ramparts that were contemporary (Peltenburg 1982, 202) and the excavations at Creag a'Chaisteil discovered a small oval 'dun' underlying a larger promontory fort (RCHAMS 1980, 74). Thus the evidence from two unexcavated examples should not be taken as a model for the entire area. It is possible that large enclosed sites were at least partially contemporary with or later than smaller sites.

Hingley (1992) has most recently reviewed the chronology for dry stone monuments in Argyll with reference to Nieke's study of the area (1990). The 'duns' of the area are again placed mainly into the Early Historic period, forming an important element of the Dál Riata settlement hierarchy, and some have early first millennium AD dates. Nieke did however, acknowledge that it might be premature to unequivocally place all duns in a late context. Nieke also briefly compared brochs to the duns that display complex architectural features. However, these were considered to represent such a small proportion of the total that the norm was 'simple' dry stone walled enclosures without such detail (Nieke, 1990, 133-134).

Every site in Argyll that has been excavated and published to a reasonable standard has produced evidence for secondary and often multiple occupation or use of the site (Gilmour, 1994, 35 and Appendix 1). At many of these sites it was these secondary contexts that produced the material that was used to date the site. During early excavations the existence of secondary or multiple occupation was either not recognised or accorded no meaningful chronological significance. Nieke considers duns to be a first millennium AD phenomenon mainly due to the fact that 8 out of the 13 excavated examples have produced Early Historic material in the form of imported pottery, beads, or metalwork. When one considers that much of this material comes from secondary deposits Nieke's view is cast into considerable doubt. Only a very few sites have produced reliable first millennium AD dates from

contexts that might be considered primary. Dùn Fhinn was excavated to bedrock and produced early to mid-first millennium AD artefacts, and Kildonan Dun was subject to small-scale excavations to produce radiocarbon assays and test the assumption that the site was late first millennium in date (Peltenburg, 1984; pers. comm.). Radiocarbon dates and artefacts from *in situ* lower levels in the interior below Fairhurst's excavations have confirmed a late date (Peltenburg, 1982, 207).

The majority of the sites that have been excavated are of an irregular or rectilinear shape and are therefore completely different from Atlantic roundhouses. There is no reason to expect that these sites will produce first millennium BC dates. Interestingly, many of these have produced evidence of secondary occupation but those that have been excavated produced first millennium AD evidence from their earliest levels. Rectilinear sites such as Dùn Fhinn (Bigwood, 1966; Figure 20c), Kildonan Bay (Fairhurst, 1939; Figure 19b) and Eilean Rìgh 1 (RCAHMS, 1988, 194) have provided clear first millennium AD dating evidence. These sites belong to the rectilinear class of site and are therefore rarely found elsewhere in Atlantic Scotland, and should not be directly compared to the roundhouse class.

Rectangular and sub-rectangular sites located coastal stacks are visible at several locations in Argyll including Dùn Mucaig, Lorn (NMRS NM71NE8; Figure 20c) and Dùn Fhinn, Islay (NMRS NR45SW2). Excavations have been carried out at Dùn Fhinn, Kintyre (RCAHMS, 1971, 84; Bigwood, 1966), Dùn an Fheurain, Lorn (RCAHMS, 1975, 82-83; Ritchie, 1970; Anderson, 1895), Eilean Rìgh, Mid Argyll (Brown and Cowie, 1987) and Ugadale Point (Fairhurst, 1956). None of these sites has been radiocarbon dated although their artefactual assemblages suggest a long period of occupation across the first millennium AD. Dùn Fhinn was interpreted as having two distinct periods of occupation from finds of three early fragments of Samian with coarse pottery and two later penannular brooches (Bigwood, 1966). A glass dumb-bell shaped bead probably also originates from this later period of use. It is likely however, that there was no physical break in occupation at this and other sites and that the distinctive artefacts of each phase merely highlight the longevity of the site. Excavations at Dùn an Fheurain were targeted only at the midden located below the stack (Anderson, 1895) and produced finds that could also be grouped into two different periods (Ritchie, 1970, 102). A Samian sherd, a ring-headed pin and a spiral-finger ring represent the earlier first millennium AD assemblage and a fragment of bone comb, a potter's stamp and globular-headed pins suggest a later mid-first millennium AD occupation. Eilean Rìgh, on an island in Loch Craignish, produced a tanged iron knife and a dark blue annular glass

bead suggested as *circa* 7th to 9th centuries AD in date (Brown and Cowie, 1987, 61). However, it is possible that these objects could date somewhat earlier in the first millennium AD and the excavations were very small-scale. Considering the mixed assemblages recovered from Dùn Fhinn and Dùn an Fheurain it is possible that earlier first millennium AD material could be located on this site. Finally, the excavations at Ugadale Point, Kintyre produced another mixed assemblage including metalworking remains and fragments of glass. Some artefacts were compared to material from Kildonan Bay (*infra*) and dated to the 7th or 8th centuries AD (Fairhurst, 1956, 20).

Irregular rectilinear-shaped sites have been excavated at Dùn Aorain, Lorn (RCAHMS, 1975, 83-84; Figure 19a), and Kildonan Bay, Kintyre (RCAHMS, 1971, 88-90; Fairhurst, 1939). The former was only a very small-scale investigation carried out by the Royal Commission and produced a shell midden with no diagnostic artefacts or clear dating evidence (RCAHMS, 1975, 83-84). The site is however, very similar in layout to Kildonan Bay, being sub-triangular with intramural stairs and is likely to be approximately contemporary (Figure 19b). Excavations at Kildonan Bay revealed at least four phases on a complex site dated to the 8th or 9th centuries AD using the artefacts recovered (Fairhurst, 1939, 185). A sherd of Samian from Kildonan is very worn and eroded and the thick plain sherds of coarse pottery also recovered from the site would not look out of place in the late first millennium AD. A penannular brooch is very similar to those produced at Dunadd (Campbell and Lane, 1993, 54-57), and indeed may have originated there (Nieke and Duncan, 1988, 17) or perhaps at the Mote of Mark (Laing, 1974, 103). This suggests a 7th century AD date at the latest for this object. Re-excavation to recover dating evidence (Peltenburg, 1984) produced radiocarbon dates from below a Phase 2 hearth at Kildonan calibrating between the 7th and 9th centuries calAD (Peltenburg, 1982, 207) and a badly corroded iron knife fragment, a mica schist disc and two socketed stones. When coupled with the material assemblage it is likely that this site was indeed occupied from the mid-first millennium AD at the earliest, and probably from the 7th century AD onwards.

Several dumb-bell shaped glass beads have been recovered from the Kintyre area, one from Kildonan Bay (Fairhurst, 1939), another from Dùn Fhinn (Bigwood, 1966) and one is on display in Campbeltown museum. A further example has been recovered from a molehill at Ronachan Bay 'dun' (Edgar Peltenburg, pers. comm.) suggesting that it too may have had late first millennium AD activity. Another example was recovered from secondary reuse at Dun Beag, Skye (Callander, 1921, 126). The pieces are comparable to beads discovered on

Early Historic crannógs and burials in Ireland (Chapter 6) and again strengthens the links between the two areas at this time. However, some finds in barrows in Galway, Ireland may be earlier (Chapter 6).

The problem of secondary occupation is especially relevant to those sites that exhibit roundhouse architecture. First millennium AD dates are proposed for all excavated roundhouse sites except Rahoy, Dùn Mór Vault and Dùn Mhíe Choigil (Nieke, 1990, 132). In each case however, the first millennium AD dates are based on material recovered from secondary occupation. Sites such as Leccamore, Kildalloig (Figure 14c), Ardifuair and Druim an Duin (Figure 18e) have produced clear multiple phases and secondary structures that have parallels elsewhere in the Atlantic façade from the 1st century BC onwards (*infra*; Gilmour, forthcoming). Comparison with both the Outer Hebrides (Chapter 4) and Northern Scotland (Chapter 3) indicates much earlier dates for the original circular and oval structural types. A number of drystone roundhouse sites in Argyll demonstrate evidence of complex architectural devices. These devices can be dated to the first millennium BC by analogy with similar roundhouse sites elsewhere and may therefore be considered earlier than the more securely dated first millennium AD rectilinear ‘duns’.

Traditionally, the chronology of the Argyll ‘brochs’, and therefore the appearance of architectural complexity in the area, relies very much on the excavated evidence from Dùn Mór Vault, Tiree (MacKie, 1974; Figure 14b). Dùn Mór Vault has produced the most complete material assemblage yet recovered in Argyll and is often regarded as the type site for the area. MacKie interpreted his radiocarbon and artefactual evidence to indicate a construction date of between 70BC and 40BC (*op. cit.*, 93) with occupation lasting until the mid 3rd century AD (*op. cit.*, 95). Nieke suggests that the presence of exotic Roman artefacts (glass and pottery) dates the site even later (1990, 134). The incised decorated pottery from Dùn Mór Vault is comparable to material excavated at the open site at Balevullin on Tiree (MacKie, 1965b) and is considered to represent the Early Iron Age wares of the indigenous population. This ephemeral site may have been the catalyst for MacKie’s assumption that the material in the lowest contexts at Dùn Mór Vault originates from an earlier timber roundhouse (MacKie, 1974, 35; 1997, 148). Detailed analysis of the published stratigraphy indicates that many similar assumptions have been made about the deposits. Reinterpretation of the evidence suggests these deposits could represent primary occupation of the Atlantic roundhouse, and thus an earlier date for the construction of the site might then be expected. This study highlights the problems associated with recognising secondary

occupation. Dùn Mór Vault is claimed to be a type site partly because it represents the only fully-published radiocarbon dates for the area. There are however, serious problems with these dates (Ashmore, 1997) and MacKie's interpretation of them. When the dates are calibrated they span between 795calBC to calAD200 and the construction date can be backdated by at least 100 years, which would complement the theories of complex Atlantic roundhouse development elsewhere in the Atlantic Province.

It is argued here that we can expect those Atlantic roundhouse sites to be chronologically earlier than the rectilinear sites. This is supported by the excavations at Rahoy, Dùn Mór Vault and Dùn Mhíe Choigil and by parallels between the roundhouse sites in Argyll and dated examples elsewhere in Atlantic Scotland. This may be corroborated by the significantly higher altitudes of the roundhouses compared to rectilinear sites (Gilmour, 1994). The two modern excavations at Balloch Hill and Eilean an Duin and the early excavation at Duntroon have also suggested first millennium BC dates for some irregular sites. Duntroon and Balloch Hill are large multivallate sites, perhaps comparable with Raftery's Type 2 widely-spaced rampart forts in Ireland (1972).

The majority of enclosed sites on Bute and Arran are large oval or irregular summit enclosures (McCellan, 1970, 77; Hewison, 1895, 37) as at Barone Hill, Bute (NS06SE9) and North Sannox, Torr an t-Sean Chaisteal, Arran (NS04NW7). There are several sites that could be classed as Atlantic roundhouses although many are poorly preserved as at Dun Scalpsie (NS05NE4) or Castle Cree (NS06SW8), Bute or Torr a'Chaisteal (NR92SW2) and Kingscross (NS02NE1) on Arran. However, two have evidence for intramural galleries that distinguish them as complex Atlantic roundhouses. Dun Burgidale on Bute (NS06NE11) is a possible complex site (Hewison, 1895, 37), but Kilpatrick on Arran (NR92NW3) has the best-preserved evidence. This latter site incorporates a large circular complex Atlantic roundhouse known as "the cauldron" within a later 'cashel' wall enclosing a much larger area (Hume, 1987, 29-30; Balfour, 1910, 202; Barclay and Tabraham, 1989, 22-23).

Complex Atlantic roundhouses also exist in south-west Scotland in Dumfries and Galloway at Teroy (NX06SE7), Doon Castle (NX04SE1) and Stair Haven (NX25SW9). All these sites have outworks, sometimes including substantial banks and ditches as particularly monumental expressions of power. Alternatively, these outworks may indicate the re-use of earlier sites, but excavations in northern Scotland indicate the need for caution in chronological interpretations on survey evidence alone. An outwork is also present at

Crammag Head, (NX03SE1), a poorly-preserved site also considered to be an Atlantic roundhouse. The vast majority of sites in Dumfries and Galloway are larger enclosed settlements often located further inland and including internal timber roundhouse structures. The site at Rispain Camp, Dumfries and Galloway, near Whithorn incorporates a distinctly rectilinear ditched enclosure around timber roundhouses defined by ring-slots (Haggarty and Haggarty, 1983). Two similar sites have recently been excavated side by side at Carronbridge, Dumfries and Galloway (Johnston, 1994) and one produced a sequence of occupation including timber ring-slot houses (Figure 35a). Certain architectural details of roundhouse construction are directly paralleled at Rispain Camp suggesting a 'site-type' of the late first millennium BC and early first millennium AD (op. cit., 282). The layout and development of this site is also physically and chronologically comparable to the settlement at Whitton, Wales, and perhaps other rectangular sites around the Irish Sea (Chapter 7; Figure 35). Whitton developed into a Roman villa site whereas the Dumfries and Galloway site at Carronbridge was situated next to a Roman temporary camp, although their precise contemporaneity is debatable (op. cit., 256). Carronbridge also produced unstratified remains of a penannular brooch and iron sword. These are dated to the 9th century AD on the basis that the pin is a later addition (Owen and Welander, 1995). The actual brooch is a version of Type H, somewhat comparable to moulds from Mote of Mark and Dunadd as well as artefacts from Kildonan Bay and Aldclune (Fowler, 1964).

The coastal area of Dumfries and Galloway has at least 44 promontory enclosures recorded in the NMRS, and Bute and Arran also have promontory sites as at Aultmore Burn, Bute (NR97SE7) and the Dippen, Arran (NS02SW8). However, the coastal forts at Dunagoil and Little Dunagoil, Bute, are the best known and most extensively excavated sites. The former is a large vitrified enclosure on a rocky knoll on the west coast of Bute, which has produced material from the Late Bronze Age and from the Iron Age, including ring-headed pins. Several polished stone axes, at least one from Tievebulliagh in Northern Ireland, have been interpreted as evidence of Neolithic occupation on the hill (NMRS NS05SE4). However, several Iron Age sites from across the Atlantic façade, often incorporating cellular secondary occupation, have also produced polished stone axes from first millennium AD contexts (*supra*; Chapters 4 and 6). The adjacent Little Dunagoil has been described as a possible nuclear fort (Marshall, 1964; NMRS NS05SE14) and has produced two sherds of Samian (*ibid.*) and imported pottery dated between AD400-800 and the late 13th century AD related to E-ware (Laing, 1974, 187). This pottery evidence and the overall layout of the site might suggest an important, possibly high-status site, located to access trade along the western

seaboard. However, a Late Bronze Age mould for a socketed axe suggests earlier settlement, although its secondary incorporation from the larger adjacent site should not be dismissed. A similar complex made up of a possible Early Iron Age hilltop enclosure and an adjacent later and smaller Early Historic enclosure of some status, exists in Wales at the Brieddin and New Pieces (Chapter 7). Further work will be necessary to determine the significance of these parallels.

The material used for dating the drystone sites of Argyll is often undiagnostic, as a result of widespread geographical and chronological ranges (Harding, 1990, 6-7), or imported Roman material. The problems of relying on these types of evidence, without the support of radiocarbon assays, have been amply illustrated both in the Atlantic Province (Clarke, 1971) and other parts of Scotland (Harding, 1982, 2-3). When coupled with the problem of unrecognised re-use of a site and a new classification scheme, the previous chronology of drystone structures in Argyll is seriously undermined. What is now necessary for Argyll is an accumulation of 'single entity' radiocarbon dates for a variety of site types to enable the construction of chronological sequences.

Settlement Development

It could be conjectured that Argyll saw the same development from simple Atlantic roundhouses to the more complex structures as propounded in the north. The sheer number of simple roundhouse sites in Argyll, 144 simple examples compared to 23 visibly complex sites, would tend to imply that these really do exist here and that their recognition is not simply a function of the lack of modern excavation and appropriate intensive survey (*pace* Armit, 1992, 203). Thus if they follow the trend exemplified in the north of Atlantic Scotland, the simple sites are more likely to be early than the complex sites. The only well-dated simple Atlantic Roundhouse site yet excavated is Rahoy, which probably dates to the Early Iron Age (*infra*). An analysis of the two types indicates that complex sites generally have greater wall-base percentages and that they are thus different in some way to the simple sites. This may be a tenuous indication of chronological development within the roundhouse class reflecting an increasing desire for monumentality.

Excavations of roundhouse sites in Argyll are few and often dominated by secondary activity. Only Rahoy was considered in recent studies to be certainly dated to the first millennium BC (Nieke, 1990, 133) owing to the presence of a La Tène fibula and an iron socketed axe (Childe and Thorneycroft, 1938). Other finds included saddle querns (*op. cit.*,

39) and burnt bone (op. cit., 32). However, even this site produced evidence of multiple occupations including references to “false faces” and “angular footings” within the roundhouse (op. cit., 35) and paved floors and hearths were noted at various levels (op. cit., 30 and 32). The site was vitrified indicating it was originally timber laced (Figure 19c). A similar timber laced complex Atlantic roundhouse excavated at Langwell, Sutherland, produced radiocarbon dates between 550calBC and calAD250, but was most likely constructed and occupied around the 4th century calBC (Nisbet, 1996, 66; Figure 19d). This compares well with the dating of the Rahoy La Tène 1 fibula fragment to around the 3rd or 2nd centuries BC (Childe and Thorneycroft, 1938, 40). The iron socketed and looped axe is considered to be certainly pre-Roman Iron Age (ibid.) and one of a group of artefacts from across Britain that date to the same period (Manning and Saunders, 1972, 282). A socketed and looped iron axe from the river Thames had part of its wooden shaft preserved in the socket (Barclay et al., 1995), recently radiocarbon dated to the first half of the first millennium BC (2480±50bp) between 790calBC and 410calBC (Rob Sands, pers. comm.). The roundhouse at Dùn MacSniachan (phase III) is also attached to a vitrified irregular enclosure (phase I) and was dated by the removal of a very small amount of debris from part of the wall to reveal, “a mass of the vitrified core-material of wall (I) underneath” (RCAHMS, 1975, 70). It is possible, considering the small-scale investigation of this structure, that this material actually represents the vitrified wall of the roundhouse, comparable to both Rahoy and Langwell. A similar sequence of irregular enclosure and roundhouse is assumed for Dun Skeig and The Torr (*infra*).

Analysis of dating at Kildalloig suggests it too could have origins earlier than the first millennium AD (*infra*). A similar claim could be made for the first millennium AD material recovered from Ardifuar, Mid-Argyll (Christison et al., 1905) that has a secondary internal cellular building, 2nd century AD Samian sherds and 6th to 7th century AD E-ware (*infra*). No diagnostic material was recovered from Druim an Duin but it too had recognisable secondary re-use incorporating a secondary wall (Christison et al., 1905). In addition, the differing construction and height of the eastern scarcement compared to that on the south suggests it too has been rebuilt (Gilmour, 1994, 82). Detailed re-survey of this site has located the probable footings of the original complex Atlantic roundhouse on the steep eastern slope among a mass of rubble (Gilmour and Henderson, forthcoming). Other unexcavated sites may include secondary roundhouses in their visible layout such as at Ballymeanoch, Mid-Argyll (*infra*).

'Semi-brochs' are considered by MacKie to be local proto-types of 'brochs' that were constructed under the direction of immigrants from Wessex and Brittany (MacKie, 1992, 154). Their location on the edge of cliffs is presumed to have acted as a defensive measure and MacKie recognises two distinct types, the 'promontory semi-broch' and the 'D-shaped semi-broch' (ibid.). Of the former only four are listed by MacKie, including Dun Grugaig on Skye (Figure 20d) and Clickhimin blockhouse. The latter has been discussed in Chapter 3 as belonging to a group of buildings that exist as a homogenous group in northern Scotland and may have a close relationship with complex Atlantic roundhouses. It is possible that Dun Grugaig on Skye is a western variant of the blockhouse class.

Excavations at two other sites on Skye with complex architecture produced radiocarbon dates with wide errors. MacKie interpreted Dun Ardtreck as a 'D-shaped semi-broch' and thus a precursor to the 'broch' (MacKie, 1969a; Figure 18f). Certainly the radiocarbon date suggests an early construction and use (GX-1120, 2005±105bp) ranging from 400calBC to calAD250. However, this author does not see the need for a separate structural type (cf. Harding, 1984) and the site probably represents a roundhouse suffering partial collapse. A similar incomplete site excavated at Flodigarry was interpreted as unfinished (Martlew, 1985; Figure 18c). Again, a single radiocarbon date could suggest an early construction before the 2nd century calBC (GU-1662, 1995±65bp). Excavations at Ruigh Ruaidh in Ross and Cromarty, also set out to investigate a 'D-shaped semi-broch' (MacKie, 1981; Figure 18b). This has been commented on previously and its dating should be regarded with care (Armit, 1991, 209; Harding, 1984, 211). However, once again radiocarbon dates for original deposits could indicate construction prior to 100calBC (GU-1366, 2225±80bp; GU-1365, 2085±80bp) but the latest date from the post-ring (GU-1368, 1951±65bp) and occupation deposits (GU-1367, 1980±60bp; GaK-2496, 1960±100bp) combine to suggest a date between the early 1st century calBC and early 3rd century calAD. Dun Grugaig, above Dun Telve (Figure 13c) and Dun Troddan in Glenelg, is also considered a 'D-shaped semi-broch' but is currently unexcavated (MacKie, 1992; Figure 18d). The site has two entrances to the north and east, somewhat similar to complex Atlantic roundhouses in Argyll. MacKie suggests the east door is the original main entrance on account of the presence of some large lintels, a depression in the rubble outside and a general massive construction (op. cit., 164). However, this entrance has no rebates and the intramural ground floor gallery leads directly from the entrance passage, which would be unique in any well-preserved complex Atlantic architecture. The main wall is dismantled to ground floor level just before this point at the east entrance suggesting perhaps that the entrance was inserted subsequently. Inside the

roundhouse a curved wall runs across the northern entrance suggesting this was blocked during secondary occupation of the interior, perhaps at the same time the east door was inserted. The northern door incorporates rebates and allows access from a relatively flat area next to the structure rather than the steeper east, supporting its interpretation as original. Dun Grugaig, Glenelg is probably a complex Atlantic roundhouse that has partially collapsed down the western cliff face. Secondary re-use of the site included a building revetted into the interior and the construction of a new eastern door to provide safer access since the northern door was now closer to the eroding cliff line.

A similar site at Dùn Mhuilig, Mid Argyll (RCAHMS, 1988, 188-189), might originally have been classed as a 'promontory semi-broch' due to the visible presence of walling around only two sides of this cliff edge site. However, detailed examination of the site has indicated that a scarped ledge on the steep east side of the site is probably the foundation line of a collapsed wall (Gilmour and Henderson, forthcoming). This feature was originally interpreted as a path, but leads only to the cliff edge. Both the cliff side and the eastern slope have plentiful amounts of small stone scree, any of which may have originated from the original complex Atlantic roundhouse with scarcement and first floor galleries. This site also has evidence of re-use within the reduced walls of the original site unfortunately obscured by vegetation at the time of inspection.

'Semi-brochs' have yet to be convincingly argued as anything other than partially collapsed complex Atlantic roundhouses located near cliffs. This suggests that the early dates ascribed to these sites (*supra*) actually relate to complex Atlantic roundhouses. These may in turn suggest a local development from the possible simple Atlantic roundhouses dated to the mid-first millennium BC, and perhaps earlier if analogous to the north. The view of all drystone 'dun' sites, which includes roundhouse examples, dating to the first millennium AD is therefore untenable on present evidence. The problem with the current dating predictably comes down to the problems of the classification of 'duns'. Nieke did not recognise the importance of complex features apparent at many roundhouse sites and accepted the RCAHMS classifications. Roundhouse sites must be recognised as a discrete class, separate from rectilinear examples.

The generally poor standard of early excavations and subsequent acceptance of their dating material as primary for most sites has resulted in erroneous conclusions on the chronology of drystone architecture in Argyll during the Iron Age. A re-interpretation would place

roundhouse structures within a first millennium BC context and rectilinear and some irregular sites in the first millennium AD. The previous simplistic notions of large sites evolving into smaller ones from the first millennium BC to the Early Historic period have been undermined by the excavation evidence (Peltenburg, 1982, 202; Betts, 1964, 18) and this new chronology for roundhouse sites. A more complex chronological relationship between site classes is now required and highlighted by sites such as Balloch Hill, Duntroon and Eilean an Duin (Gilmour, 1994, Appendix 1, No.s 5, 26 and 27).

Balloch Hill, Kintyre, was excavated, “in order to clarify the relationship between small forts and duns” (Peltenburg, 1982, 142). Stratigraphy and radiocarbon dates indicated a series of four phases from the third millennium calBC to the first millennium calBC and possibly continuing into the first millennium AD. It was concluded that there was little evidence for an evolution to smaller ‘duns’ and that several sites suggest contemporary occupation (ibid.). The first millennium BC was dominated by the multivallate irregular oval enclosure of the hill and while the majority of the artefacts were undiagnostic some metalworking was suggested by the presence of slag and crucibles (op. cit., 208). The Phase 4 small circular buildings overlay the earlier ramparts and were considered stone versions of the earlier timber structures and dated to the 1st century BC or soon after (op. cit., 206). Rescue excavation at Eilean an Duin, Mid-Argyll, was restricted to section cleaning and recording with recovery of charcoal from under the ramparts for radiocarbon dating (Nieke and Boyd, 1987, 48). There were no artefacts and only a single possible post-hole was noted in the subsoil, but the radiocarbon dates for this irregular shaped site indicated a *terminus post quem* between *circa* 550calBC and 90calBC (GU-1814; 2290±65bp; GU-1815, 2160±55bp). Pottery from the rubble core of an irregular shaped hilltop site at Dun Cul Bhuirg, Iona, also suggests an occupation date between 100BC and AD300 (Ritchie and Lane, 1980, 209). Dun MacSniachan, Lorn, incorporates several phases of activity visible in the site layout and the early excavations (Smith, 1873; 1878); some of these may date to the first millennium BC, such as the possible Atlantic roundhouse at the end of an irregular summit enclosure (*supra*).

Argyll also has a series of irregular elongated shaped sites which are very rare in Scotland as a whole (RCAHMS, 1980, 88) and even rarer without a smaller structure within, against or straddling the walls which are often considered to be later (Nieke, 1990, 132). The possibility that both the elongated walls and the secondary structure are contemporary is rarely entertained, yet is not refuted by the field evidence. A perfect example of this feature

is The Torr, Shielfoot, where the rocky and uneven nature of the area enclosed by a vitrified wall meant that little of the internal area could have been easily habitable (RCAHMS, 1980, 88). The internal width at some points on this elongated structure would have been only 4m maximum near the smaller Atlantic roundhouse. The oval enclosure is also heavily vitrified, and closely comparable to Rahoy and Langwell, suggesting similar structural types. The evidence from Langwell for the earlier construction of the upper stone wall enclosure rests on material recovered from below the interior of the Atlantic roundhouse (Nisbet, 1996, 58). However, this material could relate to the other bank enclosures around the ridge, or even to unenclosed settlement on the hill. The upper enclosure and the complex Atlantic roundhouse at Langwell could be contemporary. If they are contemporary at The Torr then the site would have been impressive with two separate enclosures before a 4m wide 'passage' up to the roundhouse structure itself. Furthermore, the quantity of wood used in this construction can be interpreted as a profligate use of a carefully managed and presumably therefore expensive resource, perhaps suggesting a certain status. Evidently, this view would necessitate a radical revision of the function and chronology of this site. Comparisons with both Rahoy and Langwell suggest mid- to late first millennium BC dates for these structures.

This re-interpretation of the Argyll drystone sites would place the roundhouse structures in a first millennium BC context and many of the rectilinear sites in the first millennium AD. The two modern excavations at Balloch Hill (Peltenburg, 1982) and Eilean an Duin (Nieke, 1985; Nieke and Boyd, 1987) and the early excavation at Duntroon (Christison, 1905) also indicate first millennium BC dates for at least some irregular sites. This would be expected, as 'irregular' cannot be viewed as a particularly well-defined class.

Construction Details

Median Wall Faces

Since their discovery at Kildonan (Fairhurst, 1939; Figure 19b), 'median wall faces' have been recorded at many sites from field survey and excavations and are generally considered to be primary structural features created to add stability to enclosing walls (Maxwell, 1969, 44). Actual investigation of the wall structure took place at Kildonan and this is the only time the phenomenon has been properly analysed. An inward facing vertical wall was located in the middle of the rubble filled rampart. However, between the inner face and this 'median' face the rubble was more loosely packed than that of the outer. Additionally, the 'median' wall was founded on a layer of slabs that formed the base of the outer and inner

cores and upon which rested a pile of shells against the 'median' wall. It was suggested therefore that there was a later thickening of the wall by constructing the inner wall face although this was undatable owing to only later strata resting against the inner wall face (Fairhurst, 1939, 193). A second section was cut through the wall 16 feet south of the previous with exactly the same results except the 'median' face rested on bedrock, although the "slabby layer" and the whelks were again present (Fairhurst, 1939, 194). It was found however, that earlier strata rested against the inner wall face at this point and thus it was concluded that this must be the primary constructional form of the rampart (Fairhurst, 1939, 194). Subsequent excavations of the site recovered stratigraphically earlier material which also dated to the first millennium AD (Peltenburg, 1982, 207) but the excavator was never completely satisfied that primary material had been recovered owing to periodic clearing of the site during, or prior to, re-use (Edgar Peltenburg, pers. comm.).

It is therefore probable that the earliest material from this site is the shells lying within the walls piled on what may be early internal paving. However, it is also likely that this would date to the first millennium AD and thus would not change the overall chronology of the site. The so-called 'median wall face' cannot be upheld as a primary constructional technique in this case. Such a trait is well known in large fort walls elsewhere in Britain and Europe but at an entirely different scale of construction, and in many instances has also been argued as representing secondary cladding of an original wall (Chapters 8 and 9).

More evidence for the presence of median facing being indicative of secondary construction can be found at Ranachan Hill where the intra-mural walls were discovered by field survey to face in different directions in different areas (RCAHMS, 1971, 74-75). It is therefore doubtful that this represents a primary construction technique but the application of misinterpreted evidence from the Kildonan site. Similar problems exist with the many other sites at which this technique has been recorded such as the broad variation in observation of median wall positioning. At Ballymeanoch, Mid-Argyll, where the walling is only 1m from the inner face in a 4.8m thick wall (RCAHMS, 1988, 173), the inner walling is probably secondary cladding reflecting the insertion of a secondary roundhouse as at Dùn Mór Vaul (*infra*) and many other Atlantic roundhouse sites in Scotland (Gilmour, forthcoming). At An Caisteal, Mull a median wall line is closer to the outer wall and this may reflect a similar situation to that recovered at Bu in Orkney (Hedges, 1987i) where masonry cladding was added to the exterior of a simple Atlantic roundhouse. Dun Mhadaidh, Mull (RCAHMS, 1980, 111), is a probable complex Atlantic roundhouse with a similar feature also

recognisable at Dùn Mór a'Chaoláis, Tiree, previously considered a 'broch' (RCAHMS, 1980, 91). This latter would now be classed as a complex Atlantic roundhouse and the construction of internal secondary roundhouses at these sites is often accompanied by the dismantling of upper levels and construction of 'revetments' to their exteriors (Chapters 3 and 4). This could also explain the median wall lines at these sites. In some cases there are descriptions of multiple 'median faces' in the same area of walling as at Allt Cill Chrìosd, Mull (RCAHMS, 1980, 95). It is probable that the presence of this technique is evidence of intra-mural cells or galleries (MacKie, 1963, 21). This would increase the number of known complex Atlantic roundhouses in Argyll. These median faces have fundamental implications for site-type distributions and use since a large proportion of sites has been identified incorporating these features. In the Western Isles it has been found that complex roundhouse sites are effectively masked by the debris resulting from their collapse and re-use (Harding, 1990, 6). It has even been suggested that simple roundhouses may not exist in the West due to this tendency (Armit, 1992, 203). In Argyll the complex architectural nature of some sites is suggested by these tantalising glimpses but has been misinterpreted.

Secondary Structures

All of the sites that have been excavated to a sufficient standard have at least the possibility of secondary occupation, even if they were not originally identified as having such. The interpretation of median wall faces as indicative of re-use in some cases also increases the number of potential secondary structures in Argyll. Excavations elsewhere in Atlantic Scotland have discovered many similar buildings, divided between secondary roundhouses and cellular structures (Chapters 3 and 4). Typically, the latter follow a familiar construction composed of upright slabs on edge revetted into sand or rubble. There are also some with combinations of slabbing and drystone walling and a few composed entirely of drystone coursing. Almost all the secondary structures in Argyll, except perhaps for those at Rahoy, can be dated to the first millennium AD. Similar structures in the Western Isles, Northern Isles and even Northern Ireland range from the 1st century BC until the beginning of the 9th century AD (Armit, 1992, 85). There are therefore close parallels all over Atlantic Scotland of both types of secondary settlement forms spanning broad geographical areas within a fairly defined chronological period.

Secondary occupation at Ardifuar 1, Mid-Argyll, (Christison et al., 1905) incorporates a large circular building constructed of vertical slabbing and drystone coursing set off-centre within the original complex Atlantic roundhouse. Artefacts from the excavation of this site

included a bronze ring, a pottery sherd recently recognised as 6th to 7th century AD E-ware and a fragment of Samian (op. cit., 269). Of the other objects a polished stone axe (op. cit., 267) is particularly interesting since such objects are often recovered on mid- to late first millennium AD sites. A large stone mould and a fragment of crucible represented metalworking on the site. Unfortunately, a lack of contextual recording means it is unknown where these objects were recovered. However, the material between the vertical slabbed secondary structure and original roundhouse is described as earth and small stones with no mention of artefacts (ibid.) and this might suggest that all the items were recovered from the secondary building. Druim an Duin, Mid-Argyll, produced a steatite cup fragment, the usual stone pounders and hammerstones as well as a fragment of the upper half of a rotary quernstone. Again however, this site incorporates a secondary wall inside and it is not made clear whether this was fully investigated. More modern excavations at Dùn Mhic Choigil, Kintyre, also recovered the ephemeral remains of secondary occupation in this poorly preserved roundhouse (Hedges and Hedges, 1977, 376). The artefacts were very poor consisting of several bone fragments, coarse and very abraded pottery and some quartz and flint remains and small lumps of corroded iron from the earlier phase (ibid.). The secondary phase produced similar finds within a flimsy sub-rectangular structure partially built into the original walls (op. cit., 377). Small-scale investigations on several sites in Tiree by MacKie produced some evidence of secondary occupation at Dun Beg Vault represented by a midden deposit overlying the original walls (1963, 21). Dun Troddan complex Atlantic roundhouse in Glenelg, produced several hearths at different levels in the interior associated with lots of burnt material and stones from various internal structures (Curle, 1921, 88-90). At least one of the hearths was a three-sided rectangular feature recorded as lying *above* the floor level. This latter level produced a series of post-holes concentric to the inner wall of the roundhouse (op. cit., 91) similar to those from Ruigh Ruaidh, Ross and Cromarty and Dun Ardtreck in Skye.

Dun na Nighean, Colonsay, incorporated a secondary paved structure revetted into the remains of a rectangular site that produced undecorated dark brown pottery (Piggot, 1949). Although this material is obviously difficult to date it was assumed to lie somewhere between the last century BC or early first millennium AD (op. cit., 232). The latter date would be most likely for the structure type and on parallels with other western pottery sequences (Chapter 4). This site is located on a rocky knoll with a lower annex area and good views to the sea, very similar in layout to Dùn Fhinn and Dùn Mucaig. Cell-like structures were reported during excavations within the vitrified site Dùn MacSniachan

(Smith, 1878). The report describes them as dilapidated and difficult to follow, comparable to other revetted and thin-walled secondary structures, and the only recorded finds were “crude querns” near the surface (op. cit., 14-15). These may represent the re-use of stone in corbelling collapsed into the cells. Other artefacts from this site are unstratified and include an enamelled bronze ornament and a fragment of sword, hammered bronze wire and another quern of “extremely rude kind” (Smith, 1873, 79). There was plenty of evidence for a succession of occupations within the vitrified walls including a 2m deep midden with bones and charcoal (ibid.). Later survey and small-scale excavation was focused on the circular remains to the north of the site outside the earlier excavation area (RCAHMS, 1975, 68-70; *supra*).

Leccamore on Luing, Dùn Mhìc Choigil in Kintyre and Dùn Mor Vaul on Tiree all incorporate the remains of a secondary roundhouse within an earlier Atlantic roundhouse. At Leccamore, a “scarcement” of inferior masonry against the inner wall of a complex Atlantic roundhouse probably represents the secondary roundhouse (MacNaughton, 1893, 376). This was associated with a secondary northern entrance passage and the infilling of the southern entrance with midden material. This entrance incorporated a rebate with a re-used cup-marked stone and a bar-hole (MacNaughton, 1890, 476-483). Two intramural wall chambers on this site both had stairs climbing through the wall. Only a fraction of this site was excavated but revealed an interior with 2.5m to 3m of midden deposits, charred wood, bones and shells and “other chambers existed at higher levels” (MacNaughton, 1893, 377). This is a rich site that would repay further investigation. In contrast, Dùn Mhìc Choigil produced little material except some abraded pottery and stone artefacts as well as corroded iron from two phases of an Atlantic roundhouse (Hedges and Hedges, 1977, 376-377). The secondary structure on this site was very flimsy, situated in the north part of the interior that may not have been recovered in earlier excavations (ibid.). The roundhouse within Dùn Mor Vaul was much better built (MacKie, 1974) and comparable to the structure recovered at Loch na Beirgh (Chapter 4). The insertion of this structure could be dated to between the 1st century BC and the 2nd century AD and complicated the internal stratigraphy of the complex Atlantic roundhouse (MacKie, 1974, 35).

First millennium AD material has been recovered from many excavations in Argyll and Skye, often reflecting secondary occupation on roundhouse sites. At Dun Beag, Skye (Figure 13b), a relatively rich assemblage was discovered ranging from hammerstones and an antler pick, through several ornamental bronze objects to an enamelled plano-convex

glass armlet and a flattened gold ring (op. cit., 120-127). Artefacts also included metalworking debris in the form of slag, crucibles and ceramic moulds, one of which may be for a doorknob spearbutt (op. cit., 123). However, the site consisted of many layers of peat ash, several drains, paving and midden material recorded at various levels (op. cit., 117). Two earlier reports indicate that cellular structures may have been built within the roundhouse and during the 1914 clearing of the site a single-faced wall was the only structure that could be planned (op. cit., 116-118). This suggests a lot of secondary activity on the site including a revetted structure supported by the mixed pottery assemblage including plain and decorated wares with both incised geometric patterns and applied cordons and other decoration such as impressed bases. The forms also include incurving 'barrel-shaped' vessels but the majority have everted rims, perhaps reflecting the secondary occupation of the site (op. cit., 128). None of this material can conclusively be assigned to the primary occupation of the site.

A bronze Collingwood Group Q head-stud Roman fibula from Kildalloig was used to date this complex Atlantic roundhouse to *circa* 2nd century AD (Bigwood, 1964, 19; Figure 14c). However, this item was recovered from below external paving under a midden against the west wall of the roundhouse. There was no stratigraphic link between this point and the interior of the building and therefore this object has no demonstrable relationship to the site's multiple occupation; in fact it could have been deposited at any time in the site's history. Loch na Beirgh, Lewis, had an external paved area and a paved catwalk around the complex Atlantic roundhouse, both of which were constructed during secondary occupation (Chapter 4). Similarly, the midden at Dun Vulcan, South Uist, is argued to be a secondary deposit unrelated to the original construction and use of the complex Atlantic roundhouse (Gilmour and Cook, 1998; Gilmour, forthcoming; Chapter 4). It is probable, given that the interior had at least two floor levels and the secondary features including a three-sided slab and drystone built 'trough' (RCAHMS, 1971, 88), that the fibula represents secondary activity at Kildalloig analogous to both Beirgh and Dun Vulcan. Interestingly, Kildalloig and Ardifuair have both produced ground stone axes, at least one from Tievebullaigh, Northern Ireland, analogous to the find from the latest secondary phases at Loch na Beirgh, Lewis.

Outworks

Defined here as external features that may or may not be conjoined with the primary enclosure, these have often been described as defensive. The subject of outworks associated with sites in Argyll has been underestimated and under-represented in the RCAHMS

Inventories. They are just one of a range of external features, including additional platforms or terraces, associated walls and field systems, which were not recorded in the Inventories yet occur at many sites in Argyll. These are essential to any understanding of the function of an individual site and how it fits into the wider landscape (Margaret Nieke, pers. comm.). These areas would have allowed many activities to occur which would otherwise have been impossible in a roofed structure and evidence from Dùn Mór Vault indicates that some may have contained other structures (MacKie, 1974).

In an unpublished survey of the sites at Ardanstur, Lorn (RCAHMS, 1975, 78) and Dùn Toiseach, Mid Argyll (RCAHMS, 1988, 193) Margaret Nieke, Peter Hill and John Barrett recorded external platforms and features not included in the Inventories (pers. comm.; Gilmour, 1994). Recent analysis of the Ardanstur site by the author recorded similar features and suggests the circular structure may be contemporary with the irregular enclosure surrounding the knoll summit. This and other enclosures at roundhouse sites (Harding, 1997, 140), are relatively small-scale; some could be mistaken for field boundaries and are therefore not defensive, such as those enclosing Tirefour Castle, Lismore (Ian Ralston, pers. comm.).

Distribution

Atlantic Roundhouses are widespread throughout Argyll although there tend to be more complex roundhouses in the north (Figure 8). However, some are also found in the south, especially in mid-Argyll, and the relative lack of complex southern sites may therefore be a result of archaeological visibility and the problems of preservation. There are also relatively few Atlantic roundhouses in south-west Scotland compared to Argyll and those that do exist exhibit a distinct concern with monumentality and enclosure. These latter are probably contemporary with the larger enclosed sites with timber roundhouses, a type of site rarely found in other areas of Atlantic Scotland, but perhaps comparable with the early enclosed 'ringforts' of Ireland (Chapter 6). Clusters of sites in north-west Mull, south-east Colonsay and western Kintyre and the high density of sites on Tiree, highlight the problem of contemporaneity. These are generally the small areas of good arable land dominated by epidiorites and limestone and often including raised beaches. Without excavation it is difficult to assess the true numbers of contemporary sites and their distribution and interaction across the Argyll landscape; however, some general points can be made and some startling distributions highlighted.

When Atlantic Roundhouse distribution is compared with the solid geology of the area there is a definite correlation with the softer rocks, which produce deeper and generally more fertile soils (Gilmour, 1994, 45). Conversely, there is an avoidance of the harder rock types more resistant to weathering and that generally produce thinner, poorer soils and higher ground (ibid.). Sites also avoid the hard granite outcrops such as the south-western point of Mull, the eastern part of Ardnamurchan and the area north-west of the Pass of Brander in Lorn but may be more dense on the relatively fertile basalts of Mull, Ardnamurchan, Lorn and Mid-Argyll.

Fertile limestone outcrops provide a focus for sites, such as down the west coast of Kintyre, central Islay and the hills north of the Machrihanish flats. The flats themselves, and the areas around them, are well known as fertile regions due to the basalt, lower old red sandstone and limestone. The most famous limestone area is Lismore where good, fertile soil has been recorded since agricultural records began (Cameron, 1990, 84). To complement this relatively modern knowledge there is a very even distribution of pre-historic sites down the south-east coast of the island. Although there are distinct concentrations, such as on Lismore and the central western coast of Kintyre, roundhouse sites are spread relatively evenly across tracts of landscape. Several glens inland of Oban and around the Kilmartin area display regular spacing of roundhouse sites along their peripheries. Other sites are regularly spaced along coastal margins, such as in northern Argyll and Ardnamurchan. Roundhouses are carefully spaced along the protected east coast of Lismore and sites like Tirefour Castle (Figure 14d) would dominate not only the surrounding landscape but also the channel between the island and the mainland. Although some sites are noticeable inland, the majority display a marked coastal preference, presumably owing to a combination of lower, better land and the dominance of sea-borne communication.

There is a concentration of roundhouse sites on Tiree, a fact that may reflect the relatively fertile and labour intensive machair landscape and the concentration of fieldwork on this island by MacKie. However, a complete lack of roundhouse sites on nearby Coll is very surprising because it has very similar geology. Only irregular and rectilinear sites exist on Coll.

A study of the drift deposits lying over these parent rocks merely reinforces the close correlation between site distribution and relatively good quality lands, especially raised beaches. Many of these drift deposits are closely associated with their parent rock strata and

often the higher land is dominated by bedrock at or near the surface. From this it can be seen that Coll however, not only has a wide band of hard granite across its south-western end but is also composed mainly of gneiss with relatively small areas of raised beach and blown sand along the north coast. Much of the south coast is now peat covered. This island is therefore less fertile than Tiree, although there are many crannógs in the small inland lochs. It would be interesting in the future to analyse whether these are a facet of first millennium BC settlement and, if so, how they interacted with the Atlantic roundhouses on Tiree. The rectilinear and irregular sites tend to favour the north coast of Coll, presumably to take advantage of the small amounts of relatively fertile land there.

The distribution of irregular shaped and rectilinear sites illustrates a complete contrast to the roundhouse distribution on these two islands, with more sites on Coll than Tiree. This difference in distribution might be held to support the distinction between round sites and others. The later dating of at least some rectilinear sites to the first millennium AD suggests a possible settlement expansion on to Coll or, if some of the irregular sites are earlier than the roundhouses, a contraction of settlement during the first millennium BC. There is certainly useful information in this patterning, since many of the roundhouses would be re-occupied during the first millennium AD. Alternatively, these irregular sites may have been contemporary and again performed some specific function in relation to the roundhouses. However, a recent review of artefacts recovered from coastal locations on Coll produced very little of the decorated pottery generally associated with Atlantic roundhouses and their immediate successors. There was even less early first millennium AD material characterised by applied decoration and everted rims, but the greatest number of Iron Age sherds were late first millennium AD Plain Ware (Crawford, 1997). This admittedly biased sample would seem to support the theory advanced above that the distribution of Atlantic roundhouses and irregular and rectilinear sites, indicates little Iron Age occupation until the mid- to late first millennium AD. This apparent distribution requires detailed analysis and field excavation to elucidate further.

There is a distinct coastal aspect to the distribution of all sites in Argyll, similar to that in the Western Isles (Armit, 1992, 115). It seems unlikely that such a clear bias is the result if a lack of survey or archaeological visibility. More likely is the influence of the mountainous nature of inland areas and the dominance of maritime communication. Few sites are located at high altitude; none lies above 216mOD and the vast majority lies below 150mOD (Gilmour, 1994, Appendix 6; No.s 6, 7 and 8). Irregular sites range from 6mOD at Eilean

nan Gobhar, Mull (RCAHMS, 1980, 83-84), to 216mOD at Ballywilline Hill, Kintyre (RCAHMS, 1971, 65), with a mean of 59.3mOD. Rectilinear sites range from 5mOD at Gallochóille Cottage, Gigha (RCAHMS, 1971, 85), to 215mOD at Ranachan Hill, Kintyre (RCAHMS, 1971, 72-73), with a mean of 53.34mOD. There is no significant difference between irregular and rectilinear altitude distributions (Gilmour, 1994, Appendix 5; No. 3). The Atlantic roundhouse sites range from 3mOD at Dun nan Gall, Mull (RCAHMS, 1980, 94-95), to 210mOD at Caisteal Suidhe Cheannaidh, Lorn (RCAHMS, 1975, 81) with a mean of 73.8mOD. When compared to the distributions of both rectilinear and irregular altitudes, Atlantic roundhouses are located statistically higher (Gilmour, 1994, Appendix 5; No. 3).

From an examination of the palaeoenvironmental data (Chapter 2) it was concluded that the area suffered climatic decline during the first millennium BC, and that this produced average conditions not dissimilar to today's climate. Land over 150mOD has had little agricultural value and has been left to rough grazing since records began in Argyll and little land over 30mOD is cultivated today (Coppock, 1976). Since conditions worsen with altitude, higher sites are less likely to have been occupied during the first millennium AD. Therefore, the higher altitude of roundhouses might support their earlier dating.

Within both the rectilinear and irregular classes there are also high altitude sites which may be separated from the majorities in these classes. It is difficult to imagine the use of sites over 200mOD in Argyll during either millennium owing to the decline in climatic conditions. It may be possible however, that they were transhumance sites or refuges. An alternative hypothesis, tentatively postulated here, is that they belong to the Late Bronze Age or very Early Iron Age. The type-site of this period has traditionally been restricted to unenclosed platform settlements in Argyll but Bronze Age and possibly even Neolithic drystone enclosures have been recognised elsewhere, the former perhaps at Dunagoil, Bute and the latter in the north at Ben Griam Beg, Caithness and Sutherland District (Mercer, 1991). This suggestion requires further fieldwork that could also help determine the function of some of these high altitude sites.

What is clearly shown is the distinct association between sites and agricultural land. This would argue for economy being the main influence on choice of location rather than defence. The abundance of sites in positions that are overlooked by nearby higher ground, such as Ardifuar 1, is again indicative of occupants with little regard for defence. A combination of the need to maximise available arable land and to retain relatively easy access was most

influential on location strategies. The small scale of site enclosures also removes them from a decisively defensive role (*supra*).

Early Historic Settlement

Two enclosed sites in Argyll are certainly dated to the mid- to late first millennium AD at Dunadd (Campbell and Lane, 1993a; thesis frontispiece) and Dunollie (Alcock and Alcock, 1987). These are examples of a larger series of ‘nuclear fort’ type-sites spread across north and west Britain and perhaps further afield (Alcock et al., 1989, 206-214; Harding, 1997). These sites are often located on craggy knolls or other prominent natural features with a flat hilltop and several lower terraces. This form is important, whether or not each terrace is enclosed, since it allows an immediately appreciable and explicit hierarchy of settlement layout with the primary stronghold or enclosure on the summit. Often called a ‘citadel’, this is represented at Dunadd and other possible nuclear sites by rectangular or subrectangular focal points. Dunadd has been dated by radiocarbon and artefactual analyses to between the 5th and 8th centuries calAD (Campbell and Lane, 1993; Table 2), and Dunollie has also been dated by radiocarbon assays from small-scale excavations to between the 5th and 9th centuries calAD (Alcock and Alcock, 1987, 121; Table 2).

Site/Phase	Radiocarbon date	Calibration at 2 sigma
<i>Dunadd</i>		
Phase 3	1700±50bp	CalAD220 – calAD440
	1440±50bp	CalAD450 – calAD490 (2%) CalAD520 – calAD680 (98%)
Phase 3b	1420±50bp	CalAD530 – calAD690
	1360±50bp	CalAD590 – calAD780
Phase 3a	1500±60bp	CalAD430 – calAD640
	1340±50bp	CalAD600 – calAD780
	1450±50bp	CalAD450 – calAD670
	1430±50bp	CalAD530 – calAD680
<i>Dunollie</i>		
GU-1395 and 1396	1280±75bp	CalAD620 – calAD900
GU-1397	1270±60bp	CalAD650 – calAD890
GU-1398	1425±60bp	CalAD450 – calAD690

Table 2: Radiocarbon dates from Dunadd and Dunollie

Both sites produced evidence for metalworking and 6th to 7th centuries AD imported E-ware. Both are also mentioned in various early texts as defended sites (Bannerman, 1974, 15-16; Alcock and Alcock, 1987, 120) and thus, coupled with the excavation, evidence of their association with royal activities is manifest. The rock carving of a footprint, an incised boar,

a basin and ogham script in the uppermost enclosure below the citadel at Dunadd suggests it was the inauguration site of Dalriadic kings, possibly as late as the 9th century AD (Campbell and Lane, 1993, 52; Campbell, 1999, 21). The importance of the artefactual assemblage recovered from Dunadd cannot be overstated (Campbell and Lane, 1993; Campbell, 1999). The metalworking for example, incorporates many different stylistic elements from Germanic influence suggesting an Anglo-Saxon presence, to large panelled brooches originally thought to be Irish in origin (Campbell, 1999, 50). The presence of E-ware and glass vessels indicates participation in the Atlantic Western trade routes from France, and supports the conclusion that Dunadd was a wealthy site with many different contacts.

Tarbert Loch Fyne and Dunaverty are two other sites recognised through analysis of the annals and place-names. Neither has been excavated, indeed the precise location of the Tarbert site is still unknown. The site at Dunaverty is a coastal rock stack with constricted access and an upper sub-rectangular summit area roughly analogous to Dunadd and Dunollie (Alcock and Alcock, 1987, Illustration 6). A low wall encloses a lower landward terrace although at least one visible part of this has been mortared and the site is recorded as the location of a later medieval castle. Nearby Keil Cave produced 4th century AD material as well as late penannular brooches, glass beads and metalworking debris (Ritchie, 1968). The cave is associated with a small rocky knoll with a rock-carved socket for a free-standing cross, an incised Latin cross and a pair of carved shod feet. One of the latter may be a relatively modern carving but the other aligns with Dunaverty and the small knoll itself is associated with a small chapel dedicated to Colum Cille (NMRS NR60SE1). The close association between a possible early power centre and the incipient church represented by either the nearby chapel, a small rectangular building on the small knoll itself, or the incised Latin cross, is mirrored at Dunadd. Finds of orpiment and a Latin cross incised on a rotary quern at Dunadd suggest close links with the early monastery on Iona (Campbell 1987; Campbell, 1999, 47). It is possible that the same associations are visible at Dunaverty, albeit located off-site, suggesting that this was an inauguration site of the southern king of the Dál Riata, possibly the leader of the *Cenél nGabráin* (Nieke and Duncan, 1988, 16).

The close relationship between secular power and ecclesiastic sites is represented at Iona by the presence of a sherd of imported E-ware, probably from Dunadd, and the use of stone from the mainland for construction of the crosses. Access to this stone must have been granted by the king (Campbell, 1987) and it is possible that the orpiment used to illuminate manuscripts at Iona was also a gift from Dunadd. Unfortunately, excavations at the

monastery on Iona have been restricted to small-scale pre-development work, often on the periphery of the monastic vallum enclosure (e.g. Barber, 1981). Very small-scale excavations under the 'infirmary' at Iona have produced evidence for metalworking (McCormick, 1992, 213). The monastic vallum ditch excavation indicated sophisticated leatherworking and carpentry as well as metalworking and the partial remains of a timber post-built roundhouse (Barber, 1981). Other important finds included Souterrain Ware from Northern Ireland (Campbell and Lane, 1988; Edwards, 1990, 74; Chapter 6) and a single sherd of Samian (McCormick, 1992, 213).

The Mote of Mark, Kirkcudbright, is an enclosed site on a rocky knoll rising above the Urr estuary (Curle, 1914; Laing, 1973). The main wall was vitrified, indicating that it was originally timber-laced with possibly two entrances, one to the south leading to the estuary and a smaller postern in the north-west. A radiocarbon date from burnt timbers in the main gateway to the south produced a date between calAD440 and calAD640 (SRR-321, 1491±42bp). Various excavations have produced a rich assemblage of bronze-working crucibles and moulds and imported E-ware pottery as well as fragments of imported glass vessels. Other objects included glass beads, lumps of ore and slag indicating iron-working, iron artefacts including a pair of tweezers, ferrules, bars, knife and part of a horse bit. An ingot of bronze, scrap bronze and brass and rivet casts still with the 'flash' from the mould also support bronze-working *in situ*. A small coil of gold may indicate precious metals had also been worked (op. cit., 100). The site was re-occupied after the destruction of the ramparts, probably during the 7th century AD since there are no artefacts demonstrably later than AD700 from the site (op. cit., 101). The moulds included nail-headed and other pins, Fowler's Group G and H3 penannular brooches (Fowler, 1964, 144) and a round decorated object, possibly the terminal of a penannular brooch like the one from Kildonan Bay (op. cit., 103). A third type of penannular brooch includes the type H related to the elaborate panelled brooches such as the 'Tara' brooch (op. cit., 104) and others produced at Dunadd (Campbell and Lane, 1993).

These artefacts are indicative of high-status occupation paralleled at Dunadd and other western sites such as Dinas Emrys and Dinas Powys in Wales (Chapter 7). The location of the site and its entrance indicates an association with sea travel and the presence of several imported objects reinforces this connection. In south-west Scotland this assemblage is matched only by that from the monastic site at Whithorn (Hill, 1997). The earliest clear occupation on this site is dated to the late 5th or early 6th century AD foundation of a simple

monastery in a 'desert place' (op. cit., 39), much like the Irish Columban tradition. Period 1 occupation at Whithorn produced several sherds of imported African Red Slipware associated with Bii amphora sherds, E-ware and glass cone-shaped vessels (op. cit., 69). Several important aspects of this assemblage have implications for other similar artefacts including the use of E-ware for cooking, comparable to material from Dalkey Island, Ireland, and Samson on Scilly (op. cit., 37). It has also been suggested that glass vessels were manufactured on site (op. cit., 36) although the evidence could equally suggest the melting of broken vessels for use in applied decoration to other objects or manufacture of glass beads. Only careful analysis of the crucibles can support glass-making as at Dunmisk, Ireland (Henderson, 1988), but glass-working is less easy to trace. The suggestion at Whithorn is however, that several unique glass vessels may have been made on site (Hill, 1997, 36), requiring the presence of continental glass workers (Campbell, 1997, 314). A change in burial practice from lintel graves to log coffins is suggested as reflecting the roughly 7th century AD replacement of indigenous practices by new Irish ones (Hill, 1997, 37). The introduction of a new type of building in the late 7th to early 8th centuries AD is also linked with the arrival of Anglian monks/clerics prior to the establishment of the Northumbrian bishopric in *circa* AD730 (ibid.). The earlier buildings consisted of numerous well-preserved stake-walled rectangular buildings with earth or roughly-paved floors and a central hearth. The new structures utilised large squared timbers with substantial opposed timber framed doorways (op. cit., 70). Building 1 from this period incorporated two rooms the smallest of which had a roughly-paved floor and the larger had a paved three-sided hearth (op. cit., 78). These features are paralleled at cellular figure-of-eight sites across the Atlantic west (Chapters 3, 4 and 6). A possible rectangular hall dating to between the mid-7th century calAD (GU-1637, 1220±70bp) and the 12th century calAD was discovered under later and continuous re-use at Cruggleton Castle, Dumfries and Galloway (Ewart, 1985, 1). The site is an enclosed promontory on the edge of cliffs 45m-60m high, subsequently used as the location for a castle. Similar rectangular halls have been interpreted from post-holes and gully features on similarly located sites in Wales (Chapter 7).

Sites such as Dunaverty, Dunadd, Tarbert, Mote of Mark and Dunollie did not exist in a vacuum. Excavation evidence closely links Dunadd, for example with Iona (Campbell, 1987), Kildonan Dun (Nieke, 1984, 346; Nieke and Duncan, 1988, 17) and Mote of Mark (Laing, 1973). The chronology of this latter, and other rectilinear sites such as Ugadale, suggests a settlement hierarchy similar perhaps to that portrayed in the *Senchus fer nAlban*. More detailed analysis of a site like Kildonan indicates that it may have lasted several

centuries during the later half of the first millennium AD. The secondary addition of an internal wall represents the final use of the site, presumably entailing a major reconstruction of the building itself. Intramural stairs at Kildonan and Dun Aorain suggest a relatively tall building with a first floor. Such a structure would appear very imposing, although mainly to sea-borne or immediate viewers since their low lying coastal nature is overlooked from the mainland. The presence of E-ware on smaller sites, such as the re-use of Ardifuar, Kildalloig and even Dun Ardtreck, illustrates the subsequent redistribution of wealth from centres such as Dunadd to various subordinates. The penannular brooch fragment from Kildonan that may have been produced at Dunadd (Nieke and Duncan, 1988, 17) supports this.

If the *Senchus fer nAlban* tells us anything it reminds us of the importance of sea travel and naval power in Argyll. Sites located at nautically-strategic locations, near flat approachable beaches, or overlooking navigable rivers and fjords, are very important. All the sites above were extremely well placed to facilitate sea travel and trade and execute command of the seaways. Both Dunaverty and Dunadd were also very impressive locations, sitting on rock outcrops and visible from some distance across relatively flat floodplains, rare in Argyll's topography. Near Dunaverty the possible Early Historic footprint cut into the living rock at Keil Point to the west faces directly towards the jutting outcrop of Dunaverty. This suggests a link between the two sites and perhaps indicates a similar inauguration role for Dunaverty as already considered for Dunadd. Dunaverty is located between two shallow bays, the one to the west still used as a natural harbour and bounded by sand dunes. A midden, rich in animal bone, is currently eroding from the base of the stack, producing charcoal and thus the possibility of radiocarbon dating. Now in the Campbeltown museum, a large stone spindlewhorl and an iron object, possibly the hilt for a sword were discovered at Dunaverty. This evidence might support the first millennium AD occupation of the site, although a later medieval castle is recorded as being located on the outcrop too.

Discussion

Much of the previous work on Atlantic roundhouses has been concerned with a search for their origins from one particular area. Previously, the influence for the construction of Atlantic roundhouses was seen to come from the south - particularly from south-west England and Wessex (Childe, 1935; Hamilton, 1970; MacKie, 1965a). Most of these views are now discredited as it is realised that, owing to the traditions of drystone construction already existing in the area, no external catalyst is required. The search for a single origin within the Atlantic Province itself has proven equally fruitless. Some authors claim that

blockhouses or, more convincingly, the simple Atlantic roundhouses were the earliest datable prototypes yet known and point towards a northern origin for the type which then spreads to the west (e.g. Hamilton, 1968; 1970; Hedges, 1987i). The opposite view claims that the simplest forms exist in the west and spread to the north becoming increasingly more complex (MacKie, 1965a). The argument that only complex Atlantic roundhouses may exist in the Western Isles suggests that the type was introduced there from elsewhere (Chapter 4). While the earliest dated examples of Atlantic roundhouses do support a northern origin this may have more to do with the fieldwork carried out to date. The development of the distinctive drystone roundhouse continuum throughout Atlantic Scotland is the result of a number of contacts which occurred for over half a millennium making it unlikely that any one source can be identified or indeed could be solely responsible. The recognition of simple Atlantic roundhouses in Argyll, possibly with Early Iron Age dates (e.g. Rahoy), adds further complexity to this issue.

Campbell has argued that, contrary to the traditional view based on textual evidence, there was no large-scale Irish settlement of Argyll during the first millennium AD, but that a local elite ruled Dál Riata (1999, 15). The argument is based on a re-assessment of the textual and archaeological evidence in northern Ireland and Argyll during the first millennium AD. Campbell contrasts the stone-built sites of each area (cashels and duns) and suggests there is no evidence for a movement of Irish types into Argyll (op. cit., 13). He also argues that the dating of Argyll duns spans a millennium between 500BC and the Early Historic period, indicating a local development without external influence. A similar argument is made for crannogs (ibid.). Personal adornments are argued to be indicative of tribal or group affiliation but zoomorphic and loose ring-headed pins from Ireland are rare in Argyll (op. cit., 14). Other late first millennium AD Irish monument forms such as the ogham pillar and ringfort are similarly very rare in Argyll (op. cit., 13-14). The textual evidence is considered unhelpful since the entries may be biased and an attempt to use mythical ancestors and invent origin stories relevant to the time of writing rather than actual events taking place earlier (op. cit., 14). However, there are hints in the evidence in this thesis for perhaps more of an Irish presence than Campbell suggests. The major issue is predictably one of classification; it is simply not possible to discuss the large corpus of heterogenous stone-built sites in Argyll and northern Ireland as if they were a single type. This chapter has highlighted how settlements in Argyll can be re-defined into primarily early and later sites. Comparisons between the two areas should be undertaken in light of these new classifications. Early dates are suggested in this thesis for Irish cashels (Chapter 6),

especially those in Donegal that are architecturally comparable and in similar locations to Atlantic roundhouse sites in Argyll. Both share locations on rocky knolls on the sides of hills and may have first millennium BC origins. Other sites in Donegal are comparable to possible first millennium AD stone-built structures in Argyll (Chapter 6). The late dates of many ringforts in Ireland removes them from the mid-first millennium AD period assessed here. However, the structural similarities between the two areas do argue for earlier first millennium BC contacts that continue into the first millennium AD. Most of these cashels in Ireland will also produce secondary and often cellular re-use, dating to the first millennium AD. This is comparable to the re-use of Atlantic roundhouses in Argyll, and suggests both were following the same social trajectory.

The diagnostic artefacts of the period are poorly dated, especially in the west, and are based on stylistic determinism that suggests one set is later than the other. Unfortunately, few fine artefacts have come from securely dated contexts in Argyll. Excavations at Loch na Beirgh, Lewis, indicate that types often thought to be of different dates could be contemporary (Chapter 4). The doorknob spearbutt and hand-pin moulds at Beirgh date to roughly the 4th or 5th centuries AD, and the artefacts have been found on late Roman sites (Andrew Heald, pers. comm.). The contrasting distribution of production debris and finished articles in Atlantic Scotland and north-east Ireland (e.g. Raftery, 1982) also suggests close contacts, perhaps through high-status exchange, between the two areas in the centuries immediately preceding the currently held AD500 date for Dalriadic accession. The distribution of dumb-bell-shaped glass beads, called a distinctive Irish type (Edwards, 1990, 94), also indicates close contacts between the two areas during the mid- to late first millennium AD. Beads have been recovered from Kildonan Bay, Ronachan Dun and other locations in Kintyre. They have also been recovered from crannogs and burials in Ireland (Chapter 6). The manufacture of large-panelled penannular brooches at Dunadd, previously considered to have Irish origins (Campbell, 1999, 50; Campbell and Lane, 1993, 57-58), merely emphasises the close contact between the two areas during the later first millennium AD. Changes in the burial practice at Whithorn during the 7th century AD have been interpreted as evidence of Irish influence (*supra*).

Campbell also argues that the focal point of Dalriadic Argyll is Dunadd, therefore this eponymous site should reflect Irish contact. The closest parallel in Ireland is at Clogher where the site is not a unitary monument but a palimpsest of settlement over a long period (Warner, 1988). Other high-status late first millennium AD sites in Ireland are thought to

include the 'Royal' centres such as Navan (Chapter 6) and yet these contrast significantly with sites like Dunadd in Argyll. However, the comparison with the 'Royal' sites in Ireland is meaningless since none has produced convincing evidence of any occupation in the mid-first millennium AD (Chapter 6). They may have kept some ritual importance, but probably only for relatively brief ceremonies or gatherings. Nucleated sites seem to be a pan-western phenomenon, including Dinas Emrys in Wales (Chapter 7) and perhaps the terraced nature of Tintagel in Cornwall (Chapter 8). They are also found outside the Atlantic west in northern Britain, and perhaps elsewhere in Europe (*supra*). Indeed, the argument that Clogher is not the same as Dunadd because its not a unitary monument actually supports the imposition of nuclear forts fully formed into Argyll from Ireland where they grew from ancient beginnings, although Dunadd is not entirely unitary either since it has some constructional phasing (Campbell and Lane, 1993). Perhaps we should not be too rigid in our definition of what constitutes a nuclear fort (cf. Atlantic roundhouses) and look to location and the distribution and form of internal space, whether demarcated by ancient banks or not, as the main criteria for definition. This would suggest that much of the mid- to late first millennium AD, in the west and north of Britain at least, shared a specific form of high-status settlement. Again this allows parallels to be drawn between Ireland and Argyll as well as elsewhere and would diminish the contrasts.

Early to mid-first millennium AD rectangular stack sites such as Dun Fhinn, Kintyre, and Dun an Fheurain, Lorn (*supra*), have coastal locations suggesting they are linked to the control of the sea lanes and therefore trade and communication. They are also found in the south-west of Scotland, as at Castle Haven, Dumfries and Galloway, which also produced first millennium AD material (NX54NE3; Figure 20a), and there are some sites in Donegal, Northern Ireland, that may be similar (Avery, 1994a). These are roughly rectilinear and located strategically to watch sea movement from tall rocky knolls (larger versions of stacks?). Unfortunately, none has been excavated but their location and layout as at Caiseal na Veain invites comparison (Avery, 1994a; Figure 28b). There is also an enclosed site at Scrabo Hill above the inlet at Belfast Lough that has produced first millennium AD material, and may be somewhat comparable, owing to its location and layout, to nuclear forts (Archaeological Survey of Northern Ireland, 1966). Cellular settlements are spread across both areas where they are sufficiently preserved during this time; this suggests some parallels in culture and the processes shaping the settlement developments. The widespread distribution of nuclear forts supports this. The *Senchus fer nAlban* was certainly amended after its original writing (Bannerman, 1974) but it may still have a basis in fact. The

recorded details such as the numbers of houses in each *Cenela* might be fanciful, and certainly not supported by the current distribution of possible archaeological remains (Nieke, 1984), but surely if we use the texts to support a naval-based society (*supra*), then why not also an Irish-ruled society? The distribution of spearbutts immediately prior to this indicates close Irish connections and the Buckquoy spindlewhorl with ogham and an Irish name suggests an Irish person in Orkney not long after (Forsyth, 1995). Other ogham scripts have been discovered in secondary settlement assemblages from Burrian and Gurness in Orkney (Chapter 3) and Bac Mhic Connain in the Western Isles (Chapter 4). The distribution of dumb-bell shaped beads also supports the possibility of Irish presence in Argyll since these are often recovered from first millennium AD coastal sites and possible secondary use of earlier roundhouses. Contexts in Ireland may include earlier deposits for this type.

The problem still is how to recognise a foreign presence in Argyll, but perhaps this is a modern perception biased by recent geo-political boundaries. An alternative view might see a general Pan-Gaelic culture incorporating Atlantic Scotland and Ireland. This may have sub-regions certainly, but it is likely that the Atlantic Seaways linked these areas much more cohesively than they are today. Even if we could pinpoint a mid- to late first millennium AD recognisably north-east Irish 'culture', would this simply be transported wholesale into Argyll? Arguably this 'culture' would be influenced by the local groups, perhaps analogous to the Christian adoption of ancient places, holidays and material culture to help gain widespread acceptance. There is no *a priori* reason to suppose a colonial group could be distinguished easily, and this would be especially difficult in an area such as Argyll that shared so many similarities and had regular contact with Ireland before, during and after the period in question. Recent publications have gone to great lengths to emphasise the cosmopolitan nature of Dalriadic society (Campbell, 1999; Nieke and Duncan, 1988, 15) and that its wealth and power was commensurate with the relations cultivated and artefacts traded and produced.

It is difficult to show movement of people from any area to another (Harding, 1974), but Scotland and Ireland were certainly linked by the Atlantic Seaways. These concepts go beyond the archaeological material and are obviously relevant to the linguistic P and Q Celtic issues (Campbell, 1999; Sims-Williams, 1999) that are unfortunately outwith the scope of this thesis.

Chapter 6

Ireland

The Iron Age in Ireland is generally regarded as beginning *circa* 500BC and ending *circa* AD500, from which the Early Medieval, Early Christian or Early Historic period continues up to the Viking incursions. The term Early Historic is used here to keep consistency between the various areas of the Atlantic façade. However, most La Tène material dates from the 3rd century BC at earliest, and evidence for a ‘Hallstatt’ Iron Age in Ireland is extremely sparse (Raftery, 1991; 1995a and b). This means that any study of the first millennium BC in Ireland must begin with the Late Bronze Age Dowris phase, for which the end-date is itself uncertain. In other areas of the Atlantic region under study the Iron Age is often thought to begin somewhat earlier, possibly around *circa* 700BC and is rarely perceived as a definitive cultural change. Between perhaps 700BC and 500BC is often called the Late Bronze Age/Early Iron Age and this represents a different terminology from the more stoical Irish period definitions. In the exploration of the archaeological evidence of the first millennia BC and AD, it will become clear that strict definition and terminology used to describe the material is symptomatic of the perception of the Irish Iron Age.

Currently the one thousand years between the Dowris and Early Historic period is perceived as problematical; “evidence for Iron Age (500BC-AD500) settlement of any form in Ireland is extremely scarce” (O’Sullivan, 1998, 96). “The later first millennium BC and the early centuries AD are amongst the most obscure periods in Irish prehistoric archaeology” (Waddell, 1998, 279). However, it has been noted that “a rigid distinction between a Later Bronze Age and an Early Iron Age in Ireland...(is) to a large extent illusory” (Raftery, 1994, 36) and the same can be applied to the rest of the Atlantic area, as well as the distinction in Ireland between the Iron Age and Early Historic period. In this vein, discussion of the first millennia BC and AD in Ireland will include reference to several sites that would strictly be regarded as Late Bronze Age or Early Historic rather than Iron Age. A recent publication by Raftery (1994) on precisely this problem period suggests a large corpus of information is not only available but also interpretable.

One of the most recurrent types of site in Iron Age or Early Historic Ireland is the enclosed site. The majority are called 'ringforts' or 'ráths' and are generally defined as a roughly circular area surrounded by a bank often with an outer ditch or a rampart of stone (Stout, 1997, 14). Slight variations will of course occur across this very basic definition. Other similarly constructed enclosures include 'hillforts' (Raftery, 1972), some following the contours of the hills they are situated on. However, there is some overlap in the current definition of hillforts and ringforts (*infra*). A significant variant of the hillfort is the internally ditched enclosure, often located on hilltops. These are discussed in detail later but the location of an enclosing ditch *within* the bank or rampart is seen as an important distinguishing feature. Another major site type is the 'crannóg', a site located within or at the edge of a body of water.

Enclosed Sites

Recent estimates suggest there are over 45,000 ringforts in Ireland (Stout, 1997, 131) and yet there is still dispute over their dating and function (Figure 24). Some archaeologists in Ireland insist that all ringforts belong in the Early Historic period, probably the 6th and 7th centuries AD (Lynn, 1983; O'Sullivan, 1998, 101) and most advocate that the vast majority are similarly dated (Edwards, 1990, 10-11; Stout, 1997, 23; Hirons and Sheridan, 1986) with little room for any earlier examples of the type. Limbert (1996) argues for the early construction of at least some sites before the Early Historic period and produced a useful review on the nature of the problem.

Stone-built enclosures (cashels) have a distinct western distribution in Ireland, presumably related to the rocky geography of the area with good building stone readily available and few trees (Figures 25, 26 and 27). Archaeological surveys of the Iveragh peninsula (O'Sullivan and Sheehan, 1996), the Dingle peninsula (Cuppage, 1986) and County Donegal (Lacy, 1983) have recorded many hundreds of these sites. However, eastern surveys such as County Louth (Buckley and Sweetman, 1991) and County Meath (Moore, 1987) have relatively few stone-built sites and County Louth has no recorded sites. In these areas the predominant enclosure form is the ringfort or ráth enclosed by earthen banks and ditches.

Ringforts

Several enclosed ringfort sites have been suggested as pre-6th century AD in origin (Caulfield, 1981; Raftery 1981a) although many have been challenged (Lynn, 1983; Edwards, 1990, 17). A detailed investigation into the problem of dating ringforts to the pre-*Early Historic Iron Age* has highlighted several factors that combine to have, “a negative impact on iron-age representation” (Limbert, 1996, 282). These include the definition and classification of ringforts, ráths and cashels, a relative lack of large-scale excavation compared to the overall number of sites (representing just 0.05% of the resource), and the contextual provenance of dating material. The latter includes stratigraphic problems conditioned not only by limited excavation but also by inadequate reports of early large-scale research excavations. The typological dating of artefacts based on stylistic analyses of decorative motifs and “simplistic linear evolutionary principles” is also seen as problematic (op. cit., 268). These issues are precisely the same as those that have previously impacted on the Iron Age archaeology of Atlantic Scotland and produced a very similar ‘dark age’ hiatus between the Late Bronze Age and early centuries of the first millennium AD. The development of new classification schemes, the recognition of secondary and tertiary re-use and the recent introduction of single-entity radiocarbon dating have begun to reshape the evidence available in Scotland (Chapters 3 to 5). These various issues will be examined in a discussion of the different site types commonly attributed to the first millennia BC and AD in Ireland and it will become clear that they are relevant to other site types as well as to the smaller enclosed ringforts and cashels.

A ringfort at Dunsilly, County Antrim (McNeill, 1994), typifies the attitude taken to possible pre-6th century dates for ringforts. This excavation provided evidence of several major periods of occupation of which the first two can be subdivided into three phases each and relate to ‘pre-ráth’ and ‘ráth’ occupation (op. cit., 80). The site was considered to have five main occupation horizons in the *Early Historic* period dated by radiocarbon assays (Pre-ráth B, Pre-ráth C, Ráth 1, Ráth 2 and Ráth 3) and a later Anglo-Norman motte. During Ráth 3 a rectangular building was built with multiple entrances and possible benches down each long side and later re-used as a hay-stack prior to the construction of the motte. A Pre-ráth A phase incorporated gullies and post-holes but no dating material. An alternative interpretation of the evidence, allowing all the radiocarbon dates to stand, suggests an early enclosed phase dating between 100calBC and calAD260 (UB-967). UB-2001 and UB-2002 represent subsequent activity between calAD250 and calAD660 and between calAD540 and

calAD790 respectively. The final period of ringfort use is represented by a rectangular building, detailed later, dating to between the 11th and 13th centuries calAD (UB-968). This still allows for earlier Iron Age activity before the construction of the excavated enclosure that may reflect non-domestic external buildings associated with an earlier *unexcavated* enclosure.

The site therefore incorporates Iron Age material and the main enclosing bank may have been constructed sometime between 100calBC and calAD660, allowing for Pre-ráth C. None of the stratified artefacts disagrees with this dating, although the majority was retrieved from motte construction material overlying the entire series of Ráth phases and after a period of abandonment (op. cit., 104). One of the few well-preserved finds was part of a polished stone porcellanite axe from the Ráth 3 rectangular building, the same layer that produced the 11th to 13th century calAD radiocarbon date (UB-968). This object may have been displaced from earlier material, but it may equally have been in contemporary usage.

Although only a relatively small part of the ringfort was excavated, there is evidence here for a pre-7th century AD construction of an enclosing bank and ditch. Unfortunately, much depends on a single radiocarbon date (UB-2002) and whether the bank stratigraphically sealed it. However, this date ranges back to the mid-6th century AD and thus could provide an early *terminus post quem* if it assumed that the enclosure follows immediately afterwards. It is possible that elsewhere within this enclosure there is further unexcavated evidence for early occupation contemporary with the ringfort.

The site also produced an assemblage of 420 sherds of pottery from all phases except Pre-ráth A (op. cit., 101), of particular importance because of its possible ramifications in comparisons with other regions of the Atlantic Seaways (*infra*). The majority of these originated from context 17, a surface laid over the interior of the ringfort after Ráth 2 and marking the beginning of Ráth 3. The same material is interpreted as also forming the main floor within the rectangular building, although it also ran under the walls of this building (op. cit., 88; op. cit., 93, figure 11). On this floor surface numerous potsherds were recovered (op. cit., 92). Overlying this surface and abutting the walls of the rectangular building was a dark material, context 15, that provided the radiocarbon date UB-968 but produced no pottery. Analysis of the pottery indicated it was all constructed from the same

local materials and there was very little or no significant variation in the simple style throughout the assemblage (op. cit., 101-102). The only decoration was possible fingertip impressions on the rim, which may have been accidental while flattening the rim, or a thin groove on the rim. A single sherd with a pinched applied cordon was recovered from motte make-up material and was probably derived from earlier deposits (op. cit., 102); it cannot therefore be directly associated with any of the phased material but suggests that both decorated and undecorated sherds were present on site. This minute proportion of decorated compared to undecorated sherds is replicated at Dressogagh Ráth, County Armagh (*infra*). These proportions could support the contention that plain Souterrain Ware is earlier than the decorated Souterrain Ware found elsewhere in the vicinity (op. cit., 106; Limbert, 1996, 263). This would also support the early interpretation of the site chronology put forward here. However, it should be noted that the ceramic assemblage of the first millennium AD in the Outer Hebrides of Scotland follows the opposite course, with cordon decorated wares gradually giving way to undecorated, simple coarse ware vessels called Plain Ware (Chapter 4; Lane, 1990). Souterrain Ware is defined mainly by simple bucket-shaped designs and coarse fabric with grass-marks, and is closely comparable to 'Grass-marked Ware' in Cornwall (Chapter 8). A sherd of plain Souterrain Ware was found beneath a timber in a horizontal mill at Drumard, County Derry, dated by dendrochronology to AD782 (Baillie, 1986), but this obviously only provides a *terminus ante quem* for the style. Classic late first millennium AD decorated Souterrain Ware, as defined at Ballmacash and Hillsborough Fort, is otherwise comparable to the Dunsilly material by the presence of sherds pierced by small circular holes, presumably for repairs (McNeill, 1994, 102; Gaskill et al., 1978, 83). This is not a diagnostic or chronologically specific trait however, since similarly pierced grass-marked sherds have been recovered from Norse levels in Atlantic Scotland, and recently dated to the Late Bronze Age/Early Iron Age at Gob Eirer on Lewis, Scotland. The overall sizes of the reconstructed pottery vessels are also similar (*ibid.*).

By comparison, excavations at Iona in Scotland, produced sherds of coarse plain ware which were originally accepted as part of Lane's Plain Ware assemblage (Barber, 1981, 358) and subsequently recognised as Souterrain Ware (Edwards, 1990, 74). The sherds were poorly stratified but found in the top of an inner post-hole in a circular or apsidal building with a *terminus post quem* suggested by a single radiocarbon date from a pit between 560calAD and 790calAD (GU-1262, 1355±55bp) (Barber, 1981, 358). This pit also produced a small cylindrical bar of blue-green glass with a yellow spiral decoration, a

fragment of bronze, fourteen pieces of slag and five heavily corroded iron nails. A Medieval *terminus ante quem* was originally suggested based on Lane's late dating of grass marked pottery (ibid.; Ritchie and Lane, 1980) but a recent analysis of post-hole taphonomy suggests this material could accumulate during the life of the building (Reynolds, 1995, 197). The Iona material includes mainly plain sherds, although a plain cordon is preserved on one body sherd (Barber, 1981, figure 43, No.234-2) and a series of incised or impressed lines decorate a single, slightly incurving flat-rimmed sherd. Several of the sherds, particularly the cordoned sherd, have grass marks on both the inner and outer faces.

The distinction between decorated and undecorated Souterrain Ware is seen to be chronological, but the presence of both at Dunsilly, Dressogagh Ráth and Iona suggests that this may be an oversimplification. The dating at Iona might also support an earlier chronology for the Ware, reinforced by the Dunsilly dating. Coarse ware from Freestone Hill, County Kilkenny, was associated with Roman toilet implements and a copper coin of Constantine II, dating between AD337 to AD340 (Raftery, 1994, 212). This material was found within a central cashel (Figure 24e). It should be stressed however, that the very plain style and construction of these pots means that their use as fine chronological indicators should be treated cautiously. Figure 45 illustrates the lack of differences between pottery found in relatively secure Late Bronze Age, Iron Age and Early Historic contexts. The use of Souterrain Ware as a diagnostically Early Historic ware is therefore fraught with problems.

Arguments against the early dating of some ringforts (e.g. Lynn, 1983) have probably over-represented the evidence for a purely Early Historic horizon of construction. For example, Lynn has argued that excavations at Kiltera, County Waterford, were too small-scale and poorly reported to support pre-Early Historic activity or enclosure (op. cit., 49). The excavations at Millockstown, County Louth (Manning, 1986) recovered evidence however, that may be comparable to that partially excavated at Kiltera. At Millockstown a multi-phase site was used finally as a cemetery with lintel graves and two souterrains (op. cit., 137). Earlier phases, however, included a succession of ditched enclosures of sub-circular shape that, if only partially exposed as at Kiltera, would look linear. The earliest occupation is probably pre-5th century AD represented by a zoomorphic penannular brooch of the 3rd century AD and a radiocarbon date (GU-1781, 1595±70bp) between calAD250 and calAD610 (op. cit., 140).

It has also been suggested by Lynn that an early date from a hearth at Raheennamadra (1840±110bp) did not represent early ringfort activity, since it was below an excavated hut and pre-dates the construction of the enclosure (1983, 49). The dated charcoal sample was indeed located deep within the central stratigraphy of the site (Stenberger, 1966, 53) by trial trenching the central hut, represented by a sub-circular gully. This structure may have been either associated with, or later than, a souterrain constructed against the bank of the ringfort (op. cit., 41) and thus probably late in the sequence. It would therefore be unsurprising that an earlier phase lay beneath. There is in any case no evidence that this hearth was pre-enclosure. It underlay boulder clay but this material is described as the main layer within the enclosure bank (op. cit., 40) and could have been laid as a surface anytime during the site's occupation. It may even be associated with the late souterrain or overlying building. The hearth may therefore date the original occupation of the ringfort to between 100calBC and calAD450. A standing stone was located 50m west of the enclosure at Raheennamadra.

At the Ráth of Feerwore, County Galway, the dating of a ringfort originally considered Iron Age has also been challenged (Lynn, 1983, 50). An iron brooch from the earliest context may date to the later centuries of the first millennium BC and a cremation cist burial was inserted into the bank of the ringfort, thus encompassing the site's Iron Age occupation (Raftery J, 1944, 41). Probable pre-ringfort Iron Age activity could be contemporary with the nearby Turoe Stone and the location of standing stones north of Feerwore is comparable with the stone west of Raheennamadra. A general lack of stratigraphy and a much disturbed central area at Feerwore combine to limit any coherent structural remains from the site to the periphery in the vicinity of the bank with its external ditch (Raftery J, 1944, 27 and figure 6).

Lynn argues that the burial must have been sealed by the low rampart on the north-west and therefore represents a *terminus post quem* date for the site (1983, 50). It is rare for an Early Historic settlement site to be located on an earlier Iron Age cemetery as argued by Lynn (ibid.), and this is especially true when the burial in the interior of the site was very shallow (Raftery J, 1944, 28). It is more common for early sites to be re-used for Iron Age inhumations (*infra*). However, there is no reason to doubt that the banks of the enclosure were higher opposite the entrance since many ringforts located on shallow slopes incorporate this feature to aid drainage and water deflection from up-slope (Limbirt, 1996,

250-252). The plans of Feerwore also indicate that differential erosion and subsequent modifications have indeed taken their toll on the enclosure bank, destroying parts on the north-west and realigning an area on the east (Raftery J, 1944). It is quite possible therefore that the burial was dug into the bank of the site on the north-west (*contra* Lynn, 1983, 50).

Again artefacts of a plausibly early date, such as a possible socketed iron axe (*op. cit.*, 33), were recovered. This artefact has been described as of continental origin (Manning and Saunders, 1972, 290) and suggested as dated relatively late for its type by Raftery (*op. cit.*, 281). Other early finds include a possible spiral finger ring and a blue annular glass bead fragment. None of the well-stratified finds is diagnostically late in date.

Cashels

The problem of classification is most acute across the western Atlantic façade of Ireland where cashels are interpreted as stone forms of earthen ringforts and similarly dated to the later first millennium AD. Some of these sites have also been classed as hillforts (Raftery, 1972) and others “do not fit easily into any category” (Cotter, 1994b, 2). A particular series are defined as Western Stone Forts based on peculiarities of architectural detail (*ibid.*; Figure 25). These are generally seen as Iron Age in date, although the excavations at Dún Aonghasa (*supra*) may suggest earlier origins. The distinction between these and those others in the east constructed using earth- or stone-revetted banks and a ditch is probably related to geomorphology. In the west the outcrops of carboniferous limestone and thin soils make drystone construction without ditches the obvious constructional technique. In the lower eastern lands with deeper soils, less available stone and more woodland these will be the preferred materials. In addition the stone revetting of many sites in the east, such as at Deer Park Farms (Lynn, 1988), makes any distinctions based on construction materials purely arbitrary. Since this then suggests that cashels and ringforts are morphologically comparable, it is possible that many are also comparable in date.

Excavations have been conducted by the Western Stone Forts Project on the large, multivallate, drystone-walled structure at Dún Aonghasa on the Aran Islands, County Galway (Cotter, 1994a and b, 1995, 1996). One of seven large stone forts on the islands, it was originally classed as a fort by Raftery (1972) and defined as a Class 2b multivallate site with widely spaced ramparts on a cliff top (Figure 25j). In this same paper it was assumed all hillforts, including sea-girt promontory forts, were defended settlements looking for

maximum security and safety (op. cit., 39). The earliest deposits at Dún Aonghasa lie beneath the main enclosure wall (Wall 1) and include small circular buildings revetted into earlier material. These date to the Late Bronze Age and may represent occupation contemporary with the original construction of the enclosure between 900calBC and 500calBC. However, the only enclosure wall that may visibly be associated with this occupation is a short stretch very poorly preserved between the main inner enclosure and Wall 2a of the concentric eastern enclosure. It is possible that even this cuts the earlier deposits and the revetted hut in this area suggesting that the Late Bronze Age occupation is unenclosed. After this, several internal features are radiocarbon dated to between 750calBC and 390calBC including a roundhouse with free-standing drystone walls and a south-eastern entrance. A deposit of burnt animal bone, presumably occupation debris, lying against a linear stone feature probably dates to between 550calBC and 150calBC. These deposits and their associated structural remains represent definite post-Late Bronze Age, pre-Early Historic occupation on the site. It is possible that the main enclosure walls were erected during this first millennium BC period of use, and presumably also the *chevaux de frise*.

An examination of the top of Wall 1 demonstrated that the visible internal wall-alignments could be much later rebuilds (Cotter, 1995, 4). A small trench across the southern end of Wall 1 revealed a series of foundation lines (op. cit., 5), but these bear little relation to two clear wall faces in a wall-chamber to the north-west (Cotter, 1994b, 10). These latter are shown some 2.5m and 6m into the wall (op. cit., fig. 6), while the innermost of the southern faces is only about 1m in from the internal face (Cotter, 1995, plate 2). It is probable therefore, that the foundation lines excavated at the southern end are secondary faces much later than the original construction. The north-west wall-chamber may have been an entrance through the original wall subsequently blocked to the exterior (Cotter, 1994b, 10). The foundations in each area support the idea that the secondary faces of the southern section are not original wall facings. The current north-eastern main entrance to the site is only lintelled over the central part of its length, the internal wall casings being secondary (Cotter, 1994b, fig. 5). Therefore, if original, this would be symmetrically-placed opposite the north-western entrance.

Two concentric areas to the north-west and one on the east, are all accessible from the main inner space. Whether there was direct access between the outer eastern and western enclosures is now impossible to determine. This structural layout is important to know

since the *chevaux de frise* obviously follows the line of the outermost walls. Either it was placed concentric to these enclosures or the enclosures were built within it. Thus it would be possible for an original phase to have an external *chevaux de frise* placed some way in front of the walls, although this would be unusual. It could be argued that the *chevaux de frise* is secondary to the outer walls since there are no cleared paths immediately outside the northern entrances (although a narrow passage is visible between the two entrances). The main access is through the north-eastern portion and the current entrance. It would be important to discern whether there are any remains of *chevaux de frise* within this corridor of access that may indicate subsequent removal of the stones. Alternatively, if this has always been the main access then it will be important to discern whether the north-eastern entrance has original features or whether it is secondary. This latter case would support a secondary construction of the *chevaux de frise* sometime after the completion of the enclosure walls. The current north-eastern alignment of the main entrances may reflect and support a secondary change in access. Whether or not the *chevaux de frise* is original is important since it would thus be one of the better-dated examples of its class (Harbison, 1971). Other North-West European examples of *chevaux de frise* are also associated with monumental drystone buildings such as at Burgi Geo in Shetland, Scotland (Lamb, 1980).

That there are several phases visible at Dún Aonghasa is not in doubt, but as the only evidence for late first millennium AD activity is a single radiocarbon date from under the threshold of a secondary feature, and a series of unstratified artefacts, it is difficult to assess the impact of this latest re-use. A late date from under a structural feature suggests that some constructional activity was involved, but this may have been the last in a long sequence of rebuilds from the Iron Age onwards. This later activity would certainly disturb earlier material and it seems evident that a definitely Iron Age period of use has been affected in such a manner. Any material later than the relatively well-defined Late Bronze Age and Early Iron Age deposits would be higher in the very thin stratigraphy and thus more susceptible to erosion and disturbance. However, the radiocarbon dates and structural remains within the enclosure suggest significant Iron Age occupation. With only very small trenches relative to the overall area opened in the outer enclosures, it is unknown whether Iron Age activity continued outside the main inner enclosure.

Dún Aonghasa is one of relatively few large drystone cashels or forts excavated in Western Ireland. Recent excavations at Mooghaun South, County Clare, a trivallate type 2a hillfort

(Raftery, 1972, 45), have also been carried out as part of the Discovery Programme (Bennet and Grogan, 1994; Grogan, 1995, 1996). Unfortunately, only a single Late Bronze Age radiocarbon date was recovered from pre-rampart deposits (Bennet and Grogan, 1994, 60). Other pre-rampart deposits have produced Late Bronze Age coarse, bucket-shaped pottery remains and animal bone (Grogan, 1996, 56). However, this only confirms a probable unenclosed Late Bronze Age occupation of the hillside. There is unfortunately no unequivocal dating for either the ramparts or two small cashel type structures on the site. One of these certainly overlay the middle rampart (Bennet and Grogan, 1994, 42) but the other was built on a platform against which the outer rampart abutted (Grogan, 1996, 47). Similarly the date and function of two small curvilinear kerbed buildings between the ramparts is unknown, although neither is directly associated with the Late Bronze Age material.

Trenches opened on the summit revealed a prepared area of bedrock with deposits including animal bone, rotary quern fragments, a bronze pin shank and waste from iron-working. Worked pieces of sandstone suggested on-site quern manufacture to the excavator. Bronze waste, possible clay mould fragments and hones indicate bronze-working (Grogan, 1995, 59). Although none of this material is typologically diagnostic, except perhaps the rotary querns representing a date sometime after *circa* 200BC, the majority was suggested as early first millennium AD with the bronze-working representing Bronze Age activity (*ibid.*; Grogan, 1996, 56). The dating of this area seems to be entirely arbitrary since any of this material could represent Iron Age activity. The separation of mould fragments and other metalworking debris from the overall assemblage, detaching and assigning it arbitrarily to a period some 2000 years earlier is a unconvincing argument. However, without full publication it is difficult to comment on the distribution of artefacts in the trenches. This material indicates industrial activities were carried out in the south-eastern quarter of the interior, probably sometime after *circa* 200BC. Mooghaun South may represent a multivallate enclosure with multiple simple entrances and industrial activity dating to the Iron Age.

Both Mooghaun South and Dún Aonghasa have evidence for Late Bronze Age occupation albeit possibly unenclosed. Later re-use of these sites is also unequivocally represented although poorly dated and understood. However, the excavators at both sites focus on only two possible periods of activity in the Late Bronze Age and the Early Historic period

(Grogan, 1996, 56; Cotter, 1996, 13-14). This concentration on clear period based activity may partially result from the large amount of relatively diagnostic material both produce, thereby emphasising these periods at the expense of other less well-represented periods. The Late Bronze Age and Early Historic periods are 'better known' owing to the survival of their distinctive material record. Yet these and many other sites have important evidence of occupation between these two well known horizons that is often ignored or treated as insignificant, usually because of a lack of typologically diagnostic artefacts. Even excavations of well-preserved Iron Age deposits produce little material at all, for example, the excavations at obviously important sites such as Navan (Waterman, 1997a) and Dún Ailinne (Wailes, 1976; 1990).

In a recent paper Raftery classes previous attempts at drawing Scottish influences on Irish architectural details as, "less than conclusive" (Raftery, forthcoming). Any attempt to assess whether one particular area influenced another rests on dangerously circular arguments and will most likely fail in the current climate of poor dating evidence. However, the evidence presented below suggests there can be no denying very close parallels between the Atlantic coast areas of Ireland and Scotland in terms of settlement architecture.

A series of stone-built cashels, some similar to those at Mooghaun, and others comparable to the Western Stone Forts, are apparent in County Donegal (Lacy, 1983; Figure 27). Of the 210 recorded examples several are worth further comment here. Many of these sites have internal diameters and circular or sub-circular layouts comparable with Atlantic roundhouses in Scotland. Several have intra-mural features such as wall-chambers, others seem on survey evidence alone to have multiple wall-faces as at Downies (op. cit., 135, No.804) and Roxburgh Glebe (op. cit., 153, No.906; Figure 27g). This effect probably indicates secondary re-facing of the original structures as at Dún Aonghasa (*supra*) and many sites in Atlantic Scotland (Gilmour, forthcoming; Chapters 3 to 5). Many have south-easterly entrances as at Ballykergan (op. cit., 122, No.733) and Laheen (op. cit., 147, No.876). Fifteen metre diameter Doon Glebe, incorporates an intra-mural chamber within 4m wide walls that are covered by collapse (op. cit., 133, No.802) and has very close comparisons to similarly preserved Atlantic roundhouses across Atlantic Scotland. The closest comparisons for many of these cashel sites, especially the more irregularly shaped examples, can be found in Argyll; compare for example, Ballymore Lower (op. cit., 123,

No.739; Figure 27b) with Cnoc a'Chaisteil, Kintyre (RCAHMS, 1970, No.286). Unfortunately, few of the sites in either area have been excavated.

Cor Cashel (Lacy, 1983, 132, No.789; Figure 27d) may have internal buildings much the same as Cahercommaun (Figure 25a), Chûn Castle (Figure 37d) and Ballykinvarga (Figure 24n). It also has a close comparison with Dun Éibhinn, Colonsay (RCAHMS, 1984, No.149) and Dunnarealt Island, County Donegal (Lacy, 1983, 138, No.819; Figure 27c). Other sites in the north and west of Ireland have been compared to Scottish sites based on architectural similarities, for example the Grianan Aileach, County Donegal (Lacy, 1983; Figure 25c), Cahernamactirech, County Kerry and Altagore, County Antrim (Warner, 1983, 178-180). These sites also have close comparisons in Argyll, at Ardifuair (RCAHMS, 1988, No.270) and Loch Glashan (op. cit., No.322) in mid-Argyll (Gilmour, 1994; Chapter 5). Ardifuair is dated to the first millennium AD purely based on secondary occupation material. Dun Chonallaich, mid-Argyll, incorporates a nucleated layout with terraces revetted by rough walling below the sub-rectangular summit enclosure, or 'citadel'. The site is comparable to Cor Cashel and Dun Éibhinn in shape and layout. Several structures are visible within the 'citadel' and a late first millennium AD gaming board was discovered on the enclosure wall (RCAHMS, 1985, No.250) and could therefore date later re-use of an earlier site. The sub-rectangular site at Sconce, County Derry (Warner, 1983, 178), is perhaps comparable, if slightly larger than, rectangular structures in Argyll such as Dùn Mucaig and Dùn Fhinn (Chapter 5).

The early dating of the early phases at Dún Aonghasa, a site with relatively simple architecture in terms of entrance details and a lack of intra-mural features, is comparable (on a smaller scale) to the currently accepted introduction of monumental drystone houses in the early first millennium BC of Northern Scotland (Chapter 3) and possibly Argyll (Chapter 5). Late Bronze Age dates were obtained from material at the base of the complex Atlantic roundhouse at Dun Vulcan in South Uist (Parker Pearson and Sharples, 1999). While not associated with any coherent structures, these too may hint at earlier occupation on the site, possibly under the complex Atlantic roundhouse, and perhaps similar to the early stone roundhouse at the Howe (Ballin Smith, 1994).

The sites at Carraig Aille have produced material that would generally, in contexts other than in Ireland, be considered pre-5th century AD in date (Ó Ríordáin, 1949). However,

Lynn has argued that this material is not related to primary occupation or construction of the drystone enclosures at either Carraig Aille 1 or 2 (1983, 48; Figure 26). He suggests the “*main* occupation” of the sites is Early Historic and post-5th century AD in date (*ibid.*, emphasis added). However, this statement is entirely meaningless since this is not the issue at stake. Granted there may have been intensive and continuous occupation of this date at either site; in fact, such an occupation would be necessary to disturb any earlier deposits to the extent that very little earlier structure or material survives. This site, like any other Iron Age site, will produce few diagnostic Iron Age objects (*supra*), and when coupled with poor preservation and intensive re-use their survival and identification becomes equivocal.

The argument that fragments of polished stone axes from Carraig Aille indicates very early pre-fort activity, suggesting the long use of a single point in the landscape before construction of the enclosures (Lynn, 1983, 48), may be erroneous. Many excavations of late first millennium AD sites across the entire Atlantic façade have produced Neolithic type axes. Not all can be explained as simply residual, such as the polished stone axe at Loch na Beirgh, Scotland, where continuous occupation separates its find context and the sealed lower levels of the site by several metres. These artefacts have been deliberately brought to sites such as Loch na Beirgh, Cahercommaun, Dressogagh Ráth, Carraig Aille, Creeveroe, Deer Park Farms and Dunsilly. Some may have functioned as sharpeners, grinders and possibly even axes, while others may have significance that is more symbolic. An investigation of polished stone axes on Early Historic sites has suggested they were used as rubbing stones in the weaving process (Ramsey, 1995). This suggestion has interesting implications for the expansion of pastoral agriculture and the possible importance of looms and production of clothing in the late first millennium AD.

It is also implausible to attribute the earlier Iron Age assemblage to the pre-enclosure activity, attested by the dark occupation material recorded as running under the rampart (*ibid.*). This material was confined to one small area, a hollow in the bedrock, and elsewhere the walls were founded on bedrock with internal clay flooring only (Ó Ríordáin, 1949, 45 and 54). The other layers in this hollow securely abutt the walls and their thickening is the entirely natural effect of material accumulating against the enclosure walls during occupation. This effect is accentuated by the dome-shaped underlying bedrock in the interior of both sites and the presence of hollows towards the periphery of the interiors (*op. cit.*, 44). Therefore, only the black layer within grid square A15 in Site 2 and the west end

of the section line in Site 1 can be attributed to pre-enclosure activity. All finds were located by grid square and none of the contentious items were recovered from these locations. The excavations at several other stone-built enclosures such as Dún Aonghasa and Mooghaun South have highlighted that Late Bronze Age activity can often be recovered from these positions, rightly questioned as construction activity by Lynn (1983, 49).

The sites at Carraig Aille are distinguished by their stone-built enclosures, both of which incorporated steps, allowing access either to the top of the walls or into now destroyed intramural features. Both paved entrances faced roughly east and were rebated for a wooden door. Earlier wooden structural components no doubt existed on this site before the cellular structures, as attested by numerous post-holes dug into bedrock but not associated with any of the stone buildings. However, the recovered buildings in Carraig Aille 2 consisted of fragmentary lengths of single coursed curvilinear walls, presumably revetted into earlier material (Ó Ríordáin, 1949, 44). These may have been similar to the cellular buildings noted at Cahercommaun and now recognised across Atlantic Scotland (Chapters 3 to 5; Figure 26a and b). Several bone combs on this site (Ó Ríordáin, 1949, 81) are comparable to Foster's Groups 4 and 5 in Scotland where they are dated from the 3rd century AD at the earliest, but more likely belong in the 4th to 5th centuries AD (1990, 151-161). These cellular vestiges of structures, associated with patchy paving, and of "very light construction" (Ó Ríordáin, 1949, 44) are comparable in both layout and date with the Scottish examples.

Interestingly, the material recovered from the external rectangular buildings included the zoomorphic 'Celtic' type Group 4 bone comb and a Roman coin from under rubble collapse from the rampart. These suggest activity here in the 4th to 5th centuries AD or just later. Since none of the constructions has easily recognisable hearths, they may represent non-domestic buildings outside the enclosure (op. cit., 48). A series of rectangular buildings outside a re-used complex Atlantic roundhouse with cellular occupation at Dun Vulcan, South Uist, Scotland, was similarly interpreted and dated (Chapter 4). The structures at Carraig Aille 2 thus indicates the use of rectangular architecture in the mid-first millennium AD in Ireland, a good deal earlier than the date for this building type suggested by Lynn (1994).

The site was built of larger and rougher stonework but suffered the same problem of shallow central stratigraphy, thickening only towards the periphery owing to the doming of the bedrock. Immediately inside and south-west of the entrance a small 1.3m² compartment was interpreted as a possible sentry post (Ó Ríordáin, 1949, 54). A similar structure is recorded at Cahercommaun (Hencken, 1938, 17) and both are reminiscent of the Cell 8 structure built immediately inside the entrance to the re-used complex Atlantic roundhouse at Loch na Beirgh, Lewis, Scotland (Chapter 4). This latter is currently dated to the 3rd century calAD, but was probably built earlier, and is used throughout several phases of occupation in different capacities.

Carraig Aille 1 incorporated post-holes cut into the bedrock on the west side of the enclosure, probably representing early timber buildings. These are associated with a black occupation layer, subsequently replaced by structures surviving only as short lengths of single-faced rough walling that sometimes utilised bedrock in hollows and obscured the steps in the enclosure wall (Ó Ríordáin, 1949, 54; Figure 26c). Above these layers were later levels with gravel, charcoal, humus and bones (op. cit., 55). This site is described as a “slovenly dwelling” (ibid.) paralleling the ‘squatter’ descriptions often used when referring to first millennium AD re-occupation of Iron Age sites. The mid-first millennium shamrock-type settlement at Loch na Beirgh, Scotland, produced lots of refuse material that may have been interpreted as dirty and unhygienic and therefore not seen as compatible with long-term occupation. However, this debris was carefully deposited into well-defined middens and although re-used as constructional material was rarely found within the buildings themselves. The relatively small size and light construction of cellular settlement means the earlier excavations rarely attributed long-term or significant occupation to these buildings. This invariably led to their derogation to minor importance compared with other deposits and structures. This also led to their attribution as low-status monuments of a peasant family.

Both sites display classic characteristics of drystone-walled enclosures that originally incorporated Iron Age timber construction later replaced in the early to mid-first millennium AD by small cellular buildings. These in turn were replaced by larger and more coherent structures, in this case often rectangular in form. However, there is also evidence that at least some of the external rectangular buildings at Carraig Aille 2 may be the non-domestic

aspect of architecture contemporary with internal cellular settlement. They may therefore represent the antecedents to domestic rectangular buildings (cf. Lynn, 1994).

Cahercommaun, County Clare, was excavated and published in the 1930s (Hencken, 1938). Several authors have challenged the 9th century AD date ascribed by Hencken, mainly based on the artefact remains (Caulfield, 1981; Raftery, B, 1972, 51-53, Raftery, J, 1981). A detailed inspection of the excavation evidence supports a multi-phase interpretation, probably beginning in the Iron Age (*contra* Lynne, 1983). The site is comparable to evidence produced in the later surveys of smaller stone cashels (*supra*), although classed as a type 2 hillfort (Raftery, 1972, 51; Figure 26d). Finds recovered from the site include iron implements (some of which came from one of the souterrains possibly associated with human remains) and abundant evidence of iron smelting. Iron pins were not closely datable (Hencken, 1938, 37) but a barrel padlock is described as a Roman object (*op. cit.*, 46), iron shears and billhooks are of possible Iron Age date (*op. cit.*, 48, 51) and an iron axe is a type commonly associated with the Roman period or earlier (*op. cit.*, 51). Other objects such as bone pins, stone tools such as saddle querns and rotary querns, double-sided combs, bone spindle-whorls, whetstones and bone points may also date earlier than the 8th century AD (Raftery, 1972, 52).

There were many internal structures, located mostly around the walls, that were described as vague and irregular, and several were founded on bedrock. However, the site was obviously multi-phase with 2m of deposits and multiple hearths and the confusion of structures in the enclosure is characteristic of many early excavations, which generally failed to extract the complexities of secondary, often cellular, re-use of sites across the Atlantic Seaboard (Gilmour, forthcoming). Various phases were recognised within rubble and single hearths. There was a lot of evidence of burning including charcoal and ashes among the many hearths (*op. cit.*, 15-17). Several of the buildings incorporated a mix of vertical slabbing and drystone coursing (for example structure 4) and two may have been associated with the two souterrains found here (*op. cit.*, 20). Many of the structures seem to incorporate single faced walls, presumably revetted into the deep stratigraphy (*op. cit.*, Plate VII: Sections). The majority of the hearths uncovered during excavation are three-sided types demarcated by vertical slabbing (*op. cit.*, Plate VI: Plan of the Interior). These structures are comparable to examples of cellular buildings in Atlantic Scotland spanning the first

millennium AD. The three-sided hearth is diagnostic of the mid- to late first millennium AD at Loch na Beirgh, Scotland (Chapter 4) and other sites across the Atlantic façade.

Hencken's late first millennium AD date was based on a silver brooch found within a deposit of ash in one of the souterrains, a fragment of enamelled ring-headed pin and an incomplete bronze penannular brooch with zoomorphic terminals. It was argued that the souterrain used the inside face of the main enclosure wall of the cashel in its construction and thus must be contemporary and original with the cashel construction (Hencken, 1938, 2). However, this is a weak stratigraphic argument and the souterrains, like many of the other internal buildings, probably represent secondary re-use of the site. The dating of the entire site to the 9th century AD is far from unequivocal, although a late first millennium AD figure-of-eight building may lurk among the undefined and poorly-excavated buildings here.

In conclusion, it is possible, as with Carraig Aille 1 and 2, Dún Aonghasa and Mooghaun South, that occupation at Cahercommaun began in the Iron Age (*contra* Lynn, 1983, 49-50 and Edwards, 1990, 17). The re-use of the interior of the main enclosure by cellular buildings, probably in the first millennium AD, has severely disturbed the earlier deposits. A similar situation is argued for Dun Cuier on Barra in Western Scotland where the continued re-use of a complex Atlantic roundhouse has destroyed much of the original material within the site interior (Chapter 4). This same effect has been noted at many other Atlantic Scottish sites such as the Howe and Scalloway (Chapter 3). The fills of the cellular structures were composed mainly of rubble (Hencken, 1938, 20) suggesting that these buildings were at least partially corbelled, analogous to similar buildings in Atlantic Scotland. The concentration of structures around the periphery of the interior parallels the layout of sites like Ballykinvarga, County Clare and Chûn Castle, Cornwall (Chapter 8). Carraig Aille 1 and 2 incorporated the same cellular structures after an original occupation with more timber buildings. It should also be noted that there are references to possible ruined building remains within the inner enclosure at Dun Aonghasa extant in 1839 of unknown date or form (Cotter, 1994b, 11). These may also have been the remains of first millennium AD cellular re-use.

At Leacanabuaile, County Kerry, a clochán and added rectangular building form a figure-of-eight within a relatively small cashel, which itself has interesting construction features such

as intra-mural cells (O'Ríordáin and Foy, 1943; Figure 31d). Excavations simply "cleared...collapsed stone and debris" (op. cit., 86) from the enclosed area. The inner face incorporated a ledge for most of the circuit with a second lower step to the north and ten separate stone ladders projecting or built into the wall with an eastern entrance.

House A, the clochán, has walls which corbel from a height of 1.2m to a maximum of 1.75m. Again the structure does not seem to have been fully corbelled over its 4.6m internal diameter since seven post holes around the periphery and in the centre of the interior suggest supports for a wooden roof (op. cit., 87). Alternatively, these could represent the remains of internal wooden cladding or other features against the inner face of the walls that were well finished. The outer face was poorly built and reflects the concentration of first millennium AD cellular architecture on the interior at the expense of the external appearance. The structure abuts the western wall of the cashel with an entrance to the east aligned on the main entrance. A lintelled souterrain was accessible from this structure through a small aperture near the entrance. Running for just over 11m it curves from south to west before turning sharply north. At this point the passage becomes much lower and narrower and is cut into the solid rock with a flag in the roof cut to allow headroom. The passage then turns west again and widens to run for 3.8m, allowing access to an intra-mural wall-chamber through a gap in the lintels (op. cit., 90).

The sub-rectangular building, House B was added to the original clochán, its walls constructed to an excellent finish. The wall actually 'overhangs' internally producing a sort of corbel effect and four post-holes (two round and two square) indicate the possibility again of a wooden roof. Within the building there were also stake-holes within an occupation layer and edge-set stone channels in three corners (op. cit., 88). These latter did not connect with a covered drain that began inside the entrance and ran out through the door to the cashel entrance (op. cit., 89). Above the occupation layer, in the centre of the building, was a large slab with a square hole and rounded corners which the excavator believed was set in the roof to allow the egress of smoke (op. cit., 88).

Other buildings within the enclosure had few recorded features of note. An irregular-shaped building to the south of the entrance, House D, was probably erected after House B owing to the change in angle of its outer wall face as it nears the corner of the latter (op. cit., 89). Under three steps in the northern cashel wall, near House C, an opening leads to an intra-

mural wall-chamber (op. cit., 90). The location of steps above the entrance to this chamber echoes the position of weight relieving voids in the internal walls of some Atlantic roundhouses in Scotland. Further partially-preserved remains of curvilinear stone buildings were discovered underlying the rectangular building to the north and south (op. cit., 89) and emphasise the multi-phase nature of the site. Sites such as Loch na Beirgh, Lewis (Chapter 4), and Buckquoy, Orkney (Chapter 3), also had smaller underlying cellular buildings below figure-of-eight structures.

The finds assemblage from Leacanabuaile was not accorded specific context and is probably mixed. Several artefacts such as the composite combs and loose ring-headed pins indicate a mid- to late first millennium AD date (op. cit., 91, figure 1). This would support the interpretation of the main structures as a secondary figure-of-eight settlement with associated non-domestic buildings. However, the presence of earlier structures and the comparisons with possible first millennium BC architecture at Dunbeg, Carraig Aille and Cahercommaun suggests earlier Iron Age occupation. This would further strengthen comparisons with Atlantic Scottish sites.

Reask on the Dingle peninsula is interpreted as an enclosed early ecclesiastical site (Fanning, 1981). This is a cashel type structure with a primary enclosure wall faced at intervals with large slabs set vertically and a core of stones and soil (Figure 28a). The wall included an additional internal wall course (op. cit., 98). This type of evidence has recently been shown to suggest multiple phasing (Cotter, 1994b). This surrounded a multi-phase site incorporating several cross-inscribed pillar-stones, two figure-of-eight buildings, a small oratory, a graveyard, a dividing wall with earlier underlying deposits and several smaller circular buildings. All the structures investigated were generally poorly preserved with less than 1m high walls in most cases. A combination of visible inclination off the vertical and the presence of large weight providing stonework was the only evidence for corbelling.

The earliest occupation material recovered during excavation came from a central area under the dividing wall, dated to between calAD250 and calAD650 (UB-2167, 1565±90bp) from charcoal within a hearth. An upper limit of 6th century AD is suggested by overlying sherds of Late Roman Bii amphorae (Thomas, 1990, 11). This area comprised a much-disturbed area of black soil with fragments of calcined bone and burnt stone. Yellow clay or daub spreads and a fired clay area were interpreted as hearths with stake-holes containing

charcoal surrounding them. The fired clay area is where the radiocarbon-dated charcoal originated. Post-holes within this earth spread, often with stone packing, may indicate the presence of a circular 9m-10m diameter wooden structure. A shallow curving drain covered with rough flagstones to the south of the earth layer might endorse this interpretation (Fanning, 1981, 104).

Forty-two lintel graves, a slab shrine, and the two smaller circular buildings are considered by the excavator to be contemporary with the early phase, based on their possible construction as part of the primary enclosure wall and the fact that the cemetery respects clochán F. However, the phased nature of the enclosure wall casts doubt on its contemporaneity with clochán G, and clochán F is set well apart from the wall with no stratigraphic link. It is argued here that these are secondary to the original construction of the enclosure. The graves would therefore be secondary to the clocháns and thus tertiary to the original enclosure. The central occupation material is probably associated with the primary enclosure wall and would therefore suggest a pre-Early Historic date for its construction. Clochán F contained a small paved hearth and a hard packed floor, the other (G) produced slag, crucible fragments, clay lining and tuyère pieces indicative of iron smelting and other metallurgical practices; the building also incorporated vertical slabbing in its north-western wall (*op. cit.*, 98).

Of the lintel graves several were simply unlined pits and none produced any bone because of the acidic nature of the soil. They were aligned roughly east-west and located between a cross inscribed pillar-stone in the north and clochán F in the south and extended from the primary enclosure wall in the east to the slab-shrine in the west. The shrine is a paved feature enclosed by erect slabs on the east and south and two courses of small slightly curving stones at the northern end. It also incorporates two small 'pillar-stones' in the south-east and south-west corners. No charcoal was present and soil analysis produced phosphate levels perhaps indicative of the former presence of bone (*op. cit.*, 85). The slab-shrine is therefore very similar to the three-sided hearths that become widespread during the mid- to late first millennium AD across the Atlantic façade, but particularly in Ireland and Scotland. The interaction between the sacred and the profane within the household may take on more meaning if further slab-shrines also provide comparable constructions.

The second major phase saw the square stone oratory built over the graves and the erection of the dividing wall. The largest of the figure-of-eight buildings (Cells A and B) is linked to the dividing wall and oratory by a paved pathway and is thus considered contemporary. Both Cells A and B exhibited corbelling but were believed to have final roofing of timber and thatch (op. cit., 90). Inside the larger Cell B, burnt yellow clay, ash and charcoal, with a central bright orange patch delimited on the west by small upright stones on edge, was interpreted as a hearth feature. The original entrance to the figure-of-eight structure is located to the south-east of Cell B. A decorated glass bead was recovered from beside the external foundation course on the south-west (op. cit., 89). The bead is dated to the second half of the first millennium AD by comparison to Lagore crannóg (op. cit., 121). The structure was built on top of the primary enclosure wall and may have incorporated a separate wall to the north to enclose the building (op. cit., 89). However the presence of a drain in this wall, which presumably links to later drains and walling lying *above* the figure-of-eight deposits, would place it later than the figure-of-eight structure. There is also an annulus on the exterior of the figure-of-eight which may have acted as a wind break or insulation by placing turves on top of and against the main wall. A similar feature was discovered around a figure-of-eight structure at Red Craig, Orkney in Scotland (Chapter 3).

Figure-of eight C and D incorporated four post-holes in the hard-packed floor of the larger cell which appear to indicate the use of wood in the roofing, although there is also the suggestion of corbelling (op. cit., 92). Cell D incorporated a basal course of edge-set slabbing with drystone coursing above and this increases in height to the south-west opposite the narrow entrance in the north-east (op. cit., plate Va). This cell also incorporated a series of small central pits interpreted as iron smelting furnaces (op. cit., 93). The smaller cell C contained a fire-reddened rock-cut fire-pit full of "peat charcoal" and burnt slate and was accessible from cell D (op. cit., 92). There were no finds from this building except a knife handle and deposits of limpet shells. However, from under an area of external collapse there were a rotary quernstone, a stone spindle-whorl and a fragment of wheel-thrown pottery (op. cit., 94), possibly E-ware (op. cit., 113; Edwards, 1990, 70). Outside the figure-of-eight structure to the east was a spread of peat-charcoal, iron slag, and two slab-covered drains indicative of possible iron-working.

The rectangular oratory had an east-west orientation and a western doorway. It was constructed over several lintel graves but was probably contemporary with others. Several

decorated cross-slabs had been re-used within this building, probably incorporated in a later rectilinear enclosure built as part of the continued use of the site to inhumate un-baptised children and other un-consecrated burials (op. cit., 76).

Radiocarbon dating of charcoal samples from the furnace pits in cell G indicated a range from 770calBC to calAD440 (UB-2168, 1815±105bp; UB-2169, 2440±55bp; UB-2170, 2220±80bp; MASCA laboratory Pennsylvania, 2210±40bp). However, the charcoal was seen as contaminated because it came from peat and the dates were ignored (op. cit., 164). The latest date indicates the use of the pits in the 5th century AD. Several sherds of Bii amphora were recovered from secondary contexts such as the upper fill of the slab-shrine (op. cit., 86). The lower layers of the central area produced mainly coarse-ware sherds and the upper, disturbed, layers some wheel-thrown pottery (op. cit., 103). The coarse-ware is currently unique in Ireland in the Early Historic period (op. cit., 113; Edwards, 1990, 75) and the wheel-thrown ware is reckoned to be E-ware (Fanning, 1981, 113; Edwards, 1990, 70). Some sherds may be the remains of A-ware, which is often associated with B-ware amphorae (Thomas, 1990). Of the diagnostic finds only the glass beads can be reasonably closely dated, though unfortunately very few were from well-defined contexts. A bead from directly above the lintel graves may date to the first half of the first millennium AD by analogy with Lagore but the rest are generally later and in disturbed or secondary contexts (Fanning, 1981, 121). A single bead from the base of a pit in the central area may belong to the Early Iron Age and thus represent earlier occupation on the site (ibid.). The primary phase was considered relatively well dated to between the 3rd and 6th centuries AD, perhaps with earlier Iron Age occupation suggested by the blue glass bead. The second phase, including the figure-of-eight buildings is not securely dated but has been suggested to lie somewhere within the 8th to 12th centuries AD (Edwards, 1990, 118). The radiocarbon dating would support a slightly earlier dating of the later phases to the 5th to 7th centuries AD. This would be compatible with the 5th-6th centuries AD import of A- and B-wares and the 6th-7th centuries AD arrival of E-ware (Thomas, 1990, 11).

There are many architectural comparisons between the buildings at Reask and cellular structures in Atlantic Scotland and elsewhere. It is clear that the site is complex and multi-phase and unfortunately poorly preserved. It is probable however, that the walled enclosure originated in the Iron Age and occupation may have continued into the mid- to late first millennium AD when the central wall divides the south-eastern and mainly ecclesiastic

functions from the more secular and industrial north-western half. The occupants were able to acquire rare imports such as A- and B-wares and later E-wares. This suggests some status and perhaps reflects the trade of metal items manufactured on site within and around a figure-of-eight structure (C and D) and a single cell clochán (G).

'Royal' Complexes

Several enclosed sites with banks and ditches have phases clearly dated to the Iron Age (Figure 29). These sites have been associated with Early Historic 'Royal' status, possibly as inauguration sites or other communal or ritual activities, based on textual references. However, sites such as Navan (Waterman, 1997), known as *Emain Macha* in the ancient literature, Tara (Newman, 1994, 1995, 1997), Knockaulin or Dún Ailinne (Wailes, 1976, 1990) and Raffin (Newman, 1995) have been dated to the Iron Age. At the Ráth of the Synods (*Ráith na Seanad*) at Tara a series of timber-built enclosures marked by concentric bedding trenches and an arc of post-holes are comparable to similar structures at Dún Ailinne and Navan (Figure 29h). A small cemetery of inhumation and cremation burials succeeded these structures. Finally, a ringfort phase produced Roman pottery, glass and other material datable to the early centuries of the first millennium AD (Raftery, 1994, 68). The Ráth of the Synods is only one monument in a complex of earthworks, bank and ditch enclosures and recently discovered sub-surface features. Many of these have an ancestry far older than the Iron Age and the site is a complex palimpsest of activity that reinforces the continued importance attributed to ancient monuments (Newman, 1997). The largest enclosure at Tara, the Ráth of the Kings (*Ráith na Ríogh*) has a steep V-shaped ditch some 3m to 3.5m deep with an external bank (Waddell, 1998, 327; Condit, 1998, 33; Figure 29i). This configuration is obviously not intended to be defensive and this is supported by the presence of three entrances to the north-west, east and south. Recent work by Helen Roche on this outer enclosure has produced human remains and animal bone with a high percentage of horse remains. Iron-working evidence found beneath the outer bank may suggest an Iron Age date for the enclosure (Condit, 1998, 33).

At Rathcroghan, County Roscommon, a series of geophysical survey techniques have been employed to great effect on the large *circa* 90m diameter flat-topped mound. The summit can currently be accessed by two ramps cut into the mound on the east and west. The survey revealed the artificial nature of the mound, built on an embanked enclosure under the periphery of the mound. Other deep features within the mound include a stony cairn and

two concentric walls (Fenwick et al., 1996, 21). Further, shallower features suggest a palimpsest of activity including curvilinear and linear foundation trench slots, drains, ditches or palisade trenches (op. cit., 22). On the summit a magnetic gradiometer survey confirmed the complex phasing of structures on the site and clearly illustrated a central circular feature with a possible western entrance marked by bulbous terminals. This could be an enclosure or building and a small circular anomaly within, and opposite the entrance, may be a large pit. A further five less well-defined circles were also discovered, perhaps representing slot trenches. An enclosure wall or trench was defined beneath the slopes of the mound enclosing these structures and incorporating a possible tangential entrance to the east (ibid.). This latter feature aligns well with the deeper enclosure already noted and may be related. At least two of the central circles defined on the summit of the mound could be interpreted as concentric slots a metre apart and may be similar to double-ringed slots discovered at the Ráth of the Synods, Dún Ailinne and Navan. Around the mound itself are several smaller concentric circular enclosures. One to the north may enclose an east-facing building similar to the main west-facing building under the mound. This northern structure also incorporates or replaces/is replaced by an elongated feature enclosed by two slot features aligned east-west and running east from the area of the building.

The enclosure at Navan (*Emain Macha*), County Armagh, is also only one of a complex of features in the surrounding landscape including a trivallate bank and ditch enclosure known as Haughey's Fort. The latter has been classed as a hillfort and excavations of a nearby body of water called the Kings Stables confirmed its artificial nature and proved to be rich in archaeological material. Another body of water, Loughnashade, near *Emain Macha*, is also probably artificial and was the find-spot of three bronze trumpets. Both are located to the north-east of each of the hilltop enclosures.

A circular external bank and internal ditch with a diameter of 286m define the excavated enclosure at *Emain Macha* (Figure 29h). Several gaps in the substantial bank now exist but the original entrance may have been to the west where a causeway crosses the ditch. There are two visible monuments in the interior; a wide shallow ditch with traces of an external bank just south-east of centre (Site A) and a large circular flat-topped mound to the north-west (Site B) (Lynn et al., 1997, 7).

Site A contained a palimpsest of negative features including several large circular timber buildings (Phase A) defined by a sequential series of three slots (Lynn, 1997c; Figure 29g). Two radiocarbon dates (UB-752, 2175±45bp; UB-770, 2240±50bp) from charcoal in the inner and outer slots suggest a date between 400calBC and 110calBC (Lynn, 1997c, 132). A slightly smaller timber building (Phase B) with two or perhaps three concentric ring slots and an eastern entrance then replaced these. It is possible that these slots are not contemporaneous and they may represent three sequential buildings on the same site. The internal features include a large central pit, scattered post-holes and a hearth (Lynn, 1997c, 135). It is possible that the Site A enclosure ditch cuts this structure. Phase B is dated to the Early Historic on the evidence of two extended inhumations lying east-west that seem to flank the entrance to the structure(s). One of these produced iron nails, presumably the remains of a wooden coffin considered to imply a late date (op. cit., 141). The remains of a bronze Early Historic or Viking period brooch was recovered from an upper fill of the enclosure ditch (op. cit., 137; Waddell, 1998, 337). Two radiocarbon dates from animal bone lower in the same layer (UB-3407, 1645±25bp; UB-3408, 1515±30bp) calibrate to between calAD 260 and calAD440, and calAD440 and calAD610 respectively. These dates are considered to reflect a late re-cutting of the ditch (Lynn, 1997c, 141).

Site B (Figure 29a) included two main periods of first millennium BC activity (Phases 3 and 4) (Waterman, 1997b). Phase 3i is represented by the digging of an enclosure ditch with an eastern causeway (op. cit., 14). The primary silt of the ditch produced dates ranging between 940calBC and 510calBC (UB-188, 2628±50bp; UB-979, 2615±75bp). An internal post-ring is considered contemporary with the ditch (op. cit., 15). However, this dating is far from unequivocal and the relationship to the ditch is currently impossible to determine (Warner, 1997b, 190). If this series of pits can be interpreted as massive supports for a timber structure, this would have been a substantial and monumental building.

Phase 3ii is a complex series of three sequential groups of ring-slots. These slots probably represent circular structures, some with concentric walls (Waterman, 1997b, 21) and each group has three sequential slots (Lynn, 1997d, 147-152; Waddell, 1998, 334) with east-facing entrances, sometimes flanked by posts and inturned (Waterman, 1997b, 17). Small poorly defined but important hearths were located at the centres of these structures. These suggest the buildings were roofed and perhaps incorporated domestic occupation. To the north a further series of six larger ring-slots was attached to the southern ring-slots forming

several figure-of-eight layouts. These also had eastern entrances sometimes flanked by postholes and inturned. These may represent wooden enclosures attached to the smaller buildings with access between the two. Alternatively, they may have been roofed. Four linear slots extending from these entrances suggest a wide wood-lined entrance passage (op. cit., 21). The skull and jaw of a Barbary Ape was recovered from the penultimate southern ring-slot of Phase 3ii (Lynn, 1997f, 125). This provided a radiocarbon date ranging between 390calBC and 40calBC (OxA-3321, 2150±70bp). The dating of 3ii from a detailed analysis of the sample type, stratigraphy and calibration suggests a period between the 4th century calBC and 2nd century calBC (Warner, 1997b, 189).

In Phase 3iii another series of three ring-slots replace the previous structures, following the same tripartite sequence of construction. Analysis of the radiocarbon dates suggests a later 2nd century calBC date (Warner, 1997, 187). A dark soil horizon accumulated during Phase 3 and further suggests that these buildings were occupied since they produced a range of finds. These support the radiocarbon dating but also suggest occupation of the site in general was continual from the Late Bronze Age Dowris phase into the 4th century BC (Warner, 1997a, 101; Waddell, 1998, 340).

Phase 4 consisted of a massive 38m diameter wooden structure represented by five concentric rings of inner posts and an outer ring of post-pits linked by horizontal split timbers in a shallow trench (Lynn, 1997, 36; Figure 29b). In the centre of this arrangement was an oak post so large that a ramp had to be constructed to the west to help set it in its deep post-pit. This massive post had two mortises cut into its preserved end, probably to attach dragging ropes. A possible avenue of posts extends towards the west where the entrance is presumed to be (op. cit., 37). On the exterior a second ring of posts, exactly contiguous with the original outer line and 40.8m in diameter, was erected. This structure was immediately succeeded by Phase 5 (ibid.), a cairn of limestone blocks packed around the still upright posts with a radially patterned surface. The outer wall of the stone-packed structure was then burnt. The cairn was finally covered in a mound of turf (op. cit., 50-52). This sequence and type of construction must represent a ritual act. Although the massive structure may have been roofed (op. cit., 51), there was no accumulation of material inside and no hearths were found. This suggests the entire structure was a non-secular building.

Dendrochronological analysis of the large central post of the multi-ring structure indicated a late 95BC or early 94BC date for its felling and thus completion of the monument (Baillie, 1988; 1989; Warner, 1997b, 173). With no occupation material and the immediately sequential nature of the deposits excavated it is suggested that the structure, although possibly roofed, was not used for very long and that Phase 4 followed rapidly after Phase 3. This may even have necessitated the dismantling of the final Phase 3 building and would support a mid- to late first millennium BC date for at least some of the Phase 3 structures, including the later phases of the figure-of-eight buildings (Warner, 1997b; Lynn, 1997e, 214).

The interpretation of the Phase 3 structures has proven problematic. Lynn has argued that the wall slots of 3ii-3iii represent a series of single structures the walls of which were replaced while the roofs were left in place (1997d, 152). This is a unique constructional exercise for timber roundhouses and would need experimental reconstruction to verify its applicability. Lynn originally suggested a ritual interpretation for the buildings (1986; 1991), but has since proposed domestic secular settlement, albeit of high-status (Lynn, 1997e, 213). Others have supported this secular interpretation (Limbert, 1996, 250; Raftery, 1994, 75). The ritual nature of Phase 3 was suggested in part by the subsequent activities of Phase 4 and also by an unusual bone assemblage consisting of large proportions of pigs relative to cattle with even less ovicaprid (Lynn, 1997e, 213). It is worth remembering however, that ritual and domestic need not be mutually exclusive and that "their combination may actually be a mark of enhanced status" (Waddell, 1998, 340).

Internally ditched enclosures were probably non-defensive sites of ritual or ceremonial function (Lynn, 1997e, 213) and thus the non-secular nature of 3ii-3iii is linked to the date of the Navan enclosure. If the enclosure is of a similar date to the Phase 3 deposits then it is more likely that they had a ritual aspect. Originally, a Neolithic or Late Bronze Age date for the enclosure was suggested, based on its hengiform shape and a radiocarbon date from peat in the ditch. This latter suggested a date between the 8th and 4th centuries calBC (Weir, 1989; Lynn, 1997e, 215) and therefore strengthened the non-secular argument. However, dendrochronological dating of burnt timbers located at the base of the ditch during small-scale sectioning suggests a much later date. These produced probable felling dates of 132±9BC or later (Q-9736), and 94±9BC but certainly later than 100BC (Q-9735), and may represent the remains of burnt timbers from the enclosing wall in Phase 5 (Mallory et al.,

1999, 427-431). Alternatively, given the narrow trench in the base of the ditch from which the timbers were retrieved, it is possible these are the burnt remains of a palisade set into the ditch. Enclosures in Brittany with V-shaped ditches also have comparable narrow slots with the remains of upright posts interpreted as palisades (Chapter 9). In either case, this supports the interpretation of Phase 3 and earlier structures as secular settlement. These may have been of high-status based on the scale of the structures, the hilltop location and the presence of a Barbary Ape skull in 3ii, the presence of which indicates long-distance contacts with the Mediterranean during the 4th to 2nd centuries calBC, probably using the Atlantic Seaways. It is probable that the enclosure ditch dates to the same period as the final use of Site B.

The nearby Loughnashade was probably associated with this Iron Age use of the *Emain Macha* hilltop. Four large bronze horns were recovered there along with human remains in the late 18th century (Lynn, 1997e, 217). No details were recorded and three of the horns have since disappeared, but the remaining horn is 1.86m long, made of riveted sheet bronze and had a repoussé decorated disc at the wide end. This disc bares symmetrical La Tène ornament of the fold-over type described as a three dimensional variant of the Irish Scabbard Style (Raftery, 1994, 166). A recent reconstruction of the trumpet suggests it should be compared to the S-shaped carnyx depicted on the Danish Gundestrup cauldron (O'Dwyer, 1998). A sheet bronze representation of a boar's head found at Deskford, Banff, North-east Scotland, is also interpreted as the decorative end of a carnyx. Although of local manufacture the Loughnashade carnyx would indicate an affinity with pan North European concepts and styles of music and presumably ritual. The inscribed Scabbard Style is currently dated to the 3rd or 2nd centuries BC, the major schools of which were in North-east Ireland (Raftery, forthcoming). However, the Loughnashade disc has a more geometric, less vegetal style than the classic Scabbard Style and may be a later derivative (Raftery, 1994, 166). Alternatively, it could be considered closely related to the fold-over repoussé style of Torrs, south-west Scotland, just over 100 miles to the north-east, and therefore probably no later than 3rd century BC (Dennis Harding, pers. comm.). It could therefore be contemporary with early Phase 3. This would be important because it would suggest a piece of high-status La Tène metalwork was associated with potentially high-status secular settlement.

Small-scale excavations of the Kings Stables revealed it to be an artificially constructed pond surrounded by a broad penannular bank. The central area would originally have contained a considerable depth of water. Very limited excavation produced fragments of clay moulds, coarse pottery, some animal bone (mostly cattle, dog and pig), two items of worked bone and a small plank of alder. In addition a deliberately-cut facial portion of human skull from a young adult male, suggests deliberate, probably ritual deposition of these items (Lynn, 1977; 1997e, 216). A connection with Haughey's Fort was suggested by radiocarbon dates (UB-2123, 2765±75bp; UB-2124, 2585±80bp; UB-2157, 2955±45bp) ranging between 1380calBC and 410calBC and the orientation of a possible entrance through the outer ditch of Haughey's Fort aligned on the Kings Stables. Recent work confirmed the existence of a banked and ditched route between the two sites, producing a saddle quern and probable Bronze Age coarse pottery (Taylor, 1996, 33).

Haughey's Fort itself is a Class 2a hillfort with an inner ditched enclosure, a middle enclosure and the outer further down-slope. The presence of internal banks was interpreted from the stratigraphy of the ditches, the inner two of which were quite substantial V-shaped sections comparable to constructions in Brittany (Chapter 9). A small palisade trench was found near the lip of the innermost ditch, a similar feature was discovered at the Ráth na Ríogh and interpreted as secondary to the silting of the ditch there (Raftery, 1972, 42-43). Samples of well-preserved short-lived organic remains from the base of the inner ditch provided a number of Bronze Age radiocarbon dates (GrN-15480, 2855±40bp; UB-3050, 2923±50bp). A series of radiocarbon dates from post-holes and pits in the interior suggest activity over a long period from the third millennium calBC to *circa* 900calBC (Raftery, 1994, 229). This includes a double-ring structure with large post-pits. The latest dates come from a pit with a possible iron strap handle and range between 400calBC and 200calBC (UB-3384, 2253±26bp; UB-3380, 2221±26), and is therefore at least partially contemporary with *Emain Macha* Phase 3. The Dowris phase material and radiocarbon dates from Haughey's Fort would also be contemporary with the early phases at *Emain Macha*. The early radiocarbon dates from the great 38m diameter post-ring structure at Site B fall just before the large 25m diameter double post-ring structure at Haughey's Fort. A second larger *circa* 30m-diameter circular structure has also been identified on aerial photographs but remains unexcavated (Waddell, 1998, 216). The series of dates from the interior begin to fill the 'gap' between the post-ring structure and the cutting of the ditch at *Emain Macha* Site B.

A third hilltop enclosure has been added to the Navan Complex during recent survey and excavations. A circular enclosure at Bally Doo was located the same distance west from Haughey's Fort as the latter was from Navan. Within the enclosure the remains of a possible ploughed out cairn was identified along with a possible zoomorphic carved stone (Taylor, 1996, 32). A cup-and-ring marked stone was also recovered from a secondary context within a pit at Haughey's Fort, and there may also be a route-way linking the two sites (op. cit., 33) suggesting it too is Bronze Age in date. During the same exercise, geophysics and cropmarks produced a number of routes and possible pathways connecting various features in the landscape (ibid.). Excavations were conducted on a series of linear cropmarks already known to lie between Navan and Haughey's Fort at Creeveroe. These produced coarse ware pottery from a double ditch alignment, probably Bronze Age in date. The later re-cutting of at least one of these ditches may have been conducted in the Early Historic period. A polished Tievebullagh stone axehead was also recovered from topsoil (op. cit., 31-32).

It seems therefore that this was a complex landscape, in use over thousands of years, but becoming especially prominent and well-defined in the Late Bronze Age and Early Iron Age. Use of at least two sites continued through the first millennium BC until the early 1st century BC when a series of rituals, focused on the Navan enclosure may have marked a significant change in society at the time. The occupation at these sites may have been secular but was probably high-status and defined by ancient traditions that continued well into the Iron Age.

Recent excavations at Raffin have uncovered an enclosure with external bank and internal ditch (Newman, 1995, 55; Figure 29e). Inside this was a double ring-slot structure with a south-east entrance (Building A). A concentric series of large post-pits lay outside this building. Within the enclosure a pit near the northern edge, marked by a rounded boulder, produced a skull, probably an adult human male, and some animal bones. A radiocarbon date of 100calBC to calAD130 (1975±50bp) was produced by the skull (op. cit., 63). A bronze fibula of the 1st century BC or 1st century AD and a lack of occupation material suggests Raffin too "was a centre of non-secular significance" (Raftery, 1994, 80). However, the absence of domestic contexts may be the result of soil processes (Newman,

1995, 63), although the skull burial and architecture comparable with other 'Royal' sites suggests considerable Iron Age ritual significance.

Another site at Rathgall, County Wicklow, has been dated to the Bronze Age and is a hillfort similar to Haughey's Fort (Lynn, 1997, 216; Figure 29f). However, the radiocarbon dates from various features at this site range from 1390calBC-920calBC (SI-1485, 2930±75bp) to calAD140-calAD540 (SI-1480, 1685±70bp). Two dates from the enclosure ditch (SI-1483, 2215±80bp; SI-1484, 2000±75bp) calibrate to between 410calBC and 50calBC and 200calBC and calAD200 respectively. Finally a single date (SI-1479, 1330±70bp) suggests a late use of the site between calAD590 and calAD880. However, without contextual details these are difficult to assess.

A complex of monuments, including standing stones, possible barrows and ring-forts surround two large sub-circular enclosures at Friarstown Hill, County Limerick. These are well-defined bank-ditch-bank enclosures and sit side by side on a hill with extensive views, much like those sites already discussed. It is argued that they may be the focus of a ritual complex rather than hillforts as originally classified (Kelly and Condit, 1998, 19-20). Other unexcavated but similar sites include Carrowmably, County Sligo, Cornashee, County Fermanagh and Knockbrack, County Dublin all characterised by the enclosures on hilltops with internal ditches and external banks, and some also have mounds within (Raftery, 1994, 80).

Similar complexes exist elsewhere in Ireland, such as at Dún Ailinne (Knockaulin), County Kildare, hilltop enclosure (Wailes, 1976; 1990; Figure 29j). At this site an impressive external bank with internal ditch and an eastern entrance encloses an irregular oval. Three sequential later prehistoric phases ('White', 'Rose' and 'Mauve') were elucidated within the enclosure just south of the centre under a low mound and short, curvilinear earthwork. The 'White' phase incorporates a circular palisade trench with a north-east facing entrance. The succeeding 'Rose' phase consisted of three concentric and sequential ring-slots. Two linear trenches running from the middle ring-slot extended from the eastern entrance representing a funnel-shaped timber lined passage. Two narrower parallel lines of posts also run from the entrance to the east and enclose two short trenches. The larger enclosure was conjoined with, and accessible from, a smaller circular structure to the south with a narrow eastern entrance forming a figure-of-eight layout (Figure 29c).

The structures therefore compare well with the Phase 3 figure-of-eight structures at *Emain Macha*. The concentric ring-slots were of varying depth, the inner shallowest, the outer up to 1m deep, and originally interpreted as a two tiered open timber structure (Wailes, 1976, 327). The structures at *Emain Macha* were interpreted as buildings attached to enclosures and although the scale is larger there is no reason why a similar structure could not have been erected at Dún Ailinne (*contra* Waddell, 1998, 344). The final 'Mauve' phase structures may have required the dismantling of the 'Rose' period structure, although some burnt posts *in-situ* indicate that this phase met a dramatic end.

During the 'Mauve' phase two concentric timber circles were erected with a north-eastern inturned entrance (Figure 29d). Within this a circle of large posts was erected enclosing a central circular trench. This latter had no obvious entrance, was surrounded by a complex of pits trenches and post-holes and preserved extensive burning in its interior (Wailes, 1976, 327). Wailes interpreted this structure as a wooden tower with buttresses within a circle of timber uprights and surrounded by a single tiered viewing platform (Wailes, 1990). However, the timber post-rings are comparable in scale and layout to the 40m structure in Phase 4 at *Emain Macha* Site B. The distance between the large timber circle and the outer wall at Dún Ailinne is 9m and between the inner trench and the timber circle is roughly the same. Considering the central post at *Emain Macha* could have been 13m or higher, it is possible that the structure at Dún Ailinne was roofed. The destruction of this 'Mauve' phase was also somewhat similar to the situation at *Emain Macha* in that the inner features were still standing when the outer walls were dismantled. The disturbed nature of the post-pits suggests that the entire structure was then dismantled.

Finally, redeposited glacial till and a small area of rough paving were followed by numerous lenses of burnt material and animal bone throughout the upper till (Wailes, 1976). It has been suggested that this material represents episodic feasting, possibly in April or May and September or October, based on the age at death of cattle and pig.

Although radiocarbon dates range from the 4th century calBC to the 4th century calAD (Wailes, 1976, 338; 1990), a series of finds suggest the final 'Mauve' phase dates to the 1st century BC or early centuries of the first millennium AD. A complete lack of occupation debris coupled with evidence of intense burning and the sheer scale of the 'Mauve' phase

building suggest a religious or ritual function for this site, at least in its third phase (Wailes, 1976). This emphasis may have been continued in the first millennium AD by periodic feasting. These dates would be comparable to similar structures at *Emain Macha*. If indeed comparable with *Emain Macha*, then it is possible the early structures were secular, high-status settlements with a final ritual enclosure in the 1st century BC or soon after.

Large post-ring structures have been recorded at Haughey's Fort and *Emain Macha* Site B. The dates of the structures are somewhat earlier than those at Dún Ailinne, but as we have seen these sites are characterised by continuity in structure, and therefore probably function, and later re-use often respects earlier monuments. Iron Age dates should not be ruled out for the many barrows and smaller enclosures that make up these 'Royal' complexes. For example, the *Ráith Ghráinne* at Tara also has an external bank and internal ditch associated with a central circular depression (Newman, 1995, 76, figure 44). It may therefore be comparable to other Iron Age internally-ditched enclosures.

Surrounding the mound of Rathcroghan is a complex of monuments including linear earthworks and barrows (Waddell, 1998, 348). Pillar-stones are also common and should also not be discounted as Iron Age or Early Historic monuments. The ringforts at Feerwore and Raheennamadra may be associated with similar standing stones (*supra*). Excavations at the base of a standing stone at Kiltullagh Hill, County Roscommon, produced a slightly flexed inhumation. The adult male skeleton has been tentatively dated to the Iron Age or Early Historic period based on holes made in the stone possibly with iron tools. This is supported by a nearby discovery of human bone, mostly skull fragments, radiocarbon dated to the 4th to 6th centuries calAD. A human skull fragment discovered at the base of the standing stone before excavation produced a similar date (McCormick, 1994, 28). Excavations at an embanked mound at Dathi, south-south-west of Rathcroghan, indicated a natural mound enclosed by a bank of stone and earth. Radiocarbon dates indicate its construction and use between the 2nd century calBC and the early centuries calAD (Waddell, 1988, 23-36).

Continuity of ancient traditions in Ireland is also reflected in the construction of burial monuments in the Iron Age. A 'bowl barrow' was constructed in the Iron Age at Rathdooney Beg, County Sligo (Mount, 1998). The barrow was built on the site of a probable funeral pyre. This material, from the base of the enclosing ditch, provided a

radiocarbon date in the 4th to 2nd centuries calBC (Mount, 1998, 21). Within the mound of the same barrow, a few fragments of human bone, with cut marks, produced a comparable date between the 4th and 1st centuries calBC (ibid.). A further 'saucer barrow' contained three burials, two within the mound and a deposit of charcoal and cremated bone in the base of the ditch associated with iron fragments, including a handle and nails, which were interpreted as the remains of a box. The two mound burials consisted of a little cremated bone and charcoal within small pits, one of which was radiocarbon dated to between the 2nd century calBC and the 1st century calAD. This smaller 'saucer barrow' had been built on to the slightly earlier 'bowl barrow' creating a figure-of-eight monument. Both were constructed next to a large Neolithic mound with an enclosing ditch (op. cit., 18). A ditch and external bank enclosed both mounds (ibid.). In Castle Upton, Templepatrick, County Antrim a penannular ditched enclosure produced two possible Late Iron Age or Early Historic burials, one stone-lined and the other smaller and unlined. These were located among a palimpsest of earlier activity including Bronze Age ring-ditches and four circular Bronze Age houses (Gahan, 1997, 30).

A continuity in cultural material from the early first millennium BC to the later first millennium BC is emphasised at these sites including the continuation of cremation burial and cemetery forms throughout the period. It is even possible that, notwithstanding subtle changes in form or texture, pottery from the first millennium AD is comparable to earlier Iron Age and even Late Bronze Age material (cf. Ryan, 1973; cf. Raftery, 1976, 352). Such a link is difficult to sustain however, because of the time gap between the Early Historic Souterrain Ware and the Late Bronze Age assemblages (Edwards, 1990, 74) and the restricted distribution of later Souterrain Ware. Pottery assemblages may not continue across the entire Irish Iron Age however, and a similar dearth of ceramics is visible across much of Argyll (Chapter 5).

Promontory Enclosures

A further class of enclosure, defined by Raftery as a Class 3 hillfort, is the inland promontory fort (1972). Few have been excavated but the site at Castle Gale, County Galway, has been intensively surveyed and incorporates two ramparts cutting off the shallow southern approach and a single rampart at the base of the steep northern slope. A mound on the end of the promontory may be a cairn (Doody et al., 1995). Excavations at Knoxpark, County Sligo, investigated a site enclosed on three sides by the Ballysadare river

with a silted marshy lake on the fourth (Mount, 1994). Constructing a wide, deep, flat-bottomed ditch and heaping the spoil into a substantial bank on the interior enclosed the southern portion of a ridge between these. The bank and ditch had a north-facing entrance and several oval hut platforms were located inside. Excavations produced a large quantity of animal bone, iron tools and nails and “vast quantities of iron smelting slag and furnace bottoms” (op. cit., 23).

Later a major cemetery developed within the defences of the site. This began as an oval stone cairn incorporating a cremation deposit with a large number of iron nails and a possible iron pin, as well as a fragment of burnt annular bead. Beneath the cairn was a small bronze pin. Subsequently 187 burials, including crouched, flexed and extended inhumations, were interred mainly aligned north-west to south-east and south-west to north-east. Over 100 burials remain *in-situ* and there appears to have been some disturbance to earlier burials by later ones producing quantities of disarticulated remains. A spearhead was recovered with a male skeleton and may date to the 6th or 7th centuries AD but without radiocarbon dates no precise chronology is available (ibid.). The cemetery was at some point enclosed by a sub-rectangular wall with an inner and outer face of large boulders and drystone coursing. The orthostatic entrance faced west. A portion of penannular brooch suggests that the later use of this cemetery continued into the late first millennium AD.

This site therefore began with an industrial component behind a bank and ditch and the subsequent cemetery seems to have originated with a cremation, possibly in a nailed wooden box or coffin, set into a stone cairn. Again there are echoes here of earlier burial practices. The early use of nailed coffins or boxes suggests that the inhumation burial with nails at *Emain Macha* Site A may also date to the Iron Age and need not be a later insertion (*contra* Lynn, 1997c, 141). This would have interesting implications since the burials do seem to flank the access to the presumed Iron Age building(s) on this site.

Continuity of ancient practices into the first millennia BC/AD is present in the Iron Age barrow burials at Grannagh and Oran Beg, County Galway and Carrowjames, County Mayo (Raftery, 1994, 189). A circular mound with shallow external ditch but no external bank at Cush contained a single cremation, probably Iron Age based on an associated bone plaque with compass drawn motifs. Several groups of grave goods from burials contained glass beads, specifically including a dumb-bell-shaped bead such as that from Kiltierney, County

Fermanagh (Raftery, 1994, 193, figure 118). A bone bead of the same type was included in a grave at Grannagh (op. cit., 190, figure 113g) and a possibly similar 'toggle' type bead was recovered from a flexed inhumation at Carrowbeg North, County Galway (op. cit., 194, figure 120). Dumb-bell shaped glass beads have also been found at Lagore (Hencken, 1951, 132-145), but as Limbert has pointed out, not all beads from this site need have been fashioned in the late first millennium AD (1996, 267). However, several similar beads have been recovered from first millennium AD sites in Argyll, and the excavation of an Early Neolithic cairn at Cleigh, Argyll by the author was later re-used to insert a 6th to 8th century AD cremation burial. This might be comparable to the cremations at Kiltierney. Glass dumb-bell shaped beads have been discovered at numerous mid- to late first millennium AD sites in Kintyre (Chapter 5). The type has been described as distinctively Irish (Edwards, 1990, 94) but may support close links between Argyll and Ireland in the mid- to late first millennium AD.

Other promontory enclosures in Ireland are found along the coast in locations where the topography is suitable. The majority is therefore located on the tortuous west coast with its numerous cliffs and inlets. Raftery considers the type as distinctive from other hillforts because some incorporate close-spaced multivallation (1994, 48). However, there is a lot of variation in their layout, including univallate and wide-spaced multivallate examples. Little excavation of promontory forts means there is little idea of their date or function, although their size has been compared to the average ringfort (Lacy, 1983, 218). A similar equation was made between Cornish 'cliff-castles' and 'rounds' (Chapter 8). The problems with ringfort dating and definition have already been discussed. Although the majority of promontory enclosures have earthen banks and ditches, sites such as Muckros, County Donegal (Lacy, 1983, 223, No.1428; Figure 30b), and Dunbeg, County Kerry (Figure 30a), have stone walls perhaps comparable to cashel sites in a similar way that blockhouses and complex Atlantic roundhouses are linked in Atlantic Scotland (Chapter 3).

That there is no single function or date for promontory forts is obvious from the great variety in their construction, layout and location. Although outwith the scope of this thesis, these factors should initially form the basis of a re-assessment of this important and neglected site type across the Atlantic façade. The terminology 'promontory enclosure' should be used only as a general topological description, much like the term 'crannóg'

(*infra*). Within this broad class various structural, morphological and location factors are taken to define different possible 'types'.

Excavations at Dunbeg and the analysis of an eroded section at Lissadooneen, County Kerry (Westropp, 1910, 14), emphasise that promontory sites (like all enclosed sites) can be multi-phase. The latter site, a relatively simple univallate enclosure with a ditch and counterscarp bank, may have at least three phases of activity, the last potentially following a break of some time represented by soil formation (*op. cit.*, 15). It should therefore be entirely acceptable that banks, ditches and walls can enclose promontories over a very long period.

A radiocarbon sample from the base of an early ditch at Dunbeg, County Kerry (Barry, 1981) has produced an Iron Age date between 810calBC and 530calBC (UB-2216, 2530±35bp). The charcoal was interpreted as a wattle fence and the ditch thought to underlie the large stone rampart sitting behind a series of five ditches and at least four banks. Charcoal from the base of the ditch in front of the rampart was dated to between calAD690 and calAD1020 (UB-2215, 1150±75bp). This suggested the fortifications were a later use of the site, possibly contemporary with a stone clochán, the primary occupation of which was dated between calAD810 and calAD1160 (UB-2218, 1050±65bp). Closer inspection of the excavation report however, reveals that the radiocarbon date from the base of ditch 1 in front of the stone rampart actually derives from secondary material. A rubble layer above the base material (Layer 5; *op. cit.*, figures 4 and 5) is interpreted as purposeful levelling of the ditch "after it had been cleared out" (*op. cit.*, 305). It is obvious therefore, that this radiocarbon date cannot be used to date the closely-spaced ramparts at Dunbeg. There is some evidence that this secondary digging of the ditch included the deepening of the same and use of the upcast soil as a core for a secondary wall against the outside of the stone rampart (*op. cit.*, 308). This could then be followed by a period of ditch silting, represented by a sandy silt (Layer 6; *op. cit.*, 303, figure 4, section A-A) or an iron-panned clay layer (Layer 7; *op. cit.*, 304, figure 5, section B-B), prior to the deposition of the rubble. It is even argued that the rubble is a recent deposit (*op. cit.*, 306). If this were the case then the single thin horizon of material at the base of the ditch could be contaminated or even deposited at the same time since no ground surface exists between the two (*ibid.*).

Divorcing the Dunbeg ditch 1 date from the fortifications, coupled with the *terminus post quem* from the ditch below, would allow a mid- to late first millennium BC date for their

construction. The intra-mural cells either side of a rebated doorway at Dunbeg is reminiscent of not only Irish cashels but also Scottish enclosures, often on promontories, and most similar to blockhouse architecture, also dated to the mid- to late first millennium BC (e.g. Chapters 3 and 5). The Western Stone Fort site at Dún Dúcahair, Inis Mór, County Galway, incorporates a massive stone-built wall and a *chevaux de frise* (Cotter, 1994b, 25; Figure 25g). Immediately behind the enclosure wall are several refurbished, elongate cellular huts with vertical slabbing and horizontal coursing. These are thought to be related to the final development of the defences (op. cit., 26). Along the exposed western edge of the promontory is a group of ruined foundations of rectangular buildings with rounded corners, typical of clocháns on Inis Mór (ibid.). This site may have had several phases, with an early first millennium BC origin and cellular re-use in the first millennium AD. The rectangular buildings located away from the cellular structures on the periphery could either represent later eroded clocháns analogous to Dunbeg, or could be non-domestic buildings contemporary with the cellular structures comparable to those at Carraig Aille and Ballywee.

A recent new interpretation of promontory sites in Denmark may afford an interesting line of inquiry for sites in the Western Seaways (Ulriksen, 1994). It was noted that in the Late Iron Age and Early Christian periods in Denmark a change in religion might have initiated a much deeper social change. This is reflected in the archaeological record as a move from relatively few, impressively situated, coastal sites to a profusion of smaller specialised landing-places. These latter were linked to larger inland settlements, often by navigable rivers. Differences in coastal situations of promontory forts might be analysed in terms of proximity to useable beaches, coves or other natural harbours, yet this has never been quantified. There are few descriptions of sites which include whether there was easy access to the sea, either directly or using nearby beaches. It may be worthwhile to examine the locations of sites with reference to proximity of not only accessible anchorage but also navigable rivers. Included in this enquiry should be the examination of inland sites with the possibility of association with coastal sites, since in Denmark many sites located inland from the coast show evidence for the utilisation of coastal resources. The Danish landing-places were believed to be specialised, possibly mooring places where goods were transferred from one type of transport (the ship/boat) to another (barge or wagon) and may have included small-scale local industrial work. Evidence of trade at these sites is difficult to prove, especially where the materials would not remain for very long, but associations

with positively identified trading sites inland may be possible (op. cit., 801). The Danish sites are described as being mainly beach based, but could extend up more inaccessible nearby slopes (op. cit., 804).

The recovery from Drumanagh, County Dublin, of a sherd of 1st century AD Samian Ware coupled with the nearby sheltered beach (Raftery, 1994, 208) suggest the site may have been involved in trade across the Irish Sea. It is probable that other coastal and perhaps inland promontory forts acted as trade centres or simply as meeting places or both. The sites at Erraroey More and Derrylahan in County Donegal (Figure 30d) are similar low-lying, flat promontories, currently used as grazing land, jutting into the sea and enclosed by univallate bank and ditch (Lacy, 1983, 221 No.1418 and No.1419). The latter site is also located next to a protected embayment, providing a good anchorage. The site at Knoxpark, County Sligo, located on the bend in a river and producing abundant evidence of metalworking may suggest tradable items were produced on site. Many promontory forts in specific strategic locations may have acted in a similar respect like the well-known sites at Hengistbury Head and the Poole Harbour area. Sharples has recently argued that these locations were liminal, perhaps even at boundaries between territories and cites locations such as Hengistbury and Glastonbury as examples of possible centres of production for various materials (1990). The Doon of Drumsna might be a variation on the promontory enclosure theme, enclosing as it does a spit of land in a loop of the Shannon (*infra*). Its location and multiple entrances might also suggest a link with trade and communication between areas north and south of the Shannon, and perhaps travel up and down the same.

The promontory enclosures across the Atlantic façade could certainly be described as liminal, between the land and the sea, and some seem to have been built in very inaccessible locations indeed, such as Caherconree and Mount Brandon in County Kerry (Raftery, 1994, 46-48). The former is located at 615mOD on a rocky crag below the summit of Slieve Mish mountain where a carefully built wall encloses only 1ha, with a single narrow entrance. Mount Brandon is even higher, at 850mOD on an arrête enclosed by two curving stone walls. Other sites, although perhaps lower, are no less impressive and can incorporate structures immediately behind the main walls, as noted in Scotland (Chapters 3 to 5) and Cornwall (Chapter 8). The large complex site at Dun Balor, Tory Island, County Donegal, is a good example with no less than 14 possible hut sites immediately behind an impressive

multivallate enclosure cutting across a narrow isthmus (Lacy, 1983, 226-227, No.1433; Figure 30c).

An alternative function for some of the more remote sites might be as ritual centres, also capitalising on the liminal positions and spectacular natural topography. Such a function might explain the extraordinary height of the Caherconree and Mount Brandon locations and the relatively non-defensible nature of the close-set multivallation visible at Dun Balor on Tory Island. The latter also incorporated a simple entrance right through the centre of the banks and ditches. Several sites are overlooked by higher ground, including Caherconree and Ballygorman, County Donegal (Lacy, 1983, 219, N0.1409). Some sites continued until recently as cemeteries or church locations, for example at Dun Kilmore, County Mayo (Westropp, 1911, 22). This, and the tradition that Doon Rock inland promontory fort was an inauguration site (Lacy, 1983, 218, No.1404), may hint at earlier prehistoric rituals of religious significance as found at the 'Royal' sites in Ireland. Possible support for the industrial or special purpose of some promontory forts could be sought in the number of sites incorporating souterrains. An example is the univallate bank and possible *internal* ditch at a site called Dungravenen in Townparks, County Donegal (op. cit., 227-228, No.1434). The multivallate site at Dunbeg incorporates a souterrain in the entrance causeway (Barry, 1981) is also described as a "very spectacular promontory fort" (Lacy, 1983, 227).

Crannógs

The term 'crannóg' has been subject to classification problems similar to those highlighted for enclosed sites. In Ireland the majority of recognised crannógs are seen as late first millennium AD in date and associated with significant or 'Royal' status within the settlement pattern (Edwards, 1990, 41; O'Sullivan, 1998, 104). In contrast, a series of Late Bronze Age 'lake-side settlements' are also known, but are seen as different (O'Sullivan, 1998, 71; Lynn, 1983, 51). Early Historic crannógs have been defined as, "an island, wholly or largely artificial, usually circular...built up of layers of dumped peat, brushwood (often woven), heavier timbers, stones, soil, rubbish, etc....The chief characteristic is...a retaining ring of close-set, vertical timber piles" (Lynn, 1983, 50-51). There is an emphasis on insularity and annular piling to contrast with other types of lake settlement (op. cit., 51; Edwards, 1990, 34-35). This structurally detailed classification thus separates sites chronologically, with major excavations at Lagore, County Meath (Hencken, 1950),

Ballinderry No.2, County Offaly (Hencken, 1942) and Ballinderry No.1, County Westmeath (Hencken, 1936) producing rich assemblages of late first millennium AD material. A series of dendrochronological dates from protruding timbers at a number of potential crannóg sites in Ulster also cluster closely in the late 6th and early 7th centuries AD, between AD550 and AD650 (Baillie, 1995, 59). The recent excavations at Moynagh Lough have substantiated a 7th century AD to 9th century AD occupation of a site that may be associated with textual references to a 'Royal' presence at *Loch Dé Mundeach* (O'Sullivan, 1998, 105-108). Lagore was also identified as the possible location of *Loch Gabor*, an early historic residence of the kings of Brega of the Southern Uí Néill (op. cit., 113). These textual references coupled with assemblages containing artefacts regarded as status objects and indicating access to rare materials, such as exotic imports and fine metalworking or jewellery manufacture, have been the basis of their interpretation as high-status residences. However, this type of close architectural and chronological definition, with associated social and functional interpretations, is beginning to erode as more data becomes available.

Two sites at Clonfinlough and Bofeenaun, with very divergent chronologies and function, highlight the flawed nature of crannóg classification in Ireland. It is perfectly plausible for a site with a genuine focus on water-side or water-borne location to be constructed in numerous different ways, in different sizes and for different functions. The term 'crannóg' should be used merely as a location or topographic reference with no predetermined structural, chronological, social or functional significance.

Clonfinlough, County Offaly produced well-preserved remains of a Late Bronze Age 'lake-side settlement' dated by dendrochronology to between 908±9BC and 886BC (Moloney et al., 1993). The site was built on peat with a lake to the north and a major raised bog to the south, and its isolation is emphasised by the suggestion it may have been used as a refuge (op. cit., 62). The architectural details include a massive palisade of *circa* 690 close-set ash roundwoods (op. cit., 9) linked to a series of platforms within. Platform One was carefully built including split oak planks (op. cit., 16-19) and incorporated at least two phases with well-defined hearths and double wattle walls with small brushwood and other organics filling the cavity (op. cit., 20). Platform Two was similarly constructed. The enclosure also incorporated two smaller structures and a laid wooden path or togher. The details of construction, especially the laid and well-built floors, brushwood matting and the use of oak are directly comparable to the definition of an Early Historic crannóg. The construction of

the cavity wall roundhouse on Platform One is paralleled at the Early Historic site at Deer Park Farms, County Antrim (Lynn, 1988d).

Bofeenaun in Lough More produced a much less well-built site located on a promontory of peat jutting into the south-east side of the loch (Keane, 1995). An oval palisade of oak, birch and ash timbers surrounded stone flags. There was no stratigraphy on the site and the majority of small finds were mainly related to iron-working, with 74kg of slag collected and analysed (op. cit., 72). Both smithing and smelting slags were identified, along with ten possible furnace-bases with plano-convex profiles. A single example of tapped slag was also recovered (op. cit., 173). An iron hook and two other iron objects were the only other finds (op. cit., 177). This site is thus a functionally specific industrial site and fits almost exactly the flimsy, less well-built type of site regarded as a Late Bronze Age 'lake-side settlement'. However, a single palisade post produced a dendrochronological felling date of 804±9AD. The site is in fact defined as a crannóg by the excavators on the basis that it has, "sufficient critical characteristics" (op. cit., 178) as detailed by Edwards (1990, 36). This definition, "a substantial artificial make-up kept in place by a ring of close-set vertical piles which form a palisade round the site" (ibid.) actually shares only the palisade with Bofeenaun. Even this averaged only 0.75m in depth (Keane, 1995, 169) compared to the Clonfinlough site where the palisade was placed 2.8m into the surrounding peat and marl (Moloney et al., 1993, 12). Despite the clear lack of typological characteristics this site is still considered a crannóg, presumably because it is of the correct date.

Crannógs, owing to their generally excellent preservation, can have complex taphonomies. The process of site formation on many sites is still not fully understood (Sands et al., forthcoming) and the general ability to distinguish phases of use is based almost entirely on the recognition of major stratigraphic horizons. This must be borne in mind when considering early excavations of crannógs that, much like excavation of well-preserved stone structures, may have missed subtle changes or variations in the build up of material. Reinterpretation of the lower levels at Ballinderry Crannóg No.2 has recognised a substantial rectangular building previously considered to be foundation material rather than an *in-situ* structure (Newman, 1997). A similar reinterpretation suggests earlier deposits are *in-situ* occupation material at Lagore and Ballinderry Crannóg No.1 (Lynn, 1986).

Iron Age radiocarbon dates of a similar period from Rathtinaun crannóg in County Sligo (Raftery, 1994, 35; Waddell, 1998, 320) unfortunately have an unclear relationship to the excavated sequence of deposits. A series of dates from fire baskets (D-53, 2070±130bp; D-54, 2140±130bp; D-59, 2150±130bp) calibrate to between 550calBC and calAD250. A date from the outermost piles is similar (D-55, 2150±130bp) and another series of piles slightly later (D-58, 1630±130bp) calibrating between calAD100 and calAD650. An oak post of a house structure was dated between 450calBC and calAD250 (D-57, 2100±130bp). Interestingly a single date for the base of a hearth at this site produced an earlier date (D-61, 2550±130bp) that unfortunately calibrates across most of the first millennium BC between 800calBC and 0calBC/AD. This latter could represent the early occupation defined by numerous Late Bronze Age artefacts (Raftery, J, 1976; Raftery, B, 1994, 35).

The small finds from Lagore include objects “of Roman date and even some pre-Roman types” (Hencken, 1951, 6) and some of the other material is simply assumed to belong to the later first millennium AD. For example, the glass melon beads are only distinguished from early first millennium AD predecessors because of their poorer quality (Edwards, 1990, 94). Glass bangles such as those from Lagore, specifically those with D-shaped sections, have strong parallels in the 1st and 2nd century AD Scottish examples (Kilbride-Jones, 1938). A D-sectioned penannular shale bracelet has recently been dated to the later centuries of the first millennium calBC at An Dunan, Lewis, Scotland (Chapter 4).

In addition the dendrochronological sampling of sites was neither properly random nor was it representative of Ireland in general. The wood was retrieved from sites in the north-east, sometimes, as at Teeshan, County Antrim, with no excavated context (Baillie, 1995, 59). The focus on oak, necessary for dendrochronology, means that phases with less oak are not represented. Excavations at Clonfinlogh (Moloney et al., 1993) and wetland sites elsewhere (Raftery, 1994; Moloney et al., 1995; O’Sullivan, 1998) have shown that sites earlier than AD500 can incorporate significant quantities of non-oak species. It is still unclear therefore whether there is a true gap in crannóg or lakeside settlement between the Late Bronze Age and Early Historic period. O’Sullivan points out that many relatively small stone covered mounds in Connemara and Donegal are morphologically comparable to Scottish examples but have produced little or no dating evidence (1998, 128). These types of site are often of Iron Age date in Scotland (Henderson, 1997) and could be the same in Ireland.

Linear Earthworks and Trackways

Contemporary with the Phase 4 feature at *Emain Macha* Site B and the Dún Ailinne 'Mauve' phase are the construction of several substantial linear earthworks such as the Dorsey, County Armagh (Figure 30f). Another, the Black Pig's Dyke, crosses Ireland from County Leitrim in the west, through County Monaghan to County Armagh in the east. The radiocarbon and dendrochronological dates for these features are remarkably similar and indicate a massive community investment in their construction. Their relationship to the similarly massive investments at Navan is chronologically secure, although their function in this respect is uncertain. Certainly they are an explicit expression of land division and access control, and their simultaneous construction must have required careful planning. If the evidence from the Dorsey can be interpreted as a burnt palisade underlying a large bank then a massive investment in oak was required. A concomitant investment was also required for the ritual features at Navan and presumably elsewhere.

Excavations at the Dorsey indicated that a burnt layer preceded a substantial embankment and ditch. This burnt material, comprising large pieces of oak charcoal, produced three dates ranging between the 4th century calBC and the 1st century calAD (UB-2219, 2020±45bp; UB-2220, 2240±45bp; UB-2221, 2015±45bp) (Lynn, 1994, 66). The earliest date could result from sampling from the interior of a large oak specimen since the other two combined produce a date between 110calBC and calAD60. Excavation of the waterlogged continuation of the enclosure indicated that it was constructed here of aligned oak timbers set vertically in the ground and held in place by wedged timbers (op. cit., 68) with a ditch to the south (op. cit., 71). The oak timbers were probably felled in a group from a plantation that was all the same age. The felling dates recovered were 89±9BC (Q-4629), 96±9BC (Q-4633) and 95±9BC (Q-2888), contemporary with the dry land results and remarkably similar to that from the multi-ring structure at *Emain Macha* (op. cit., 75). This site has been described as "part of a unified system of defences which formed an 'ancient boundary fortification of Ulster'" (Lynn, 1997, 217). This system included the construction of the Dane's Cast earthwork, which may also be associated with the Navan complex (ibid.). Whatever the main function of these monuments, they probably also encompassed religious or symbolic significance.

The Black Pig's Dyke may cross the entire country from east to west and is known by different names in different locations. This massive feature also conforms to a multiplicity

of construction techniques in various locations, but always with at least one bank and ditch (Raftery, 1994, 84). Excavations at Scotshouse, County Monaghan, revealed traces of a burnt palisade on the inner edge of the ditch producing radiocarbon dates ranging between the 4th century calBC and early 1st century calBC. A third radiocarbon date from the northern bank ranged between the 5th century calBC and early 1st century calBC (Walsh, 1987). Excavations at the Dun of Drumsna, or the 'Doon', in County Roscommon, also produced radiocarbon dates between the 4th century calBC and 1st century calBC. The massive 20m wide, 6m high earthwork here lay across the southern end of a projection of land surrounded by a loop in the Shannon River on the west, north and east. It then seems to continue west as a smaller series of banks and ditches along the southern shore of the Shannon (Condit and Buckley, 1989; Condit and Cooney, 1998).

Slightly later dates were recovered from the bank and ditch linear earthwork, The Claidh Dubh, running north-south across the Blackwater Valley (Doody and Mesterson, 1996, 22). Here the ditch generally faces north or east down the valley and excavation in the Nagles Mountains to the south recovered a trackway alongside the earthwork (ibid.). A date between calAD110 and calAD340 (UB-3721, 1801±39bp) was recovered from peat from this trackway. This feature is only *assumed* to be contemporary with the earthwork itself and it is therefore possible, if the track was laid later, that The Claidh Dubh also dates to the last century of the first millennium BC. The major linear earthwork crossing Wales, Offa's Dyke, also consists of a bank and ditch and is again *assumed* to date to the 9th century AD (Fox, 1955, 281), but could have earlier origins.

The trackways, or 'toghers', of Corlea in County Longford (Raftery, 1994, 98) represent a similarly large investment in oak. Here samples of timbers consistently indicate a felling date around 148BC, suggesting the large split oak plank road was constructed in a single phase across about 1km of bog (op. cit., 99). Such an undertaking would have required between 200 and 300 large oak trees of good quality and at least as many birch trees for the substructure. Other trees such as alder, elm, hazel and yew were also felled for the roadway, running north-west/south-east and may have been linked to a similar togher heading west dated to 156±9BC (ibid.). The mainly birch pegs used to keep the roadway stable may originally have numbered some 5000. The impressive labour requirements needed for the manhandling of the oak planks and the cutting and shaping of all the wood suggests that the road would have been a powerful symbol of control. Whether this was a community effort,

or an effort controlled by others is unknown but it is possible to ascribe a monumentality to this road, one of the largest in Europe, resonating power, prestige and authority. Above all, this road again projects the concept of control and access. Of course, the practical aim of the roadway is communication and it is interesting to note the slightly later earthworks are also concerned with access and communication. Perhaps there are indications here of a move to control the movement of people across Ireland at this time, as well as an ability to stamp human identity and endeavour on an otherwise difficult and dangerous landscape.

The steeper face of the massive bank of the Doon of Drumsna faces north and the inturned arrangement at the entrances resembles the *Zangentor* type known in central Europe and elsewhere. North of the main bank is a smaller double bank and south are another pair of banks with intervening ditch. This construction, coupled with a possible reference to wooden *chevaux de frise* on the eastern flank, has been used to suggest that the monument was erected to defend the multiple fording points across the Shannon from the north. The Shannon here is marked by the presence of shallows to the west, north and east and the earthworks themselves have two entrances flanked by earthworks projecting south. The site must have been an important crossing point. Even now the location incorporates two modern bridges and a canal bypasses the loop, suggesting the river is navigable again to the west (Condit and Cooney, 1998). The Dorsey is more ambiguous with a ditch either side of the main earthworks on dry land. A smaller bank existed on the south side of the southern ditch (Lynn, 1994, 61). However, it too is considered to face north (op. cit., 75). It is probable that 'early' ringforts originate around this time, perhaps in some way associated with the need to portray control over the landscape. These were certainly visually impressive monuments intended to express outward symbolism. The earthen banks of these ringforts, some perhaps preceded by timber palisades as at Lisdoo, Fermanagh (Brannon, 1982) with a *terminus post quem* of calAD250 to calAD530 (UB-2202, 1655±45bp), would be comparable to the much larger linear earthworks and palisades. The occupation of the enclosed site at Lisdoo is roughly dated to the 6th and 7th centuries AD by the presence of E-ware in occupation material abutting the bank (ibid.). This material may have arrived sometime after the construction of the bank however, and does not preclude a pre-6th century date for the enclosure bank. As such it would be comparable to sites like Dunsilly and Feerwore (*supra*).

There seems to be a preoccupation towards the end of the first millennium BC and beginning of the first millennium AD with enclosure. Sites such as Dún Aonghasa, Mooghaun South and Haughey's Fort suggest further that use and re-use of enclosed monuments continued throughout the first millennium BC and perhaps well into the first millennium AD (*contra* Raftery, 1994, 59). It is possible that the complex of multi-period enclosures on and surrounding Spinans Hill, County Wicklow, reflects many aspects of different monuments and their possible dating discussed here. The site could incorporate a Class 1 hillfort at Brusseltown Ring (*op. cit.*, 62), but a second rampart has since been discovered making it a Class 2. The site may then have been subsequently transformed into a massive 132ha enclosure just above the 300m contour. This too would have been an enormous undertaking with a double stone-built rampart running for at least 4km requiring either a long time or many people to construct. In this way it could be comparable to the linear earthworks (*op. cit.*, 63). This site may encapsulate the concepts of landscape control and enclosure explored briefly here. It probably dates to the first millennium BC with many phases of use and re-use, but excavation would be required to confirm this.

Settlement and Souterrains

Settlement

Many clocháns, sometimes called beehive structures on account of their corbelled appearance, are associated with enclosed sites especially on the rockier west coast of Cork and Kerry. These structures are generally believed to have been fully corbelled small cells (often called huts) usually, but not always, associated with religious settlement linked to the early church in Ireland. However, there are relatively few fully corbelled structures surviving. Indeed, several are described as being only partially corbelled in their original form, sometimes (when excavated) with possible evidence for wooden roofing. Archaeological surveys of County Louth (Buckley and Sweetman, 1991) and County Donegal (Lacy, 1983) have produced little evidence of such structures. Indeed within the former only Lissachiggel ringfort at Doolargy produced evidence of over twelve possibly cellular huts, of which three may be conjoined figure-of-eight buildings, and traces of field-systems. This lack of visible buildings is relatively easily understood when excavations in this area indicate the use of timber and wattle in the construction, which will not be picked up in general landscape surveys. The archaeological survey of the Dingle peninsula produced very different results owing to the predominance of stone as a building material

(Cuppige, 1986). However, the Donegal survey produced little evidence of cellular or any other actual structures within a settlement except souterrains. This may be because of the generally ruined nature of the structures in this area masking internal buildings.

Seven sites in the Dingle peninsula survey are worth examination in more detail owing to the presence of conjoined clochán buildings. The latter may be distinguished generally on the principle that one can be accessed only from the other. Some conjoined sites have separate access to each building, although excavation has often emphasised the multiple phasing of these sites and thus the original configuration is rarely visible through survey alone. All of these buildings sit within stone-built cashels. At Ballinknockane *cashel* there are conjoined figure-of-eight type huts, one has a small cell joined by a narrow passage to a larger cell with an aumbry (op. cit., 188). Ballynavenooragh *cashel* includes a conjoined figure-of-eight structure with visible multiple rebuilding and access to a souterrain from the smaller cell (op. cit., 192; *contra* Edwards, 1990, 45 fig.18c; Figure 31c). There were also the remains of an aumbry in the main cell and possibly three or more in the smaller cell, two of which were located side by side opposite the connecting doorway. A comparable arrangement is known in the Pictish Phase figure-of-eight building at Loch na Beirgh, Scotland (Chapter 4; Harding and Gilmour, forthcoming). At Caherdorgan North several conjoined buildings in the cashel include five clocháns of which three are joined north to south. There are also two possible souterrains on this site (Cuppige, 1986, 196). The larger central building was described as a possible open court between the other two although the walls of this structure are slightly corbelled (op. cit., 195). It is probable therefore that this was a building roofed by semi-corbelling.

Caher Murphy, Glanfahan was cleared out in the 19th century when an elaborate cross-slab and a fragment of rotary quern were recovered. Two conjoined buildings sit within an oval cashel, one of which has access to a souterrain from the main cell. This latter also gives access through a narrow paved entrance to a smaller cell to the north-north-west, which is partially corbelled and has a low lintelled opening to the west. This latter may actually be the remains of an aumbry. The eastern building has three cells of which the main one is slightly corbelled and has a stone-lined pit interpreted as a four-sided hearth. The room off to the north-north-west is also slightly corbelled with a narrow paved entrance and a lintelled recess (aumbry) to the north and a possible second no longer evident. The final room leads off the main one to the south-east also has an aumbry and a paved narrow

entrance (op. cit., 203). The discovery of the cross-slab suggests the site has a religious component.

There are very poorly-preserved huts in Cathair Bheag Máirtíneach, Glanfahan, which exhibit multiple rebuilding of which only one still has corbelling intact and includes aumbries opposite the entrance (op. cit., 204). Several structures are better preserved at Cathair na Máirtíneach, Glanfahan, of which one is a conjoined building with two internal corbelled structures. Other buildings on the site include two much rebuilt sub-rectangular buildings and a smaller corbelled circular structure. The latest building on the site is seemingly a sub-rectangular corbelled clochán built right at the entrance to the cashel (op. cit., 204-205). Another site in Glanfahan at Caher Conor includes a distinct figure-of-eight and other structures including a souterrain. The conjoined building consists of a large rectilinear structure described as an enclosure with an entrance in the east wall linked by a narrow passage incorporating orthostats to a corbelled circular building with access to a souterrain. A cross-inscribed slab was retrieved from this cashel, possibly from the east-south-east wall-face (op. cit., 206), and again suggests an ecclesiastic aspect to the site. The structural remains here are comparable with those excavated at Leacanabuaile, County Kerry (*supra*).

Of all of the above sites only a very few are fully corbelled and are generally smaller and removed spatially from the conjoined buildings. The rest survive as partially corbelled and are often conjoined. Judging from the surveys, very few have a lot of collapsed stonework within making this author doubt whether many were ever fully corbelled. However 19th century work on these upstanding sites tended to concentrate on cleaning the rubble from structures, thus making true judgement very difficult. These works would also partially reconstruct sites, so that perhaps more corbelling was added than may originally have been incorporated. In general however, single smaller buildings, often located towards the periphery of an enclosed site, are the only fully-corbelled structures. It is probable that these are non-domestic buildings comparable to some rectangular structures. The main settlement often incorporates semi-corbelled conjoined structures where the organic roofing would provide greater internal height and stability over the larger areas. They would also allow the egress of smoke and were easier to maintain.

When excavated earthen ring-forts generally produce evidence for timber and wattle buildings, often circular, which cannot be traced during field survey. One of the best examples was the waterlogged lower levels of the raised ráth or ringfort at Deer Park Farms, County Antrim (Lynn, 1988d; Figure 28c). Excavation revealed a remarkable sequence of Early Historic settlements probably dating from the 6th to the 9th centuries AD. Various levels produced more than 30 circular dwellings defined on the most part by stake-holes among rising deposits of midden material and dumped earth (op. cit., 44). As during the earlier periods at Loch na Beirgh, Scotland (Chapter 4; Harding and Gilmour, forthcoming), the occupants of Deer Park Farms rarely levelled, removed or properly drained earlier remains, preferring instead to fill in old layers and build anew slightly higher (op. cit., 45). In one of the well-preserved earlier settlements, the site comprised a circular earthen bank revetted with stone and an inturned entrance passage to the east. Inside were two double-wall wicker figure-of-eight buildings and a similarly constructed circular structure the same size as the secondary rooms of the cellular buildings (Figure 31b). There appears also to have been a midden dump just north of the buildings within the ringfort. The walls were of hazel with a soft organic fill, which the excavator believes to be straw, moss and heather, with stout oak posts as door jambs at the entrances. Part of the wall of one of the conjoined buildings (*Eta*) was found collapsed and preserved in the house and would have stood to almost 3m high. Evidence for internal screens and bedding areas were preserved either side of the central stone-lined hearth in the main rooms; among this material was found a small bronze brooch dated to about AD800 (op. cit., 45-46). Dendrochronology has indicated that the oak jambs of the communicating door between the larger (*Eta*) and smaller (*Theta*) rooms of the central building were felled in AD648 (Edwards, 1990, 25). Without a full excavation report it is difficult to comment on this apparent chronological discrepancy, although it is possible again that stylistic chronologies are too tightly defined. Alternatively, the building was in use over a considerable period of time, perhaps unlikely considering the wattle nature of the structure. Other finds included organics from the midden such as wooden staves and leather shoes. Higher in the mound there was less waterlogging but the outlines of burnt buildings could be clearly seen as ribbons of charcoal and circles of stake-holes. These later phases produced Souterrain Ware and 50 coloured glass beads as well as several iron objects. In the penultimate phase of occupation the site was heightened and an impressive massive outer revetment wall was added along with possibly two souterrains (Lynn, 1988d, 47).

Similar building construction is inferred for the site at Dressogagh Ráth, County Armagh (Figure 31a). Excavation revealed a two-phase post-and-wattle structure with a curvilinear annexe situated centrally within a sub-rectangular area bounded by a wide flat-topped bank and outer ditch (Collins, 1966). Two concentric drainage gullies with steep sides and wide flat bottoms, presumably for the run-off from the eaves, and narrow 'v' section slots for the walls delineated a main structure with access to the annexe. This latter produced no evidence of walling but was delineated by a similar gully to that around the main building; there was no gully between the two areas and the walling slots for the main building became very shallow at this point (op. cit., 122). It thus seems plausible that the building was a figure-of-eight during at least one phase. Charred remains indicated that the building was constructed of wattle panels between larger regularly-spaced posts (op. cit., 121). The main building produced a central circular patch of fire reddened subsoil, interpreted as a hearth, with two flanking post-holes. Interestingly the annexe of this building produced a similar burnt subsoil surface, albeit smaller than that in the main room and surrounded by several small stake-holes; neither was lined with stone (ibid.). Post- and stake-holes within the main room may indicate the remains of some form of internal divisions or furniture and double post-holes to the east may represent an entrance.

The assemblage retrieved from this site was very mixed and much of the stratigraphy had been obliterated by tree roots. The building itself is represented only by subsoil features and slight fills of the post-holes, gullies and slots. These fills produced a portion of black shale armlet, another was found in the topsoil (op. cit., 126), and many sherds of Souterrain Ware of which only one had a cordon below the rim (op. cit., 122). On top of the subsoil between the annexe and the main area was recovered a dot-and-circle-decorated, turned bone spindle-whorl of Hencken's 'bowl-shaped' class from Cahercommaun. From the upper fill of a gully came a fragment of a bronze chain, possibly slightly decorated, fashioned of 'S' or figure-of-eight shaped pieces (op. cit., 126). This latter may represent the remains of a hanging bowl. These pieces indicate a first millennium AD date for the building, possibly in the later rather than earlier centuries. Among the rest of the assemblage was post-medieval pottery and some 'everted rim cooking pots' dated, based on the application of comb ornament, to the 12th to 13th centuries AD (op. cit., 122). Also discovered on this site was a Tievebullaigh polished stone Neolithic axe (op. cit., 126). Several Neolithic stone axes were recovered from Cahercommaun (where they were thought to be used as whetstones) and from other first millennium AD sites across the Western Seaways.

Neolithic axes may have had some form of contemporary currency, either functionally as rubbing-stones or perhaps a more complex socio-ritual meaning (*supra*).

At Beginish Island, County Kerry a complex of eight buildings in two phases were separated by a layer of sand (O’Kelly, 1956; Figure 31e). Associated remains of field-systems were also discovered buried in the sand. The best-preserved building (House 1) was dug into the sand and revetted by a single-faced wall. An outer wall began at ground level and the inner face continued with a rubble core between. A wooden roof seems to have been supported on roof sockets projecting from the wall. The entrance from the east was via a stone-lined and lintelled passage and there was a central hearth inside. One of the lintel stones had a runic inscription that may indicate re-use dating the site to the end of the Early Historic period. A later room was appended to the structure at ground level with its own entrance and hearth. Although these buildings do not incorporate figure-of-eight architecture, they are of semi-subterranean construction very similar to that at Bostadh Beach, Lewis, Scotland (Chapter 4).

It has been argued that another main structure type within the late first millennium AD in Ireland is the rectilinear building, as found at several sites such as Leacanbuaile, Rathmullan, and Ballywee. Many of these sites seem to be secondary to circular buildings and thus may represent a subsequent change in architectural practice (Lynn, 1978; 1994). However, sites such as Leacanbuaile (*supra*) indicate that these were also used in conjunction with original circular structures and were integral to the later overall function of the site. In addition, sites such as Carraig Aille, Ballywee and Ballypalady may incorporate external rectilinear structures of a non-domestic nature.

Ráth number 2 at Ballypalady, County Antrim is another site with a rectilinear building, possibly secondary to an original circular structure (Waterman, 1972). The rectilinear building is interpreted as a stone-built byre with revetted drystone wall foundation of large basalt boulders with smaller stones above (*op. cit.*, 34). The roundhouse is defined by gullies and a central line of post-holes cut into the subsoil that were deep enough to survive the erosion which destroyed the original surface. The structure is interpreted as having opposing entrances in the north-north-west and south-south-east, the latter utilising a ‘porch’. Within this porch are three post-holes which are deemed to be “unrelated to the building” (*op. cit.*, 33). An alternative interpretation based on similar structures discussed

in this thesis would describe the wooden building as a figure-of-eight structure with the smaller subsidiary cell to the south-south-east incorporating the three post-holes. Small finds from the site were restricted to very plain Souterrain Wares, two glass beads and a bent bronze pin with a cordoned head from the byre (op. cit., 36).

Cellular structures in Ireland are less well represented in the archaeological record than Atlantic Scotland until the figure-of-eight building developed. The only building types possibly comparable to the earlier Scottish structures are found in the west, and mainly the south-west, where the tradition of building in stone has allowed the evidence to survive. However, a lack of excavation at stone-built sites in the north-west should warn against simple generalisation. These structures are comparable to Atlantic roundhouses and other drystone structures in Western Scotland and may incorporate secondary cellular settlement in their collapsed remains. Wooden buildings however, of the multi-cellular type are unlikely since the technique of small multi-celled revetted structures is better suited to construction in stone. A wooden roundhouse with subdivisions is a more efficient use of available timber resources. However, this would impose purely environmental reasoning behind the construction of such buildings. It is evident that cellular construction had well-versed antecedents and history in Atlantic Scotland but the construction of round-houses was well known there too. There was a conscious decision not to build roundhouses in this area. In Ireland it may simply be that roundhouses were smaller in the early first millennium AD in response to the same social conditions. The average size of wooden roundhouses falls into two groups, 4m to 5m diameters and 6m to 10m diameters with an overall average diameter of 6m (Lynn, 1990, 91). The majority of wicker houses at Deer Park Farms were 5m to 5.4m in diameter (op. cit., figure 1). These are significantly smaller than some prehistoric Iron Age examples and especially the buildings on 'Royal' sites that also include figure-of-eight structures. Lynn states that stone-built roundhouses in the west are smaller than wicker built houses in the east by about 2m. This is supposedly a consequence of the use of thicker walls but similar roof sizes (op. cit., 91). However, the range of stone-built diameters is actually very similar to the smaller wooden roundhouses, ranging between 3.5m and 6.9m (ibid.). In addition, a wooden roof on a stone building would most likely rest on the internal wall, thus having no effect on the overall internal diameter. In fact, the evidence from Beginish, County Kerry (*infra*) and Bostadh Beach, Lewis, Scotland (Chapter 4), suggests roofing rested on the internal wall and drained into the wall core much like blackhouses in Scotland. A further complicating factor is the

conjoining of two roundhouses of different diameters, making generalisations of structural diameter of late first millennium AD buildings difficult and comparisons with the *Crith Gablach* text (Lynn, 1990, 90) oversimplified. In this vein it is the overall floor area that is important, and the conjoining of two roundhouses could be seen as an increase in floor size over single first millennium AD roundhouses. This would parallel the effect seen in the development of cellular structures in Atlantic Scotland and detailed at Loch na Beirgh, Lewis (Chapter 4).

Souterrains

Iron Age sites in Ireland may also be suggested by the presence of souterrains, dated elsewhere to the first millennium BC and early first millennium AD. There are thousands of souterrains in Ireland, mainly in the north-east and west (Thomas, 1972, 75; Edwards, 1990, 29; Clark, 1961, 73). They are frequently found associated with surface structures on all kinds of sites including open settlements, promontory forts, e.g. Porth, County Mayo (Westropp, 1911, 22), ringforts and ecclesiastical sites (Edwards, 1990, 29; Thomas, 1972, 76). Indeed the north and west distribution bias mirrors a similar distribution of ringforts (Stout, 1997, figures 10 and 11).

Many souterrains are stone-revetted trenches roofed with lintels or possibly wood in some cases; others are tunnels excavated in a similar manner to the Breton sites (Chapter 9). Evidence for wooden souterrains comes from Ballycatteen, County Cork and Coolcran, County Fermanagh examined later. Details vary from site to site but generally include the familiar architectural features such as corbelled chambers, aumbries, creeps, evidence for wooden doors, subsidiary chambers, drains and platforms. Some Irish examples also include more complex features such as multi-level souterrains, multiple 'beehive' chambers, shelves, benches, hearths and chimneys (Clark, 1961, 75; Edwards, 1990, 29). For example, Donaghmore, County Louth incorporates four chambers, one of which 'bridges' between two others. The final chamber lies perpendicular to the rest (Edwards, 1990, 29). At Keelnameeh, County Cork, four tunnelled chambers were dug by using 'spoil-pits' to remove material during construction (Edwards, 1990, 30).

Very few souterrains have been excavated relative to the overall resource, a similar problem to the ringforts. Examples include Ballyvara, County Cork, a site that was discovered during gravel quarrying and consisted of a single chamber filled with refuse and entered via

a creep. The refuse consisted of alternate layers of gravel collapse and occupation refuse that included animal bone, worked antler and iron slag. This was probably a later fill of the site, as so often seen in souterrains, because the bones seemed quite eclectic. The deposit had a loose consistency that certainly did not represent occupational accumulation (Clark, 1961, 84-85). This interpretation is supported by the presence of bones from parts of two small children. A bronze ring-headed pin was dated to the 7th century AD by O'Kelly providing a *terminus ante quem* for the souterrain. Although the site did not seem to be associated with surface structures this is not proof that there were no such structures. The techniques used on early excavations may not have picked up slight features in the gravel and it is unknown to what extent quarrying destroyed surface remains.

Cahercommaun, County Clare, produced a 9th century AD silver brooch from the fill of one of two souterrains within the triple rampart stone-walled cashel (Figure 26d). These had thick, mixed bone and ash deposits on the floors. One contained a human skull surrounded by carefully placed stones embedded in the fill and accompanied by iron implements including knives. This probably represents ritual deposition at the end of the use of the souterrain. The other souterrain had a small subsidiary cell near the proposed entrance that could represent a partially dismantled creep entrance. There were extensive layers of ash, charcoal and animal bones within the fort and abundant evidence of iron implements and iron smelting, but very little bronze (Hencken, 1938, 2 and 17).

Of the internal structures only one (structure 6) was definitely associated with a souterrain (souterrain A); the other (souterrain B) could not be positively linked to any surface structure but it was presumed to be associated with structure 5. Most of the human remains from this site originated around souterrain B, but from upper fills of rubble and earth and on top of the fort wall at the end of the souterrain. This seems likely to be a secondary structure (*supra*). The souterrain fill is certainly not occupation accumulation and may have been deposited deliberately as at other sites, especially considering the description of the deposits as having 'drifted' in from the entrance (Hencken, 1938, 20).

Rescue-led excavation of an enclosed site at Ballywee, County Antrim (Lynn, 1988c) has many features with comparisons elsewhere in the souterrain distribution area. The site consists of nine Early Historic period buildings and three souterrains within a poorly preserved figure-of-eight shaped enclosure with a south-east entrance. A rectangular paved

building with a central hearth and two entrances was directly associated with a substantial souterrain. This was entered through the north wall of the structure and formed a stone-lined passage within a broad, highly visible, revetted bank. The revetment wall was about a metre high, yet the souterrain is described as a place of refuge (op. cit., 34). The passage constricted midway and included an aumbry at the end opposite a stone-lined airshaft running perpendicular to the souterrain. Nearby were external paved areas with extensive red burnt soil, charcoal and crucible fragments for melting bronze. The debris from within and around the rectangular building included potsherds, charcoal, iron objects, beads, bronze pins and quern fragments and there was a drain running under the paving and out one of the entrances (ibid.).

A second souterrain in a curving mound included a secondary drop shaft entrance replacing a longer chute. This mound too was revetted with a kerb of very visible boulders laid end to end and concealed a single chamber with an airshaft. In fact the souterrain was discovered and excavated when the mound was noticed and investigated. There were only vague traces left of an associated surface structure, but it was possibly this that necessitated the change in entrance configuration. Outside the main enclosed area was an appended enclosure lending the site its figure-of-eight shape. Inside a rectangular boulder-kerbed building a central paved path was flanked at regular intervals by postholes too narrow for animal stalls. This was interpreted as a non-domestic outbuilding. Also in this annexe was a building with an access hole to a souterrain at one end. This souterrain was long and tortuous; although not fully excavated it could be followed as traces of badly damaged narrow connecting passages, again revetted externally and at least 25m long (op. cit., 35). A nearby structure consisted of paving within the topsoil which produced an intricate silvered bronze buckle. This latter secured an Early Historic dating for the site as all the structures are considered to be roughly contemporary, merely because they were all discovered immediately under the topsoil. The conservation of this site for presentation to the public left only small areas to be explored between buildings, but traces of earlier, possibly timber or wicker, structures were discovered lower down (ibid.). This site therefore incorporates several phases of activity and it is possible the surface structures are also phased buildings.

Craig Hill, County Antrim was a possible open settlement with sub-rectangular building constructed in a manner similar to those at Ballywee (Waterman, 1956b). A timber-framed building with a central hearth incorporated an eastern entrance opposite an opening to a

souterrain (op. cit., 87). The souterrain was covered with a mound of earth and revetted with upright stones and ran for over 12.5m curving from east to north. The chamber was located on two levels and the upper, shorter level contained a layer of occupation debris and the lower had a small recess at the end of the passage which was highest and widest at the terminus (op. cit., 89). The associated sub-rectangular building had been well cleaned prior to abandonment but still incorporated a blackened soil, fire reddened clay and charcoal in the post-holes (ibid.). The souterrain occupation debris was a dark soil with charcoal and contained Souterrain Ware pottery and a bronze loose ring-headed pin (op. cit., 90). This latter dated the site from the 7th century AD by comparison with finds from Ballinderry 1 and 2 and Lagore (op. cit., 91). However, it must be stressed that this material again represents only the final use of the site.

At Rathmullan, County Down a presumed Anglo-Norman motte site turned out to comprise several phases of Early Historic ringfort activity (Lynn, 1988). The primary layer included four superimposed buildings; two wooden roundhouses and two later rectilinear stone- and earth-foundation buildings. There was also a small souterrain with two levels, the upper represented by a main chamber and side chamber with a drop hole creep to a shorter passage. This was lintelled and “probably” connected to one of the later rectilinear houses (op. cit., 48). A radiocarbon date from a charred branch in the souterrain fill (UB-2525; 1085±20bp) gives a date range of calAD890 to calAD1000, overlapping with twig charcoal from the floor of the rectilinear house in Phase 3 (UB-2527; 1130±40bp) with a date range of calAD790 to calAD990. The primary Phase 1 hearth on this site was dated between calAD440 and calAD640 (UB-2526; 1500±40bp) and Anglo-Norman occupation charcoal was dated to calAD690-calAD990 (UB-2524; 1165±55bp).

The best dating for a souterrain in north-west Europe is that at Coolcran, County Fermanagh, again found during rescue excavations. The souterrain is unique in that it is entirely composed of wood set into an excavated trench. It included two stout oak posts where the single chamber constricted in the centre that, along with eleven others, could be accurately dated to AD822±9 (Williams, 1988). It was also possible to prove that some of the timbers from both halves of the chamber were from the same tree, thus proving the contemporaneity of both halves of the chamber (ibid.). This site had a narrow entrance passage running from the ditch of a ringfort to the centrally located sub-rectangular souterrain that was deliberately blocked. Several sites in Cornwall also have souterrains

exiting into the ditches of enclosed sites (Chapter 8). The chamber at Coolcran was entirely constructed of sawn oak timbers sloped to 30° off the vertical with wattling in between (Williams, 1988). The deliberate sloping of the timbers would restrict movement within the souterrain and seems to parallel the corbelled nature of the stone souterrains. This suggests a specialised function for the structure that required this peculiar architecture. Previously there had been no wooden souterrains recorded but this instance highlights the problems of distribution and excavation of sites, especially in those areas, such as County Fermanagh, where very few souterrains have been reported previously.

Other sites with interesting details include Oldcourt, County Cork where a bell was discovered carefully wrapped in moss and placed in a pit under the flag floor of the souterrain chamber. At Balrenny, County Meath, fragments of oak and willow were interpreted as barrel hoops and at Shaneen Park, Ballyaghagan, County Antrim, basin shaped depressions were dug into the chamber floor, presumably to hold containers (Edwards, 1990, 30). The excavation of a marshland site near Larne, County Antrim, discovered a three phase domestic structure backed into a souterrain (Waterman, 1971). The earliest phase was represented by probable collapsed debris of clay-built walling that was slighted by the later Phase 2 sub-rectangular stone building described as freestanding (op. cit., 66). However, the plans and photographs suggest it was revetted into earlier material. It had a sunken floor, post-holes and a three-sided slabbed hearth with peat ash and charcoal. In the south-west corner the souterrain entrance led to a lintelled passage increasing in height at the end and covered by a broad low bank. The long passage also widened towards the terminus while curving towards the south-east from the north-west. The joints in the passage coursing may have been sealed with clay (op. cit., 67). The souterrain was filled with a jumble of rubble, lintels and animal bone. At the base of this was a peat deposit with several staves and bases from composite wooden vessels. The nineteen staves represented the remains of approximately six vessels with a single hoop and larger base diameters than top diameters. The bases represented at least four vessels. There was also a human skeleton of a teenager discovered within the rubble fill of the souterrain with the skull to the west. The only diagnostic finds from the second phase were from this building and consisted of fragments of circle and dot decorated bone comb and Souterrain Ware (op. cit., 67). The stem of a bronze pin and fragments of Souterrain Ware along with a broken lignite bracelet and “plentiful” charcoal were recovered from the later phase of the site (op. cit., 70). Also at this site were a four-pronged iron implement and re-used

quernstones (op. cit., 73). Radiocarbon assays from charcoal on the secondary floor (i.e. Phase 3) produced date ranges between calAD250 and calAD800 (D-66, 1470±120bp) and calAD670 to calAD900 (UB-589, 1220±45bp).

Souterrains in Ireland are usually associated with surface structures. Sites with no evidence of associated above-ground buildings have often been badly truncated. Alternatively, older excavations may have missed slight surface remains. The above-ground structures themselves have recently been divided into round and rectangular buildings with the latter probably late in the second half of the first millennium AD (Edwards, 1990, 26; Lynn, 1978; 1994). Edwards argued that there was usually only direct access to souterrains from inside rectilinear buildings (1990, 31). However, most of her own plans of souterrains indicate entry from circular structures such as Ballynavenooragh, County Kerry (op. cit., 45) and Leacanabuaille, County Cork (op. cit., 24). Other sites such as Cahercommaun, County Clare, and Drumena, County Down (Figure 24a11), have souterrains associated with curvilinear, cellular type drystone buildings and the souterrain at Dunbeg promontory fort, County Kerry, seems to be associated with the ramparts rather than the clochán, which is secondary. Of those rectilinear structures that do have direct access to souterrains it is worth stressing that the access to Chysauster fogou, Cornwall, from the associated courtyard-house was secondary. Only careful excavation of these details will produce such evidence. It is possible that earlier buildings underlie the rectilinear structures and that access to already existing souterrains was incorporated into secondary rectilinear structures. However, excavation with a mind to future presentation does not allow the dismantling necessary to explore these possibilities. Therefore, at sites such as Ballywee it cannot be conclusively shown that at least some of the souterrains belonged to the earlier wooden phase. A further complication is the possible function of the attached structure. Rectangular buildings in the annexe at Ballywee and outside the enclosure at Carraig Aille are considered non-domestic structures possibly of early first millennium AD date. The differences between souterrain type could be closely linked to the function of the original associated structure. Evidence presented here suggests that long, convoluted souterrains are associated with non-domestic structures, often peripheral to the main settlement.

The souterrain at Rathmullan could only be *assumed* to relate to the rectilinear Phase 3 house and the *terminus ante quem* date does not preclude its use with an earlier wooden structure. The dating of Coolcran does insist that souterrains were being constructed

(although unfortunately in this case a unique wooden example) towards the end of the first millennium AD, and many probably were associated with rectilinear structures (albeit possibly during secondary re-use). The evidence does not, however, rule out a much earlier beginning for souterrain construction and only full excavation of these sites will allow a clearer picture. Notwithstanding the problems of dating souterrain structures there is good evidence that at least some were being constructed and used in the north-east of Ireland in the late first millennium AD. However, there is no reason to believe all souterrains in Ireland date to this period and the variety of structural morphology should guard against generalisations across the class.

The function of souterrains in Ireland has been subject to much speculation but scholars generally accept that many were refuges as described in some Early Historic texts (Warner, 1980; Lynn, 1994, 93). This is unlikely for a large number of sites because they are constructed partially above ground in visible locations such as at Ballywee, Larne, Craig Hill and Raheennamadra. Like the souterrains from other areas of the Atlantic façade it is possible that associated above ground structures could actually advertise the presence of a souterrain. It is unlikely that all souterrains were used for the same function, and many may have changed throughout the life of the structure. The sheer variation in location and morphology of souterrains in Ireland supports the idea that there are different types within the overall class, much like promontory enclosures and crannógs. The souterrain structures discovered at Knowth are a good example (Figure 28f). It is difficult to believe that souterrains 1, 2, 6 and 7 incorporating passages ending in beehive chambers were used the same way as the long multiple passage souterrains 3, 5 and 10. Souterrains 5 and 10 may have been later than the others; the latter is associated with the largest rectilinear building and both re-use the Neolithic tomb passages (Eogan, 1977, 73). Other types might include the wood and stone versions of souterrains with constricted centres as at Coolcran (Williams, 1988), and Ballywee, County Armagh (Lynn, 1988c) respectively. A more developed example of constricted access midway along a relatively simple souterrain chamber was excavated at Raheennamadra where a small opening was located within a crosswall in a large well-built souterrain (Stenberger, 1966, 42). These are very different from the generally longer, often more complex, passages in Counties Louth and Down (Gowen, 1992, 108) that often incorporate architectural details such as 'traps' and 'drop-hole creeps' controlling access through the various chambers.

An example of this concept of access control can be seen in Souterrain A on Site 3 at Marshes Upper, Dundalk, County Louth. Here a Z-shaped structure incorporated two slots in the walls midway along the passage (op. cit., 61) presumably for a wooden barrier such as a door. This same site and Site 4 in the same area each incorporated two souterrains of different construction and location within circular ditched enclosures. A total of five souterrains, one located outside the Site 4 enclosure, are interpreted as contemporary. On both enclosure sites the larger, better-built souterrain was more central and had an expanded end to the main chamber paralleled at Larne, Craig Hill and many in Scotland (Chapters 3 to 5). These structures also had door jambs before their main final chambers and incorporated basal courses of large orthostats or vertical slabbing (op. cit., figure 4 and figure 10). The second souterrains on both enclosed sites at Marshes Upper were of poorer quality and smaller in width. Souterrain B, Site 3, had some complex architectural features such as a trap, a recess and a sill marking access to the final chamber, but had a less well-defined basal course of large stones. It ended beyond the enclosure ditch (op. cit., 66-70). Souterrain B, Site 4, was remarkably similar in construction incorporating a single curving passage with a recess near the entrance and sill-stones marking access to the final chamber (op. cit., 85-88). Souterrain C, Site 4, was L-shaped and similar to, but smaller than, Souterrain A of Site 4, but located outside to the north-west of the enclosure (op. cit., 91). Interestingly the entrances to the two main souterrains on each site were located within the enclosure *circa* 5m apart, perhaps indicating both could be accessed from a single eroded above-ground building. No surface structures were located but occupation material was discovered in ditches and souterrain fills (op. cit., 106). These latter, in common with other sites, were deliberately deposited and often contained charcoal, as did small patches of silt on the souterrain floors (op. cit., 65, 87, 91). Souterrain C was associated with metalworking debris including slag and a furnace bottom deposited with Souterrain Ware and an open-work bronze mount as deliberate blocking material in the entrance (op. cit., 91). Sherds from this deposit also joined with sherds from nearby Souterrain B suggesting the blocking material for both was taken from the same area or surface, probably deposited at the same time. The blocking of Souterrain B included a “high concentration of charcoal, a fragment of jet bracelet, Souterrain Ware, hammerstones, a bronze stick-pin and bone comb” (op. cit., 87). A radiocarbon date (UB-2573, 1102±50bp) suggests a calibrated range between calAD800 and calAD1020 for this material. A second radiocarbon date was recovered from material with a high charcoal content above the capstones of Souterrain A on Site 3 (UB-2572, 1262±55bp) suggesting a range between calAD660 and calAD880.

However, this material was the uppermost recovered from the backfill of the souterrain construction trench and was separated from the capstones by two further layers. This material may actually represent surface occupation, or even disturbed material, and neither dates the use and construction of the souterrains.

An interesting detail of these souterrains was the repeated use of plough-scored stones in their construction. These presumably came from nearby fields. However, a pit near Souterrain B, Site 4, is interpreted as a quarry for construction stone for the souterrains, even though the souterrains themselves were excavated into bedrock, producing construction stone (op. cit., 107). It is probable therefore, that these plough-marked stones were incorporated purposefully, and they are commonly used in the end chamber of large, central Souterrain A on Site 4. If this incorporation is analogous to the introduction of decorated stonework elsewhere (Chapter 10) it is probable that they encompass symbolic meanings as well as being simply useful building stone. The excavator suggests that the large chambers in the central souterrains were used for storage and the smaller, more constricted passages for defence (op. cit., 108-109). A link between fields and storage of their products is reinforced conceptually by the use of plough-marked stones. This may also hint that the stored goods are arable products from ploughed fields, although this is probably a simplistic interpretation. The outer Souterrain C, Site 4, was backfilled with iron-working debris, which was linked by refitting potsherds between it and the backfill of Souterrain B. The presence of high concentrations of charcoal in both fill materials and silts within the souterrains is not explained by their use in defence. Indeed it is difficult to see how underground tunnels would be used as defensive measures since presumably the entire site would be left open to attack and the entrances would have to be carefully concealed from the outside. The large numbers of these structures and the visibility of many at the surface suggests that it would be common knowledge that settlements had souterrains, and if attacked these would be searched out and destroyed.

At Cahercommaun, Ballywee, Knowth and Marshes Upper there is a possible association between metalworking and souterrains. The latter three sites also incorporate two different types of souterrain, a simple single or constricted chamber and a more complex elongate type. Different functions should be sought for these different structural types recognised through differences in architecture and layout that influence the way a site could be used. A convoluted, narrow souterrain incorporating complex architectural features such as drop

creeps and short connecting passages at different levels could not be used as an easily accessible store. Larger chambers in simpler souterrains often with doors could. The overwhelming evidence is that these were non-defensive, and would have been death-traps if used as refuges. The above ground visibility of many souterrains and the cramped and complex nature of others coupled with the problems of concealment of the entrance and the lack of any escape once entered strongly argues against their use as refuges. Indeed the presentation of some sites using stone-revetted banks suggests that souterrains may have been publicised, possibly by the associated structure, and may therefore have been symbols of some sort. Human remains have been recovered from several sites including Cahercommaun, Ballyvara and Larne, presumably ritually deposited at the end of their use. At the latter two these were identified as children. It is probable that the re-use of Neolithic passage graves in later souterrain constructions at Knowth is also associated with deep symbolic meaning beyond the convenient use of an existing passage.

Only a few souterrains have been securely dated to the late first millennium AD, as at Coolcran. Others have been dated using the material recovered from the final, almost always deliberate, fill of the passages. Often this is Souterrain Ware and it has already been argued that this pottery may be a poor chronological indicator. It is quite possible that souterrain construction and use in Ireland originated in the pre-Early Historic Iron Age.

Discussion

Enclosed sites dominate the archaeology of first millennia BC and AD Ireland. These appear to have begun in the early to mid-first millennium BC in west, and there is evidence that some large enclosed hilltop sites elsewhere may have begun around the same time. There is a large number of stone-built sites in western areas that may also have an Early Iron Age pedigree; however, most of the smaller sites probably originated in the mid- to late first millennium BC. The comparisons between these and ringforts in the central and eastern areas of Ireland suggest that at least some of the latter also began in this period. Several examples have been argued as potentially mid- to late first millennium BC in date. It is also in the last centuries of the first millennium BC that large internally-ditched enclosure sites are constructed, often on earlier settlement. The construction of linear earthworks stretching across much of the country also emphasises this preoccupation with the demarcation of the landscape and the wish to construct monumental features that are still visible today.

It is in this first millennium BC development of enclosed sites that many promontory locations are also demarcated by earthworks or, perhaps later, stone walls. These sites may have performed various functions within society, but most obvious archaeologically is the use of those in strategic positions as locations for industry and perhaps trade. Less accessible, and often more dramatically located sites may have been used for rituals, perhaps pertaining to the societies involvement with the sea, and particularly the vast Atlantic Ocean. The Western Seaways brought the Barbary Ape to *Emain Macha* in the mid-first millennium BC and these same routes, up and down the western façade of Britain and Ireland continued, and perhaps intensified in use towards the end of the millennium and the early centuries of the next when spearbutts are a shared cultural item. Earlier Lisnacrogger types might be replaced by Doorknob types in the 3rd or 4th century AD and the latter may have been manufactured in Scotland, particularly the west.

There are first millennium AD cellular buildings in the Irish record at sites like Cahercommaun and Carraig Aille, rarely recognised as such. There are also Late Bronze Age, sometimes vertical-slab-revetted, small circular buildings in Ireland such as at Ballycraigy, County Antrim (Brannon, 1988) and Dún Aonghasa, County Galway (Cotter, 1994b). This suggests that in Ireland these were the typical underlying small-scale settlement structures. This was punctuated at various times, especially in the mid- to late first millennium BC, and sometimes earlier, by larger more monumental structures. The re-use of these larger enclosed sites has often been the focus for cellular settlement, especially in the west. The early first millennium AD in the east is more difficult to categorise structurally but may have been represented by small free-standing timber or wattle roundhouses.

By the later first millennium AD cellular structures re-emerge as the dominant building form across Ireland and may represent much later continuations of a first millennium BC site layout as documented at several 'Royal' sites. In this way the Irish evidence again emphasises the continuity present in Iron Age culture from burial rites to settlement architecture and suggests a deep rooted knowledge of the past and perhaps a concept of 'Irishness'. However, this is tempered by the convincing parallels in architecture and settlement types between Ireland and other areas of western Britain and particularly western Scotland, in both the first millennium BC and first millennium AD. While few internally-ditched enclosures with Iron Age dates have been recovered in this latter area (except

perhaps the site recently excavated at the *circa* 22m internal diameter Pict's Knowe (Thomas, 1999) and the promontory enclosure at Scatness (Chapter 3)), all of the other structural types from large and simple stone enclosures to souterrains and crannógs are well represented.

By the late first millennium AD ringforts are the dominant site type across much of Ireland. Many can convincingly be dated to this period. Within these sites, and indeed the stone-built enclosures of the west, the buildings are often conjoined figure-of-eight structures immediately comparable to similar structures across Atlantic Scotland. This and the evidence of several shared artefact types such as plain grass-marked pottery and dumb-bell-shaped glass beads suggest there are close contacts between the two areas. These architectural parallels carry with them shared concepts of space and perhaps even social structure. The repeated finds of Neolithic stone axes and three-sided hearths on mid- to late first millennium AD sites supports this possibility of a shared understanding of a single world view and economy.

Chapter 7

Wales

The majority of the settlement evidence from first millennium BC Wales is represented by enclosed sites, both large and small. Some unenclosed sites do exist however, and may be underrepresented in the record owing to their relative lack of archaeological visibility. Many may have been destroyed by later agricultural activity in the inland areas and without enclosure ditches to mark them out on aerial photographs they would be difficult to spot. The majority of the evidence for such unenclosed sites originates from the coastal areas and uplands generally considered marginal today. Hillforts dominate the Marches, large enclosures often over 3 acres or 6 hectares, prominently located in the landscape and perhaps associated with pastoral activities in the area. The western lowlands, and most famously Dyfed on the Pembroke peninsula, are characterised by an emphasis on smaller enclosed sites under 3 acres or 1.2 hectares with relatively few larger sites. Over the last three decades more small enclosed sites have been located within the Marches through aerial photography, of which one, Collfryn, has been extensively excavated. The relationship between these different sites and the geographical areas they inhabit (Hogg, 1972) sheds light on a dynamic and regionalised cultural landscape in Wales. A very general pattern of development will be outlined here that emphasises similarities between these regions and those across the Atlantic Seaways. The more detailed aspects of several sites will be analysed to highlight the possible connections or otherwise across the seaways and perhaps develop new ways of looking at the excavated evidence.

Many of the excavations discussed here were carried out within a diffusionist paradigm of interpretation (cf. Alcock, 1960; Savory, 1971a and b). While much of this diffusionist explanation has since been abandoned (cf. Davies, 1995), the development of alternative explanations is still in progress. Radiocarbon dating has been used here to underpin much of the chronology of settlement development, although it must be remembered that this is of dubious quality when mixed charcoal and even mixed contexts were used to produce enough carbon. Often only single radiocarbon assay dates either whole phases or entire sites, a problem that has been discussed in Chapter 1. However, with these caveats in place it is

still feasible to discern a distinct patterning in the archaeological record that allows an insight into first millennia BC/AD society in Wales.

Large Enclosed Sites

A recurrent pattern which is immediately apparent is the early to mid first millennium BC use of wood in the construction of enclosed settlements. Often, though not always, these replaced open settlements of circular timber roundhouses, some of which date to the Late Bronze Age. It is worth analysing the evidence in this respect from Dinorben, since this site highlights the problems of dealing with old excavations (Figure 33g). Separate excavations were undertaken by Savory and Guilbert and produced what appear to be significantly different results from the same site. However, the detailed analysis of the radiocarbon material and the stratigraphic sequences in both suggests that the location of the various trenches and the type of material used for dating can account for these differences.

From this evidence it can be argued that Dinorben originally incorporated a Late Bronze Age/Early Iron Age palisade with internal occupation. This structure may have burnt down (producing the collapsed timber dated in Savory's excavation) and a stone revetted timber-laced rampart with external ditch was constructed. Material from the old ground surface would have been incorporated into the core of the rampart and thus only careful selection of appropriate samples will allow coherent dating; Savory's 'charcoal' may represent re-used material. Guilbert's more careful sampling suggests a 6th to 5th century calBC date for the rampart which was then also destroyed by fire. Carbonised material from features within the rampart suggest that some buildings, one with a hearth, were built and used contemporaneously although they may also overlap with the continued development of the rampart from the later 4th century calBC to 1st century calAD. One of the final construction phases of the rampart included the construction of a stone-faced stepped rampart. This is comparable to the composite ramparts at Gurnards Head, Cornwall, and Kercaradec and Le Yaudet in Brittany, also dated to the final centuries BC. This later phase also saw activity beyond the rampart, subsequently sealed by a simple dump rampart, Bank 2.

Although undated, the construction of Bank 2 is presumably contemporary with Ditch 2 and Ditch 3, both of which began accumulating deposits in the early centuries calAD. It seems that the internal rampart was still in use when these defences were added, as evidenced by

the 2nd to 4th century AD pottery in rubble deposits on its rear. The coin evidence from the interior occupation of the western part of the site, allied with a single radiocarbon date, substantiates intensive occupation of the site sometime in the 3rd to 4th century AD. That this occupation continued into the 5th to 6th centuries AD is demonstrated by the continued use of Ditch 3 and several artefacts from the interior. However, it is unknown what the nature of the defences were, although presumably still visible. It is interesting to note that the material in Ditch 3 included no diagnostic or possible status-laden artefacts and that these were restricted to the interior. It could be that this reflects the comparatively higher status of the internal area relative to the external area in a manner comparable to the hierarchical organisation of high-status settlement found on mid- to late first millennium AD sites elsewhere. Alternatively the deposition of refuse was carefully controlled and reflects different functional zones.

A very similar development was documented at Castell Odo where an unenclosed settlement of roundhouses was subsequently enclosed by a palisade, which was then destroyed by fire (Alcock, 1960, 84-89). A univallate enclosure bank was then erected with a single simple entrance. The bank seems to have been of dump type and presumably enclosed at least some of the internal circular buildings. Pottery recovered from the previous unenclosed phase included generally large, coarse wares, some of which had fingertip impressions on the rim and shoulder characteristic of Early Iron Age wares. A stone-built roundhouse was associated with the dump rampart (*op. cit.*, 91-93). This later phase has a distinct lack of pottery.

The enclosure bank was subsequently refurbished with stone revetting and a second inner stone built rampart was erected. Both enclosure walls incorporated large boulders in their lowest course (*op. cit.*, 94). The entrances were aligned to the north-east and incorporated a simple gate represented by two post-holes just under 2m apart. Some of the internal buildings, although unexcavated, were considered to be associated with this phase.

The final main phase of use of the site saw the banks deliberately demolished and a rubble road with no gate inserted while buildings were constructed over the reduced banks. These included two roughly circular structures with walls built with a mix of orthostats and drystone masonry against a rubble and earth core about 1-2m thick. Two saddle querns were incorporated into the construction of these buildings (*op. cit.*, 96).

Here too then a palisade enclosure develops into a multivallate stone-walled enclosure and finally into a more open settlement with extra-mural buildings. Unfortunately, the dating of the site is based on the possible Early Iron Age pottery from the primary phase only. The late phases are compared directly to south-eastern Scottish sites where 2nd century AD stone walled Romano-British buildings were believed to overlie earlier ramparts destroyed by the Romans (op. cit., 98). The destruction of the main phase at Castell Odo was related directly to the activities of the Roman army around the 1st century AD. However, a series of radiocarbon dates (UB-2145, 2290±50bp; UB-2147, 2390±110bp; UB-2186, 2235±95bp) and the sequence of similar sites indicates a development more closely comparable to Dinorben.

Further support for an early palisade enclosure with internal roundhouses succeeded by timber-laced stone-revetted ramparts can be found at Moel y Gaer (Figure 32d). The stripping of a length of rampart also allowed the definition of widely-spaced post-holes within its core that would otherwise be missed by narrow trenches (Guilbert, 1975). These suggest a triple row of vertical supports for the horizontal timber lacing and a method of construction possibly missed on other excavations (Cunliffe, 1991, 319). There was also a difference in the type of internal organisation demonstrated at Moel y Gaer between Phases 1 and 2. The earlier palisade settlement enclosed many generally south-east facing roundhouses incorporating porch features (Guilbert, 1976, figures 3, 4 and 7). The later 4th or early 3rd century BC Phase 2 enclosure included a timber-laced rampart and an external embanked palisade. The internal buildings were stake-walled and south-east facing structures to the north with rows of four-posters to the south. The entire layout is much more organised and represents different zones of activity (Guilbert, 1975). The Phase 3 buildings at Moel y Gaer are all rectangular, aligned north-west to south-east, defined by stone spreads and enclosed by a second timber-laced rampart post-dating 180BC (Davies, 1995, 676).

Coygan Camp was a poorly preserved site that produced a similar sequence of unenclosed settlement followed by a possible palisade, replaced by a stone and rubble rampart and ditch, with an outer dump rampart and ditch (Wainwright, 1967; Figure 33d). The entrance to the north of the site incorporated several post-holes and may have included small 'guard cells', a feature of several hillforts in the northern Marches. The association of an

'eyebrow- ornamented' everted-rim jar and unstratified La Tène bracelets and a lack of 'Glastonbury Ware' suggested a date around the 2nd century BC for the site. However, this is far from unequivocal evidence and the re-dating of South-Western B pottery to around the 4th century BC onwards (Chapter 8) indicates an earlier date, around the mid-first millennium BC, for the ramparts. The entrances to the site were also associated with disarticulated and generally poorly-stratified human bone, perhaps the remains of ritual depositions. Although little secure dating evidence is available it is perhaps legitimate to compare the sequence here with other Welsh enclosed sites where unenclosed settlement is subsequently enclosed by a palisade in the Late Bronze Age to Early Iron Age. A sequence of enclosures including more substantial banks and ditches may be constructed at any time between the 8th and 4th centuries BC. The simple clay outer bank may have been added earlier or later, but only on the precarious evidence of its different construction and relationship to the possible access path.

Two rectangular buildings are associated with the later use of the site owing to the nearby presence of coins dating to between AD270 and AD300 and sherds of 2nd century AD Samian (Wainwright, 1967, 44). There was probably a break in settlement between the two main periods and the ramparts would have been overgrown and at least partially ruined when a cobbled entrance is laid through them. It is argued that the presence of metalworking close to the second rectangular structure is also associated with the coinage, perhaps indicating counterfeiting. However, the handled type of crucibles is best paralleled at the earlier sites of Lwyn Bryn Dinas and Danebury and the only *in-situ* material from the rectangular structure were three saddle querns. These structures may not be related to the first millennium AD occupation and might in fact date to between the 4th century BC and 1st century BC as indicated by the crucibles at Lwyn Bryn Dinas (*infra*) and suggested by their Early to Middle Iron Age date at Danebury. This would suggest a longer period of occupation on the site than was accredited in the original excavation report. The Samian sherds represented at least thirty vessels and outnumbered the possible seven coarse ware vessels, supporting their interpretation as the product of wealthy domestic occupation. However, the late dating of the coins has been used to argue that Samian was retained as a curio into the 3rd century AD (*ibid.*). Alternatively, a 2nd century AD presence on the site is just as plausible, if not more so, considering the poor preservation of remains.

A very similar type of enclosure was investigated by slit trenches across the ramparts at Parc Cynog, Camarthenshire (de Quincey, 1970; Figure 33f). Here two stone-faced rubble-filled ramparts are fronted by ditches to the west of the enclosure but only the inner, more massive, rampart and ditch continue around the full circuit of the site. Geophysical prospection along the ditch line suggests the smaller outer rampart ceases towards the south. The entrance to the site was located on the west and was a simple stone-revetted opening through both banks, although excavation here was limited. Coygan Camp is located only *circa* 2 miles to the east and a similar type of enclosure is located directly across the valley only *circa* 500 yards away. A further inland promontory enclosure at Parc y Gaer is located lower in the valley and several other sites are close by. The area seems to be as populated as the small Llawhaden area of Dyfed explored in detail by Williams (1988; *infra*). Unfortunately, there is no dating evidence for this site, but it could, on morphological grounds and geographical proximity, be related to, and contemporary with, Coygan Camp (Wainwright, 1967). Parc Cynog is described as a promontory fort in the excavation report (de Quincey, 1970), although it is possible that the inner enclosure at least continued around the north-west as well but has since been ploughed out. Similar claims could be made for Coygan Camp, which suffered quarry damage and other erosion. If the ramparts at these sites did continue around the entire circuit then they would be comparable with sites like Castell Odo. Indeed Parc Cynog is slightly larger than the latter.

A well-dated sequence of construction and use has been recovered from very small-scale excavations on the rampart at Llwyn Bryn-dinas, a large mainly univallate hillfort in the north Marches (Musson et al., 1992; Figure 32c). A Phase 1 Late Bronze Age enclosure consisting of a stone-revetted dump rampart, rests on an old ground surface (CAR-803, 2750±70bp) and a made surface (CAR-802, 2710±60bp) which calibrate to between the 11th and 9th centuries calBC. A terrace was built sometime later against the back of this rampart and used for metalworking. A single workshop kitted out with bowl hearths, anvils, forges and a pounder carried out copper alloy casting, iron forging and possible bronze production. The floor was covered in charcoal (op. cit., 265). A distinctive form of crucible with a pinched handle was recovered along with the copper alloy and raw copper deposits with characteristic zinc content. This zinc suggests a source in North Powys (ibid.). The crucible type has also been found at Coygan Camp (Wainwright, 1967, 159) and in the Early to Middle Iron Age levels at Danebury (Cunliffe, 1991, 456-458). Charcoal from the working floor produced a radiocarbon date ranging between the 4th and 1st centuries calBC

(CAR-708, 2160±70bp). The rampart was then added to in Phase 2 (possibly only a local repair), the body of which produced a radiocarbon date (CAR-800, 2210±70bp) providing a *terminus post quem* for this phase and a *terminus ante quem* for the metalworking of 4th to 2nd century calBC. A further final addition to the rear of the rampart incorporated an occupation layer dated to between the mid-4th century calBC and very early 1st century calAD. This layer included fragments of salt briquetage (VCP) and is suggested as probably 2nd century calBC in date (op. cit., 265).

The main rampart at this site was therefore contemporary with sites such as Moel y Gaer, Dinorben and Castell Odo. It is certainly one of the larger enclosures in Wales, although it has a distinctly irregular shape because it follows the contours of the hill. This would have produced an imposing entrance to the east, almost like a very large inturned hornwork that could funnel visitors up a small gorge and into the site. Opposite the entrance in the interior is a pond and the western approaches may have been further enclosed by much smaller banks, or a possible embanked palisade as seen at Moel y Gaer (*supra*). The site is located on the eastern edge of the Marches overlooking a tributary of the Severn. Ten to twelve kilometres to the east are the sites of Collfryn, Llanymynach, Four Crosses and Old Oswestry. The Breiddin (Figure 37e) is only 15km to the south-east overlooking the Severn itself. These large sites are thus located within areas of reasonably dense occupation and must have played an important focal role in the local community. It has been argued that the lack of visible arable field systems in the north and east of Dyfed (and this could be expanded to include much of upland Wales) indicates control and exploitation of upland grazing (Davies, 1995; Williams, 1988). Certainly dense occupation within the ramparts at many large sites may have been unlikely and areas could instead have been set aside for stock. The area between the ramparts at both Dinorben and Castell Odo may have functioned as stock enclosures.

In Dyfed, south-west Wales, the area immediately inland of the coastal zone is dominated by small defended enclosures often less than 1.2ha or 3acres in area. They are more numerous here than elsewhere in Wales, although to what extent this may reflect archaeological visibility is still unknown. There are some larger sites such as the coastal promontory enclosure at Llansteffan Castle and the enclosures at Castell Henllys, Coygan Camp and Dale promontory. However, the size of promontory enclosures should be carefully considered in discussions of settlement scale and their possible social significance.

Williams has suggested that large coastal promontory 'forts' in the south-west reflect the ability to produce arable surplus in their lowland environment. In contrast, inland sites concentrate on pastoralism and were unable to produce surpluses and therefore develop large centres (Williams, 1988, 30-33). However, large promontory enclosures can be created by the placing of ramparts across very narrow isthmuses and would thus require markedly less effort to construct than fully enclosing even a small or medium sized inland site. With very little large-scale excavation the function of these sites relative to smaller enclosed and unenclosed settlements and larger hilltop enclosures is unknown. Several are multivallate, located on exposed promontories jutting into the western seas, and receive the full force of the strong westerly winds. Those sited on tall cliffs would be inherently dangerous to live on perennially and, although coastal erosion and limited excavation makes analysis difficult, some form of circuitous enclosure would be needed to provide relative safety around the edges. For these reasons, it is unlikely that large numbers of people continually inhabited promontory enclosures. They are more likely to have been occupied seasonally and act as a focus for functionally specific activities as argued in Ireland (Chapter 6), within an overall settlement system including smaller and larger inland sites. Possible activities range from trade, where access to landing sites is possible, coastal exploitation of marine resources and seabirds, to significant religious sites with specific rituals. Such activities need not be mutually exclusive.

The ability of a pastoral agricultural system to provide surplus is consistently undervalued, especially considering the importance of leather and meat as possible export items. The relative importance of surplus arable production in the instigation of large-scale community enterprises was developed in south-eastern Britain where environmental conditions support this form of agriculture. However, this model may be less relevant to the western reaches where pastoralism is almost certainly more significant. The marginalisation of pastoralism may also be the result of modern perceptions of hill farming as the poor partner to large-scale arable farming in today's economic climate.

Small Enclosed Sites

Detailed investigations at Llawhaden in south-west Dyfed, including full and partial excavation of seven different enclosures and comparisons with two others allowed the elucidation of settlement development in one discrete area (Williams, 1988, 33). This produced a key chronological sequence from the Late Bronze Age to Late Iron Age with

probable early unenclosed settlement on at least three of the sites, Holgan, Pilcornswell Camp and Woodside (op. cit., 33-40). The earliest enclosure was an irregular-oval univallate bank and ditch on a hilltop at Broadway. Only partially excavated, a roundhouse was discovered within the enclosure and the entrance was defined as a simple construction facing east-south-east. Although this site is interpreted as being relatively short lived (ibid.), the radiocarbon dates all derive from pre-rampart occupation and hit the first millennium BC radiocarbon plateaux so that even combining the dates produces a long possible calibration. These range from the 8th century calBC to the end of the 4th century calBC (CAR-498, 2450±65bp; CAR-465, 2420±60bp; CAR-401, 2410±65bp). However, it is probable that this site was enclosed by the middle of the first millennium calBC, comparable to univallate enclosed hilltops in the early to mid-first millennium BC, as illustrated at other sites in Wales already discussed. A possible curvilinear field bank enclosing the north-east side of the low hill may be contemporary.

Williams argued that two promontory enclosures, Pilcornswell Camp and Holgan Camp, are chronologically successive to Broadway. Both incorporate bivallate enclosures although Pilcornswell is enclosed on the north and east only and Holgan is bivallate to the west only. The inner rampart at Holgan surrounds the site and has a western entrance while Pilcornswell has hornworks around its northern entrance. Radiocarbon dates for Holgan come from an early and a late occupation horizon and in general range from the end of the 8th century calBC to the 1st century calBC. The presence of at least two very early dates from each layer (CAR-787, 2285±65bp; CAR-761, 2475±65bp) suggests that some old charcoal is present and could indicate earlier occupation on the site than that suggested by Williams. The dates from Pilcornswell Camp are from the basal fill of the inner ditch where a large concentration of charcoal and burnt stone is interpreted as the remains of a timber-reinforced rampart. Again, the calibrated dates range from the 9th century calBC to the 2nd century calBC. More details are needed for these samples since presumably some could derive from old wood or heartwood. Two of the dates (CAR-464, 2510±65bp; CAR-399, 2240±60bp) do not overlap at 2 σ and are thus significantly different.

There is therefore little to choose between the Broadway dating and these two sites, especially considering the Broadway dates relate to pre-rampart activity. It is therefore possible that all three sites were occupied contemporaneously somewhere from the mid- to late first millennium BC. Such a scenario would introduce interesting questions of

interaction between the three sites, since they are less than 200m apart. Alternatively, all could be sequential or represent some other combination of occupations. It is unfortunate that more detailed information is not available for the internal organisation and phasing of all three enclosures.

The later sites are all substantially smaller enclosures with multiple banks and ditches and incorporate linear antennae like bank features (Figure 34c and d). Bodringalt is located to the north on the south facing slope of a small stream valley. Secondary phase radiocarbon dates here range from the 4th century calBC to the early 1st century calAD (CAR-467, 2120 ±60bp; CAR-466, 2095±60bp). A western entrance incorporates a bank or antennae, likened to half a banjo enclosure (Williams, 1988, 39), running along the uphill side of the entrance. Dan-y-Coed is similarly located on the south-facing slope of a small stream valley side but has banks flanking both sides of its south-west entrance for a short distance. The lower bank then continues downhill to curve around the south of the site. A series of radiocarbon dates from pre-rampart material (CAR-734, 1900±65bp; CAR-705, 2080±65bp; CAR-706, 2070±65bp) range from the 4th century calBC to the 3rd century calAD. The latest dates come from the stratigraphically earliest layer (op. cit., 49). This wide range can be narrowed somewhat by the dating of several internal features such as a Phase 2 hearth associated with a roundhouse post-dating the decay of the enclosure (CAR-676, 2050±60bp). This date ranges from the 4th century calBC to the late 1st century calAD but at 1σ between the 2nd century calBC to early 1st century calAD. A further hearth, post-dating a sub-rectangular building, produced a date ranging between the 1st century calBC and the 3rd century calAD (CAR-674, 1920±60bp), and is roughly comparable to CAR-665 (1845±65bp) associated with a late rectangular structure. The *terminus ante quem* for the sub-rectangular structure could suggest parallels with the rectangular structures at Coygan Camp, at least one of which may date to the later first millennium BC (*supra*). Finally, two dates ranging from the 2nd century calAD to the 6th century calAD indicate later occupation of a farmstead with rectangular building and a sunken yard (op. cit., 40). The main Iron Age occupation at this site is difficult to pin down but presumably belongs somewhere in the late centuries of the first millennium calBC and the 1st century calAD.

Woodside, the central site of the three, is located on the end of a spur jutting between the two stream valleys (Figure 34c). It is the only site with substantial antennae emanating from both sides of its western entrance passage and incorporates multivallation along the

same. Four large post-holes mark the entrance to the enclosure proper, whereas only one was present at Dan-y-Coed. This probably represents a tower or at least a substantial entrance structure at Woodside compared to a simple gate at the latter. Radiocarbon dates pre- and post-dating the outworks (CAR-735, 2000±65bp; CAR-733, 1955±65bp) range respectively from the early 2nd century calBC to the 2nd century calAD, and the end of the 2nd century calBC to the early 3rd century calAD. A date considered contemporary with the main rampart construction (CAR-760, 2200±60bp) ranges between the 4th century calBC and the late 2nd century calBC and is considered anomalous by Williams (1988, 50). The only other dates for the enclosure come from a pit believed to be early in the internal sequence (CAR-678, 1900±60bp) and two samples from late re-occupation of the interior (CAR-462, 1980±60bp; CAR-457, 1875±60bp). These suggest a range between the 1st century calBC and 4th century calAD, however, one of the late occupation dates (CAR-462) does extend back to the 2nd century calBC. All this suggests that the site was enclosed from the 2nd century calBC at the latest and occupation may have continued into the 4th century calAD. A final date in the 9th to 12th centuries calAD comes from a very late pit.

It is possible, taking into account the problems of single radiocarbon dates representing entire phases of occupation, that all three sites were at least partially contemporary. The most likely period of contemporary occupation is the late centuries of the first millennium calBC. At least two, Dan-y-Coed and Woodside, continued into the first millennium calAD, and Woodside was re-used at the end of the first millennium calAD. The morphology and location of the sites relative to one another supports their contemporaneity and they may have functioned as parts of a single economic or social strategy. All three face west, looking to the higher plateaux rather than the lower valley of the Afor Cleddau to the east. This could suggest a mainly stock based economy on the higher pastures and supported by the enclosure banks, funnel entrances and proximity to streams.

A further, possibly contemporary, site at Drim Camp is located further west (Figure 34b). This site is smaller than the others, but has a cobbled north-west entrance marked by four large post-holes like Woodside and a univallate bank and ditch enclosure like Dan-y-Coed and Bodringalt. There may have been a palisade running along the eastern side of the entrance acting like the banked antennae of the previous sites. Radiocarbon dates from the later phases of the primary occupation indicate a closely defined 1st century calAD to early 3rd century calAD occupation (CAR-560, CAR-557, CAR-474) and produce a *terminus*

ante quem for the primary enclosure. Outside the enclosure a gully produced a date (CAR-559) ranging from the 8th century calBC to the 4th century calBC, presumably relating to earlier occupation of the site. This may be associated with plough marks discovered under the eastern ramparts (Williams, 1988, 39) suggesting at least some early arable activity in this area. This activity is plausibly contemporary with the earlier dates from the three larger sites at Broadway, Pilcornswell and Holgan.

The overall sequence from this study has not radically altered the sequence proposed by Williams but has highlighted the possibilities of contemporaneity and the problems of radiocarbon dating. Several broad conclusions can be drawn from the Llawhaden group including the early dating of large univallate hilltop enclosures as at Broadway. The roughly contemporary, if not slightly later, occupation of promontory locations is succeeded by the development of several smaller sites in the late centuries of the first millennium calBC and early first millennium calAD. These sites seem to be designed with pastoral agriculture as a primary focus; the possible early dating of plough marks at Drim may just hint at a contrast with previous economies. Later first millennium AD occupation of these smaller sites is particularly ephemeral but is recorded in some instances; a similar pattern is visible elsewhere.

Multivallate Woodbarn Rath incorporated an inner sub-rectangular bank and ditch with an eastern entrance, a second outer bank or counterscarp and an outer bank and ditch (Vyner, 1983). The site was partially excavated and indicated a complex structural sequence for the visible enclosures and several ditches underlying the inner earthworks presumably indicating earlier enclosures. The original interpretation of the sequence suggested a bank and ditch enclosure subsequently reinforced with a palisade and the addition of stonework to the rear (op. cit., 121-133), sometime between the 4th century calBC and 1st century calAD. Occupation within the enclosure was interpreted as industrial activity and dated to the same period. Also within the site, but beneath the rampart material, was a large roundhouse, with a central hearth and an eastern entrance. A four-poster structure was located to the south-east suggesting storage and very faint ard-marks were recovered from within the roundhouse and may be associated with ditched field boundaries. Alternative interpretations of the sequence of rampart structures can be suggested including the construction of a timber-faced stone-revetted bank with external ditch as an original

monument, or the erection of a palisade subsequently added to, forming a bank that eventually collapses.

This general progression from timber to stone construction is typified by two sites in North Wales at Moel-y-Gerddi and Erw-wen (Kelly, 1988). Both of these sites included a palisade enclosure surrounding a single roundhouse, although the later outer wall at Erw-wen was not investigated. At Moel-y-Gerddi the roundhouse had two entrances facing east and west but was otherwise very similar to that at Woodbarn. Outside and north of the east entrance was a pile of burnt stones, presumably pot-boilers. Inside the palisade enclosure, a very thin stratigraphy meant that no phasing was possible but some post-holes were recovered. A probable four-poster may have been situated to the north.

The palisade also had two east and west openings although both were subsequently blocked when the enclosure was rebuilt in stone. During this later phase the entrance was aligned to the south-east and may be associated with a rough wall traced beyond the site – presumably a boundary. A considerable quantity of burnt stones was recovered from the north-east portion of the wall and enclosure interior. During this same phase the wooden roundhouse was replaced by a stone-built roundhouse on the exact same site and orientation, although the western entrance was blocked. The burnt stone pile to the north of the entrance was retained and augmented, the roundhouse wall consisted of a core of earth and stones faced with large cobbles, vertical slabs and small boulders. Some internal stone vertical slabbing had collapsed into the interior (*op. cit.*, 113). A solitary spindle-whorl was recovered from the floor of the roundhouse.

Erw-wen was of similar size and shape to Moel-y-Gerddi and was also partially ploughed and robbed during the medieval period. The timber roundhouse also had two east and west oriented entrances (*op. cit.*, 122). The stone enclosure wall was only examined by a single narrow trench with no sign of any earlier palisade (*op. cit.*, 123). However, at this location, the wall itself was only a thin layer of rubble 0.25m thick and the overall deposits were only 0.4m deep. It is possible that any ephemeral palisade remains were destroyed by ploughing or missed by the slot trench. To the west the wall was better preserved but not investigated. A curved gully within the timber roundhouse and stopping at the edge of the later stone phase wall is interpreted as a possible earlier timber structure (*ibid.*) but could alternatively be a drain feature for either phase. The later stone roundhouse again blocked the east

entrance but retained the western alignment and was built only slightly off the original wooden layout. Cobbles and slabs faced a roundhouse wall with a very worn and dished interior. The earlier timber wall-slot was retained to the east, and is interpreted as a timber revetment (op. cit., 125). Alternatively, this trench may have demarcated a bed or bench feature. Two saddle querns and some other stone tools were recovered from the rubble of this building. Much later, a rectangular medieval building was constructed in the enclosure and the remains of the stone roundhouse were re-used. A field system is traceable around the site including lynchets, but these are of unknown date.

Radiocarbon dates for these sites place them into the first millennium calBC with earlier activity in the Neolithic at Moel-y-Gerddi (CAR-525, 4760±70bp; CAR-397, 4590±80bp). Charcoal from a pit surrounding the central hearth at Moel-y-Gerddi (CAR-398, 2350±70bp) ranges between the 8th to 3rd century calBC and compares reasonably with an 8th to 2nd century calBC date (CAR-529, 2290±70bp). An archaeomagnetic date on the hearthstone (MGS004) lay outwith the calibrated scale but was definitely pre-Roman (op. cit., 137). Various charcoal remains from the fill of the eastern entrance post-holes during the palisade phase produced an even wider range from the 8th century calBC to the 1st century calBC (CAR-526, 2250±110bp). A small fragment of a Roman square glass bottle was recovered from topsoil above the top of the stone roundhouse wall. At Erw-wen, charcoal from colluvium lying against the inner face of the enclosure wall (CAR-530, 2410±60bp) and fill of the timber roundhouse wall slot (CAR-532, 2470±70bp), are closely comparable and date between the 8th century calBC and 4th century calBC. A further date from charcoal in a hearth pit probably associated with the stone roundhouse (CAR-531, 2660±60bp) was even earlier, ranging between the late 10th century calBC and mid-8th century calBC and may result from remnant material.

The early dating of the wooden phases at these sites compares well with other wooden palisades and timber-laced banks at Dinorben, Castell Odo and Moel y Gaer. A re-assessment in the light of the excavations at Erw-wen and Moel-y-Gerddi has determined that several other stone-built hut-circle settlements, the so-called 'enclosed homesteads' (Smith, 1978), may also have timber precursors. Sites such as Cefn Graenog, Caerau, Ca'er-mynydd, Dinas and Lwy-du Bach have possible earlier timber roundhouses sometimes associated with palisade enclosures represented by the remains of wall-slots

(Kelly, 1988, 145-147). This would reinforce the first millennium BC origin of these structures suggested by an earlier survey (Smith, 1978, 42).

The more recent excavation of a similar site at Bryn Eryr on Anglesey has further strengthened this dating (Figure 35c). This site also produced evidence for a primary phase of single timber roundhouse with concentric palisade enclosure preceding a later partially stone-built phase (Longley, 1998). In between, phase 2 heralded the construction of a new rectangular bank and ditch enclosure of substantial proportions aligned on the same eastern orientation. Within this enclosure a second roundhouse was constructed to produce a paired building constructed of clay with a stockade defined area including post-holes and pits nearby. A sunken yard is located in front of the buildings and probable five and six post 'granaries' are present (op. cit., 265). The final third phase includes the construction of a much smaller third roundhouse and the abandonment of the primary roundhouse. The bank and ditch fell into disrepair and the focus of settlement shifts to the south-east. This phase is associated with a high proportion of Roman fine wares and a significant decrease in building size (ibid.). Radiocarbon dating of phase 2 indicates construction and occupation in the 4th and 3rd centuries calBC, providing a good *terminus ante quem* for the phase 1 timber constructions. The phase 3 material indicates a 1st and 2nd century AD date. This sequence, settlement pattern and structure is comparable to both Whitton (*infra*) and Carronbridge (Chapter 5). The re-examination of old discoveries of the 'enclosed nucleated homestead group' has shown at least some to have origins in later prehistory (Longley, 1998, 260; Figure 35d). The previous early Romano-British weighting sometimes afforded these sites was prejudiced by the concentration of later diagnostic artefacts. The excavations at Erw-wen and Moel-y-Gerddi and the re-analysis of other excavated sites (*supra*) have added to this evidence.

Mynydd Bychan, Glamorgan (Savory, 1954), was only partially excavated, but at least three phases were noted ranging from an Iron Age 'B' horizon to a later medieval occupation. The earliest phase 1 evidence was dated by the presence of Early Iron Age 'B' pottery in the main fill of the ditch and a few post-holes in the interior (Figure 33a). It is assumed the stone-revetted rampart was contemporary with the ditch. A second phase included the deposition of Samian sherds over the rampart near the entrance, Iron Age 'C' pottery in the top of the ditch fill and stone structures overlying possible wooden ones in the interior (Figure 33b). The roundhouses included the use of vertical-slabbing in their lowest courses

and could be earlier than rectilinear stone-built enclosures without orthostats. The differences in architecture and layout would substantiate this view. This phase may also have included burials at the entrance to the enclosure overlying the silted-up ditch and producing two badly corroded iron brooches of the 1st century AD. This latter feature is interesting in the light of other human remains found around entrance areas in both Wales (e.g. Coygan Camp) and Southern England (e.g. Danebury or Maiden Castle).

From this evidence it is possible to postulate that the sequence could be somewhat longer than the mid-1st century BC to beginning of the 2nd century AD timespan originally suggested. The wooden buildings could relate to earlier activity and the stone roundhouses comparable to the sequence at Bryn Eryr, Erw-wen and Moel-y-Gerddi in the late first millennium BC. The Samian probably relates to the later use of the stone buildings and the decisively rectilinear constructions over this earlier material. Significantly, the lack of excavation of the defences could mask any phasing or earlier enclosure constructions. For example, the eastern portion of the enclosure is demarcated from the west and may represent a rectilinear enclosure comparable to Whitton and Bryn Eryr. The concentration of both wooden and stone roundhouses in this area would support such an interpretation as would the survey evidence at the north-west corner of this enclosure where the rectilinear bank overlies the irregular one. An earlier sequence may be represented by a more irregular stone-revetted enclosure, perhaps with projecting entrance 'horns' or partial 'antennae' running along the western entrance-way. A further, possibly even earlier, piece of evidence might include the small fragment of a palisade trench recovered in trench IV. Thus this site is probably a very complex palimpsest that was misunderstood by the early excavators but can be reinterpreted in the light of analogous sequences now visible elsewhere in Wales.

Castell Henllys is a relatively large multivallate site in the south-west but may be comparable to many enclosed sites in Wales. Large-scale excavations have revealed a 5th to 1st century BC sequence of occupation that included a well-preserved *chevaux de frise* under the outermost bank (Mytum, 1999). During this period of occupation the site was populated by many roundhouses, generally preserved as arcs of wall-slots, sometimes with internal post rings. The plan of the site suggests these were ranged around the periphery, with only one poorly preserved arc in the centre. This may be a result of erosion, although similar distributions are found elsewhere. A few four-posters were also restricted to the periphery of the site and metalworking, including iron and bronze working, was located at

the rear of the internal enclosure. A very similar pattern of settlement is visible at Collfryn in north Wales (*infra*; Britnell, 1989). The northern entrance to Castell Henllys is complex and built in stone incorporating several phases of construction with 'guard-cells' and large timber posts for gates and a possible tower or walkway. Just inside the entrance was the greatest concentration of roundhouses, often constructed using substantial wall-trenches. Without full publication it is impossible to guess how many roundhouses were in use at any one time on this site but it is tempting to compare these features with the Walesland Rath (Figure 34a) and Collfryn evidence (*infra*). The scale and effort in this entranceway and the presence of a *chevaux de frise* (unique in Wales to date) suggests this was a relatively high-status site compared to other enclosed sites in the south west. This is supported by the presence of only cleaned grain within the site, indicating it was probably processed off-site (Mytum, 1999, 172), this also contrasts with Collfryn where threshing and de-husking was carried out on-site (Britnell, 1989, 113).

During the 1st century BC to 4th century AD, a Romano-British farmstead was constructed and occupied between the earlier outer ramparts comparable to that at Bryn Eryr. A small timber roundhouse has been uncovered in the northern half of the enclosure associated with a four-poster. During the 2nd century AD a major drystone wall demarcated one area of the site and may have been associated with a rectangular building. Later, in the 3rd century AD, a slightly oval timber house was associated with craft activities. The hollow gradually filled with rubbish including burnt bone, iron nails and tools, a few copper alloy objects including two brooches, and some glass beads and vessel fragments. Pottery included Samian, amphora sherds, black-burnished jars and dishes from Poole, Dorset, and a range of Malvernian and Severn valley wares. Some slag suggests metalworking and a large number of quern fragments including beehive types and flat disc shapes. A single unique seven-pronged object, perhaps used during cooking, was interpreted as indicating sophistication and status (Mytum, 1999).

Finally, a ditch was dug either late in the Roman period or in the post-Roman period that may be related to the refortification of the original Iron Age enclosure. It has been suggested that this may be related to the supposed political accession of the Irish in south-west Wales (Mytum, 1999, 172). Irish settlement has also been suggested for north-west Wales, and in particular on relatively small stone built enclosed settlements in the uplands of north west Gwynedd and Conwy. The analysis of the 'enclosed hut-group/homestead'

class of site in the north-west was originally based on survey evidence alone (Gresham, 1954; Smith, 1978). This work proposed two main classes of site with various sub-classes (Smith, 1978, 42-48) based on the amount of roofed accommodation and the projected occupancy of each site. The chronology for the 285 sites then known was based on whether the site had a stone-walled enclosure or whether it was associated with terraced or lynchet field-systems. The former distinction was an indication of a second and early first millennium BC date and the latter a late first millennium BC date onwards. This dating originated in early excavation and field observations where stone-walled enclosures often underlay later terraced field-systems.

More recent excavation of stone-walled enclosures and field-systems has reinforced this broad sequential distinction while re-assessing the chronological parameters. At Ty Mawr a group of eight homesteads was excavated and it was discovered that only one or two were occupied at any time (Smith, 1988, 29). The most intensively excavated group (Figure 37f) was a classic stone-walled enclosure incorporating two roundhouses with eastern entrances and an enclosed yard in front. The buildings had gone through several occupation phases split into two broad periods, the second of which included the construction of the main enclosure wall and a five-post structure in the yard area (Smith, 1988, 23). Two radiocarbon dates for this sequence of buildings unfortunately come from marine shells (HAR-5403, 2560±80bp; HAR-5404, 2440±70bp) and although indicating an early to mid-first millennium calBC *terminus ante quem* for the construction of the larger roundhouse on the site, have an unknown marine calibration effect. This could make the dates as much as *circa* 400 carbon years too old. Unfortunately, the only other radiocarbon dates and artefactual evidence (coins), presents a late first millennium calAD phase of activity on the site (HAR-5730, 1430±80bp; HAR-5731, 1410±80bp; HAR-6684, 1700±80bp; HAR-6803, 1370±130bp). They derive from a rectilinear building (T4) to the east of the enclosure. A single date from the smaller roundhouse (T1) of the enclosed homestead came from carbonised plant remains on its floor and also indicated a 5th to 9th century calAD date (HAR-7081, 1420±110bp). The excavator suggested this was evidence for a possible 6th century AD period of secondary activity on the site including the use of the rectilinear building T4, several outlying buildings such as T3, a rough stone built roundhouse, and cultivation (op. cit., 34).

It is possible, therefore that this site supports the late first millennium calBC construction of stone enclosure homesteads such as at Erw-wen and Moel-y-Gerddi. It may then have been abandoned until the later first millennium calAD. Alternatively, occupation on the site moved spatially but was continuous and the evidence for non-contemporary use of eight disparate homesteads in the main area would support this. In the absence of typologically diagnostic artefacts more secure radiocarbon dates would be necessary to investigate these possibilities.

Phase 1 at Collfryn hillslope enclosure incorporated multivallate and widely-spaced enclosures dating to between the 4th century calBC and 2nd century calBC (Britnell, 1989). Within the enclosure were at least seven roundhouses and several peripheral four-posters (Figure 34e). This phase of use is comparable to the proliferation towards the end of the first millennium BC of smaller-bank and-ditch enclosed settlements in all areas of Wales. Examples include Walesland Rath, Dan y Coed, Drim Camp, Bodringalt and Bryn Eryr. The house dimensions are very similar, if slightly larger, a fact that might be accounted for by the assumed relatively high-status nature of the occupants (op. cit., 89) based on the multivallation of the site. The houses inside are defined by ring-ditches and all except three south-east facing structures had west-facing entrances. These ring-ditches are considered to represent the outer walls of the wooden roundhouses (op. cit., 113), and it is very likely that similar trenches at other sites are also foundation trenches and not drip trenches as previously believed. If this is accepted, then some of the puzzling layouts of these foundations could be explained by the activities of burrowing animals, probably rodents. At Butser Ancient Farm, Peter Reynolds discovered that the base of the outer wall of roundhouses had often been burrowed, sometimes below the depth of the original stake walling, and that a drip trench was unlikely to form in the temperate British climate (1995, 197). There is a very conservative range of roundhouse diameters built in the mid- to late first millennium BC (Table 3), and when there is more than a single main structure there are often seven (Table 3). In fact, all of the sites listed here with more than one main roundhouse have seven roundhouses. In addition, the general layout of these sites is similar with most structures located against the inner bank surrounding a single central roundhouse, often the largest of the group. This might suggest a distinct series of social classes or comparable occupant numbers, perhaps based on kin group structure. That these do not seem to be associated with possible functional differences is indicated by the hill-slope location and multiple enclosure of Collfryn compared to the locations and layout of the

Llawhaden group in Dyfed. It is however, likely that the multiple enclosures at Collfryn are also related to pastoral activities (Britnell, 1989, 89 and 114); indeed the excavator compares them to ‘banjo’ enclosures much like the Llawhaden group (op. cit., 116).

<i>Site</i>	<i>Approximate Number of Roundhouses</i>	<i>Approximate Diameter</i>
Woodside	7	9-10m
Dan y Coed	7	9-10m
Walesland Rath	7/8	10m
Collfryn	7	10-12m
Castell Henllys	7?	10-11m
Castell Henllys	1	6m
Moel y Gerddi	1	9.4m
Erw-wen	1	9.4m
Caerau	1	9-10m
Cae'r-mynydd	1	9-10m
Llwyn-Bedw	1	9-10m
Llwyn-du Bach	1	9-10m
Bryn Eryr	2	8.52m
Bryn Eryr	1	7m
Woodbarn	>1?	9m

Table 3: Numbers of Roundhouses and Roundhouse Diameters at sites in Wales

Approximately half or less of the structures in each enclosure have entrances facing a different direction to the norm and not all have hearths. This could be interpreted as evidence for different functions and suggests that these multiple building layouts included a set pattern of building-groups, perhaps including a single main roundhouse, a subsidiary roundhouse and at least one four-poster. A similar argument was made for the Glastonbury Lake Villages (Clarke, 1972) and a planned hillfort interior with zoning of activities has also been suggested at Moel y Gaer (Guilbert, 1975), albeit earlier in the first millennium BC.

During Phase 2 of the primary settlement at Collfryn the inner ditch was re-cut and a new ditch was cut just outside producing a reduction in the total area enclosed (Britnell, 1989, 110). This period of activity is dated very soon after Phase 1 but the focus moves to the interior of the site with a closer spacing of the bivallate enclosures. Metalworking remains

were located to the rear of the settlement and various functions may have been restricted to certain zones in the interior. VCP ware is the only pottery recovered from both Phases 1 and 2 although this is accompanied by a glass bead, several saddle and rotary querns and a metal linchpin and harness in the later phase.

During Phase 3, a radiocarbon date between the 1st to 4th centuries calAD recovered from new smaller and narrower enclosure ditches is contemporary with 1st to 4th centuries AD Romano-British pottery recovered from the interior and upper fills of these ditches. The interior has few recognisable structures among a poorly-dated scatter of post-holes, although four-posters may continue in use in the south-west corner. At least one possible rectangular structure is argued from the post-holes, but the majority of evidence comes from artefacts including bronze brooches, glass beads, a glass counter, spindle-whorls of stone and lead and some rotary quern fragments. Some coarse ware pottery may have been a valuable resource because several sherds had evidence of repairs.

This later phase is comparable with other sites of the early first millennium AD, producing the majority of the artefactual material but little structural evidence. The excavations at Bryn Eryr highlighted the possibility of clay-walled buildings during this period (and thus other organic materials such as turf); such structures would not survive on a cropmark site like Collfryn. The quantity and quality of material from Collfryn supports the case for a continuous and permanent settlement on the site rather than the suggested purely functional/storage uses. The sequence, chronology and structures at Collfryn are directly comparable to those in other areas of Wales and indicates that the Marches have a similar development of settlement to the north-east and south-west, and that these general trends are found across the Welsh landscape. The conservatism of site layout and roundhouse diameter across Wales during this period also suggests that although regional differences may have existed there was an underlying social and economic commonality.

Unenclosed Settlement

Excavations at the very different blown sand coastal site at Stackpole Warren have produced evidence for an early field-system originating between 800calBC and 200calBC (Benson et al., 1990). Later reorganisation of this into rectangular fields between 350calBC and calAD120 was accompanied by evidence for both pastoral and arable activity on either side of a single boundary wall. Central to this field-system were two main sites A and B that

produced evidence for various activities that may be at least partially contemporary. Around the Devil's Quoit standing stone, a Late Bronze Age horizon of ritual activity was recovered. At Site A this was replaced by a sequence of Iron Age activity introduced by the deposition of a crouched inhumation dated to between 370calBC and calAD10. There were then three child burials, including one partially decomposed at the time of deposition, followed by a series of possible rectangular buildings.

The decomposing child burial, under probable structural remains, is reminiscent of the deposition of a mutilated decomposing child's body under a pierced structure at Hornish Point coastal site, in the Western Isles of Scotland (Barber et al., 1989). A brief review of the Welsh evidence reveals another Early Iron Age child burial within a timber fence enclosure at Prestatyn (Blockley, 1989, 13). Other burials at the entrances to Coygan Camp (Wainwright, 1967, 45) and Mynydd Bychan (Savory, 1954), were dated only roughly to the Romano-British period. Five inhumations are recorded from a barrow and associated ditch at Four Crosses (Warrilow et al., 1986), of which three were oriented roughly east-west. Another was surrounded by carbonised material that was combined with skull fragments to produce an unusual sample dated between 360calBC and calAD110, with a greater probability of being between 250calBC and calAD110 (CAR-765, 2050±70bp). A charred plank overlying a cremation burial at Tanderwen (CAR-1190, 2230±80bp) suggested an Iron Age date and carbonised wood from another coffin associated with a cremation in the centre of a large ring-ditch produced a comparable date (CAR-1207, 2340±130bp) albeit with a large error. This site, like Stackpole Warren, was focused on a much earlier standing stone and associated features. At the same site an inhumation burial within a rectangular timber enclosure was dated to the Late Iron Age (CAR-1045, 1580±60bp). These cremation burials, often associated with timber coffins or boxes and focused on ring-ditch enclosures or barrows, are paralleled in Ireland where similar evidence for Iron Age burial practices has been recovered (Chapter 6). Here too, Iron Age funerary sites are often located on earlier ritual monuments or locations. The rite of cremation remains a common Iron Age burial rite even into the late Iron Age. Excavations at An Dunan in Lewis, Scotland, have revealed a ritual site associated with human cremation dated to between *circa* 400calBC and 200calBC (Chapter 4) and an Early Neolithic cairn in Argyll was used in the 6th century AD for a cremation burial (Chapter 5). This late dating suggests Christian-style inhumation burial is not immediately adopted but must go through a surprisingly extended period of contemporary usage with cremation and burial on pagan sites.

Site A at Stackpole Warren, saw the construction of a circular building represented by a post ring with central post-hole replaced by a rectangular building. This latter was probably a cooking area with hearths and numerous pot-boilers. Another rectangular structure with a sunken floor had a *terminus post quem* between the 4th century calBC and 1st century calAD and produced 2nd and 3rd century AD pottery. Burnt mounds surround these Iron Age sequences and their nature and location over earlier ritual deposits, focused on the still visible Devil's Quoit, suggests that this material is probably at least partially ritual in nature. At Site B, a roundhouse defined by post-holes was dated to between 410calBC and 160calBC and was replaced by a burnt mound with a cooking pit and hearth.

The excavator argued that Stackpole Warren represents an unenclosed settlement that may have been typical of the area and permanent (op. cit., 241). Substantial timber buildings were replaced with stone structures and the field-systems continued in use within an unsuitable environment, suggesting this was not considered a marginal area (ibid.). Site A is not a lower class settlement since the later Romano-British structures are comparable to those on the defended sites in Dyfed, although they may have had a ritual role (ibid.). However, although at least some of the settlement may be permanent, the sheer number of burnt mounds on the site and the nature of the features, including several burials, is not typical of Welsh settlement elsewhere, either enclosed or unenclosed.

At Four Crosses, in addition to the burials already discussed, a probable metalworking hearth was excavated into the west side of a ring-ditch feature and dated to the 4th to 1st century calBC (CAR-766, 2130±60bp). Unfortunately, the sample was mixed oak, ash and gorse charcoal (Warrilow et al., 1986, 85). Fragments of slag and a triangular crucible were discovered nearby (op. cit., 60). Later activity on or near the site was represented by 2nd to 4th century AD Roman pottery in the upper fills of ring-ditches (op. cit., 85). Even later activity is suggested by the deposition of an iron javelin and a spear in another ring ditch, laid parallel with their points to the east and associated with two small unidentifiable iron fragments (op. cit., 61).

Later Iron Age Developments

At Prestatyn and Whitton the development of definite pre-Roman Iron Age sites into Romanized sites with rectangular buildings of the 1st and 2nd centuries AD is well

documented (Blockley, 1989; Jarrett and Wrathmell, 1981). At the former site the curvilinear timber structures of the 2nd and 1st centuries BC were replaced, probably around the late-1st century AD to mid-2nd century AD by distinct rectilinear stone built structures (Blockley, 1989, 12). These then develop until they are replaced in the 3rd century AD by field enclosures. Finally, a late-3rd to 4th century AD single rectangular structure is built (*ibid.*).

At Whitton, the original sequence, as interpreted by the excavators, begins with three stake-walled timber roundhouses constructed within a rectangular bank and ditch enclosure with a simple eastern entrance. This phase is dated to the early 1st century AD (Jarrett and Wrathmell, 1981, 83) and then progresses through a series of developments until a complex Romano-British villa-type settlement dominates the site in the mid-4th century AD. The tight and precise dating of the site is most unlikely and is based on assumptions of building stability and permanence. A re-appraisal of the sequence in the light of modern excavation at Bryn Eryr (*supra*) has suggested a more likely sequence (Longley, 1998, 268-269) that recognises a significant Iron Age phase prior to the Roman material (*op. cit.*, 270) and brings it into line with the general settlement sequence recognised elsewhere in Wales (Figure 35b). The sites at Carronbridge and Rispaun Camp in Dumfries and Galloway can be closely paralleled by this new sequence for Whitton. At Carronbridge a sequence of settlement includes a series of ring-groove roundhouses within a rectangular enclosure dating to between *circa* 200BC and AD415 (Johnston, 1994, 279-280; Chapter 5). Roundhouses with expanded terminals initiate the sequence at both sites, and roundhouses with opposed entrances are late in the sequences, dating to the 2nd to early 5th centuries AD at Carronbridge (*op. cit.*, 280) and a similar 2nd century AD period at Whitton (Figure 35).

An important aspect of both Whitton and Prestatyn however, is the continuous development from a recognisably native form of Iron Age settlement into a 'Romanized' occupation spanning the early centuries of the first millennium AD. Several other sites discussed here have also recognised 1st to 4th century AD occupation, often through diagnostic Roman wares. Sites such as Stackpole Warren, Dan y Coed, Drim Camp, Bryn Eryr, Woodside and Castell Henllys all continue into the early first millennium AD. Others such as Coygan Camp and Dinorben are argued to have been re-occupied in the first half of the first millennium AD. Of course these sites are contemporary with the construction and development of Roman villas in the Welsh countryside, although the extent to which even

these actually develop around earlier Iron Age farmsteads is little understood, except perhaps at Whitton. Earlier settlements have also been discovered under Roman period remains at Lladough, Biglis and Caldicot (Davies, 1995, 682). The layout of Roman Wales is reasonably well-known and it is interesting to note the distinct lack of activity in the south-west and Anglesey compared to the more inland areas and the Marches. The coastal concentration of villas perhaps reflects the higher arable potential of these areas compared to those further inland. In addition, their siting along the south coast may also be associated with a greater preponderance of maritime traffic up and down the Severn and the location here of legionary forts and the capital at *Venta* (Caerwent). In fact the majority of known Imperial Roman sites is military in character with relatively few typical villas so well known in the south and east of Britain.

In contrast, early first millennium AD sites such as at Bryn Eryr, with prior occupation, are undefended or no longer upkeep the often large enclosures, allowing them to fall into disrepair (Longley, 1998). A further development is the reduction in size of the buildings themselves. The roundhouse areas at Bryn Eryr were dramatically reduced (*op. cit.*, 240). At other sites such as Castell Odo and Dinorben, the evidence for structural remains is very poor and activity during this period is only marked by diagnostic artefacts. Other sites not only support the move towards open settlement but include the construction of distinct rectilinear main buildings such as at Castell Henllys, Walesland Rath, Dan y Coed, Ty Mawr, Collfryn and Stackpole Warren. There can be no doubt that this structural development is associated with the Roman presence, but what is interesting is the emphasis on continuity of location, land-use and development and sometimes architecture. However, pre-Roman rectangular buildings are possible at Coygan Camp and the poor precision of radiocarbon dating at Stackpole Warren, Collfryn and Dan y Coed (*supra*) does not rule out earlier rectangular buildings on these sites either. In Brittany, the Roman advance completely changed the local settlement patterns and even the layout of the landscape (*supra*). In Wales however, the Roman advance stimulates relatively few major landscape changes and many of the architectural developments may have been under way already.

In general, the early settlement pattern in Wales has involved a move, especially in the later centuries of the first millennium BC, to increasing numbers of smaller sites, often with substantial enclosures and regularly with less buildings inside. This development was strictly controlled by embedded social and political systems reflected in the relative

conservatism in house sizes and numbers and repeated similarity of settlement development. Regional variation existed of course, imposed perhaps by economic and environmental differences but social stimuli were just as powerful, if not more so. Complex economic and political strategies existed, allowing various sites to function in various but specific ways in the overall landscape. The interaction between the enclosed sites at Bodringalt, Drim Camp, Woodside and Dan y Coed in Llawhaden are a case in point. It is possible, given the structural and location evidence, that Dan y Coed functioned as a site of focal interest for this group, perhaps occupied by a higher status family who controlled the overall pastoral and arable strategy. The development of Dan y Coed into the first millennium AD with the construction of a rectangular building and central sunken yard is very much more defined than the late platform and pits at Drim Camp and Woodside respectively. Bodringalt may also have a similar farmstead represented only by a platform and a sunken area with late features dated by Romano-British pottery (Williams, 1988, 40). Alternatively, the lack of a defined building here could indicate its status as subsidiary to Dan y Coed, perhaps reflecting on the inability to organise stone constructions. That some of the late first millennium BC/very early first millennium AD enclosed sites did not continue is surely indicative of changes in the society that previously supported so many of these sites over a long period.

Sites like Ty Mawr, Goldcliff and Stackpole Warren were sites where specific actions were undertaken in relation to the overall economic and/or social strategy. We must however, be careful not simply to attach single functions to any site. All aspects of Iron Age life were probably interwoven with non-secular significance and the rigours of day-to-day life incorporate many different functions.

The evidence from many enclosed sites such as Llwyn Bryn Dinas, Woodside and Coygan Camp suggests that the later phases of the defences were marked by simple dumps of material or relatively small-scale adjustments. This would indicate the ability or wish to construct and maintain large-scale banks and walls and ditches had diminished. These sites were already moving towards unenclosed settlement well before the Roman advance, and during that advance there is very little well-defined evidence for serious refortification against the powerful military machine that was the Roman army. It is difficult in most instances to attribute destruction and burning episodes at any site in Wales to the actions of the Roman army. The radiocarbon and artefactual evidence, by contrast, suggests that many

sites continued into the 4th century AD, if not the 5th century AD. The problem with identifying these sites is the pre-eminence of 2nd century Samian, amphora sherds and Roman coarse wares within assemblages, almost matched by similar late 3rd and 4th century AD material. Other sites without this material would generally not be recognised. Against a background of ceramic paucity and utilitarian assemblages, this only reflects the relative accessibility of diagnostic material at various periods in different areas, and it has already been noted that Roman occupation was concentrated in small areas of Wales. It may also indicate some element of status reflected in the occupant's ability to access these imports. We would therefore be seeing only certain social strata of the overall population. The often scant evidence for structures associated with these diagnostic assemblages and the general decline in house size and monumentality introduces a greater influence of archaeological visibility to the understanding of settlement during this period. A lack of excavation on known unenclosed settlement outwith the coastal zone or highland areas increases this problem of visibility. It is thus probable that there is no real population decline or 'dark-age' during the early first millennium AD in Wales. In fact, the evidence suggests that many sites continued into this period and it is possible that other unenclosed areas and perhaps sites that are more ephemeral, developed during this time. It is merely that they have yet to be adequately recognised in the archaeological record.

These problems continue into the 5th century AD and beyond, becoming if anything more pronounced (Edwards and Lane, 1988). Again the artefactual record is considered key to the recognition of sites of this date, relying on VCP ware, imported pottery of A, B, C D and E types and the odd exotic item; for example, a 6th century AD (Fowlers type H) penannular brooch from Pant-y-saer on Anglesey (ibid.; Figure 33c). The subsequent recognition that VCP ware generally represents salt briquetage of the first millennium BC dramatically changed the settlement evidence for the later half of the first millennium AD by eliminating those sites considered relevant purely on the basis of its presence (Edwards and Lane, 1988, 2). The presumed continuation of unenclosed settlement into the post-Roman period has compounded the problem of archaeological visibility (op. cit., 3), forcing identification of sites through exotic assemblages or radiocarbon dating.

Indications of post-Roman activity on several long-lived sites are hardly useful in an examination of settlement patterns. Drim Camp has two crude stone platforms radiocarbon-dated to around *circa* calAD630 to calAD880 (CAR-873, 1305±60bp). At Dan y Coed, a

sub-square structure has a *terminus post quem* ranging between calAD130 and calAD410 (CAR-675, 1750±60bp). The secondary fill of a nearby ditch dates between calAD250 and calAD540 (CAR-677, 1650±60bp). This evidence indicates merely that these sites were still visible and used in the post-Roman period. Comparable evidence for two large pits at Woodside dated to between calAD890 and calAD1170 (CAR-673, 1000±60bp) and the same feature at Pen y Coed (CAR-555, 950±65bp) suggests this knowledge continued to the end of the millennium at least. An interpretation of this evidence has already been suggested in terms of social success and negotiation of power at individual sites (*supra*).

The question of whether the survival of these features indicates continuous occupation and/or use, or simply much later re-use is however, difficult to answer. The excavators tend to favour the re-occupation or re-use of sites after a considerable break (e.g. Williams, 1988, 40). However, it may be no coincidence that these are often based upon negative archaeological features; the development of non-intrusive architectural construction techniques would have left little evidence of structural remains. Agricultural practices or even later re-use would very quickly destroy these ephemeral deposits.

Many hut-circle sites in Gwynedd are known as the “Cytiau’r Gwyddelod” or “cottages/huts of the Goidels/Irish” and Smith suggests it might be possible for incoming Irish to settle abandoned sites in the north west (op. cit., 36). The evidence for an assumed first millennium AD introduction of Irish settlers to Wales is concentrated in the south-west and represented by Irish place-names and ogham inscribed stones. At Ty Mawr, during the late first millennium AD occupation, rectilinear structures were being regularly constructed, presumably as habitation sites. While rectilinear buildings may exist on earlier sites these often functioned as secondary structures such as byres, storage buildings or barns and workshops, or seem to have acted as other functionally-specific buildings. For example, at Goldcliff two rectangular timber buildings have been dated to somewhere between the 4th century calBC and 1st century calAD (GU-2912, 2120±90bp) and may represent the seasonal use of the Severn foreshore, perhaps for grazing and utilisation of estuarine resources (Davies, 1995, 683; Figure 37g). The structure at Coygan Camp may have been associated with metalworking (*supra*). In the later first millennium AD, rectilinear and specifically rectangular or apsidal buildings, become more common as a domestic architectural form. Many small stone-built enclosed settlements in north Wales begin to incorporate rectangular structures from the 3rd century AD (Mytum, 1995; Figures 39 and

40), for example, at Graenog and Cefn Graenog II (Figure 38). A very similar development can be seen in Atlantic Scotland but the congruent change in Ireland is probably much later, around the end of the first millennium AD (Chapter 6). This suggests that the use of rectilinear buildings at Ty Mawr at least, are too early to reflect movement from Ireland and need not be conclusive anyway if these architectural developments were already occurring many centuries earlier. A similar problem of recognition of Irish movement in the archaeological record has been argued for the introduction of Dál Riata into Argyll (Campbell, 1999; Chapter 5). There is a lack of other corroborating archaeological evidence in Wales and the issue of language is a complex and disputed one.

During the post-Roman period a small number of specifically-located sites were enclosed, often by stone-revetted walls, and sometimes with multiple enclosed areas. One of the first to be excavated was the enclosed promontory at Dinas Powys, a site that was to typify the material assemblage of the period (Figure 33e). The promontory at Dinas Powys is enclosed on its summit by a bank and ditch that runs around the east, south and west sides, only open to the north where a steep scarp either protects the area sufficiently or the bank has eroded down the slope. Three further bank and ditch arrangements enclose the less steep southern approach to the site. The original excavation, concentrating on the summit with slit trenches across the defences, produced a sequence incorporating four main prehistoric and early historic periods of use. These dated from the 3rd century BC to the 7th century AD (Alcock, 1963a).

Phase 1 was represented by a concentration of post-holes in the southern edge of the summit excavation underlying the inner edge of Bank 1 material and dated by coarse ware sherds described as Iron Age 'A' (op. cit., 19). A later Phase 2 was defined only by a lack of these Iron Age 'A' wares and later Roman material from a series of bank enclosures to the south of the main site. The position and layout of Bank A prompted its interpretation as a 'hill-slope fort', supported by the discovery of possible slingstones (ibid.). A lack of gateposts and the irregular layout of the simple dump banks suggested that this site was never finished and therefore that no useful features would be retrieved from the interior (op. cit., 21). However, the presence of some burnt daub between the banks and the slingstones argues that there was occupation. Castell Henllys also produced a hoard of slingstones (Mytum, 1999). Bank B was stone-revetted and therefore considered to be of a different date to Bank A, but again had no dating evidence. As a result it was interpreted as a single work erected

against the much later Phase 6 Norman occupation on the main site to the north (Alcock, 1963a, 22).

The Romano-British Phase 3 at Dinas Powys is solely represented by an extensive and varied list of artefacts dating between the 1st and 4th century AD (op. cit., 23). No structures could be related to this material and it is argued that the remains *do not* constitute a Romano-British occupation on the site (op. cit., 24). The artefacts were mixed through several layers, and those that were stratified were recovered within contexts designated to Phases 4 and 5 (ibid.). A preponderance of what are termed luxury articles over 1st to 2nd century AD Roman coarse ware is argued as unlikely for a habitation site. Luxury items included Samian sherds, a Nauheim type brooch, several sherds of glass vessels and one fragment of a glass counter. The overall amounts are also seen as very small compared to Tre'r Céiri (op. cit., 25). Yet the minimum number of vessels of Samian is the same as the coarse ware and only six sherds of glass were recovered in total (op. cit., 23). The site at Tre'r Céiri, while admittedly more remote in location, is much larger than Dinas Powys with many more buildings and an unknown occupation span. The site may also represent a special focal point in the local landscape with attendant status (*infra*). In the absence of any attempt to compare the Dinas Powys assemblage to Roman military and villa sites it is difficult to uphold this value judgement. Finally, the lack of any Phase 3 material in Phase 1 deposits and the relatively close dating of the material to the 1st and 2nd centuries AD is used as an argument against any possible chronological overlap between Phase 1 and Phase 4 (op. cit., 25). It is therefore argued that Phase 3 materials were brought to the site in Phase 4 as a, "collection of curios", in the 5th and later centuries AD. They are regarded as, "sentimental momentos of the happier days of Roman rule" (ibid.). This argument does not take into account the possibility of different discard processes working within the material. The coarse ware described as Iron Age 'A' may not overlap spatially and contextually with the Roman wares because it was deposited in a different manner after fulfilling a different function. At Bryn Eryr, there is a significant difference in the way Roman pottery is discarded compared to VCP ware; the latter found outside and behind the occupation buildings and the former mainly within the same buildings but also in front and in a different area behind (Longley, 1998, 249, figure 14). The fragmentary nature of the coarse ware assemblage may disguise some affinities with VCP ware that would support a first millennium BC occupation at the site.

The main period of occupation on the site was during Phase Four, the Early Christian Period, split into two phases covering the 5th century AD (4A) and the late 5th to 7th century AD (4B) respectively (op. cit., 26 and 30). During Phase 4A, several hearths and ash dumps produced lidded crucibles comparable to those from Garryduff, Lagore, Iona and Dunadd and thus considered to date the phase. Some perimeter post-holes were thought to have supported a palisade at this time too (op. cit., 26). The best-preserved hearth was a rectangular paved feature with orthostats at either end. Only Bank 2 and Ditch 2 are associated with the entire period covering Phase 4. It was a simple dump rampart contrasting with the rest, which had stone-built revetments, and the ditch was V-shaped as opposed to the wide flat shape of the others (op. cit., 27). This structure is very slight and the ditch was only slightly wider and relatively shallow (op. cit., 28). During this phase, a rectilinear building using posts was partly built before being replaced by a stone structure on the same alignment in Phase 4B. A crucible fragment from the fill of a grave on a non-Christian alignment was used as evidence for its assignment to Phase 4A. The extended child inhumation lay with its head to the north and legs missing below the knees, with stones placed over the body (op. cit., 30). Obviously the dating of this inhumation is very poor and the crucible, even if accepted as a late first millennium AD artefact, could be interpreted as a *terminus ante quem*. Child burials have also been recovered from earlier sites at Stackpole Warren and Prestatyn (*infra*) and could support an earlier date for this inhumation and occupation of the site.

The accumulation of rich middens across the east side of the excavated area and the remains of hearths linked to industrial activities marks the Phase 4B occupation. A series of gullies in the same area as the previous partially-built timber structure are interpreted as open drains for the eaves of stone buildings (op. cit., 31-32). Two buildings were represented by these gullies, a large hall with a hearth at its east end and a smaller building with no hearth interpreted as a store, barn or even servants' quarters. These buildings surrounded a yard area to the east with a concentration of hearths and post-holes that would be sheltered from the north and west and open to the sun to the south and east (op. cit., 33). The majority of the metalworking debris, composed of lidded crucible fragments, slag, cinder, iron ore and furnace bases, was found in this area around two hearths (op. cit., 140). A pit inside the hall to the south of the hearth also contained slag and clay furnace lining (op. cit., 45). Unfortunately, no moulds were recovered, suggesting they were deposited elsewhere but a single lead object may have been utilised as a die for shaping the clay moulds of penannular

brooches (op. cit., 48). The surviving terminal was of zoomorphic design with roughened surface for enamel inlay; a similar technique is visible on a penannular brooch from Loch na Beirgh, Lewis in Scotland (Harding and Armit, 1990). The lidded crucibles were perhaps used mainly for copper- or bronze-working but one had gold remains (op. cit., 48). A very similar assemblage was recovered at Whithorn, from which XRF analysis initiated by the author, indicated the lidded crucibles had been used in gold and possibly silver working (Gilmour, 1993; Hill, 1997, 400-401). A similar rectangular building type was also excavated in the 8th to 9th century AD levels at Whithorn (Hill, 1997, 138, figure 4.3). It is possible that glass and enamel working were also carried out on-site at Dinas Powys although the only evidence is a stick of millefiori glass and over 250 glass fragments that may represent scrap awaiting re-use.

However, other artefacts were more representative of domestic activity and indicated that this was not purely an industrial site. Three rotary quern fragments, one of elaborate design, were discovered with a range of table wares such as A-ware (North African Red Slip Ware (ARS) and Phocian Red Slip ware (PRS)), B-ware amphorae, D-ware including mortaria and E-ware (op. cit., 50). A reappraisal of the assemblage indicates a minimum of four vessels each of the A-wares, about seven B-ware amphorae, nine D-ware vessels and thirteen E-ware vessels (Campbell, 1988a). Of course, according to Alcock there is also the curio assemblage of 2nd century AD Samian and allied wares. Other activities such as leatherworking are inferred from smoothed pebbles and gaming from simple bone pegs (op. cit., 43). Iron knives and double-sided composite bone combs of Foster's Groups 5 and possibly 6 were also found (Alcock, 1963a, 55; Foster, 1990, 161-162). Foster suggests a minimum 5th century AD date in Scotland for Group 5 on the basis of radiocarbon dates from Phase 8 at the Howe (Chapter 3). Prior to this evidence these were generally accepted as 7th century AD artefacts (Foster, 1990, 162). A plausible argument for a later date of Group 6 could be constructed on the basis that examples are found in Norse or immediately pre-Norse contexts, albeit always ascribed to native manufacture (ibid.). Further discoveries at Bostadh Beach (Chapter 4) support this argument. These artefacts could therefore support the excavator's suggestion for two phases of activity in the mid- to late first millennium AD. Further support is gained from the dating of A-ware and B-ware to between the late 5th and mid 6th centuries AD, while the E-ware may represent early 7th century AD activity (Thomas, 1990). Re-analysis of E-ware has suggested that it was not a

tableware, perhaps imported as a space-filler (*ibid.*), but used as a container to import precious goods (Campbell, 1997b, 319).

This brief re-analysis of some aspects of this site might argue for a distinctly longer period of occupation on this site than credited by Alcock. Examinations of Norman earthworks in Wales indicates that the stone-revetted multiple banks and ditches, suggested by Alcock to be late in the sequence, would be unique and are also poorly dated (Campbell, 1988a, 61). The evidence of early burials on the site, deposits of poorly-dated Iron Age 'A' wares or VCP and an overall location and layout comparable to sites like Coygan Camp and Holgan, suggest that occupation began in the mid-first millennium BC. Occupation probably continued with development of enclosures throughout the first millennium BC and into the early first millennium AD. The site was almost certainly enclosed by Bank 2 at least in the mid- to late first millennium AD when most of the excavated material was deposited (Alcock, 1980, 232). Importantly, however the 5th century AD occupation was associated with new enclosures, a significant development when the majority of other settlement was unenclosed.

Another site that was demonstrably enclosed in the mid- to late first millennium AD was Dinas Emrys (Savory, 1960; Figure 36d). Located on a high craggy knoll the main summit area is enclosed by relatively small-scale walls with western entrances. Revetment-walls also enclose many terraces. Excavations targeted the main walls and entrances and a sub-square pool feature on the summit where a confused sequence of features was recovered (*op. cit.*, 31). Recent analysis of the recovered artefacts and structural remains has reassessed the published chronology. The enclosure walls sit on a layer that, although producing no diagnostic material, was associated with late-4th century AD Roman material in the interior (Campbell, 1988c, 56). This would support either a late Roman or post-Roman construction of the walls. The supposed Iron Age sherds (Savory, 1960, 56-57) have since been interpreted as furnace-lining or other industrial material and thus there is no unequivocal evidence for Iron Age activity. An early Romano-British phase comparable to that at Dinas Powys could be represented by some Samian ware, several amphorae sherds and 1st century AD Roman grey ware, although here too there are no associated structures (Campbell, 1988c, 56). The late 4th century AD occupation includes ceramics and glassware (*ibid.*). The only material recovered with definitive post-Roman chronology, and therefore presumably associated with the enclosure walls, are 44 sherds from the same Biv

amphora and a rondel cut from a sherd with a chi-rho pattern. Both indicate a minimum age of 5th century AD and some of the glass may also be post-Roman (op. cit., 55).

It is also suggested in this re-appraisal that the pool construction is not 5th or 6th century AD (*contra* Savory, 1960). The late Roman and post-Roman material pre-dates the pool construction owing to its location and distribution, although one or two sherds were redeposited in later contexts. The alternative interpretation thus favours late and post-Roman activity at a natural spring truncated and disturbed by later Medieval construction of the pool (Campbell, 1988c, 57). The comparisons in layout and structure between this site and first millennium AD nuclear forts in Scotland are compelling. The sequence of material is comparable to that from Dinas Powys and there is also good evidence to suggest the construction there of enclosures either in the later 1st century AD or more probably in the 5th century AD.

Massive stone-walled enclosures at Tre'r Céiri and Garn Boduan in north-west Wales (Hogg, 1962) may be related to this later first millennium AD period of settlement. A very similar site also exists at Conway Mountain further east (Griffiths and Hodd, 1957; Figure 36c). All three sites incorporate the plentiful remains of stone-foundation circular structures. These are obviously of a complex multiphase nature and it is impossible from the small-scale excavations carried out to date to determine how many were contemporary. Clearing of the Tre'r Céiri structures produced some early first millennium AD diagnostic material from irregularly-shaped buildings (Hogg, 1962, 38; Figure 36e). No datable items have been recovered from secure contexts. An argument, based entirely on the irregular layout of the structures and preservation of the walls, has been proposed for the continuation of settlement at Tre'r Céiri into the 4th century AD (op. cit., 38; 1975, 93). Despite the complete lack of excavated information, an attempt has also been made to sequence the structures and ramparts at this site (*ibid.*), but without recently excavated evidence these cannot be assessed.

The layout and construction of the enclosed buildings is interesting, comprising many with vertical slabbing as a foundation below drystone coursing. The entrances of the visible larger roundhouses face south-west while many of the more irregular or rectangular structures can also face north-west and north-east. The buildings also seem to cluster on three or perhaps even four different levels within the enclosure. The lowest cluster around

an open space in front of the north west entrance that also includes possible 'guard-bays' and presumably later extensions into the site like an inturned rampart. Three large roundhouses stand out from this agglomeration of buildings aligned on the south-west entrance at the end of the main enclosure, ignoring the north-west entrance. A second tier of buildings seems almost entirely to consist of small oval, irregular or rectangular structures with only three roundhouses standing out and these of smaller construction than the lower ones. This more complicated agglomeration cluster around at least three open areas. The final row of buildings is revetted into the hill-slope immediately below the cairn on the summit of the enclosed area in the north-east. All these buildings are rectangular with entrances facing west. It is possible that this tripartite layout is original, with only the consequent use and re-use of the site complicating the actual agglomerations. This would suggest the largest roundhouses were lowest, overlooked by smaller roundhouses, themselves overlooked by the rectangular structures. The entire enclosed area is obviously dominated by the carefully preserved (Bronze Age?) cairn on the summit (considering the enormous amount of stone constructions built on the hilltop). The two larger, though still very narrow, entrances to the site are on the western side of the enclosure while at least three very narrow 'posterns' are regularly spaced around the perimeter.

An outer wall runs along the west and north-west of the main enclosure and is preserved only as a revetment. Further possible revetments are visible in front of the south-west entrance. Within these outer features, and re-using some of them, are a series of curvilinear terraced plots to the north-west, west, south and south-east; unfortunately, their place in the sequence of the site is unknown. The location of the site at such a great altitude, around 424mOD to 480mOD, the careful arrangement of tiered buildings and conservation of the summit cairn, suggests that the site functioned as a special place, with a structured and hierarchical distribution of buildings and space. The site probably provided a focus at various times of the year for ritual and or other communal activities. The alignment of the posterns (often assumed to be associated with access to springs further down-slope) facing approximately west, north and south-east should be examined carefully. Those on the north and west have no internal structures located close to them and access to any springs would have been just as easy from the two main entrances along this perimeter. Indeed, the western postern is remarkably close to the main south-west entrance. Only the south-eastern postern seems to provide easy access to a spring and has internal buildings nearby. In any event, the access to springs could be just as important for rituals as it was to those

living on the site. The altitude of what were perceived as cultivation terraces around the enclosure has led some to posit a local climatic amelioration during the sites occupation (Hogg, 1975, 94). However, without any detailed investigation, the function of these terraces can only be assumed. The site layout and terraced nature is reminiscent of the mid-to late first millennium AD ‘nuclear’ forts of north and west Britain (Alcock and Alcock, 1987; Harding, 1997; Chapter 5). The cellular nature and construction technique of the irregular agglomerations might support this late dating, as would the ceremonial nature of the site proposed here. For example another hierarchically organised important site at Dunadd, Argyll, is also interpreted as an inauguration ritual focus surrounded by ancient cairns (Chapter 5; Campbell, 1999). The site may also have functioned as a royal residence and a redistribution centre. The prominent location of Tre’r Céiri, and the presence of a possible summit cairn, would provide the perfect context for similar inauguration ceremonies overlooking much of north-west Wales and the important Atlantic sea routes.

At Garn Boduan, Conway Mountain and Carn Fadrun, no such careful layout of buildings is perceivable and all three are very much larger than Tre’r Céiri. Indeed, Carn Fadrun encompasses several curvilinear stone wall enclosures and hut groups within its wall (Figure 36a). Interestingly however, all three of these sites incorporate a small irregular thick walled enclosure on their summit. At Garn Boduan this is interpreted as a later, possibly first millennium AD, feature (Figure 36b). Excavation of two later roundhouses within the summit enclosure at Conway Mountain also revealed a simple south-east facing entrance to the enclosure with a single post-hole for a gate (Griffiths and Hogg, 1957). There is no visible entrance into the rest of the enclosure. At Carn Fadrun, the enclosure was ascribed to the medieval period, “although the defences look far too primitive” (Hogg, 1975, 164). All three of these enclosures are roughly the same size and occupy the same summit location within larger enclosures associated with many hut-circles and groups. The evidence for these constructions suggests they are later buildings utilising earlier, larger enclosures. However, their precise nature and function remains speculative in the absence of excavation, although their high altitude might again argue for seasonal activity. They certainly occupy a dominating position in the surrounding landscape. The three summits reach 370mOD (Carn Fadrun), 270mOD (Garn Boduan) and 242mOD (Conway Mountain) and both Garn Boduan and Conway Mountain overlook important northern coastal sea routes and the latter, the entrance to the River Conway. Perhaps just as importantly all three could be seen from the sea. The enclosure of a high knoll overlooking northern sea routes is

paralleled in Ireland at Caiseal na Veán, County Donegal and interpreted there as mid- to late first millennium AD in date (Avery, 1994a). The important distinction for nuclear forts is not their defences but their location (Alcock et al., 1989, 206) and distribution of space, often on terraces down a rocky knoll. This also produces a tiered arrangement with an upper 'citadel' type structure similar to these three sites in Wales. Other sites are also comparable to nuclear forts including, Longbury Bank and Dinas Emrys and date to the mid- to late first millennium AD.

Excavations at Longbury Bank produced high-status 6th and 7th century AD imports at an unenclosed site on a rocky knoll (Campbell and Lane, 1993b). Phocaean Red Slip A-ware (*circa* AD500), later 5th or early 6th century AD B-ware amphora, 6th century AD D-ware, sherds of later 6th or early 7th century AD glass cone beakers and E-ware were associated with two radiocarbon dates. These latter, (Beta-52349, 1510±60bp; Beta-52350, 1560±70bp) calibrate between calAD410 and calAD650 (*op. cit.*, 53) and a type G penannular brooch and a glass vessel may indicate a later 7th or 8th century AD occupation too (*op. cit.*, 54). Although severely truncated, the location, on the flat summit with steep craggy slopes to the north and south, produced one possibly rectangular post-built scooped building and a distribution of material comparable to Dinas Powys (*op. cit.*, 61). Other artefacts included scrap metal, slag and crucibles from metalworking along the northern edge of the site (*op. cit.*, 64). Relatively pure copper and tin suggest trade with Cornwall and silver sheet indicates the working of precious metals.

Hen Gastell, also on a steep sided hill, produced pottery and glass imports of the 6th to 10th centuries AD (Wilkinson, 1995; Figure 36f). Bi and Bii amphora sherds, D-ware and E-ware and glass cone-beakers and a Fowler's type G penannular brooch were recovered from a site, again with little associated structural evidence. All that remained was a single hearth, one meter square and carefully paved, comparable to features at Dinas Powys (*op. cit.*, 10) was all that remained of any building. Two partially-fused lumps of glass also suggest melting of broken vessels on site, again comparable to Dinas Powys, as is a sherd of rare 'cobalt' blue glass (Campbell, 1995b, 20). Some earlier 1st to 4th century AD Roman wares are dismissed as material arriving at the same time as the other later imports and originating from robbed Roman sites (Evans, 1995, 17). However, the lack of contemporary occupation on a poorly-preserved site such as this is not unequivocal proof. Comparable material from

Capel Maelog, Rumney Castle and Coygan Camp is suggested as indications of short-term 3rd century AD settlement (ibid.).

A similar date of enclosure has been suggested for the site at Carreg y Llam (Alcock, 1962, 52) where poorly-preserved multiple wall-lines enclose a rocky knoll at 140mOD (Hogg, 1957, 46; Figure 36g). The inner enclosure had a south-eastern gated entrance and a roundhouse built into its northern wall. A natural bedrock shelf rises to the west of the roundhouse interior and the rest was roughly paved with a slightly off-centre hearth represented by a patch of pulverised charcoal. Two large stones with packing sat to the south-east of this hearth and slightly in front of the entrance. Excavation conditions were very poor and the occupation layers were basically mud, but within the building potsherds were retrieved from among paving to the east of the hearth. Several laid stones at floor level ran from under the eastern inner wall towards the north-west where, directly opposite the entrance, were two other stones projecting into the building (op. cit., 52).

Outside the structure, the only finds were flecks of charcoal, burnt clay within a black occupation soil and, in the northernmost area, a pair of stone balls and some flints (op. cit., 51 and 53). The pottery from within the building was described as post-Roman and possibly as late as 8th to 9th century AD (op. cit., 55). Re-examination of this pottery suggests it is Romano-British and thus refutes the post-Roman date (Edwards, 1988, 39). However, the excavation conditions and possible multiphase nature of the building indicated by the projecting alignments below the walls suggest that the site may be longer lived and comparable to Dinas Emrys in its predominance of earlier material. The site is comparable to the summit enclosure at Garn Boduan, already argued as possibly late first millennium AD (*supra*). The similarities in layout and construction with other mid- to late first millennium AD enclosed sites, including relatively weak walls (the outer wall is smaller than the inner and composed of rubble and neither have ditches), also strongly suggests a post-Roman date. The description of the eroded sherds (Campbell, 1988b, 125) suggests only that they are wheel-thrown, poorly-fired with a thick flat base (Hogg, 1957, 55).

It has been suggested that the small summit enclosures at Garn Boduan, Carn Fadrun and possibly even Conway Mountain are post-Roman constructions and may be comparable to sites such as Dinas Emrys, Dunadd and other nuclear forts (*quo vide* Alcock et al., 1989). The excavations at Conway Mountain included the examination of a roundhouse with an

off-centre rectangular kerbed hearth and paved north-eastern entrance (Griffiths and Hogg, 1957). The internal wall-face of this building was constructed with large vertical slabs surmounted by drystone coursing (op. cit., plate xiiia). The inner enclosure wall overlay a second similarly constructed roundhouse with an eastern entrance. This building had a well-preserved 3-sided hearth open to the north and post-holes either side of the entrance (op. cit., 57). Other post-holes in the southern half of this building may relate to the main inner enclosure entrance (ibid.). This type of vertical slab-revetted architecture and three-sided hearth is well known in the mid- to late first millennium AD from other areas of the Atlantic seaboard and might suggest a late first millennium AD date for the inner enclosure.

Other sites have been well known for some time to have occupation in the post-Roman period. However, the question of continuity is again a problem. For example, the find of a bronze penannular type H brooch at Pant-y-saer enclosed hut group (or homestead) has been used as evidence for a post-Roman occupation here. Other artefacts included VCP, perhaps indicating some first millennium BC activity anticipated by modern excavations at Erwwen, Moel y Gerddi and Bryn Eryr. Roman pottery, including Samian, may represent later occupation in the early first millennium AD and the brooch suggests post-Roman activity. The rest of the assemblage is of little chronological help, including rectangular moulds, rotary quern fragments, saddle-querns, hammerstones and other tools, shale discs, flint and possible slag. A single bone pin was also recovered (Edwards and Lane, 1988, 99-100). This and other sites were reviewed in an attempt to address the question of post-Roman settlement in Wales. Several other sites, such as Degannwy Castle, where a rocky knoll with summit enclosure and B-ware sherds as well as some post-Roman glass, further enhance the general patterns highlighted. Again, a significant late Roman assemblage including coins is also present (op. cit., 51). Radiocarbon dates from Graenog corn-drying kiln calibrate to the final centuries of the first millennium calAD and early centuries of the second millennium calAD. A remnant-magnetic date for the hearth in a rectangular structure nearby gives a date of calAD500 to calAD900. Again some abraded sherds of Samian and Roman coarse wares indicate 2nd to 4th century AD occupation also (op. cit., 79). The suggestion here is that occupation can be continuous on sites in Wales, developing and changing, but only certain periods will be highlighted due to the presence of significant typological assemblages.

Gateholm Island in Dyfed, with its series of rectilinear buildings on plateaus on the tidal island off Marloes Bay (op. cit., 73), is comparable to Tintagel in Cornwall. A ringed pin recovered from one of these buildings suggests activity in post-Roman times (op. cit., 74). The form of settlement is comparable to so-called monastery sites in Northern Scotland (Lamb, 1973) and on the islands of Tintagel, Grassholm and Sheep Island. Post-Roman imported pottery and glass have also been recovered from St. David's Church, Caldey Island, Dyfed, and Margam Deer Park, West Glamorgan (Campbell, 1990). The material from Caldey Island includes a Phocaeen Red Slipware sherd and an E-ware sherd (op. cit., 59) and a single sherd of Germanic glass was found in a ploughed field at Margam (op. cit., 63).

A single crannog at Ynys Bwlc, Llangorse lake is suggested as a possible Early Historic site on comparisons with Ireland and later Scottish examples (Edwards and Lane, 1988, 121). However, crannogs in Scotland and Ireland were being built in the Late Bronze Age, with good evidence from Scotland for Iron Age dates too. Interim statements describe a site with vertical set piles and a plank palisade with decorated bone comb fragments, furnace lining, crucible fragments and slag (Nenk et al., 1993, 310). A possible destruction horizon with wood chippings and offcuts has been radiocarbon dated to between calAD670 and calAD960 (Nenk et al., 1991, 305). A pair of bronze tweezers, fragments of rotary quernstones, pseudo-penannular brooch fragments and an enamelled iron strap similar to one from Baladoole, Isle of Man, were also discovered (op. cit., 306). Dendrochronological dating of the oak palisade indicated summer felling dates in AD890 and AD893, comparable with the destruction horizon (ibid.). Earlier material, including a Roman Dolphin-type brooch of the late 1st to early 2nd centuries AD was found during survey work (ibid.). Modern work on the island hopes to begin to understand its development, chronology and place in the settlements of Wales (Alex Woolf, pers. comm.). A further site, recently excavated at Llandough (Selkirk/Thomas and Holbrook, 1996), has produced several burials in an enclosed cemetery that may date to the second half of the first millennium AD. Radiocarbon dates, a single sherd of Bii amphora, a coin and hob-nailed boots indicate the gradual expansion of the cemetery since the late Roman period. Burials on the curvilinear arc that defined the early cemetery produced radiocarbon dates in the 6th and 9th centuries calAD supported by the Bii sherd from the fill of an earlier grave. An extension to the west was dated by radiocarbon from a wooden coffin to the 9th century calAD. A further extension to the north, again demarcated by a curving boundary, was dated to the late 10th

century calAD (op. cit., 75). Two of three radiocarbon dates (CAR-271, 890±60bp; CAR-305, 1160±70bp; CAR-306, 1180±60bp) on human bone from separate burials disturbed during earlier excavations, also reinforce the early dating of this site, each ranging from calAD690 to calAD1000 and calAD690 and calAD980 respectively. The site is interpreted as an early Christian burial-ground with even earlier origins (one burial may be Iron Age and another included a Colchester-derivative 1st century AD brooch). A total of five sherds of Bii pottery indicate at least late-5th to early-6th century AD activity on the site and several burials were accompanied by white quartz pebbles (op. cit., 76). The site is only one mile from Dinas Powys and that also produced Bii amphora sherds. The adjacent Roman villa was abandoned by the early 4th century AD and it is suggested that a monastery was built in the mid-5th century AD within the prior, but perhaps still identifiable, Roman estate (op. cit., 77). If a link with Dinas Powys is accepted then the notable absence of any of the glassware or other imported goods in the burials stresses the possible Christian affinity at Llandough, since Christian burials are often bare of grave goods (Neighbour et al., forthcoming). Alternatively, this evidence reinforces the argument that the material at Dinas Powys was scrap for re-use although this has since been challenged by the reconstruction of at least one entire vessel from Dinas Powys (Campbell, 1991).

Late Roman pottery with post-Roman cone-beaker glass and E-ware at Welshpool in Powys suggests a similar sequence of activity as at Dinas Powys. This site and the similar discoveries at Much Wenlock Priory (British Archaeology, 1998) and New Pieces (Jeremy Hugget, pers. comm.; Figure 37e) indicate that material was travelling up the Severn and into inland Wales.

Discussion

Another aspect of post-Roman Wales that should be addressed is the supposed migration of Irish settlers into Wales. The attribution of some northern enclosed settlements, such as Ty Mawr, has already been discussed but it is the evidence from south-west Wales that is most striking. The place-name evidence, backed by ogham inscribed stones from this area, have long been used to suggest movement of Irish origin took place, possibly shortly after AD400. The evidence from Irish and Welsh genealogical lists supports the dating and the suggestion that at least persons of some note were involved. A similar indication of Irish movement is visible in south-west Scotland, along the Galloway coast and in Argyll, although the latter is often considered to be associated with the Dalriada *circa* AD500. In

the Rhinns of Galloway a series of Irish dedication stones are also often taken to represent the intrusion of Irish persons into this part of south-west Scotland. It seems odd then that so few settlements can be dated to the 5th century AD and later, and those that do are conspicuously absent from this area of place-names and ogham inscriptions. If migrations from Ireland were proposed, then it may be suggested that at least some sites in Wales would resemble the sites in Ireland. However, without knowing from which part of Ireland the migration took place it is difficult to know what to look for. Sites in western and eastern Ireland may have been very different in the mid-first millennium AD (Chapter 6). In fact, the dating of sites to the late first millennium AD is still biased towards the recognition of imported goods, although it has been suggested that this evidence is not strictly indicative of high-status (Jeremy Hugget, pers. comm.). However, the relative proportions of material and its contextual associations suggest only a few sites were primary importers as well as producers of other high-status goods such as glassware, enamelling, bronze-work and other metalwork. The layout of these same sites, with various levels of enclosure, and their prominent locations suggests these were powerful centres with control over trade goods and presumably therefore seagoing communications.

Chapter 8

Cornwall and South-West England

The Iron Age archaeology of the south-western peninsula is dominated by several monument types including circular enclosed sites ('rounds'), souterrains ('fogous'), promontory enclosures ('cliff castles'), courtyard-house settlements and a few hillforts. Current estimates suggest there are approximately 650 known 'rounds', but that the systematic examination of aerial photographs will almost double that number to a thousand (Johnson, 1998). The chronology of these and many other sites is based mainly on pottery typology, although several radiocarbon dated sequences do exist and have guided a re-analysis of the absolute dating of various pottery forms and decoration (Quinnell, 1986). A relative lack of large-scale modern published excavation of well-preserved sites with good stratigraphy means that little secure detail and material is available for investigation. Much of the region thus relies on typological association and the presence of exotic artefacts for its dating, a similar situation to that prevailing in Western Scotland until recently. The tendency for this type of analysis is towards short chronologies with much hinging on comparisons to written textual evidence and the inferred consequences of historical events.

A series of characteristic pottery types has been distinguished in an older, conventional Iron Age A, B and C system. This nomenclature will be retained for convenience to indicate broadly Early, Middle and Late Iron Age and supplemented, where possible, with radiocarbon dates. Iron Age A ware is generally undecorated but can have rough incised or impressed motifs. A range of shouldered jars predominates alongside some bowls that are regarded as copies of metal vessels. This material could date from the 8th or 7th centuries BC to the end of the 5th century BC when several early radiocarbon dates suggest Iron Age B developed (Quinnell, 1986, 112). This latter is distinguished by generally smaller vessels, often with a distinct zone of incised geometric or curvilinear patterns. Early banded, geometric stamped decoration, such as 'S' scrolls or 'duck-stamped' motifs develop into more free-flowing curvilinear La Tène decoration. At Carn Euny, an early radiocarbon date suggests a long period between 800calBC and 250calBC (HAR-238, 2370±70bp), although most likely somewhere around the 5th century BC at 1σ (77% chance), for earlier stamped decoration (Christie, 1978, 430). Developed Iron Age B correlates with the well-known

South-Western Decorated, or Glastonbury, Ware of the La Tène period (Quinnell, 1986, 112) and is relatively well known from sites such as the Glastonbury Lake Villages, Castle Dore and Killibury. The latter site produced radiocarbon dates suggesting that the curvilinear decoration had developed by the 3rd century calBC (op. cit., 113). A second radiocarbon date from Carn Euny (HAR-334, 2080±80bp) associated with decorated pottery, calibrates to between 370calBC and calAD70 (Christie, 1978, 430). A single radiocarbon date from Trevisker (NPL-135, 2135±90bp) also calibrates between 390calBC and calAD20 for this pottery style. The pottery therefore went through a period of rapid change in the 5th and 4th centuries BC with the development of the curvilinear designs from the stamped decorated wares and then remained stable until the 1st century BC.

The majority of the South-Western decorated wares contain minerals from the rocks of the St Keverne area of the Lizard peninsula (Peacock, 1969; Quinnell, 1986, 113). Sites some 50km distant have produced these wares as at Castle Dore and Killibury. It has been suggested that this petrologic evidence indicates that pottery manufacture in the Late Iron Age became the preserve of groups resident on the Lizard (op. cit., 114). Other pottery types have also been sourced and shown to have travelled some 80km to 130km from production centres (Peacock, 1969; Cunliffe, 1991, 461). This specialisation may have begun in the mid-first millennium BC but could intensify towards the 1st century BC with the introduction of simpler, plainer vessels. This may continue much later, for example later first millennium AD pottery from Conington in Somerset has Cornish grit in its temper (Rahtz, 1976, 225). Alternatively, the distribution of pottery from the Lizard peninsula might reflect the movement of some other archaeologically-invisible material probably within the pottery itself. A diagnostic feature of much South-Western B pottery is the presence of an internal groove on the rim (Peacock, 1969, 44) originally considered a copy of a trait on metal vessels (Wheeler and Richardson, 1957, 54). However, the rim groove is more likely to help seal a lid (Chapter 9) and would therefore support the idea of a container for other goods. This might help to explain why the pottery is so beautifully decorated in first stamped then curvilinear designs, since this would help to make the product more attractive and may indicate its area of origin. The marked coastal distribution of internally-grooved rim wares up the west coast to Somerset, supports its distribution via the Atlantic Seaways from the Lizard. From Somerset, the pottery could travel down the Yeo into the territory of the Durotriges (Chapter 9). This original function for the pottery does not negate its use later as a storage vessel or even as cooking wares. Only detailed lipid analysis on carefully chosen samples will be able to determine the likely contents transported within the vessels but

possibilities might include dairy products, salt or even ground metal ore. The parallels between the forms and decoration of pottery in Cornwall and Brittany reinforce the idea of close contact between the two areas (Chapter 9; Cunliffe, 1991, 85). Current dating of South-Western B decorated pottery indicates this occurred over the mid- to late first millennium BC rather than a concentrated event in the last century BC (*contra* Cunliffe, 1990; 1991, 443).

The latest group, Iron Age C, or 'Belgic' wares includes 1st century BC and 1st century AD fine pottery with cordon decoration and becomes generally undecorated once more. A radiocarbon date from a storage pit at Carn Euny with cordon-decorated pottery (HAR-335, 1860±100bp) calibrates to between 90calBC and calAD390 (Christie, 1978, 430). Another diagnostic type of this group is graphite-coated pottery, often plain but obviously requiring some skill to produce. These wares are directly comparable with the Breton wares and in some cases can even be shown to be imported from that region (Cunliffe, 1990; 1991, 434-438).

Cunliffe has inferred a three-tier social model for the south-western Dumnonii. The elites reside in large multivallate enclosures focused on pastoralism while their vassals, located in 'rounds', concentrate on agriculture to provide grain in return for protection and prestige (Cunliffe, 1991, 260). 'Rounds' are the dominant field monument in Cornwall, but suffer from similar classification and recognition problems as Irish ringforts (Chapter 6) and a lack of stratigraphic excavation on well-preserved sites. The unfree are considered to live in unenclosed settlements, or 'courtyard-house' sites, presumably on the vassal lands (Cunliffe, 1991, 260). However, closer study reveals that the large multivallate sites often have earlier origins than the smaller univallate, and relatively non-defensive rounds (Johnson and Rose, 1982, 156-157; Figure 41). Although later re-use may be recorded at these sites, contemporary with rounds and unenclosed settlement, it is unclear whether the massive enclosures were still maintained. In other areas it has been seen that they were not maintained as monumental or defensive enclosures (Chapters 6 and 7). Further, there is great variety in the size, form and layout of even large multivallate enclosures (*op. cit.*, 160) indicating that not all should be interpreted as performing the same function(s).

Enclosed Sites

The majority of sites producing the Early Iron Age 'A' wares are represented by enclosed sites, often with simple, relatively small banks. Some of these early sites continue in use

well into the Iron Age. The early sites include enclosed and unenclosed hut circles on Dartmoor, and other hut circle groups. A few promontory enclosures such as Maen Castle and Trevelgue also incorporate Early Iron Age pottery. Several include much earlier evidence too. The complex site at Treryn Dinas incorporated a Bronze Age cremation urn and charcoal from its innermost and least accessible area (Herring, 1994, 52). Other Iron Age sites have also purposefully incorporated earlier remains in their layout. For example, the Early Iron Age occupation at Kynance Gate on the Lizard included re-use of an earlier cairn as a workshop and the layers underlying Iron Age B enclosures and buildings produced substantial amounts of coarse Bronze Age pottery (Thomas I, 1958, 216). The large contour enclosure at Carn Brae has produced Iron Age pottery and coins although the original construction and occupation was Neolithic (Mercer, 1981b). Similarly, early origins can be suggested for promontory enclosures at Le C atel de Lecq and Fr emont on Jersey (*infra*).

Promontory Enclosures

Carn Brae has been compared to a group of sites described as ‘Tor-enclosures’. At these sites low rubble walls enclose an area of granite outcrop, although the size, strength and form of the enclosure can vary considerably (Johnson and Rose, 1982, 170). These sites are generally ascribed a third or second millennium BC date range (*op. cit.*, 173). Tor-enclosures have also been compared to some promontory enclosures, specifically those that incorporate an enclosed rocky headland (Sharpe, 1992, 66). This comparison is strengthened by the earlier use of headlands described above. The continued importance of these sites is well attested by their enclosure during the Iron Age at Maen Castle (Herring, 1994, 42) and Treryn Dinas (Sharpe, 1992, 66) again evidenced by pottery sherds. Many of these promontory sites are demarcated by multivallation, invariably with some element of close-set banks and ditches such as at Trevelgue, Treryn Dinas, The Rumps and Gurnard’s Head (Figure 42). The majority is distinguished by a lack of flat ground behind the defences, contrasting with the closely-set multivallation at Doonaghmore in Ireland (Chapter 6). The enclosures are also demonstrably non-defensible. The Rumps has a well-preserved bank and ditch with others less well preserved but certainly smaller, and the entrance is central through all three. These simple entrances do not use the multivallation to their full effect by forcing access in front of one or more banks and ditches. The banks are located at the narrowest point on the promontory but this is also the lowest point and the interior is overlooked from the landward side. At Gurnard’s Head the enclosures are at the bottom of a landward hill and the main rampart is only 1.8m high (Gordon, 1940).

Excavations at Gurnard's Head promontory enclosure revealed several internal buildings and multivallate enclosures across the narrowest part of the promontory (Gordon, 1940). Because the interior of the site slopes dramatically to the east, the internal buildings are revetted into the hillside. The site is considered to date to *circa* the mid-2nd century BC owing to the presence of wheel-thrown wares and the comparison of several highly polished remains to graphite coated wares in Brittany (op. cit., 111). However, the assemblage is probably mixed since it also includes stamped-decorated wares now dated to between the 5th to 3rd centuries BC. Thus the two circular buildings could date anywhere between the 5th and 2nd centuries BC, possibly as late as the 1st century BC, although 'Hut B' also included 3rd to 4th century AD mortaria in its assemblage (op. cit., 109). Hut 'B' was located on the highest point of the promontory and was levelled into the slope by cutting into the bedrock. The mortarium sherds were recovered among rubble and earth of the uppermost layer in this structure (op. cit., 102). The lower layers overlay a floor of tightly packed earth and stones with a kerbed hearth. These layers produced concentrations of Iron Age sherds, stone artefacts and a spindle-whorl (op. cit., 104). The third structure 'Hut A,' was rectangular with a large, coarse stone revetment (op. cit., 100-101) and incorporated possible Iron Age C wares (op. cit., 108-109). The evidence for re-use of the site and the long period of use of at least some of the internal buildings suggests a longer period of development than attributed to the defences which are considered single-period multivallate constructions (op. cit., 97-99). The main internal enclosure was a complex stone construction with a stepped rear, considered analogous to Kercaradec in Brittany (Chapter 9), and called *murus-duplex* (Wheeler and Richardson, 1957). However, the extension of the material chronology might support the idea that the stepped effect is the result of re-use and later additions to a narrow enclosure wall.

The interior area at The Rumps is roughly Y-shaped with rising ground and rock outcrops at either end of the arms. Both fall precipitously to the sea but there is difficult access to deep unprotected waters off the base of the northern arm. The only relatively flat area lies immediately behind the ramparts and this is the location of a series of small circular structures. The berm between the two inner banks and ditches has also been used to construct small circular buildings. In the rest of the interior, the ground rises steeply to the rocky knolls, although small hut-platforms are revetted into the crook of the Y on the southern arm. These either look north to the end of the northern arm or out to sea. The location of buildings on this headland, either huddled around the enclosure banks or revetted into the side of the hill, suggests this was an exposed and difficult place to live. Excavations

over the multivallation suggested two main phases of construction with a Phase 1 large inner rampart and a smaller outer rampart. During Phase 2 the inner rampart was strengthened by another placed just beyond (and currently still the best preserved), with three huts built between them. A final outer rampart was constructed along the earlier outer rampart line only slightly narrowing the gap between the two sets. The site may have been occupied between *circa* 300BC and AD50 (Brooks, 1974).

The promontory enclosure at Le Pinnacle on Jersey, is an enclosed rock stack similar to Treryn Dinas in Cornwall, and the Jerbourg on Guernsey is a larger multivallate site. At the former site, an early, possibly Late Neolithic or Early Bronze Age bank was built across the isthmus at the base of the rocky promontory. A later bank also encloses the pinnacle and may be associated with Iron Age pottery but the stratigraphy is poor and no firm associations can be made (Patton, 1987, 134). The pottery is wheel-thrown and found in a blown sand horizon with a Coriosolite coin, two bronze rings and two corroded iron artefacts. In addition, with this material were Roman pottery and a coin of Emperor Commodus dating between AD180 and AD191. The site is considered to be a ritual location since just outside the enclosure bank was a rectilinear building interpreted as a Gallo-Roman *fanum* probably dating between *circa* 100BC and AD200 (op. cit., 140). This would support the interpretation of similar promontory enclosure sites in Cornwall and elsewhere as incorporating some ritual element in their function. The site at Jerbourg on Guernsey incorporates three embankments enclosing a large promontory atop 60m high cliffs from which flint knapping debris and artefacts such as arrowheads have been recovered (Kendrick, 1928, 177-179). It is probable that this material represents only the earliest of a long period of occupation on this site, as at Le Pinnacle and Le C  tel de Rozel on Jersey.

Three other enclosed sites on Jersey are located on promontories. The univallate bank and ditch enclosure at Fr  mont was excavated with inconclusive results. The others at Le C  tel de Lecq and Le C  tel de Rozel are larger, with the former enclosed by two concentric banks and ditches (Patton, 1987, 134). Le C  tel de Rozel is the largest enclosed site on Jersey and incorporates a massive earthwork, 6m to 8m high, enclosing over 1km² (26ha) from which four hoards of Gaulish coins have been recovered (Cunliffe, 1994). Outside this massive rampart is a further bank of similar proportions (op. cit., 18). The coins included an eclectic hoard recovered from a collapsing cliff face in a hole filled with gravel and associated with a charred-ground surface with ash and pottery (op. cit., 20). A bronze dagger also reported with the coins cannot be directly associated with any of the finds (op. cit., 22). Another

hoard was found in a plain bowl-shaped pottery vessel covered with a flat stone and included Armorican and Roman coins dating to 99BC-94BC and 32BC (op. cit., 23). Of the other hoards, one included at least 982 Coriosolite coins (Patton, 1987, 139; Cunliffe, 1994, 20). Small-scale excavations on this site confirmed a two-phase construction for the simple dump rampart. The main massive enclosure was preceded by a smaller enclosure, possibly with a stone revetment, although this was considered unlikely (Cunliffe, 1994, 27). The main enclosure was dated to the Iron Age owing to a scatter of finer later Iron Age sherds over the tail of the rampart. However, coarse ware, including a Late Bronze Age or Early Iron Age barrel-shaped vessel, was also present and presumably reflects redeposited material. The earliest construction phase for the rampart included coarse wares and flints, suggesting a Neolithic or Bronze Age date (ibid.).

The coarse wares are considered by Cunliffe to begin *circa* the 7th century BC and are analogous to sherds from Le Pinnacle (op. cit., 27). The scatter of material over the tail of the rampart included later La Tène decorated and burnished wares dating between *circa* 400BC and 100BC, similar to the vessel from St. Helier (op. cit., 37). This burnished ware was also recovered at Ile Agois and Mont Orgueil where possible graphite-coated bowls of the 1st century BC were also recovered. At Le Câtél de Rozel only one fragment of 1st century BC material was recovered. This site supports the early enclosure of promontories during the Neolithic and Bronze Ages as at Le Pinnacle, Jersey, and Jerbourg on Guernsey (op. cit., 49). The plentiful Neolithic and Early Bronze Age material from Castel Coz in Brittany may also suggest a similarly early enclosure (op. cit., 50).

The size and number of these hoards suggests Le Rozel was a site of some importance and the composition indicates it was involved in contacts with Brittany and other areas of Gaul, probably along the Atlantic Seaways. The site itself incorporates a natural harbour and has been interpreted as the possible capital of Jersey owing to its size and the wealth of material it has produced (Patton, 1987, 139). However, it is more likely that this site functioned as a non-domestic location for trade and possibly industrial activities. Although no building remains have been recovered from the area of the harbour, the coin hoards were located in this area. Furthermore, the description of one find in a hole in the cliff with pottery and a gravel fill over a burnt surface could describe a truncated souterrain of the type found in Brittany (Chapter 9). This would support close associations with the latter area. The dating of the coins suggests that this site was involved in cross-channel trade between Hengistbury Head and Alet (St. Malo) as evidenced by the concentration of cordoned ware pottery in

these locations (Cunliffe, 1990; 1994; Patton, 1987, 137). A single drystone-revetted rampart under a medieval castle at Mont Orgueil on Jersey (Barton, 1985) is associated with Iron Age wheel-thrown pottery and thus probably also dates to the 1st century BC or 1st century AD. The pottery includes three rims with internal grooves but some impressed sherds (Cunliffe, 1984, 234) may suggest an earlier occupation too. It is also possible that Mont Orgueil was enclosed in the Neolithic or Bronze Age since material of that date was also found (Cunliffe, 1985, 49). Pottery similar to the later wares was recovered from a cist on Guernsey at Le Hougue au Compte associated with glass beads, a bronze bracelet and an iron spear and sword. Cists at Les Issues and Catiorec have produced similar vessels. Back on Jersey the occupation site at Belcrote Bay and Maitresse Ile have analogous vessels. A massive hoard of *circa* 12,000 Coriosolite coins from Le Marquanderie, St. Brelade, hints at the sheer scale of this trade. Another hoard from Le Catillon, Gronville, included gold staters of the Durotriges in Dorset and other south-east English coins confirming the links across the Channel (Patton, 1987, 140).

It has been suggested that promontory enclosures, or 'cliff castles', can be closely compared with other enclosed sites in Cornwall (Johnson and Rose, 1982, 155 and 165). Cunliffe suggests they are the equivalent in social terms to multiple enclosure forts, that is the homes of the elite (1991, 259). This author believes however, that promontory enclosures are significantly different from other enclosures as a result of their location, layout and the archaeological evidence they produce. The exposed nature of promontory enclosures and their often-precipitous edges and dangerous access coupled with their lack of real defensibility suggests many of these sites were not perennially occupied. Despite references by Caesar to well-defended coastal sites in Brittany from which the Veneti could escape into ships (Chapter 9), promontory enclosure sites can often be located with little or no concern for access to the sea. It has already been argued that Irish promontory enclosures include several different 'types', some of which may have had ceremonial or ritual importance (Chapter 6). Examples in Cornwall might include those compared with Tor-enclosures. These sites also served as focal points within landscapes and perhaps social territories or as liminal places where specific functions were carried out. In fact, none of these aspects should be seen as mutually exclusive with other activities such as loci for trade and exchange or industrial processing. The evidence from the Cornish sites could be interpreted as the enclosure of ancient ritual sites focused on rocky knolls that were landmarks in the coastal landscape, or more accurately the seascape. It is probably significant that the very act of enclosing these sites, often with multiple banks and ditches, reinforces their dissociation

from the land and enhances their relationship with the sea. We must not lose sight of the fact that it was these coastal waters that provided the main means of communication and commerce in both the first millennia BC and AD. Coastal promontory sites are only immediately visible from boats since sites like The Rumps and Treryn Dinas were overlooked by higher ground to landward. Their visibility may have even have been heightened by lighting fires. These sites therefore probably marked significant locations in the society's interaction with the Atlantic Seaways be they ritual, industrial and/or trading sites, and at their most basic could have acted as navigational aids when at sea.

The promontory site at Tintagel on the north-west coast of Cornwall has produced Roman period remains and it has been argued that it was a fiscal centre during its earliest phase (Thomas, 1988, 429). However, this site is better known for its enormous number of imported wares discovered in and around several rectilinear stone buildings revetted into the slopes of the craggy knoll. These buildings were originally believed to represent an Early Christian monastery (Raleigh Radford, 1973) but this interpretation has since been rejected (Thomas, 1988, 430; Morris, 1996). It is argued that the site is a high-status residence, perhaps only occupied at certain times of the year (Thomas, 1988, 430). The imported pottery on this site consists mainly of both Phocaeen and African A-wares, a range of B-ware amphorae, glass vessels and several D-ware bowls and mortaria from Gaul (*op. cit.*, 429). A lack of cooking vessels and middens (*ibid.*) has indicated to some that the site was not perennially occupied. Instead, the presence of a carved footprint overlooking the Cornish coast suggested it was a special location visited during various rituals including inauguration ceremonies or high-status marriages and deaths (*op. cit.*, 430). The latter is supported by possible burials under mounds in the nearby churchyard on the mainland (Thomas, 1988). However, more recent small-scale excavations on the eastern side of the site have recorded rich midden deposits and produced local wares alongside the imported material (Morris, 1991). These excavations have also confirmed the terraced nature of the first millennium AD site (Morris et al., 1990) and thus strengthened the similarities between Tintagel and 'nuclear forts' with their hierarchically-organised and often enclosed terraces on rocky knolls (Chapter 5).

At Maen Castle, grass-marked sherds were recovered unstratified from the promontory enclosure, but there is no record of E-ware (Thomas, 1956, 78), a similar situation pertains to the sherd of grass-marked ware from Chûn (*infra*). This may suggest the continued use of grass-marked ware into the 8th and later centuries AD, and would be compatible with a

similar chronology of use and manufacture in north-east Ireland, Iona and Whithorn (Campbell, 1997, 358).

Inland Enclosures

There is some evidence to suggest that large multivallate sites often on hilltops, such as Castle an Dinas, Tregear Rounds and Killibury, went out of use towards the end of the first millennium BC. Excavation of several other sites such as Trevisker, Threemilestone and Castle Gotha suggest this same period saw an increase in the construction of smaller, generally univallate enclosed settlements. These were often subsequently occupied in the early to mid-first millennium AD as at Porthmeor, Goldherring, Gambra and Trethurgy (Johnson and Rose, 1982, figure 13). Importantly however, only three sites that have been subject to extensive area excavations, support reliable dating and development sequences, Threemilestone, Goldherring and Trethurgy (*op. cit.*, 156 and figure 14). At Trevisker, and others, it is probable that occupation was continuous from the late first millennium BC into the 2nd century BC at least. Post-Roman occupation or re-occupation of both small and large sites is often only represented by artefactual assemblages including imported pottery. There are rarely any architectural remains. By analogy with Wales, Ireland, Scotland and even Brittany it is probable that these were small open settlements, where any enclosures were redundant or used as boundaries rather than monumental walls, banks and ditches.

Castle Dore is a multivallate enclosed hilltop site with a north-east entrance and clear signs of multiple phasing (Raleigh Radford, 1951). A pottery sequence was recovered beginning with early hand-made, stamped-decorated South-Western B types and ending with wheel-thrown cordoned Iron Age C wares (*op. cit.*, 60). During period 1 the inner, simple turf-revetted bank was constructed (*op. cit.*, 10) and the interior was probably occupied by a series of at least six roundhouses ranged around the periphery (*op. cit.*, 57). This period is dated by the presence of stamped then curvilinear-decorated South-Western B pottery sherds, supported by the recovery of a La Tène B glass armlet fragment dating to between the 4th and 3rd centuries BC (*op. cit.*, 79). During this period 3 occupation, associated with cordoned Iron Age C wares, an outer stone-revetted bank was added and the inner bank rebuilt with an inner stone revetment (*op. cit.*, 10) and an inturned entrance (*op. cit.*, 17). There were at least two internal huts on the periphery, a five-post granary, a single central house and two external buildings were located within the outer enclosure (*op. cit.*, 59). The central structure had a 10m diameter post-ring with a rectangular four-post arrangement in the centre. This is compared to the Little Woodbury example (*op. cit.*, 55) and considered to

represent an elaborate central house of some importance (op. cit., 59). However, it is possible that this is a fortuitous palimpsest of roundhouse and granary, although the central structure is still one of the largest recovered. The projection of roundhouses around the periphery of the site suggests a total of at least five roundhouses plus the central structure and external buildings. This arrangement is very familiar in Wales where it was noted that enclosed sites of the late first millennium BC also incorporated seven structures in total, including a large central building surrounded by others probably of differing functions (Chapter 7). The single hearth recovered, suggests that other buildings may have been non-domestic and its construction with paving under a clay top is the same as hearths from Wales, Ireland and Atlantic Scotland in the late first millennium BC and early first millennium AD. Although the excavator believed the site to be constructed in the 2nd century BC (op. cit., 80) the reassessment of the decorated pottery and the La Tène B armlet fragment suggest an earlier date, perhaps in the 4th century BC. The presence of cordoned pottery and a fragment of La Tène C glass armlet (op. cit., 79) indicates that occupation continued into the 1st century BC and possibly into the 1st century AD.

The site was later re-occupied by two rectangular halls and several four-post granaries interpreted from a series of stone-lined post-holes. The larger hall had a hearth and the smaller had a rough cobbled floor (op. cit., 60 and 65). A lack of Roman pottery suggested that these structures might be later first millennium AD in date. This is supported by the unstratified presence of several scraps of late pottery and blue beads (op. cit., 60) and the dating of similar structures at Dinas Powys and Longbury Bank in Wales (Chapter 6). This pottery includes a bowl similar in shape to the African Red Slip A-wares at Tintagel and two globular vessels with everted rims in hard-fired wheel-thrown ware (op. cit., 88). They have recently been classed as small grey bowls similar to those from Gwithian (*infra*) and perhaps analogous at least in date to E-ware (Thomas, 1959, 108). These would support the interpretation of the abraded scraps as the remains of grass-marked wares also found at Gwithian and possibly Chûn (*infra*) and suggests the site was in use, albeit perhaps with a break in occupation, over a long period of time.

The multivallate site at Killibury had 13 phases producing a sequence of Iron Age pottery similar to that from Castle Dore and radiocarbon dates supporting a development from the 4th century calBC to the 1st century calAD (Quinnell, 1986, 114). The site at Tregar Rounds incorporated South-Western B pottery on a trivallate site (Hencken, 1932, 127). Chûn Castle

is possibly paralleled by a ruinous and overgrown site on Tregonning Hill (Thomas, 1974, 273) with an oval univallate enclosure and stone huts inside (Hencken, 1932, 143).

Halligye incorporates one of only two souterrains located within earthworks in Cornwall that have an entrance cut into the ditch below the enclosure bank. The other, Treveneague, is also one of only two with subsidiary chambers cut directly into the 'rab' (the natural clay soil of Cornwall). It also incorporated vaulted chambers and passages and very small entrances requiring one to crawl or stoop, and produced evidence of burning. Another souterrain at Boleigh, was built within an earthwork enclosure but was centrally located and did not have an entrance into the surrounding ditch. At Pendeen there is a rab cut chamber subsidiary to a souterrain and the entire site is subsumed within an enormous 'wall' (Cooke, 1993, 96).

Excavations at Halligye indicate that the primary 'fogou' chamber was built contemporary with the earthwork *circa* 5th or 4th centuries BC and the subsidiary chamber was added at a later unspecified date along with a creep passage. Around 75BC to AD50 the main chamber was extended and the original entrance to the ditch modified; the extension to the main chamber may well have included an entrance to the interior of the earthwork site. Sometime later the ditch entrance was blocked and the ditch re-cut on a larger scale. This second ditch was slighted, though only partially, around the 2nd century AD and there may have been a break in occupation (Cooke, 1993, 60-61). This site also produced a large quantity of ashes (op. cit., 225).

The large first millennium BC promontory, hilltop or hillslope sites are often seen as truly defensive enclosures (Johnson and Rose, 1982, 155; Cunliffe, 1991, 184). This is challenged by the fact that sites such as The Dodman promontory enclosure and Castle an Dinas hilltop enclosure have multiple simple entrances. Castle an Dinas, like many multivallate promontory enclosures, has straight entrances through banks and ditches. A similar effect is visible at Killibury, where an entrance to a rectilinear annex added to the outer enclosure aligns with an entrance through both concentric banks and ditches. The effect is to enhance the access into the centre of the site in terms of monumentality and visually to impress visitors. The careful addition of several different boundaries that must be crossed emphasises the movement from unenclosed space to a controlled environment. This element of control over the local environment, and presumably also over the economy practised at the site, is perhaps at the core of the reason for the move to small enclosed settlement. Many of the larger multivallate hilltop and hill-slope sites have widely-spaced ramparts (Fox, 1956;

Johnson and Rose, 1982). These sites are seen as decisively non-defensive (Fox, 1953, 17) and many of their attributes such as downhill-facing entrances (op. cit., 18) are paralleled in Irish ringforts (Limbert, 1996, 250). Sites such as Chûn Castle (Figure 37d) and Castle an Dinas were probably located and constructed for the display of power and prestige with less attention to formal defence. At least some of the promontory enclosures in Cornwall are in poorly-defensible locations (Herring, 1994, 53; *supra*) with relatively small enclosure walls, and may have had various roles in society. There are few souterrains, or 'fogous', located within large multivallate enclosures, although at least some must have been contemporary, such as Carn Euny. These and their associated, often open, settlements of the same date such as Carn Euny and Goldherring are located around and below hilltop sites such as Caer Brân, and the relationship between these needs detailed analysis. The preservation of such open settlements on the West Penwith peninsula along with associated field-systems represents a unique and fortuitous archaeological resource that has yet to be fully exploited (Johnson and Rose, 1982, 174 and 176). The presence of earlier timber buildings under the stone courtyard-houses at Carn Euny suggests that such ephemeral remains would be difficult to recover if not preserved under later re-use and it is possible that souterrains not currently associated with stone structures originally had wooden buildings. There is a complex relationship between the large enclosed multivallate settlement sites on hilltops or hill-slopes and the potentially numerous settlements around their periphery, some with souterrains, some enclosed, some not.

Unenclosed Sites

Courtyard-houses

The conclusion that unenclosed settlements, generally courtyard-houses, represent the unfree (Cunliffe, 1991, 260) is an intriguing possibility since these are numerous around the higher hills of west Cornwall and many have probably been destroyed in the lowlands. Courtyard-house buildings have been described as, "a hive of human activity and squalor" with man and beast living on the edge of self-sufficiency in a "peasant community" (Mercer, 1974, 240). Other locations on the Atlantic Seaways have rarely provided such evidence of the lowest class of unenclosed settlement. However, several of these settlements are located around larger hilltop sites and are presumably linked to them socially and economically. The scale and careful construction of the courtyard-house buildings indicates an ability to organise labour and materials. It is probable that many if not all 'courtyards' within these structures were in fact roofed. The thickness of the walls suggests they were meant to take

considerable stresses and the internal diameters would not be prohibitive. Several of the subsidiary chambers, representing careful demarcation of space and presumably functions, incorporate the remains of corbelling. These structures therefore incorporate careful construction and represent an architecture well suited to their exposed hill-slope locations on the Atlantic seaboard.

Carn Euny is located on the south-west slope below Caer Brân fort on the 170m OD contour, and comprises ten Iron Age buildings, although none is completely intact (Christie, 1978; Figure 37b). The site includes a souterrain or 'fogou', incorporating a corbelled chamber off a curving passage. This souterrain was subsequently altered to allow access to the overlying courtyard-house 1 during the 1st century AD (op. cit., 314), although radiocarbon dating might suggest a slightly earlier late first millennium BC date (HAR-334). Radiocarbon dates were retrieved from deposits below the house indicating previous earlier settlement dating between 800calBC to 250calBC (HAR-238, 2370±70bp) and 370calBC to calAD70 (HAR-334, 2080±80bp). Three of the buildings are large oval structures utilising horizontal coursing and all are multi-phase (op. cit., 333). These are relatively simple constructions for courtyard-houses and the early dates might support an evolution of the type from simple ovals to more complex cellular designs. The majority of the buildings now visible have been dated to the final phases of a four part phasing because of the presence of cordoned pottery (ibid.) and their associated radiocarbon dates. The later structures are smaller with a more complex cellular layout, supporting the chronological development of the form.

The souterrain incorporated a sequence of development, beginning with a large circular corbelled 'beehive' chamber and its entrance being built in the 5th century BC. The curving main souterrain passage and creep were believed to have been added later, in the 4th to 3rd centuries BC. This was modified to provide immediate access from a courtyard-house. Careful analysis of the report, however, indicates that the circular chamber and souterrain passage could have been constructed contemporaneously. The published sections, and the covered drains built within the souterrain and circular chamber and running throughout the structure, support this. This souterrain was partially upstanding with a vertical slab wall surmounted by drystone coursing revetting the south-east side and evidence of turf's being removed to cover the structure (Christie, 1978, 325-327). The excavator believed that the circular chamber was only partially corbelled, with the remainder of the roof being timber and thatch supported by a central wooden post set into a pit in the centre of the chamber. A lack of collapsed corbel material in the interior might support this hypothesis. However, the

small open diameter would not require a central support for a wooden roof; indeed, it is possible that it was totally corbelled as at Bosporhennis, but that this was subsequently carefully removed. Whatever the original roofing, another function should be sought for the central pit. Within this chamber were also signs of burning lying over the original paving and one of these paving slabs was a broken saddle quern (op. cit., 321). Under the paving was a quantity of charcoal with burnt bone and the potsherds used to date the constructional phase. These latter were very similar to some decorated pot sherds found in association with charcoal in a trench under the floor of courtyard-house 1, radiocarbon-dated to between 800calBC and 250calBC (HAR-238). The modifications to provide an internal entrance to this same house were also radiocarbon-dated from a deposit containing pottery under the entrance paving (HAR-334) to between 370calBC and calAD70. These modifications would remove any earlier evidence for an entrance at this location. Other sites in Scotland and Ireland often incorporate a second larger entrance alongside the creep. The lack of complete excavation at many sites in Cornwall and the problems of phasing at Carn Euny mean it is not possible to be positive that there was originally only a single small creep entrance in Cornish souterrains (*contra* Cooke, 1993, 34).

The finds from the site comprised mainly pottery, which was arranged stratigraphically into a series of phases, and also stone implements of which querns were the most frequent but which also included hammerstones and whetstones. The only *in-situ* querns were saddle-querns such as those found in courtyard-house 3, one of which contained a pestle. In hut H, above the beehive corbelled chamber of the souterrain, there was an *in-situ* saddle-quern found inside and a basin outside the entrance. A fragment of zoomorphic penannular brooch with folded terminals was also recovered (op. cit., 394) probably dating to the early centuries AD. A fragment of a Dressel 1a amphora was also found within the topsoil of courtyard-house 4/5. The only other dating evidence came from four radiocarbon dates including the two quoted above. Others were from a storage pit, considered late in the sequence as it contained a shouldered decorated pot with a cordon (op. cit., 430). This pit produced a date of 90calBC-calAD390 (HAR-335, 1860±100bp) and a pit east of courtyard-house 2 produced a late date of calAD110-calAD440 (HAR-237, 1740±70bp). Earlier excavations of the souterrain confirmed that the long chamber had been deliberately back-filled and the finds from this fill included amongst other things, a Samian sherd and broken pieces of rotary quern (Borlase, 1872, 334). From the centre of this long passage, “a considerable quantity of fused tin very rich in quality” (ibid.) was also discovered. The rest of the pottery was all wheel-thrown (ibid.) supporting an early first millennium AD end for the souterrain.

Christie considered this site as comparable to Halangy Down, Scilly (*infra*), since the structures were not arranged around a 'street'. The buildings were believed to be roofed because none had the 'classic' plan with an open yard with smaller cellular rooms opening off and a main 'living' room oriented opposite the entrance (Christie, 1978, 313 and 386-387). Overall, the excavator suggested the dating of the site as running continuously from the 5th century BC to the 4th century AD (op. cit., 385). The courtyard-house settlement of Goldherring is on the same contour on the south-south-east slope and has produced coins of Roman type (Hencken, 1932, 139).

Porthmeor courtyard-house settlement incorporates various cellular buildings and at least one souterrain with architectural features such as covered drains similar to Carn Euny. The courtyard-houses are assumed to date to sometime in the 2nd century AD owing to the presence of Romano-British pottery. However, although the site has no grass-marked sherds, it did produce A-ware imported pottery (Thomas, 1959, 107) dating some use of the site to the 5th century AD (Thomas, 1956, 77), suggesting it continued in use for several centuries. The attached souterrain was built into one of the walls of the houses. This is not a classic site of the courtyard-house type but seems to consist of a single roundhouse with separate cells around it. This site is the closest parallel to the souterrain feature in the Loch na Beirgh 'shamrock' cellular phase (Chapter 4) albeit on a larger scale. Interestingly, this too was dated to the mid-first millennium AD, and perhaps the cellular nature of this site again reflects the chronological development of the type.

The excavation at Halangy Down, St Mary's, Isles of Scilly, also highlights the development of this site type outside the mainland of Cornwall (Ashbee, 1970). This site produced further evidence of multiple phasing of a courtyard-house settlement with "progressive phases of a complex of buildings, which led to a courtyard-house" (op. cit., 75). This substantial building was considered to remain the domestic unit for a considerable period of time (ibid.). The finds included a wealth of Roman Samian and Castor ware alongside local brooches and sophisticated mould fragments made of stone with two-piece clamp recesses (ibid.).

Other substantial stone buildings were excavated at Nor'nour in the Isles of Scilly that indicated a degree of cellularity (Dudley, 1967). The original excavations presented a possibly Bronze Age occupation, re-occupied in the pre-Roman Iron Age and again during the Roman period (op. cit., 1). During the Iron Age a D-shaped building with a long narrow

entrance passage was re-used with the construction of radial compartments. The compartments were separated from the paved central area by a ring of orthostats and a bench. The larger of two hearths was circular and the smaller was a kerbed rectangular hearth (*ibid.*). At the same time, a second D-shaped room was built against the original building. Again, there were two hearths, the larger of which was rectangular, kerbed, and associated with a pit, a saddle quern, pounders, a hone, pivot-stones and pot bases. These features are comparable to those found in circular buildings both on mainland Cornwall and Atlantic Scotland in the late first millennium BC to early first millennium AD. The internal layout is comparable to possible early courtyard-house structures. The final phase of the settlement involved the use of these structures and a further building to the north in the manufacture of brooches. The piered room became the finishing area and Roman coins recovered from this room date between AD74 to AD383.

Other buildings on the site also incorporated radial divisions of central space within circular rooms (Butcher, 1970). Rectangular hearths and a possible bench were recovered from at least one building that had originally been at least partially corbelled (*op. cit.*, 77). The majority of the pottery recovered was of plain Iron Age jars and bowls, similar to those originally excavated from the rest of the site (*op. cit.*, 81) and now dated between the 8th to 4th centuries BC (Quinnell, 1986, 112). This site is a complex settlement occupied over a long period of time. The buildings were compared to the wheelhouses of the Western and Northern Isles (Butcher, 1970, 80) but have important structural differences and the closest relationships may be with secondary buildings within complex Atlantic roundhouses. This may be supported by the reuse of the originally excavated building in the 4th century AD, comparable to the re-use of sites in Atlantic Scotland and Ireland. It is unfortunate that structural details from this phase are lacking. The evidence suggests contact with the Romans, presumably through Brittany or Cornwall, during the early centuries AD, again supporting the idea of an affluent trading society in the south-west during this period.

The enclosed site at Boleigh revealed the foundations of poorly-preserved stone-built houses of the courtyard-house type with which the souterrain was probably associated. Artefacts included large quantities of Iron Age pottery and a broken saddle-quern indicating a pre-Roman Iron Age date at least for this small settlement (Time Team, 1996). The site exhibits similar architecture to souterrains in Scotland with large boulders at the base surmounted by smaller, coursed stonework.

Chysauster, below Castle-an-Dinas, comprises eight buildings in pairs strung out along a 'street' and incorporating terraced garden plots and other land divisions (Hencken, 1933; Mercer, 1974; Figure 37c). The best-preserved building, 'House 6', was a 20m long oval structure with rooms in the walls and excavations revealed paving, hearths, ashes, drains and basins. Finds included pottery, some of which seemed to be related to the first century AD or later 'pedestal urn' type, and a piece of tin in the central area. The smallest room was corbelled and the outer wall facing at the northern end was higher than the rest, suggesting a rough gable for roofing (Hencken, 1933, 133) analogous to the construction noted at Bostadh Beach, Scotland (Chapter 6). House 4 resembled house 6 and the finds included a rotary quern, rough paving, a basin, a large rounded grinding stone and pieces of iron, flint and pottery (mainly composed of inferior Roman wares). House 3 was composed of two 'courts' or central areas with two entrances. A drain and basin were discovered in one and a cist-like enclosure of large stones in the other. From this house came a tin-glazed hard-fired pottery fragment in a drain under the paving associated with Iron Age pottery (op. cit., 136). This fragment suggests a high quality ware, perhaps suggestive of elevated status. This site also had a nearby 'fogou' or souterrain but some distance from the main settlement indicating perhaps some industrial purpose better suited to the location, perhaps analogous to the external souterrain at Marshes Upper, Dundalk, County Louth (Chapter 6). Alternatively, the souterrain may be the only visible remains of an earlier settlement constructed using timber and thus impossible to locate without excavation or geophysical prospecting. An early wooden phase was recognised at Carn Euny beneath the well-preserved stone structures. The 'gardens' at Chysauster also need further analysis and excavation to elucidate their precise form and function. Early excavation could only confirm that they are artificially-constructed and enclosed by rubble walls (Hencken, 1933, 245). These are unique on courtyard-house settlements and similar structures are rare elsewhere in the Iron Age unless they are analogous to small enclosures appended to monumental drystone structures in Argyll such as at Ronachan Bay for example (Chapter 5). These plots may have been used to produce plants that were subsequently processed in the stone basins in the rooms of the buildings.

Hencken believed House 7 at Chysauster was constructed in the 1st or 2nd centuries BC (1933, 277). However, at least one small sherd of early South-Western B stamped-decorated pottery was recovered from here, although its small size could indicate redeposition. This would support earlier occupation on or near the site. The majority of the rest of the pottery is either cordoned wares or later Romano-British wares suggesting occupation in the 1st century

BC and 2nd or even 3rd centuries AD (ibid.). However, the ruined nature and mixed stratigraphy of many of the buildings makes detailed phasing impossible. House 7 was one of the poorest preserved buildings (op. cit., 253) and seems to have been much remodelled. It was also used in recent times for preaching as was Chûn nearby (op. cit., 257). Reconstruction of this house may have included construction of at least one of two slab-lined hearths unique in the 'head' rooms at both Chysauster and Carn Euny. The best preserved hearths elsewhere on site were patches of charcoal and burnt earth. One hearth in house 7 (b) appears to be a three-sided type (op. cit., 253). Inside the hearth was a layer of potsherds below burnt material and these included two vessels that were dated latest of all on site. A single wheel-thrown sherd of a plain, hard-fired and gritty pottery had a slightly flaring rim, less everted than the rest, and dated to sometime later than the 1st century AD (op. cit., 262). The other is a chocolate-coloured imitation of a Roman rim and is dated to the later half of the 3rd century AD (op. cit., 265). These dates are only approximate and may suggest that cellular re-occupation of the building occurred in the early to mid-first millennium AD. This secondary occupation would have added to the confused stratigraphy and is supported by the again unique presence of two superimposed layers of paving in the 'head' room (op. cit., 255). It may also have included the vertical orthostats in the main court area which sit in soil above the natural ground surface on which the rest of the foundations are built (ibid.). The underlying paving in the 'head' room, and indeed paving elsewhere in the other courtyard-house buildings was laid onto the natural 'rab' (ibid.).

The overall shape of these buildings suggests a hierarchical arrangement with rebated entrances giving access to a main central space. Access to the next largest space is often located opposite the main entrance. An analysis of Building 6 at Chysauster highlights the careful and even monumental construction of these complex structures. In the northern intra-mural passage, the remains of corbelling can be seen much like that in the ground floor intra-mural chambers in complex Atlantic roundhouses in Scotland (Chapters 3 and 4). This same elongated chamber leads via a paved and stepped entrance to a further, circular, intra-mural room also with partial corbelling remains. The basal courses in many intra-mural chambers at Chysauster are composed at least partly of large orthostats. In the 'head' room of Building 5 these increase in size from the sides to the centre opposite the entrance where a tall pointed slab is located. In Building 6 the 'head' room also incorporates several box features in its floor. These and stone 'basins' in soft granite are typical furniture for the rooms opposite the entrances at Chysauster (Hencken, 1933, 275). Many of these features are visible in the first millennium AD cellular structures in Atlantic Scotland. These

courtyard-house buildings thus seem to incorporate features comparable to the wheelhouses and secondary roundhouses inserted into complex Atlantic roundhouses (Chapters 3 and 4) with intra-mural features surrounding a central space within a single storey building of somewhat monumental stature (contrasting with non-monumental cellular structures). They are certainly comparable chronologically.

This site would therefore have had a long history beginning in the mid- to late first millennium BC, possibly incorporating timber structures. These may also have been associated with the nearby fogou and therefore further south. Settlement may then have shifted uphill slightly with the construction in the late first millennium BC and early first millennium AD of the stone courtyard-houses. It is possible that not all were built contemporaneously and that the 'village' represents a palimpsest of settlement, perhaps beginning with house 7 nearest the souterrain. This same house was then re-used in the early to mid-first millennium AD, suggesting perhaps a contraction of settlement size analogous with cellular settlement in Atlantic Scotland (Chapters 3-5).

Bossulow Crellas is one of three courtyard-house settlements lying below Chûn Castle. Situated on the north-east slope the site has houses of less regular type but some Iron Age pottery fragments were discovered in one building by Borlase in 1870. A stone basin was also found in the main room (Hencken, 1932, 137). On the north-north-west foot of the same hill, a similar village of cellular buildings is located near a spring at Croftoe (*ibid.*). At least one of these buildings is a small elliptical structure built of drystone masonry with large uprights at intervals similar to Chûn Castle. This building produced Iron Age pottery, one of which was of the Glastonbury style and others were parts of a Roman-period bowl like that found at Chysauster. Pieces of flint, iron, a Roman coin and a piece of moulded glass were found dating the site to the 1st or 2nd centuries AD (*ibid.*). Only scant remains exist of the third site on this hill, Carn House, which is located on the northern slope near the find spot of a hoard of Late Bronze Age gold bracelets. It is possible that these sites are contemporary with the cellular buildings at Chûn Castle, which themselves probably represent secondary occupation within the enclosure (*infra*). However, considering the long period of structural development for courtyard-houses suggested here it is possible that at least some are also contemporary with any earlier phases at Chûn Castle. The later re-use of Chûn Castle is dated to between the 5th and 7th centuries AD (*infra*) but the lack of diagnostic imports at courtyard-houses may indicate they were out of use by then. Alternatively, they may have not had the same access to imports, perhaps reflecting their social status relative to the

hilltop settlements within the remains of earlier monuments. Notwithstanding the poor dating of all these sites it is possible that the proliferation of courtyard-houses around hilltop enclosures represents the development of new, smaller, settlements during the final centuries of the first millennium BC and the early centuries of the first millennium AD.

These structural features, scale of construction and the fact that some sites like Boleigh and Goldherring were located within enclosures suggests that these were certainly not the unfree or lowest class of Cornish society during the late first millennium BC and early first millennium AD. It has been suggested that courtyard-houses represent only the final occupation of previous high-status sites, possibly related to the extraction and trade of tin (Cooke, 1993, 229). The finds of Roman coins at Goldherring (Hencken, 1932, 139), Croftoe (op. cit., 137) and near or on the site at Higher Bodinar (ibid.) also suggests these were more than simple, unfree slaves. The same inference can be drawn from a find of Roman glass at Croftoe (ibid.) and Roman Samian and other wares with bronze-working mould fragments at Halangy Down, Isles of Scilly (Ashbee, 1970, 75). The tin-glazed pottery fragment from Chysauster could also be considered to indicate a more elevated status. At Carn Euny, the remains of a Dressel 1a amphora (Christie, 1978, 387), a definite outlier from its usual more easterly distribution, probably represents the drinking of wine on the site, presumably indicating some status. Dressel 1 and other amphora fragments have also been recovered from enclosed sites such as Carloggas Camp and Trevisker. If this elevated social status is ascribed to courtyard-houses then it becomes important to re-assess their connections with the hilltop and other enclosed sites they were previously supposed to serve.

The ring of buildings set against the massive walls of the circular Chûn Castle, Penwith, utilised vertical orthostats combined with horizontal coursing (Leeds, 1927, 209; Figure 37d). These buildings, described as 'huts', obscured the inner wall-face of the fort that was built with megalithic stones. The structures were rounded in plan, varying in size and shape, and at least some may have been rectangular, arranged concentrically within the site. Some share walls but all are almost certainly multi-phase, some were even used for preaching in relatively recent times (op. cit., 216). Multiple floor levels and paving were discovered in at least one building (op. cit., 219). The only other major feature was a deep well. Many of the stones marking the divisions between possible buildings were discovered to lie in upper layers only (Leeds, 1931, 35), while the actual fort wall was founded on a lower layer (op. cit., 34). Some of the stones in the dividing walls seemed to be re-used from earlier periods

(op. cit., 35). Within at least one of these buildings was found slag and tin dross, probably contemporary with a nearby furnace and associated slag and charcoal (Leeds, 1927, 218). Other material from this site is generally undiagnostic but includes a possible circular mould for a “tin cake”, a small assemblage of pottery, beach pebbles and hammerstones, a possible “gaming piece” and a fragment of a shale bracelet. The most numerous find seems to have been metalworking waste including a 12lb cake of tin slag and pieces of iron slag. A building north of the entrance was built using vertical slabbing with some internal paving and three hearths (Leeds, 1931, 38). These seem to be mounds of burnt ‘rab’ edged with stones, and may be comparable to baked clay hearths elsewhere. Two (Hearths 1 and 3) had large amounts of charcoal. Hearth 3 produced charcoal from a 6-inch deep three-sided trough and a 24-inch deep associated pit. The three-sided trough may in fact be the remains of a later hearth of a type well known elsewhere. The association of a baked surface hearth and tank is known from the *circa* 4th century AD cellular remains at Loch na Beirgh, Scotland (Chapter 4). Very little pottery was recovered from this building, what there was generally being small and abraded. Only one plain vase with an everted rim and dark brown colour was restorable (Leeds, 1931, 40-41).

The pottery assemblage from Chûn is predominately finely-made burnished ware with incised horizontal bands and applied cordons. The incised decorations are mainly diagonal hatching in narrow bands but also include hatched triangles, curvilinear hatched areas and are produced on fine wares. There is a fragment of a handle and a spindle-whorl of fine, bright red pottery. The assemblage also includes a “medium coarse ware” (Leeds, 1927, 220-221) with two fragments of internally-grooved everted rims and a sherd with slightly ‘S’ shaped incisions between horizontal lines. Other sherds include beaded rims, straight rims, hole-mouth jars, vertically pierced lugs, everted rims, footed bases and flattened rims but without any stratigraphic or contextual control it remains a mixed assemblage. Several sherds are described as having cordons (op. cit., 222; 1932, 41) and when combined with the pierced lugs near the rim and possible Hengistbury Ware these may indicate some occupation in the 1st century BC. However, a later reference to the site indicates that parts of wine-amphorae were found at all levels and that scraps of Roman pottery were recovered from the site in 1895 (Hencken, 1932, 127). Charles Thomas has identified Bi sherds from the furnace area dating to the late 5th or early 6th centuries AD. He has also argued that a plain coarse vessel from the hearth in hut C (Leeds, 1931, Plate XXIV) is grass-marked ware analogous to Souterrain Ware in north-east Ireland (Thomas, 1956, 75; 1974, 275).

This suggests the large monumental hilltop construction with massive enclosure walls and revetted ditches was built in the early to mid-first millennium BC. Its later re-use with cellular buildings and possible industrial activity probably dates to the early first millennium AD. Imports and grass-marked ware suggest this site continued to be used into the mid- to late first millennium AD. Unfortunately, the poor stratigraphic control precludes any definitive conclusions as to which structures are represented and whether there was any break during this long period. It is probable that the site and its associated courtyard-houses follow the same sequential development of settlement as that seen in Atlantic Scotland and Ireland.

There are also vague references to small structures around the inside of Pencaire Castle on Tregonning Hill similar to the site at Chûn Castle (Hencken, 1932, 143). Further small cellular settlements can be found clustering below the Roughtor, Bodmin Moor, and White Tór, Dartmoor, but these are generally considered Bronze Age in date. It is entirely probable that these structures are related to the larger more complex courtyard-houses, perhaps spanning a considerable chronological period. The excavations at Boleigh (Time Team, 1996) and barely traceable remains at Carn House (Hencken, 1932, 137) suggest that many have been eroded or otherwise poorly preserved. The site at Bosporthenis is remarkably similar to late first millennium AD figure-of-eight buildings in Ireland and Scotland and may in fact represent this site-type in Cornwall. The architectural details of the structure at Croftoe also parallel earlier cellular buildings elsewhere. These support a concerted move toward a more cellular type of architecture during the first millennium AD.

Courtyard-houses appear to have had a long period of development and it will require further modern excavations to provide a possible phasing of this type of settlement. Not all settlements follow the 'classic' plan of a courtyard-house. Sites such as Carn Euny and Bossulow Crellas have less regular layouts. However, they still incorporate intra-mural chambers around roofable central spaces. Some cellular settlements are much less well preserved and often simpler in design and layout such as at Croftoe, Mulfra Hill and Bosporthenis. At Bosporthenis the best-preserved structure comprised two conjoined rooms connected by a doorway with two upright stones supporting a low lintel. The main circular room appears to have been partially corbelled much like an Irish *clochán* (op. cit., 138). Similar corbelling was reported from the settlement at Higher Bodinar during excavations before its destruction (Borlase, 1872, 328). This site was recorded as a distinct figure-of-eight building with the entrance between the two chambers flanked by large vertical

orthostats. There were also three elongate intra-mural chambers and the exterior face of the building used massive granite orthostats to support a rubble wall (*ibid.*). These details at both sites are comparable to late first millennium AD figure-of-eight buildings elsewhere (e.g. Chapters 3 to 6). A hoard of Roman coins was found either nearby “at Bodinar” or on the site itself. Borlase records three late 3rd century AD coins from a hoard under a stone in the hollow way leading to the courtyard-house village and other coins from the huts recovered in the past (1872, 329). Is it possible that the coins were deposited at the entrance to the village as a foundation deposit? They would therefore date the foundation of at least some buildings here to the late 3rd century AD. The distinctly figure-of-eight nature of the site might support an even later date.

The reappraisal of the south-western pottery dating suggests that the courtyard-house type has its origins well into the first millennium BC, somewhat analogous to Atlantic roundhouses. The Nor'nour building is dated roughly to this early period and has architectural similarities, such as radial division of space and thick walls, which are similar to Atlantic roundhouses. It is definitely not a wheelhouse for the reasons stated above. Earlier courtyard-houses have been described as simple oval buildings with few interconnecting separate spaces, such as at Carn Euny (*supra*). The later courtyard-houses are generally assumed to date around the 1st or 2nd centuries AD, and then go out of use, but some probably continue and become more cellular and irregular in layout. Finally, it is possible that the figure-of-eight structure so well known in Ireland and Atlantic Scotland was also constructed in Cornwall, as evidenced by Bosporthenis and Higher Bodinar.

Unenclosed Coastal Sites

Sites in Jersey include unenclosed coastal settlements as at Broad Street, St. Heliers, where a rectangular structure with a clay floor and paved hearth were recorded in a small-scale excavation. The hearth included a rounded end and carbonised barley (*Hordeum* sp.) was retrieved from the structure associated with a distinctive curvilinear decorated bowl (*op. cit.*, 134). The site sat at the top of a beach and its layout recalls similar sites dotted around the coast of Brittany such as at Ebihens, Saint-Jacut-de-la-Mer, which has produced very similar pottery (Chapter 9). These wares are paralleled by the South-Western B material. A coastal erosion site at Belcrote Bay produced a hearth and two rotary querns with fragments of wheel-thrown vessels similar to those from Mont Orgueil (*supra*). Four clay bars in the assemblage were interpreted as supports for the pottery vessels over the hearth while cooking (*op. cit.*, 140). However, they are more likely to support the drying racks associated with salt

making activities on the coast, paralleled at numerous sites in Brittany (Chapter 9). Briquetage and coastal shell middens have also been discovered on the coasts of Guernsey (Kendrick, 1928, 216).

At Gwithian in west Cornwall, a rectangular house defined by post-holes and stake-holes and incorporating a circular hearth was associated with coarse ware early pottery (Thomas, 1958, 215). However, at another site in the same location a series of sand layers with three main first millennium AD levels were recognised (Thomas, 1956, 77). In the lowest level Romano-British derivative wares were associated with Phocaean Red Slip A-ware and Bi, Bii and Biii amphorae (Thomas, 1959, 107-108). In the second level were grass-marked wares associated with E-ware pots and beakers (Thomas, 1959, 109). However, without full publication of this potentially important coastal site it is difficult to assess the actual distribution of material through the stratigraphy. A later reference suggests the assemblages are actually mixed (Thomas, 1990, 14). At Tintagel both E-ware and grass-marked pottery are missing from the current assemblage and it is therefore possible the site “did not outlast the 6th century” (ibid.). The stratigraphic evidence from Whithorn, Scotland (Chapter 5) supports the general chronological differences between earlier A- and B-wares and later E-wares. However, it may also support some overlap between Bii and Biv amphorae with African Red Slip A-ware and E-ware (Hill, 1997, 324).

Souterrains

The Cornish souterrain sites consist of a principal, long, lintelled passage, nearly always with a slight curve of varying degree. They are constructed of drystone coursing and the majority corbel at least slightly. There are often several associated features including very low and constricted side passages, called ‘creeps’, door-checks and sometimes a side chamber off the long passage. What is significant is that these sites too were often very visible, sometimes even with upstanding portions, often covered with a mound. Others were built up from ground level and incorporated into massive stone walls (op. cit., 35) and invite comparisons to complex Atlantic roundhouses, courtyard-houses and cellular structures. Of the 62 possible souterrain sites examined by Cooke he considers only 11 to be definitely ‘fogous’ with a further 25 possible sites including poorly-preserved and recorded sites (1993, 45). Halligye, investigated by Bill Startin, is one of three that have been excavated to a standard that allows detailed analysis. Of the others, Borlase originally excavated Carn Euny in the 19th century and then Christie conducted an investigation over a ten year period before the

site was developed for public presentation (Borlase, 1868; Christie, 1978). Porthmeor was investigated in the 1930's but produced little detailed information.

Castallach souterrain is the only other site well preserved enough to provide some detail on construction. It had a rab cut passage, although this was not a subsidiary side-chamber but continued on the line of the main passage and is sometimes considered a later entrance. This was unroofed, as was the main passage that narrowed in the middle utilising large uprights as checks for a possible internal doorway (Cooke, 1993, 140). This effect is paralleled at numerous sites elsewhere such as Rosal in Scotland and Coolcran in Ireland. This site had what could have been an upright pillar at its furthest end, paralleled at Gress Lodge, Lewis, Scotland, and two "blocking stones" (op. cit., 140).

In his detailed analysis of all the Cornish sites Cooke draws on several lines of argument to conclude that the Cornish 'fogous' were overtly ritual in character. He examines orientation, position in the landscape, associated structures, folk-tales and ethnographic parallels. The first, orientation, is the main evidence for the sacred character of the 'fogous'; almost all souterrains have a general east-north-east to west-south-west orientation in Cornwall. Specifically, the southern end of the main passage is argued by Cooke to align roughly on the midwinter solstice and the northern ends align towards midsummer solstice. The creeps and subsidiary chambers do not have a common alignment (Cooke, 1993, 210-212). These alignments, not diametrically opposed, could therefore account for the curvature in all Cornish souterrains. The vast majority of Cornish sites always bend toward the right, or east-north-east, from the south; there are only three exceptions, but these have not been investigated. This orientation is indeed persuasive and would appear to indicate a non-secular aspect of construction, but does not in itself argue for an overtly ritual or sacred function for the souterrains. Entrance orientation at Iron Age roundhouses is not environmentally determined (Parker Pearson et al, 1996). Substantial proportions of complex Atlantic roundhouse entrances face west, most of the remainder face east, and north and south are avoided. Roundhouse settlements on raths in Ireland also seem to be specifically oriented, mostly south and east. The vast majority of southern British roundhouses face the rising sun at the midwinter solstice or the equinox; and hut circles in Scotland suggest similar features (Parker Pearson et al., 1996, 61). The enclosed sites in north-west France have a distinctly different entrance orientation to those in south-west England (Chapter 9). In general these sites would not commonly be assigned special ritual or sacred significance, but indicate that past societies had an entirely different view of the

interaction between sacred and profane. Both were often incorporated into their everyday way of life, including their architecture. It may well be that the orientation of souterrains was important, but within a domestic or indeed industrial sphere.

Their location, generally around 76mOD on sloping ground below hill summits, is seen as similar to those of ritual structures (Cooke, 1993, 229), presumably including Neolithic and Bronze Age monuments, the significance of which is still a matter of debate. There is a supposed lack of souterrains on hillforts and 'cliff castles'. This is seen as a taboo against hilltop sacred sites (*ibid.*) but it has been argued that both hillforts (Cunliffe, 1991; Quinnell, 1986) and 'cliff castles' (*supra*) have a non-secular aspect. There are some souterrains on hillforts, for example Castle Law, Mid-Lothian, Scotland, and promontory forts, for example Dunbeg, Ireland (Edwards, 1990, 41) and at Dun Mhairtean, Scotland (Lamb, 1980, 26) where the souterrain is possibly associated with surface structures. However, the association of souterrains with primary usage of these sites is far from conclusive. Settlements occupy the same location as souterrains; indeed all souterrains seem to be associated with settlement or earthwork structures. These settlements are likely to be mainly secular in nature and their location probably gives them no ritual significance. In fact, their location is arguably a factor of their relationship with the hilltop enclosures above, and presumably also access to farmland.

Location, therefore seems congruent with the settlement typical of Cornwall during the Iron Age. Cooke believes courtyard-house settlements to be a continuation of a previously important high-status settlement possibly related to the extraction and trade of tin where the souterrain would originally have been the, "only stone built structure" (Cooke, 1993, 229). However, courtyard-houses have a long period of development (*supra*). Excavations may eventually produce a chronological phasing of this type of occupation. The sites at Boleigh and Carn Euny suggest that stone-built architecture was well known in the first millennium BC. Even a casual examination of house-plans indicates that not all courtyard-houses follow the 'classic' plans of excavated sites and that many incorporate multiple phasing. This may devalue the 'special' nature of stone architecture on an early site. Indeed examples of souterrains from eastern Scotland are indicative of stone architecture on wooden roundhouse sites, but this in itself may not suggest a special nature.

The other settlement form associated with souterrains are earthwork sites. At Boleigh this was an oval enclosure around the stone buildings and therefore not seen as having ritual

significance, being assumed instead to be analogous to 'rounds'. However, it is argued that both Treveneague and Halligye, being roughly rectangular with rounded corners, can be paralleled with 1st century BC sacred sites around Britain (op. cit., 235). However, the Cornish sites are larger than the average 'temple' site and display none of the usual characteristics including deep pits or wells and material of a ritual character. Excavation of Halligye produced associated settlement evidence with pottery spanning the period from the 4th/5th centuries BC to the 2nd century AD, or later with no indication of any ritual or sacred character to the enclosure. North Treveneague produced a polished wheel-thrown vessel of a similar shape to South-Western B pottery and a piece of 'Swarling Ware' (Hencken, 1932, 143), both suggesting a pre-1st century BC date. These sites are more like the rectilinear Breton 'native farms' such as Le Braden, or perhaps more accurately Le Boissanne where occupation is similarly dated (Chapter 9). The tunneled nature of at least part of the souterrains at Treveneague and Halligye support the analogy with Breton sites, where most souterrains are built without stonework.

Comparisons of 'fogou' locations, and hence settlements, may suggest an intimate relationship with the tin-producing areas; most lie near concentrations of mineralisation and metal-bearing lodes or streams. For example, Boscaswell, Pendeen and Porthmeor have nearby lodes in cliff-faces which may have been mined (op. cit., 248-249). It is possible that these settlements were bound up in the extensive tin trade of the Late Iron Age and again there could be a link between the presence of souterrains and industrial activities involving metalworking. There is an interesting correlation between the source of gabbroic South-Western B decorated pottery and the distribution of souterrains in the south-western peninsula of Cornwall. It has already been argued that this pottery may have been moving its contents up the west coast by means of Atlantic trade routes. Perhaps that commodity was also somehow linked to the souterrains, and may have been the product produced or stored within them. However, without excavation that is more extensive and question-oriented this possibility must remain unproven, based only on those few sites in Cornwall where evidence of metalworking or at least burning was adequately recorded. A detailed survey of the locational relationships, if any, between settlement and tin lodes is also required. Without critical analysis sites appear to be located near metal sources simply owing to their dense distribution within a small area.

Discussion

Overall the interpretation favoured here is the development and use of souterrains in Cornwall from the mid-first millennium BC and continuing into the early first millennium AD. Evidence from Halligye and Carn Euny might suggest a 2nd century AD end to the use of the souterrains. Most courtyard-house settlements were originally quite simple in design. Many may have developed roughly contemporaneously, presumably replacing timber roundhouses. Several more cellular courtyard-house settlements probably represent developed stages later in the first millennium AD. The early construction of large enclosed sites on hilltops and hillsides divorces them from the 'rounds' and many unenclosed sites. However, some unenclosed timber sites, such as those dated at Carn Euny, and other smaller enclosed sites, such as Halligye, were perhaps contemporary. The interpretation of the interaction between these sites is difficult owing to the relative lack of information on these early periods. However, it is unlikely that the various smaller enclosed settlements and unenclosed sites were much lower status than the monumental enclosed sites. The presence of monumental and complex architecture in the souterrains at Carn Euny, Halligye and Chysauster suggests these were not simple peasants. The comparisons between Halligye and Breton sites are compelling. It is arguably more likely that we should envisage *different* status, and even hierarchical distinctions between sites of the same type. These sites perhaps performed various different functions within the local society. Promontory enclosures may have been both trading *loci* and ritual centres, a reflection of the society's dependence on the Atlantic Seaways for communication and trade. Hilltop sites may have been communal structures, built to fulfil specific roles, perhaps linked to pastoralism and thus to the basic wealth of the area that was supplemented by the tin trade. Some may have been geared specifically to pastoralism as a result of their location and layout, incorporating widely-spaced enclosures (Fox, 1953, 18-20). They were such important sites that many continued into the late first millennium BC although perhaps with changing roles like the sites in Wales (Chapter 7). The unenclosed and enclosed sites may represent the normal settlement of the population with a few perhaps more prosperous than others. Alternatively, these may have been specialist sites, geared to the extraction and processing of tin ore. This interpretation of the first millennium BC society does not negate the possibility that any of the site types may also be linked into some hierarchical system of status. However, that hierarchy may have been more complex than a simple three-tiered model of different site types. Sites of the same type may have had varying status due to their location, form, function and place within the local society.

The settlement pattern subtly changes in the later centuries of the first millennium BC when there is a proliferation of smaller enclosed and unenclosed settlement. Many stone-built courtyard-house settlements may have appeared at this time. However, some large sites continue in use, as evidenced by the presence of wheel-thrown cordoned pottery, although others do seem to go out of use. The simple three-tiered model cannot explain the profusion of what would be vassal and unfree sites at the expense of the large elite residences. However, it is possible that this represents the fissioning of the larger social groups, perhaps as a result of the introduction of partible inheritance. The assumed change in the social make-up of Cornwall is paralleled in Atlantic Scotland and Wales and perhaps also in Ireland.

The wealth in terms of coinage and other artefacts from islands such as Scilly, Guernsey and Jersey is proportionately larger than that recovered on the mainland. These island communities were perhaps on the periphery of major territories and might therefore have been seen as relatively neutral and perhaps secure locations. A similar argument has been made for some promontory enclosures on the mainland of Britain, Ireland and France. Alternatively, it has been suggested that the numerous Coriosolite coins support the island's location within their territory (Cunliffe, 1994, 52). Strategically placed, by virtue of their location, these islands command the major sea routes between the continent and the Atlantic Seaways of Britain and Ireland.

The late first millennium BC may have seen the fissioning of the single larger and monumental sites, perhaps producing some of the courtyard-houses and many of the 'rounds'. These are smaller but retain a certain degree of monumentality. Some are continuations of an earlier settlement contemporary with the larger sites. The sites then develop individually, with some prospering well into the late first millennium AD, and others perhaps fissioning again or declining and ending in the early to mid-first millennium AD.

The Roman intervention around the 1st century AD is poorly represented in the south-west and native sites often continue, reflected in the presence of Romano-British wares, coins and glass. These artefacts suggest a flourishing society, and it is around the 1st century BC (and 1st century AD from the dating of cordon wares) that an intensification of trade relations with Brittany might be perceived (Cunliffe, 1990). There are relatively few sites in the south-west with good evidence of settlement during the centuries of Roman occupation in Britain.

This may simply reflect the archaeological visibility of status goods compared to the everyday materials used on the majority of sites. This is highlighted in the 5th century AD when foreign imports are again recovered from archaeological assemblages. The presence of A-wares and B-wares on several sites in Cornwall indicates a community with strong trade connections and links through the Western Seaways with the Mediterranean. The development of sites like Tintagel and the continuation of coastal sites and coastal finds indicate this trade was important and probably carefully controlled. It is possible that sites like Chûn were producing material (metal ingots?) for export in controlled environments and drew further status from their location on ancient sites. Later imports of E-wares and glass, possibly associated with wine in archaeologically-invisible barrels, are fewer in Cornwall than Wales for example, and may indicate a shift in emphasis of trade. Alternatively, the lack of later imports on Cornish sites may support the idea that these were high-status exchanges and that many late first millennium AD sites excavated in Cornwall are of lower status. In Wales, and elsewhere, new enclosed and unenclosed sites developed, reflecting the imposition of strict hierarchical control; similar sites have not generally been excavated in Cornwall. However, the first millennium AD inscribed stones of Cornwall represent the continuation of Latinization after the withdrawal of the Romans suggesting there was no intellectual Dark Age at least.

Chapter 9

Brittany

Recent work in Brittany has shed light on a prehistoric landscape that incorporates aspects beyond the usual souterrains, promontory sites and stele that traditionally typify the area in contrast to the rest of Gaul. Aerial photographic analysis in conjunction with large-scale excavation instigated by the development of primary services in north-west Gaul, has begun to reveal a landscape populated by field boundaries, 'fermes indigènes', pre-Roman roads and ritual as well as more mundane site types. Small-scale excavations, undertaken at coastal locations, have uncovered a series of predominantly stone-built sites with good preservation of deposits. A substantial amount of literature has also been generated from the salt production sites that dot the coasts of Gaul and have since been located on British coasts. This work should be seen as an integral part of understanding the prehistoric and proto-historic landscape and the social and economic development of the societies therein. Several larger sites, the so-called 'fermes indigènes' or 'native farms', have also been excavated, some almost completely (Menez, 1994; Figure 44) and seem comparable to similar sites known in the wider Gaulish landscape (Duval, 1990, 282). Although generally truncated by later agriculture, a lot of information has been retrieved to suggest an early first millennium BC inception and a continuation of use, albeit with many developments, throughout the millennium until the Roman military campaigns. The evidence from several sites suggests there is a major expansion of the site-type from approximately the 3rd century BC. This type of excavation places the souterrains, stele and promontory sites into a rich economic and social context.

Ferme Indigènes and Large Enclosed Sites

The 'native farms' are generally multi-phase layouts of a succession of sub-rectilinear enclosures formed by ditches, banks, palisades and groups of post-holes. Although often very truncated (they are only known on cultivated land (Menez, 1994, 275)), careful analysis of the stratigraphic relationships, soil processes and material remains can help piece together what is often a complex pattern of development at each site (op. cit., 273-275). These suggest a form of site that develops from the late Hallstatt into the La Tène (around 6th century BC to the 1st century BC) with an increased number of sites towards the end of the

first millennium BC. The foci of these sites incorporate groups of post-holes delimited and surrounded by various enclosures. Whilst the details are often lost, even to the extent that post-hole remains are rarely attributable to a specific building layout (op. cit., 273), broad definitions of chronology and economy have been teased from the difficult record.

At the site of Le Boissanne, Plouer-sur-Rance (Figure 44b) it was argued that although many of the large surrounding enclosures, defined by shallow ditches and often hundreds of metres long (Menez, 1996, 206), were evidence for pastoral activity. Local pollen evidence suggested cultivated fields somewhere within 100m of the farm. The pollen recovered from the banks and ditches of these enclosures suggests the existence of hedges on top of low banks and that the majority of the local environment was open meadow and moor (op. cit., 191). Within the large enclosures, small plots, perhaps defined by relatively flimsy wattling, were laid out next to the farm for arable (ibid.). However, a combination of the faunal assemblage (ibid.), evidence for large enclosures in an open environment, the original 'pond' in the layout of the site (op. cit., 185) and the robust entrance constructions (op. cit., 206) are used to argue that stock rearing was the primary function. Such a hypothesis is supported at other sites by the relative ease of access to good grazing land such as the salt marshes on the banks of the Rance estuary (op. cit., 180). Excavations at La Hattaié, Ruff for example, revealed possible animal folds with high phosphate levels (Site H80, Astill and Davies, 1997, 65) and Paule, Camp de Saint-Symphorien also produced high phosphate readings in one building, interpreted as a cowshed or stable (Appendix A; Menez, 1994, 265; Menez and Arramond, 1998, 133). The ditch and bank construction of the roads and the general layout of the enclosures also argue for pastoral usage. A similar interpretation is suggested for almost all such sites (Menez, 1996, 206).

Le Boissanne incorporated five phases spanning the period from the 6th century BC to the 2nd century AD. This continuity is rare on *ferme indigènes*, since most date from the 3rd century BC. The total area enclosed by the Phase 1 settlement was *circa* 910m² and incorporated a pond and spindle-whorls indicative of pastoral activities (*supra*). During Phases 2 and 3 the enclosed area increases and a souterrain is incorporated into a new enclosure (*infra*). By the 2nd to 1st centuries BC, during Phase 4, the site encloses *circa* 5460m², no longer supports a souterrain and includes imported Dressel 1a amphorae and an earlier Greek-Italian amphora fragment as well as evidence for metalworking (Appendix A; Menez, 1996, 192).

Paule, Camp de Saint-Symphorien (Figure 44a) began with a very large curvilinear enclosure

dated to the 5th century BC, very similar to the original Le Boissanne phases although on a much larger scale. The earliest phase incorporated four possible souterrain type structures within an inner enclosure with a palisade comparable to the inner enclosure in Phase 2 at Le Boissanne (Menez and Arramond, 1998, 146). Within the much larger outer enclosure, two possible loom workshops exist on the periphery of the north and west (Appendix A; Menez and Arramond, 1998, 121-124). Interestingly the main outer enclosure has internal ditches and an external bank, a particularly non-defensive type. During Phase 2 at Paule, around the end of the 4th century BC and early 3rd century BC, the site is remodelled to include concentric rectangular banks and ditches with an eastern outer enclosure and carefully controlled access (op. cit., 127). The souterrains are no longer in use and the scale of the earthworks and ditches suggests a massive investment of manpower. The association of two stele within this phase (op. cit., 129) perhaps emphasises the symbolic power of the site, a monumental construction that continues to develop into the 2nd century BC. During Phase 3 a possible timber framed box-type rampart protects a large possible byre and another enclosure is created to the rear of the site (op. cit., 129). The main entrance is enlarged and several fragments of imported Greek-Italian amphora like those from Le Boissanne are recovered. At both sites this period marks the apogee of settlement size and construction and both represent a massive expenditure in wood; at Le Boissanne all the enclosures are now palisades (Appendix A) and at Paule at least one rampart incorporates a timber frame, while others have timber revetments to their rear. The enlarged central area at this time also utilises a massive post-built rectilinear structure (Appendix A). Phase 4 includes the replacement of the eastern enclosure ditch with a palisade from the 2nd century BC and the reduction of the ramparts to the south-west to allow construction of a new, but still carefully controlled, access (Menez and Arramond, 1998, 139). Near the middle of the 1st century BC the site is systematically destroyed and abandoned until the early 1st century AD when a much smaller occupation occurs in the remains of the eastern enclosure (op. cit., 143). The 2nd to 1st centuries BC also mark the final occupation at Le Boissanne before it too is abandoned and the site re-occupied by a possible sanctuary structure in the early 1st century AD.

At Le Braden I occupation was very much shorter and began with a rectangular palisade enclosure that produced a single sherd of Greek-Italian amphora of the 2nd century BC (Le Bihan et al., 1984). Other finds including Dressel 1a and 1b amphorae sherds, suggest a slightly later date in the early 1st century BC and indicate that all three phases of occupation at this site were later compared to both Paule and Le Boissanne. However, Le Braden I has

an early rectangular enclosure replaced by larger multivallate rectangular enclosure and evidence for metalworking and complex gate architecture suggests access control. A 1st century BC rectilinear building with an apsidal end was also discovered within a large enclosure at Le Braden II and suggests multiple late settlements in this area.

These 'native farms' developed amidst other sites in the landscape. The hillfort at Kercaradec for example, sited near Braden produced pottery similar to that at Braden. It too had a simple development sequence at the entrance through the ramparts wherein two phases were thought to represent the Hallstatt and La Tène periods (Wheeler and Richardson, 1957, 54). The stepped appearance of the stone-faced rampart at Kercaradec has been compared to other similarly constructed ramparts on the promontories at Gurnard's Head (Chapter 8) and Le Yaudet (*infra*). The Hallstatt and La Tène dates, suggested on the basis of only 12 sherds of pottery including graphite coated wares, internally grooved rims and earlier stamp decorated pieces, are probably suggestive rather than definitive and might indicate a long period of occupation. These periods may not relate strictly to the two phases of rampart construction excavated at restricted points on the enclosure. Although large, this hilltop site is comparable in overall area to the interpreted scale of Phase 3 at Paule, Saint-Symphorien or even Castel Coz enclosed peninsula (Menez and Arramond, 1998, 151). Camp d'Artus, Finistère, represents the largest enclosed site yet recognised in Brittany, enclosing 75 acres on a ridge with a pear-shaped 10 acre subdivision in its northern half (Wheeler and Richardson, 1957, 23). The site was originally considered to be built in two major phases with the construction of the larger enclosure preceding the smaller, although excavations did not explore the junctions between the two (*op. cit.*, 24). Support for this interpretation was suggested by the single period construction of the southern rampart of the smaller enclosure compared to the reinforcement of the original rampart east and west of the same (*ibid.*). Re-assessment of the stratigraphy at Camp d'Artus (Appendix A) suggests however, that the entire site was built contemporaneously as a major investment in resources, including timber and iron for the nails in the *muris-gallicus* enclosures. The site was then reinforced at a later stage, perhaps during the 1st century BC from which a single sherd of wheel-turned pottery has been discovered in the upper levels of Site A (Appendix A). The majority of material originated from within the enclosure and was discovered during small-scale excavations of the interior at several disparate sites, producing a 1st century BC Gaulish coin and more pottery of the same date (Wheeler and Richardson, 1957, 31).

Kercaradec was considered to be of Venetic origin, mainly because of its size and the

presence of multiple ramparts (op. cit., xiv). This idea was supported by its location within the territory of the Veneti as understood through coin evidence and classical texts. The multivallation suggested possible relationships with coastal promontory sites or 'cliff castles'. Discussions about the Veneti tribe of south-west Brittany have long been linked to the promontory fort phenomenon (ibid.), based mainly on the record of their defeat by Caesar who stated that the Veneti used coastal sites that were protected by the tide (Caesar, III.12, 79). However, this description does not fit many promontory forts that are located on tall cliffs, well above the tidal waters and rarely surrounded by them. This physical description therefore cannot be directly linked to the promontory enclosure phenomenon and thus removes strictly Venetic origins for the site-type (Hogg, 1972, 22; Lamb, 1980, 6). The majority of promontory sites in north-west France also seem to be associated with much earlier pottery, monuments, radiocarbon dates and other finds. For example, the Catuelan bank and ditch at Cap d'Erquy has radiocarbon dates calibrated between 820calBC and 390calBC (GIF-715, 550±100bc) and at the Pleine Garenne between 800calBC and 50calBC (GIF-1302, 320±110bc) (Bender, 1986, 64). Excavations at Castel Coz promontory enclosure also produced Bell Beaker fragments and possible Neolithic remains, as did Castel Meur (op. cit., 64; Wheeler and Richardson, 1957, 109-110). This dating certainly removes the promontory fort from purely Venetic origins.

At Le Yaudet Late Bronze Age material was recovered from an area behind the rampart, (Cunliffe and Galliou, 1995, 49) although without full excavation of the latter it is not possible to link this with the enclosure of the site. Dressel 1a amphora sherds from a midden below possible rectilinear structures suggests occupation in the late 2nd and early 1st century BC (op. cit., 62). Like Camp d'Artus and several 'native farms' this late first millennium BC occupation is associated with a conspicuous consumption of timber and iron nails in a 16m wide *muris-gallicus* rampart across the promontory. The rear face of this rampart was stepped like Kercaradec although here the excavators suggest it was covered by a ramp of soil (op. cit., 51). The incorporation of a granite stela in this walling indicates secondary reuse, possibly ritually structured, and perhaps parallels earlier discoveries of stele at Paule, Camp de Saint-Symphorien. The location of this important site next to the estuarine mouth of the Leguer and the presence of imported amphorae might support parallels with Alet at the head of La Rance estuary and indicate its importance in the Atlantic trade network. Pottery behind the rampart included fine black cordoned wares of the 1st century BC similar to those discovered at Hengistbury Head. Following rapidly from the *muris-gallicus*, a dump rampart with a deep layer of rubble on the tail of the original was constructed, perhaps in the

second half of the 1st century BC (op. cit., 53). This sequence is comparable to that suggested for the Camp d'Artus (Appendix A) and may indicate the use of sites involved in trade and other economic and political activities after Caesar's campaigns, while other sites such as 'native farms' go out of use. That Le Yaudet does continue is confirmed by the 1st to 2nd centuries AD construction of a terrace behind the dump rampart that is associated with large ovens, possibly corn-drying kilns. A later mortared stone wall on top of the dump rampart is associated with late 3rd century AD pottery from occupation layers behind. A 4th century AD cruciform or crossbow brooch and textual evidence of a 5th century AD bishopric, indicate the promontory may have continued in use up to the mid-first millennium AD. This is one of the few non-urban archaeological sites in Brittany with the potential for a long sequence of occupation lasting into the first millennium AD, although as yet no occupation of this period have been recovered.

The location of this and other promontory enclosures at the mouths of rivers and estuaries, perhaps enabled control of the movement of imported and exported material. The cargoes may even have been transferred from the sea-going Atlantic ships to smaller vessels able to move through the river systems and land-based transport along the numerous pre-Roman roads in Brittany. There are several promontory enclosures along La Rance near Le Boissanne, for example the rich site at Alet, now Saint-Malo, and it is possible that exotic material on Le Boissanne was redistributed from one of these promontory enclosures. The pre-Roman road near Le Boissanne, crosses La Rance estuary and would have been flooded during high tides. It is possible that this type of evidence supports Caesar's reference to tidal protection at certain fortified sites, since the movement of the Roman troops was mainly by land during the north-west campaign.

Souterrains

Breton souterrains are curtailed to the western peninsula of Armorica, in the areas traditionally believed to form the territories of the Veneti and Osismi with several in north and west Corsiolitae territory. In plan, many have simple curving passages (Thomas, 1972, 78) but others can be much more complex in design. Some have up to six narrow and interconnected chambers which can be of varying shape from rectilinear to oval or elliptical (Giot, 1960, 196). Breton souterrains are characterised by being cut directly into the hard clay subsoil and eroding bedrock as vaulted tunnels (ibid.). These can be as deep as 3.9m below the surface entered through an oblique or vertical tunnel and include ventilation shafts (Cooke, 1993, 257). At Paule, Camp de Saint-Symphorien, there were two very different

rectangular subterranean structures with obvious traces of wooden posts cut into the subsoil to allow access to classic subterranean rooms (Menez and Arramond, 1998, 124-125). These posts supported a wooden superstructure (Appendix A; Menez, 1994, 266) and suggest the roof may have been visible above the ground. A similar arrangement was discovered at Plouaret (Giot, 1990, 58). Although very different from typical Breton souterrains, the features at Paule are associated with two tunnelled souterrains within the main focal enclosure; similar associations between two different types of semi-subterranean souterrains are also visible in Ireland (Chapter 6). In addition, at least one tunnelled souterrain at Paule also had access to a rectangular open structure with post-holes similar to those nearby, suggesting some comparisons between the two types. There is very little dating evidence from these sites and most are discovered by accident (Giot, 1960, 196) or through pre-development work (Giot et al, 1982, 49) which has produced very little by way of artefacts (Bender, 1986, 49; Giot, 1960, 195).

Without detailed plans or descriptions of excavations it is impossible to know the contexts of finds from souterrains but parallels with other areas suggests that this material came from the fill, possibly dumped in one event that carefully sealed the site. The sealing of souterrain sites such as Park Rugolven, Primelin, Finistère (Bender, 1986, 49), Le Braden III (Le Bihan, 1984, 163-164) and Le Boisanne (Menez, 1996, 60-62) is well known in Brittany (Giot, 1990, 56; Menez, 1994, 268). This, presumably ceremonial aspect, and a find of three Iron Age stele in the chambers of Tréséan souterrain, Péder nec, Côtes-du-Nord (one of which was too large to fit through the entrance tunnel) constitutes evidence used to argue for a ritual function for these sites (Bender, 1986, 49). However, Giot suggests that the stele may have been concealed *after* the Roman conquest, possibly during a period of Christianisation (Giot, 1960, 196), presumably owing to their being symbols of pagan rites. If this were the case then Tréséan would be the latest dated souterrain in Brittany. Two stele were also recovered from the site at Paule after the souterrains had gone out of use (Menez and Arramond, 1998, 129).

There are souterrains that incorporate evidence for 'cremations', kitchen middens and even hearths with chimneys (Giot, 1960, 195; 1990, 55). Although these have been used to argue for their use as short-term dwellings, possibly in the face of an attack, more recent studies have refuted this idea (Menez, 1994, 269). Such features could instead represent artisan activity since the hearths and chimneys may indicate industrial or other burning activity, and kitchen middens infer the presence of quantities of bone material. At Kerellen, Tréglonou

the possible remains of gold-smithing were also discovered (Giot, 1990, 58). Rising smoke created during these activities would make a souterrain a visible structure even if well buried. Almost all souterrain sites in Brittany have evidence for burning; for example, significant quantities of charcoal have been recovered from sites such as Le Braden III (Le Bihan, 1984, 164), and burnt earth at Lauban in Kerfourn (Morbihan) (Giot, 1990, 57). There is also direct evidence for hearths and chimneys (op. cit., 55).

Rescue excavations in general have proven that souterrains are usually associated with surface structures and small enclosed sites. For example, at Plabennec in Finistère a presumed Late La Tène souterrain was discovered within an oval or sub-rectangular bank and ditch site near Kermoisan (Giot et al., 1982, 49). Other sites with souterrains as integral features include the small Iron Age 'native farms' at Prat, Paule and Le Boissanne in the Côtes-du-Nord (Le Bihan and Menez, 1988).

The chronology and context of more recent excavations of souterrains on 'native farms' typifies the general picture (Menez, 1996; Menez and Arramond, 1998) and infers that the distribution of souterrains, as discussed above, reflects the distribution of at least one aspect of the first millennium BC settlement in Brittany. These excavations confirm souterrains go out of use and are deliberately back-filled by the mid-1st century BC, often before the rest of the site is abandoned. This 'closing' of the souterrain must have some significance in the development of the 'native farms'; what aspect was no longer necessary or allowed to continue on these sites? To fully understand this problem it is necessary to understand the function of souterrains within the site context and in the light of present knowledge this is unlikely. However, perhaps a general interpretation can be formulated on a broader basis. The majority of these structures are recognisably 'Breton' in their architecture and layout, although possible analogous structures existed elsewhere in Gaul, they are of limited distribution or of a different construction and layout. Perhaps then the only understandable aspect of souterrains is their regionalism, and it is therefore possible that they represent a facet of an expressly regional social structure. They may go some way to representing Breton sites as culturally distinct from the rest of Gaul, a symbol of independence and general social cohesion.

The current dating of souterrains (Giot, 1990, 56; Menez, 1996, 173) indicates that they are deliberately back-filled during the 2nd to 1st centuries BC and go out of use by around 50BC. However, activity on the same sites often continues well into the 1st century BC and perhaps

even longer. Some specific excavations tend to highlight a mid-first millennium BC construction (Menez, 1994, 270) as at Paule, Camp de Saint-Symphorien (Menez and Arramond, 1998, 127), although others have suggested that at least some date back to the Late Bronze Age (Giot, 1990). The ubiquity of the deliberate infilling of these structures lends weight to the suggestion that this was done with great care and is imbued with symbolism. If this is so, it could be argued that a significant social shift is represented here, perhaps reflecting a change in attitudes towards being Breton.

Many sites in Brittany during the first millennium BC incorporated a souterrain, but not all. Where they do not occur it is possible that the site was short lived and dated to the final centuries BC, such as at Le Braden. It has been suggested for example, that the four-post granaries at Le Braden I are later than the souterrain at Le Braden III (Le Bihan, 1984, 174). Excavations at Le Boissanne could also support this; a four-post structure of unknown function was built on the site after the souterrain had been back-filled (Menez, 1996, 190). Paule, Camp de Saint-Symphorien, also has a four-post structure in an external enclosure after the souterrains go out of use (Menez and Arramond, 1998). If a chronological argument for succeeding four-post granaries can be sustained then the implication may be a shift in the 2nd to 1st centuries BC from a distinctive symbol of regionalism to a more widespread form of structure.

The structured deposition within souterrains at the end of their use is perhaps paralleled in subterranean grain silos in southern Britain (Hill, 1996). These latter have been interpreted as long-term grain stores requiring the entrance to be carefully sealed and when opened the entire contents removed. This function is different from the presumably short-term storage applicable to four-post granaries which, like souterrains, do not seem to have been sealed for long term storage. However, souterrains do not provide the aeration, possible protection and visibility of a granary. Subterranean silos are often associated with the remains of the dead (Ralston, 1997a; Hill, 1996, 107), and several souterrain sites in Ireland are also associated with human remains (Chapter 6). Unfortunately, preservation on Breton sites rarely allows unburned bone to survive and this type of post-use deposition is difficult to assess elsewhere. In general however, underground features do appear to be treated in special ways after their original use, and it could follow that these structures were also seen as special or different during their original use. Granaries, owing to their above ground nature, are more difficult to interpret in this manner since a set of parallel post-holes is often all that remains. However, there is every reason to suppose, on the evidence from Brittany, that they perhaps

fulfilled at least some of the meaning and/or function of a souterrain, and that they too may have symbolic resonance now unapproachable through excavation.

It has been suggested that the static cool temperatures within a souterrain would provide a good storage environment for dairy products and perhaps meat. However, many of the souterrains in Brittany have features such as chimneys and hearths (see above) which are unnecessary for such a store. Access to a Breton souterrain is difficult, and the interior is very dark since there are no niches to place torches or lamps (Menez, 1994, 269). This poor access would seem to militate against storage of items such as foodstuffs that may necessitate regular access. They are often associated with a single structure, not always the main building, which rarely demonstrates a domestic function, as at Le Boissanne. A conspicuous lack of grain recovered from souterrains, or directly associated with them, suggests either scrupulous cleaning or a different function altogether. Although many sites have obviously not been analysed using modern excavation techniques (Giot, 1990), those that have confirm the latter view (Menez, 1996; Le Bihan, 1984; Menez and Arramond, 1998).

The detailed chronological development proposed at Le Boissanne (Menez, 1996) and Paule, Camp de Saint-Symphorien (Menez and Arramond, 1998), allows a unique insight into the wider site and landscape context of specific souterrains. By the time this feature is incorporated into the settlement layout at Le Boissanne in the early 5th to late 4th centuries BC, the site may have been several generations old, having possibly begun in the 6th century BC (Menez, 1996, 184-188). The souterrain, enclosed in a sub-rectangular layout of ditches with possible stone-revetted earthen banks, marked an expansion of the settlement. A new road was built contemporary with this enclosure and palisades predominated over the rest of the site while the main building increased to nearly twice its original size (op. cit., 187-188). Certainly, the construction of a new and substantial enclosure highlights the importance of this area of the site. Similarly, there was a need for a new road to provide ease of access, perhaps to bring or distribute materials related to the function of the souterrain and its associated structure. The road may also imply a close link to either the outer fields or other sites in the landscape, and the importance of this access is accentuated during the lifetime of the souterrain by the widening of the entrance to the enclosure (op. cit., 188). The increasing size of the souterrain enclosure may also reflect a greater quantity of produce, materials, animals or people, and would seem to emphasise the successful development of the site. The sub-surface nature of a souterrain meant it was rarely outwardly visible, yet its associated

structures and enclosure were very prominent and may have been indicative that a souterrain lay below.

The souterrain was back-filled in Phase 4 during the 2nd to 1st centuries BC (op. cit., 120). It could be argued that this phase represents a substantial shift in the socio-economic values of the site's inhabitants, increasing external contacts and an increased involvement in a more status-laden society. The site had also increased in size to six times its original area, although the basic economy of the site does not change; cattle were still predominant, arable agriculture was kept to self-sufficient levels (op. cit., 191) and the number of settlement units did not increase substantially.

Considering the previous arguments for the status of souterrains as a symbol of distinctiveness, it is perhaps not surprising that a more outward looking settlement, albeit in a very careful way, discarded the old symbol of a more inward oriented society. It should be noted that the 2nd and 1st centuries BC also saw the introduction of coinage to many areas of Brittany (Bender, 1986, 52; Giot, 1960, 201), perhaps indicative of a move towards a more commercial level of exchange and fuller integration into the late La Tène system.

At Paule, Camp de Saint-Symphorien, the original massive enclosure with external banks and internal ditches incorporated a smaller internal area with no less than four souterrain type structures (Menez and Arramond, 1998, 121-127). External banks and internal ditches are expressly non-defensive and are also associated with probable ritual sites in Ireland (Chapter 6). The site is obviously important indicated by the number and type of souterrains and similarly, the increasing size of enclosed area at Le Boissanne may be directly associated with its souterrain. Both sites incorporate souterrains in their layout around the 5th to 4th centuries BC and although unnecessary for the founding of settlements, became a symbol of success, importance and perhaps social cohesion. It was imbued with significance, perhaps relating to its function and integral to the society it served. It should also be noted that at Le Boissanne, the former 'edicule' or possible 'cult-house' and the original square ditched funerary monument at the roadside, were soon abandoned perhaps to make way for the road. Could the ritual nature and/or functions of these structures have been transferred to the new enclosure with substantial post-built buildings and souterrain? The association at Paule between souterrains and an external bank and internal ditch enclosure emphasises their special, perhaps partially ritual, nature.

Coastal Sites

In contrast the coastal sites excavated to date do not seem to have included souterrains in their layout. Sites such as Ebihens, Saint-Jacut-de-la-Mer (Langouet, 1989) and Goulvars in Quiberon (Hyvert and Le Bihan, 1990), located on the northern and southern coasts of Brittany respectively, include rectangular or sub-rectangular stone structures. The buildings are often revetted into the coastal sand dunes with only low external walls and are interpreted as living or storage areas and workshops by the presence or absence of a hearth and the relative amounts and type of artefacts. These sites are also different from the 'ferme indigène' in their concentration of contemporary structures, forming what are called 'villages'.

Located on a small island off the north coast of Brittany, the site of Ebihens incorporates several drystone structures in two different 'zones', Zone A and the 'Habitat Isolé' (Langouet, 1989). Although the stratigraphic evidence for the excavated area only supports the contemporaneity of two structures in Zone A, the probability is that at least some of the unexcavated structures in that area will be contemporary. At Goulvars, interconnected rooms, some with beaten clay floors, are attached to, or surrounded by, larger enclosures or yards. The individual buildings with central hearths all have opposing entrances, are aligned roughly east-west, and some have further stone lined hearths in the south-west corner. The apparent disregard here for the often harsh environmental conditions is reflected in the orientation of the entrances at Ebihens where the main 'Habitat Isolé' incorporates a western entrance and the partially excavated building in Zone A has a northern entrance. Other curious aspects to these settlements include the burial of infants in the immediate vicinity of the buildings at Goulvars and the possibly later extended inhumation of an adult male in the 'Habitat Isolé' at Ebihens.

Excavations to date have not discovered any enclosures on these sites and the faunal evidence suggests smaller animals such as ovicaprids and pigs were the main source of meat. At Ebihens the prime meat bearing bones were missing from the assemblage (Krausz, 1989, 143) suggesting that they were processed in the 'Habitat Isolé' but consumed elsewhere. This latter building also included all the fine wares from Ebihens and produced fragments of salt moulds typologically different from those being produced in the salt workshop in Zone A. A careful analysis of this material and its stratigraphic relationships suggests that the 'Habitat Isolé' at Ebihens is not a simple domestic structure but may have incorporated an important non-domestic function.

The salt production sites are located in shallow, often estuarine locations, also on the coasts of Brittany. Some can be considered specialised manufacturing sites such as at Île d'Arc, Morbihan (Daire and Langouet, 1994, 22-27). Another may be located at l'Aupinière, Hirel in Ille-et-Villaine where magnetic survey and small-scale excavation produced a large site covered with the remains typical of salt manufacture. This material includes the remains of salt 'bricks', cylindrical clay containers in which the salt is produced, the clay pillars on which the racks of drying bricks are placed above the furnace and chocking stones. Some sites appear to have been rather better built, consisting of drystone buildings or 'workshops' often revetted into coastal sand dunes such as at Île d'Arz, Morbihan and Île d'Yoc'h Landunvez, Finistère (op. cit., 15-22 and 27-31). Several are associated with other buildings and cover much larger areas such as at Lédano, Paimpol in Côtes d'Armor where a possible complex of artisan remains was located inland on the fluvial plain of the Trièux estuary. However, best preserved of this latter type is the workshop in Zone A at L'île de Ebihens; it is possible that this site too represents a specialised coastal non-domestic development.

Radiocarbon dating of these sites produces a chronology roughly coincident with the 'native farms' across the first millennium BC (Gouletquer and Daire, 1994, 12). However, archaeomagnetic dating of the fired material on some of these sites has produced relatively defined dates around 0calBC/AD. These range from the 1st century BC to the 1st century AD (Langouet et al., 1994, 107), and the majority can be placed in the last quarter of the 2nd and 1st centuries BC on a typological basis (Gouletquer and Daire, 1994, 12). For example, the site of Ebihens was interpreted as being abandoned after AD55, probably between AD70 and AD100 (Langouet, 1989, 167) and therefore only partially contemporary with the final phases of some ferme indigènes. The dating of these sites may also imply a Roman influence since this general period is approximately synonymous with Caesar's campaigns in north-west Gaul. The possible Roman influence in re-stimulating the salt-trade is particularly interesting considering the Roman impact on settlement sites in the area, such as at Le Boisanne and Paule.

The precise archaeomagnetic dating and stylistic differences in the recovered material from different sites suggest that only two short periods of large scale salt production are actually represented. The Late Bronze Age, around the early first millennium BC, could on present evidence reasonably be interpreted as a period of more widespread contacts (Harding, forthcoming). The late La Tène and centuries either side of 0BC/AD (Langouet et al, 1994)

also fit with similar, perhaps reduced, contacts in the Iron Age. There is certainly evidence for increased channel trade at this time (Cunliffe, 1990).

Building Architecture

The details of several of the salt-workshops provide us with rare glimpses of the architecture of buildings in the Iron Age. From approximately 29,000m² of excavations in Brittany, only 23 complete plans of buildings have been recovered (Menez, et al., 1990, 122). Generally rectangular or sub-rectangular in shape, the workshops at Ile d'Yoch, Ilur on sud de l'île and Landrellec incorporate revetted drystone walls with a wooden superstructure and roof (Daire and Langouet, 1994); a similar architecture is present at both Ebihens and Goulvars. Stone built structures are not exclusive to the coastal sites however, 1st century BC construction at Braden included stone built and revetted rectangular structures built over the remains of the palisades and ditches (Le Bihan, 1984, 129). Other inland sites such as Plouvigner – Le Talhouet, occupied between the 3rd and 2nd centuries BC, also incorporate stone architecture (Le Bihan et al., 1990, 107). However, the majority of first millennium BC structures found inland and dating up to the 1st century BC are wooden. Sites such as the 'native farms' incorporate post-built structures although in many cases the sites are so truncated that stone buildings would probably not survive. An earlier coastal site at Mez-Notariou on the Île d'Ouessant in Finistère produced abundant evidence for the Early Iron Age construction of rectangular wooden buildings (Le Bihan and Robic, 1990). There is also evidence for the construction of sub-circular buildings at Plouvigner-Le Talhouet and the wooden structures at Braden and Polvern (Hennebont) dated to between the 3rd and 1st centuries BC. In Calvados large scale excavation at Cahagnes, dating to between 900BC and 700BC, has produced evidence for at least twenty circular post-built structures accompanied by several smaller rectangular structures. These are interpreted as houses with entrance porches facing south-east (Jahier, 1997). At Courseulles-sur-Mer, also in Calvados, three quadrangular buildings preceded a large circular structure and were accompanied by granaries and pits (ibid.). Several of the main post arrangements at Le Boisanne may also be interpreted as the remains of circular or sub-circular structures, including the main building in the centre of the settlement (*contra* Menez, 1996). However, there is a marked reluctance by French scholars to interpret series' of post-holes as circular buildings unless absolutely necessary (Menez et al., 1990, 122). These circular buildings are often accompanied, as discussed elsewhere in this thesis, by rectangular and probably non-domestic buildings.

Chronology and Settlement Development

The construction of the 'native farms' is a first millennium BC phenomenon and there is a substantial increase in their numbers in the 3rd to 1st centuries BC. Several sites, such as at Braden (Le Bihan, 1984), could have had relatively short life spans whilst others, as at Le Boisanne, develop over longer periods of time but all seem to share the same fate. Sometime between the 1st century BC and 1st century AD these large, well-constructed sites go out of use. There is a dislocation of settlement as Gallo-Roman villa sites begin to dominate the landscape. At Le Boisanne and Braden this development is accompanied by a typical shift in settlement location, generally to a ridge in the vicinity of the original 'native farm'. The layout of these subsequent sites is often more defined, with very regular and rectilinear alignments of enclosures surrounding a central building or complex of buildings such as at Vallée de L'Yvel in Morbihan (Gautier, 1996). These central complexes are often interpreted as Roman buildings based on the evidence of tile fragments from roofing, flues and floors or hypocaust *pilae*, for example at Les Landes de la Ruée (site A92, Astill and Davies, 1997, 71). The high quality material associated with the building remains suggests that these buildings may have included high-status villas. For example, fine local tableware such as bowls and flagons, and imports including Gaulish Samian and *Terra nigra* were recovered from A92 (op. cit., 72). However, the majority of buildings demonstrate a dramatic reduction in scale as at Le Boisanne, where a single structure replaces the 'native farm' and at Paule, Camp de Saint-Symphorien where only part of the eastern enclosure is re-used.

Currently, the chronology of these sites is still based on pottery typology and certain morphological traits are shared on pottery in both Brittany and south-west England. In Cornwall the 'South-Western B' pottery, which is most similar in form and decoration to some of the Breton wares discovered at Le Boisanne, Ebihens, Kercaradec and Le Yaudet, have been dated potentially as early as the 4th century BC (Quinnell, 1986; Chapter 8) or end of the 5th century BC (Cunliffe, 1991, 85). This is supported by its dating at Paule, Camp de Saint-Symphorien to between the 4th and 3rd centuries BC (Menez and Arramond, 1998, 129). Stamp decorated wares and the use of graphite and hematite in pottery manufacture in Brittany dates to the Early and Middle La Tène. Studies have also highlighted pottery forms dating to the end of the Middle La Tène and the Final La Tène in common with the rest of Gaul and, more importantly, forms of a more local character (Duval, 1990, 283). One of the more diagnostic features of the Late La Tène pottery is the presence of internal grooves on the rims that Wheeler and Richardson believed were derived from metalwork (1957, 54).

These occur on both Breton wares and the so-called Glastonbury or South-Western decorated wares and were dated to the 1st centuries BC and AD because of parallels with metal artefacts. However, the pieces considered most relevant (*ibid.*), the Keshcarrigan bronze bowl, Ireland (Fox, 1958; Raftery, 1984), and the bronze cup discovered with the Colchester Mirror, south-east England (Fox and Hull, 1948), do not have internally grooved rims.

Some sherds of Dressel 1a and 1b were retrieved from Le Braden (Le Bihan, 1984, 175) and Paule (Menez and Arramond, 1998, 139), and a minimum of five vessels can be reconstructed from 79 fragments at Le Boissanne (Menez, 1996, 192). Other artefacts, such as lignite bracelets and rotary quernstones are generally undiagnostic, the latter dated in Brittany from the beginning of the 2nd century BC when they replace saddle querns (*ibid.*; Le Bihan et al., 1990, 110). There is also a range of 'exotic' items such as the single fragment of 2nd century BC Greek-Italian amphora and tall handled jug from Le Boissanne and a glass bangle fragment from the same (Menez, 1996, 192). A very similar assemblage was recovered from Le Braden (Le Bihan, 1984, 125) and Paule, Camp de Saint-Symphorien (Menez and Arramond, 1998, 138).

It is possible that the end of the 'native farms' and subsequent settlement dislocation will have occurred sometime before the Roman campaigns in Brittany. No characteristic Roman sherds are found in even the upper fills of the Iron Age ditch enclosures (Astill and Davies, 1997, 65; Le Bihan, 1984). Certainly it seems that some of the larger enclosed sites such as Le Yaudet and Keraradec were in use well in advance of the occupation. Material from Keraradec and other large enclosed sites such as Camp d'Artus (Wheeler and Richardson, 1957), Alet (Menez, 1996, 192 and 199; Bender, 1986, 51) and Le Yaudet (Cunliffe and Galliou, 1995) is comparable to that retrieved from 'native-farms' and some coastal sites such as Ebihens. However, the evidence for post 'native farm' settlement consists of farms centred on villa buildings which may or may not incorporate distinctively Mediterranean architecture such as roof tiles.

At Le Boissanne there are indications of continuation at the 'native farm'. A possible 'sanctuary' is constructed, marked by the deposition of figurines around possible foundations for a wooden building (Menez, 1996, 194). This however, still represents a substantial change in the function of the site. At Braden, at least one enclosure ditch of the later Gallo-Roman site Braden III overlies the original 'native farm' (Le Bihan, 1984, 206) and where

this occurs the ditch seems to lose its regularity; the significance of this is unknown. At Paule, Camp de Saint-Symphorien, the eastern enclosure remains are re-occupied by a small rectilinear bipartite enclosure, probably a farm (Menez and Arramond, 1998, 143). Survey in east Brittany has suggested that the use of some of the large fields continues on a very few sites, but the vast majority indicate a dramatic change with Iron Age fields becoming Roman settlements (Astill and Davies, 1997, 66) and Iron Age settlements becoming Roman fields (op. cit., 65).

After the Roman conquest many aspects of life must have had continuity; for example, the large farms appear to move to new locations and adopt different architectural styles and layout, but remain roughly equivalent in size and composed of comparable elements. The model of multiple ditched enclosures focused on central areas with relatively few buildings continues, presumably with at least some similarities in function. However, the surface evidence from A92 suggests that the land within 500m of the villa was fertilised and thus used for arable (Astill and Davies, 1997, 77). This is a much greater area than the evidence from Le Boissanne suggests and may indicate, along with the pollen evidence (Margueries, 1990), increasing arable agriculture at the expense of pastoralism. A similar interpretation might be possible at Paule, Camp de Saint-Symphorien, where the Romano-Gaulish occupation is much smaller than previous layouts and presumably represents a dramatic reduction in the number of animals. The landscape had already been well populated and 'domesticated' for many centuries, with relatively evenly spaced settlement and good communications. In fact, the distribution of material from Iron Age fields and settlements "leaves next to no room for any extensive tracts of woodland, let alone forest" (Astill and Davies, 1997, 69). However, many facets of daily life may have changed; for example, architectural styles and a more regular rectilinear layout of surrounding enclosures is visible, whilst a change in landscape boundaries would have altered the way a landscape was perceived, and the way it was experienced by the inhabitants. Tile presumably replaced thatch or other organic roofing at many sites, as stone was increasingly available, possibly through large-scale quarrying as traced at Le Boissanne (Menez, 1994) and Le Bois Guillaume, Car (site B409, Astill and Davies, 1997, 63). This is also paralleled by the increasing use of mortar. The everyday ceramics and other items similarly began to change, the La Tène decoration on pottery disappears (Astill and Davies, 1994, 272) and the majority of recovered pottery is distinctively Roman in character. In fact there seems to have been a gradual move towards an almost entirely aceramic post-Roman first millennium AD (Astill and Davies, 1994; 1997).

There is also a change in religious activities. At both Braden and Le Boissanne figurines from the Roman pantheon were indicators of not only possible 'sanctuaries' but also presumably a profound change in embedded religious attitudes over a very short period of time. It is unclear what significance the original beliefs still held but it may be that not all were quick to adopt Roman practices. The discovery of stele in the souterrain at Tréséan may be an indication of the quasi-religious aspects of souterrains and/or an attempt to preserve a former mode of religious representation in a time of stress. The majority of statuettes recovered in Finistère are of Jupiter and Mars (Galliou, 1989, 30), perhaps indicative of the acculturation of local pre-Roman deities, particularly *Lug*, into the ranks of the Roman pantheon.

Romanization?

It can be speculated that a surprisingly swift change in the local religion and the decline in the use of souterrains and large enclosed sites are perhaps indicative of changes in society. A closer examination of the evidence from the 'native farms' also highlights the changes undergone in the layout and construction of the farms. In the later phases at both Braden and Le Boissanne, sometime in the 2nd or 1st centuries BC, all the enclosures are formed by palisades that replace bank and ditch construction (Le Bihan, 1984, 129; Menez, 1994, 190). A similar change occurred during the final phases of the eastern enclosure at Paule, Camp de Saint-Symphorien (Menez and Arramond, 1998, 139). The following villa based farms seem to have utilised less pronounced banks and shallow ditches (Le Bihan, 1984, 201-203). The early large enclosures may have a monumental aspect to them that has been downplayed in the French archaeological literature, often dismissing the enclosures as simply being functional animal pens or providing protection from the elements (Menez, 1994; 1996, 184). The bedding trenches for these palisades are very deep, often 1.5m to 2m below the modern natural subsoil (Le Bihan et al., 1990, 102), suggesting significant constructions. It is possible that the conspicuous consumption of timber in the late La Tène was a symbol of the changing status of the occupants who were entering into wider exchange networks and acquiring objects that may have carried significance beyond their utilitarian value. This consumption was also reflected in the *muris-gallicus* at Camp d'Artus and possible box-framed rampart at Paule, Camp de Saint-Symphorien. The subsequent change in settlement patterns and archaeological remains from the turn of the millennium (Astill and Davies, 1994; 1997) may be held as a further indication of a change in the sheer scale and solidity of the structures populating the landscape, perhaps also relating to a decline in rural

monumental architecture. Certainly the villa-farms incorporate much less monumental enclosures, although their stone construction and Mediterranean architecture of the main buildings belies some continued power and wealth. There is a change in the expression of wealth and the symbolism of power also reflected in the artefactual assemblages. The use of stone buildings without deep foundations, and perhaps the consequent construction of similarly founded timber buildings, would dramatically reduce their archaeological visibility, especially on truncated rescue excavations.

Brittany has very little evidence for any settlement of the first millennium AD. Previous evidence has over-relied on classical texts, particularly those written by Julius Caesar, to describe the centuries either side of 0BC/AD. An intensive field survey and small-scale excavations within a small area of eastern Brittany highlighted the lack of information for this period (Astill and Davies, 1994; 1997). The survey was explicitly designed to investigate the period from the 1st century AD to the 20th century AD. However, the 1st to 2nd/3rd centuries AD, the 'Roman period', produced only small quantities of pottery and building materials (generally tile fragments) which probably indicated the spreading of midden material on fields as manure (Astill and Davies, 1994, 272). Small amounts of Argonne ware and l'éponge ware are being imported to the coastal regions and up the rivers by the late 3rd century AD (op. cit., 86). However, similar to sites in Wales (Chapter 7), these imports are probably representative of status sites and may not represent the general settlement. From 300AD to *circa* 900AD the almost total lack of material encouraged the theory that the period is essentially aceramic (Astill and Davies, 1997, 87). The record of excavation and chance finds from Finistère supports the conclusions that the majority of stray material is Roman and often composed of tile fragments (Galliou, 1989). It could be argued that there was a decline in population during the later 3rd and 4th centuries AD with the majority of excavated villas being abandoned and the construction of town walls around urban centres (Astill and Davies, 1997, 85). This contrasts with the written texts that record an area relatively densely populated and intensively cultivated by the 8th, 9th and 10th centuries AD (op. cit., 88).

Post-conquest Gaul to AD400 saw the introduction of more systematic taxes, a census of the four major provinces and the solidification of previous boundaries into *civitates*, probably by the end of the 1st century AD (Astill and Davies, 1997, 41; Bender, 1986, 54). By AD135 there was a senate, magistrate and *civitas* at Rennes, and it is possible that the same existed elsewhere. For example, a well-developed town evolves rapidly during the 1st century AD at

Quimper (Le Bihan, 1984, 25). By the second half of the 1st century AD, large and small Roman roads crossed the Gaulish countryside with small towns at the nodal points and villas located nearby. The location of the villas and other Roman settlements are determined by access to the communication system rather than the best soils (Astill and Davies, 1997, 82) contrasting markedly with the earlier Iron Age settlement.

Towards the end of the 2nd century AD, *circa* AD170 to AD180, some of the villas are destroyed by fire and there is pressure placed on the Imperial administration (Bender, 1986, 57). The majority of evidence then shifts from archaeological remains to textual accounts, often written by classical authors and the evolving Christian monasteries. By the mid-3rd century AD conditions had worsened (Galliou, 1989, 31) with the beginning of the Germanic attacks along the Rhine and Danube and the presence of Frankish, Saxon and Frisian pirates in the waters around Gaul and raiding up the Seine. The Franks and Alamans pushed into northern Gaul and in AD277 Evreux was fired (Bender, 1986, 57). Other places were sacked or destroyed and many abandoned by AD270-AD280 (*op. cit.*, 58). At Quimper there was minimum urban activity in the 4th century AD (Le Bihan, 1984, 25). Much of the countryside may have been depopulated and there was a sharp increase in forest cover, commercial links were severed and other industries suffered. Archaeologically, the villas were occupied by 'squatters' and by the mid-4th century AD towns and villas were abandoned during more incursions, uprisings, firings and devastation (*ibid.*).

Against this rather bleak picture of 3rd and 4th century Brittany there are finds of coinage that may suggest some continuity in economy (Astill and Davies, 1997, 86; Galliou, 1989, 31), although it could also represent the hiding of wealth during a period of stress. The apparent decline in pottery may be because of a continuation in the same fabric and forms from the early centuries with only minor changes in the 4th century AD. This would cloud any typological differentiation (Astill and Davies, 1997, 87) but is difficult to sustain without stratified material. A lack of structural evidence and the rather less substantial occupation of villas, suggested by references to 'squatters', may indicate that there was a return to wooden building types, perhaps because of the deterioration of transport routes from the stone providing areas. This is comparable to descriptions of secondary settlement at other Atlantic sites (e.g. Chapter 6). The increase in arboreal pollen and lack of cereal pollen (*op. cit.*, 86) suggests that there was resurgence in background woodland absent in the preceding centuries. This may represent changes in economy, possibly suggesting a return to pastoralism albeit on a smaller scale than in the La Tène. The development of mixed

farming would require less upland and other marginal areas to be kept cleared and focus would return to the fields around farms and villages.

Post-Roman Settlement

After the 4th century AD the archaeological picture is almost completely blank. There are no material remains from the period in rural areas (op. cit., 91) and many urban sites, such as Quimper, leave no archaeological trace for this period (Le Bihan, 1984, 26). The majority of material from this period is recovered during excavations of cemeteries associated with churches in urban environments. Physical aspects of the landscape are discussed in the early texts from the area; property boundaries were composed of banks and ditches but do not seem to have surrounded properties as before, different grades of road were recognised, bridges were mentioned and the settlements consisted of scattered hamlets with the occasional aristocratic residence (op. cit., 95-98). These latter are likely to have been built of wood and represent the residences of a *machtiern*, a local hereditary chairman, within a *plebs*. These *plebs* were well-defined communities of peasant-farmers that practised mixed farming with a focal church that seems to have taken an increasing interest in local matters. The church gradually increased in wealth and became very powerful through land ownership (Astill and Davies, 1997, 99). The majority of people in the late first millennium AD in Brittany seem to have lived out their lives in their *plebs*, working the land and vigorously maintaining their land rights. Less wealthy than their peasant-farmer owners were the 'unfree' who had no powers of negotiation but were bought and sold as part of the land they worked (op. cit., 93).

The written texts, coupled with the negative archaeological evidence, suggest several changes occurred during the later first millennium AD in Brittany. Building in stone stopped and cereal production may have decreased, coupled with an increase in mixed farming. A localised authority was established including the building of churches that were beginning to convert the rural populace by the late 5th century AD; external contacts and thus imports and exports were rare, and the economy revolved around mixed farming. It can be speculated that at least some of the earlier Roman farms may have survived and perhaps became the basis of power for those people who were to go on and become 9th century AD Breton rulers. However, the constructional techniques and change in material assemblages eliminate important developments during this period from the archaeological record of rural Brittany.

Discussion

New methodological work and rescue excavations have removed the vague discourse on earlier first millennium BC settlement (Buchsenschutz, 1997, 15) and provided much by way of detailed analysis of the settlements of the area. It now looks as if the organisation of the landscape had begun well before the start of the La Tène and was populated by dispersed large enclosed sites with relatively few internal structures. By the 1st century BC, both Le Boisanne and Le Braden are enclosed by palisades, consuming large amounts of timber in the process, and begin to produce exotic artefacts and show evidence of external contacts. The final phases at both sites are represented by unenclosed settlement incorporating stone architecture and rectilinear buildings; a style mirrored at some contemporary coastal sites. The oppida of the final La Tène are seen as exceptions or late phenomena in this spatial organisation (op. cit., 17), but the Camp d'Artus is the only site of a sufficient scale to be termed an oppidum in Brittany. However, the lack of material and internal excavations at this site precludes any detailed analysis of chronology, structural organisation or function. What little excavation has occurred has not produced evidence of the complex settlement organisation or industrialisation frequently recovered from other oppida. Large enclosed sites such as this, and perhaps Kercaradec and Paule, Camp de Saint-Symphorien, may have earlier occupations suggesting a gradual development across the first millennium BC. The late first millennium BC in Brittany is typified by increased numbers of enclosed sites but none incorporate the complexity and internal organisation visible at oppida. There may be links with the late phases of at least some promontory enclosures in the area such as Alet and Le Yaudet, that may represent increasing trade and/or hierarchical society. It has been suggested that the 'native farms' are the settlements of rich aristocrats or powerful nobles during the floruit of oppida, the *aedificia* that Caesar mentions (Buchsenschutz, 1994, 11). The problems of trying to tie archaeological remains with textual references are great, but there are distinctly archaeological problems with this idea too. If these are the settlements of the powerful nobles then where do the lower classes and unfree live? Are their settlements simply too diffuse or lacking in stature to survive in the archaeological record? Even if this were so, surveys of the Breton landscape should perhaps have picked up scatters of coarse pottery which are not linked directly to 'native farms' and could represent this type of early settlement. At Le Braden solitary hearths located within possible field systems of the early first millennium AD were interpreted as possible light buildings, perhaps built using organics and pisé (Le Bihan, 1984, 218). Yet these were dated by associated pottery to the early centuries of the first millennium AD and no similar features were located dating to the first millennium BC. The quantity of prestige objects recovered from these sites, when compared

to the possible occupation span, is also small. Sites such as Le Boissanne and Le Braden have produced only a minimal number of imported sherds and 'exotic' material, the former site only towards the end of its occupation. The burials on both sites, although very different in their contexts when compared to La Tène burials across the Atlantic seaways, produced no distinctively rich assemblage. Perhaps the more likely scenario is that these sites represent the average farmer and his extended family and estimates of one farm every three or four kilometres (Buchsenschutz, 1997, 18) might be held to support this idea. Wealth may also be measured in cattle and other animals rather than prestige goods. Certain farms are larger than others; for example, Le Boissanne covered roughly 400m² compared to 6,000m² and 8,000m² at Le Braden I and II. Others have bigger banks and ditches like the massively constructed site at Paule, Camp de Saint-Symphorien, and perhaps controlled larger areas of the landscape. The number and type of structures and features on a site, and the type of enclosure system may also have been important. Thus differences between 'native farms' may have expressed differences in status between their occupants, rather than differences between 'native farms' and oppida or promontory enclosures. Only when immediate access to the Roman trade system opened up in the final centuries of the first millennium BC did these settlements begin to acquire possible prestige goods and society became more outward looking but probably retained an internal hierarchy of settlement.

The 'native farms' have been compared to the Cornish 'rounds', both in size and form, and indicate a strikingly similar unit of settlement; a single or small number of buildings within an often oval or circular enclosure (Cunliffe, 1990, 248). The presence of promontory forts, souterrains and stone stele in these regions, and Ireland, also encourages comparison. Yet the differences can be marked. The Breton souterrains are constructed differently from those generally found in Cornwall, and go out of use well before the current late first millennium AD dating of the Irish structures. A chronological difference may also exist between the 'native farms' and the majority of Irish ring-forts, although there is some evidence for the first millennium BC construction of at least some of the latter (Chapter 6). However, the most obvious differences in these settlement types are morphological ones. 'Native farms' such as Le Braden I, Paule/Saint Symphorien and Les Sept Perthuis, are generally sub-rectangular and are probably more comparable to the south-central or south-eastern English sites in the Iron Age. Some of these Breton enclosures can also include antennae type banks, ditches and/or palisades running from the entrances, such as at Le Braden I. These have also been recognised in southern Britain, particularly in Wessex, developing from the Early to Middle Iron Ages or Hallstatt to Middle La Tène (Cunliffe, 1991, 215-223). Similar features

have been noted on some Welsh sites dating to the late first millennium BC (Chapter 7) and it is very likely these relate to pastoral activities. The Cornish rounds and Irish ring-forts are often determinedly circular in shape although they may include concentric lines of enclosure. By contrast, sites such as Le Boissanne, Prat and Le Braden II are more irregular and sprawling in their layout and incorporate distinct rectilinear elements during the late first millennium BC. However, sites such as Le Braden I (Le Bihan, 1984), Paule (Arramond and Le Potier, 1990; Menez and Arramond, 1998), Trévily en Maroué-Lamballe (Le Bihan et al., 1990) and Graibusson (Menez, 1994, 258) also incorporate a more symmetrical and concentric layout during the late first millennium BC, although they are still distinctly rectilinear. In fact, a study of enclosure types in north-west France and south-west England has indicated that the rectangular bivallate site is much more common in north-west France than south-west England (Arbousse-Bastide, 1997, 381-382). This same analysis also emphasised a distinct difference in entrance orientation between the two areas with the majority in south-west England facing south-east and east while Breton sites generally face east, south and west (op. cit., 375). This is an interesting distinction that cannot be explained by environmental determinism (Chapter 2) and must relate in some way to social differences between the two areas. However, an important aspect of this study is the overwhelming concentration of sites in eastern north-west France (op. cit., 392, figure 19) that are in fact outwith the distribution of promontory enclosures, souterrains and stele of Brittany. Since the presence of these latter monuments suggests a rather different social integrity, contrasting with the rest of France, it is important to stress this disparity in site distribution. Indeed, these concentrations are somewhat peripheral to the majority of sites excavated in Brittany (Figure 43). A similar eastern concentration of sites is visible in the south-west English evidence (Figure 43). It is perhaps not surprising then that the study concludes that north-west France is more comparable in terms of settlement or enclosure morphology with Wessex than with south-west England, although differences still exist (op. cit., 383). Souterrains are restricted to the south-western tip of Cornwall (Chapter 8) and it is interesting that this is the same location as the source of much Gabbroic south-west decorated ware and the early imported amphora. Comparisons between the south-west peninsula and Brittany must take into account these settlement patterns. However, it is notable that generally curvilinear sites are still more pronounced in Cornwall than in western Brittany (op. cit., 395, figure 22). Rectilinear and orthogonal sites are restricted to Brittany where they are clustered in the north-western coastal edge west of Brest and further east (op. cit., 394, figure 21).

The three major concentrations of settlement in north-west France are in the proposed tribal territories of the Coriosolites around La Rance and the southern half of the Riedones. Again it can be seen from Breton pottery and coin distributions across the Channel, that it is the Coriosolites that seem to control the movement of material via the Channel Islands across to Hengistbury Head. However, the distinctive monuments and pottery of comparable styles are distributed west of this artery and this suggests an important and direct route from Brittany to Cornwall, between the western tips of these regions. The route may have run from Falmouth or Mount's Bay to the area around Brest and Mer d'Iroise (McGrail, 1995, 275). From these two locations, movement is possible along the coastal zone of the Western Seaways, perhaps supported by the clustering of promontory enclosures in these areas. This may indicate that the Scilly Isles and Ile d'Ouessant are important locations, not only for navigation but also presumably as locations for trade and exchange. The evidence from early first millennium AD Brittany is of a very different kind to that in the rest of the Atlantic area studied in this thesis. The complete dislocation of settlement and massive and total reorganisation of the landscape after the Roman conquest is unique in this area.

Of the related pottery types located on both sides of the Channel, only internally grooved rim wares extend with any conviction into the south-western peninsula of Cornwall and parts of Devon, reflecting the distribution of South-Western B decorated wares. An important aspect of this distribution that is rarely commented on is its concentration on the west coast of Cornwall and coastal Somerset (also in Durotrigian territory). The majority of graphite coated wares, tall jars and pots with eyelets and rilled vessels, cluster around the port of Hengistbury in Dorset, generally conforming to the territory of the Durotriges. These wares have a broad but conceivably early date range in Brittany. The distribution of Dressel 1a amphora is also discernibly south-central in Britain, and declines after the mid-1st century BC (Cunliffe, 1991, 438). Fine cordoned pottery has an even more defined concentration in the area immediately around Hengistbury and Poole Harbour, the Channel Islands and the Breton north coast on the border between Côtes-d'Armor and Ile-et-Vilaine around the mouth of the Rance. These distributions and the relatively wide distribution of Breton coinage would argue for a more complex trading network than that argued by Cunliffe for the 1st century BC (Cunliffe, 1990; 1991, 434-438). The more widespread distribution of the internal groove on pottery rims may have relatively little to do with skuemorphism and more to do with function. An internal rim allows the container to be sealed more effectively and it is important to remember that the pottery itself may be secondary to its contents (Chapter 8). Unfortunately, such analysis is currently lacking in both Brittany and south-west Britain.

There could be important chronological differences that are masked by the amalgamation of these artefacts into a simplistic view of early 1st century BC trade, perhaps indicating the expanded participation of the Cornish peninsula in exchange networks during the late first millennium BC. There may also be a strong element of movement up the west coast to Somerset from where material could travel down the Ye.

Brittany therefore enjoys a reasonably well-defined first millennium BC settlement sequence that includes relatively large enclosed sites, some promontory enclosures, and the construction of souterrains during the early to mid-first millennium BC. There is then a possible proliferation of sites from the 3rd century BC including the typical *ferme indigènes*. However, the extent to which this is conditioned by relatively few large-scale excavations on well-preserved sites of this type is unknown. Both Le Boissanne and to some extent Paule, Camp de Saint-Symphorien, suggest many similar sites could have earlier origins. These 3rd to 1st century BC enclosed sites are often more rectilinear in their layout than preceding enclosures and still incorporate evidence of monumentality and social status. Many sites dated to this late period display conspicuous consumption of timber in their buildings and enclosures. Towards their end, around the time the souterrains are deliberately filled in, many sites begin to produce imported material of the 2nd and most emphatically 1st centuries BC. There are many different scales of site, producing varying amounts of imported material and evidence of access to resources such as metalworking, suggesting complex social, political and economic hierarchies. The same period is marked by developments in pottery decoration and style and the construction of coastal sites. These latter may incorporate domestic settlements but are more likely to be functionally specific sites as many are situated in salt manufacturing locations. Their development during the same period of increased imports and numbers of inland sites suggests a renewed importance of coastal resources and probably trade across the Atlantic Seaways. Unfortunately, these progressively more eclectic and dynamic social developments are dramatically interrupted by the Roman campaigns and imposition of Roman rule in the area. To some extent the complex hierarchies of settlement and presumably social ties and obligations were able to survive, but the very landscape and thus the basis of the emphatically pastoral economy on which these systems were built, is irrevocably changed. After the villa-type farms and urban development at nodal trading points and strategic military locations, the Breton society may have returned to an essentially rural economy although by now based on mixed farming. A dramatic change in architecture and the processes and portrayal of land ownership means that little is archaeologically visible from the 4th century AD onwards.

Chapter 10

Discussion

Various chapters in this thesis have highlighted commonalities and contrasts in the archaeological settlement record across the western façade. Independent and focused arguments on structures and chronology within various regions have allowed broader comparisons between areas based on the current knowledge of problematic issues such as taphonomy and other bias. Broad similarities across the Western Seaways, including structural sequential development and the approximate chronology of significant cultural change, indicate that many areas were in constant contact over two millennia, albeit of differing intensity and type. The Atlantic façade is overwhelmingly coastal in its outlook, and land-based travel and communication was probably more difficult than sea-borne travel. Therefore, areas across any stretch of water may be linked more closely than the regions across mountains or other land boundaries. In a similar way, it should be emphasised that rivers can act as both route-ways and barriers or boundaries. The western façade is a large area linked by the Atlantic Ocean with possibilities for travel up and down these coasts. The corollary of this is that we should not presume that 'cultural' entities are defined or constrained by coastlines or topography.

This approach has allowed details of structure, and to a lesser extent archaeological assemblages, to be considered at a regional scale without the constraint of modern political boundaries. Significant cultural change can be charted in many areas within both the late first millennium BC and approximately the second quarter of the first millennium AD, marked by decreases in settlement size and in some areas, demonstrable increases in settlement numbers. Several areas display close first millennium BC contact such as the various regions of Atlantic Scotland and western Ireland and Cornwall and Brittany also have evidence of contact across the Channel although there are still distinct differences. Settlement in Brittany is dramatically affected by the Roman conquest, permanently disrupting the local settlement development. The other areas of the Atlantic west are much less directly influenced, indeed it is possible that the Roman army never visited areas of Ireland and Atlantic Scotland. The degree to which these areas participated in 'Romanization' might be elucidated through detailed analysis of settlement (Mytum, 1995).

Throughout these various developments, changes in patterns of deposition or architecture provide an insight into cultural change at the fundamental level of the household.

A consequence of this study is the recognition of an 'Atlantic sequence' of settlement development. This sequence supports previous suggestions that the Iron Age is split into Early Iron Age, Middle Iron Age and Late Iron Age but would incorporate various sub-phases including Middle Iron Age 1 and Middle Iron Age 2, Late Iron Age 1 and Late Iron Age 2 in various areas. However, such a systemic approach is rejected because it would simply reinforce differences and contribute to strict chronological, geographical and cultural definitions rather than emphasising the continuities between these various developmental stages. In fact, the archaeological evidence emphasises a much more fluid sequence, which while having broad similarities can also have variations in scale, type and chronology of change. During the early to mid-first millennium BC, large enclosed sites, some of which may not represent perennial settlement occupation, dominate the landscape. The final third of this same millennium saw a dramatic increase in the number of smaller but still monumental sites. Some areas may incorporate characteristic structures such as the rectilinear enclosures around the eastern and southern coasts of the Irish Sea or the monumental Atlantic roundhouses of Scotland, but all reflect internal multiphase developments. Why this move to smaller, but still visually impressive settlement came about is debatable, but it was marked by some social tension, perhaps reflected in the evidence for ritual deposition on secular sites. Both human and animal remains are incorporated in structured deposits on settlement sites with increasing frequency during this period. Wheelhouses in Western Scotland have provided some of the best evidence, but other examples such as the Barbary Ape skull from Emain Macha at Navan, Ireland, do illustrate a need to negotiate cosmology on-site and perhaps within the household.

Alcock has stated that the termination of 'broch' occupation, now known as complex Atlantic roundhouses, was an important period in later prehistory (1984). This probably set in motion the developments that culminated in the political unity of Scotland. From the evidence presented in this thesis, the significant change in settlement at this time was ultimately comparable with the original Late Bronze Age/Early Iron Age construction of massive walled conspicuous roundhouses in the Atlantic region of Scotland. Their cessation may not have been a sudden change but a gradual development from the domestic use and re-use of the complex Atlantic roundhouse shell to the dismantling of the walls and the construction of secondary roundhouses over a period from the 1st century BC to 3rd or 4th

centuries AD. The author believes the evidence for the physical dismantling of complex Atlantic roundhouse walls to approximately first floor level was not simply a safety precaution in buildings becoming more dangerous with age (*contra* MacKie, 1994), but a concerted action to manifest a changing social milieu. During the same period elsewhere, there is a comparable move from large enclosures to generally unenclosed, or less substantially enclosed, settlement. In Ireland, although little modern excavation has been carried out on the appropriate structural remains, several drystone sites reflect the construction of internal secondary wall-faces, perhaps analogous to the developments in Atlantic Scotland.

From perhaps the 4th or 5th century AD the settlement record across the Atlantic seaways is characterised by a lack of architectural remains. This surely reflects a distinct change in the type of structure being built and most visible in the stone-dominated regions of Atlantic Scotland and western Ireland. In these areas much smaller cellular structures representing discrete units of agglomerated settlement, replace earlier substantial roundhouses. The widespread similarity in timing of this change in construction marks an abrupt change in the social patterns that had been developing since the Late Bronze Age. These changes may not have been confined to Atlantic Scotland as changes in Ireland, Wales and Cornwall are also recorded at this time. There is also evidence to suggest upheavals in the settlement patterns of Brittany (Chapter 9; Bender, 1986; Galliou, 1989). Similar developments in areas with different constructional materials would result in reduced archaeological visibility. The extraordinarily preserved Deer Park Farms, County Antrim, Ireland, and Buiston Crannóg, Ayrshire, south west Scotland, suggest that by the late first millennium there was a move to less substantial wicker-type buildings. A similar move during earlier centuries of the first millennium AD might be seen in Wales at the site of Drim in Dyfed (Mytum, 1995), and presumably applicable to the early centuries in eastern Ireland too. These structures may have been very strong and architecturally complex, requiring knowledge and careful management of materials and labour, but lack the large timbers and deep slot trenches of the previous post-built roundhouses. The tendency for these buildings is a move towards smaller and perhaps more functionally specific units rather than a few large multi-purpose roundhouses. This change in settlement is also associated in some areas, such as north Wales, Ireland and perhaps Atlantic Scotland, with the proliferation of rectilinear structures as functionally specific non-domestic buildings. These develop from previous rectangular structures, that may also have been non-domestic, as at Goldcliff in Wales and sites like Les Ebihens in coastal Brittany.

This dramatic change in architectural style is associated with a change in the artefactual record and an emphasis on material wealth reflected in portable objects. Imported materials, and perhaps non-ferrous metalworking and other specialist activities, are held in high regard and the ability to control the movement and manufacture of these materials becomes an increasingly important facet of status definition between a greater proportion of the population. Whereas La Tène objects may also have been associated with high-status transactions of a social elite (Raftery, 1995b, 5), these are generally limited in number and scale of distribution compared to later materials. During the late 5th to 7th centuries AD, a series of imported wares can be recognised on sites of various types. The majority of the material is recovered from enclosed settlement, often in strategic locations to control the trade of these goods. These centres may have redistributed various articles, including imported wares and metalwork, to other sites presumably in an effort to facilitate social and political relationships. It is possible that these same centres controlled the movement of highly specialised craft-workers, perhaps also providing the raw materials necessary. This would represent a very powerful statement of authority and wide-ranging control.

Further major developments in the late first millennium AD, from approximately the 7th century AD to the 9th century AD, include the introduction of architecturally similar figure-of-eight (or *ventral* or *polyventral*) buildings associated with a recognisable material culture. These structures are again particularly visible in the western regions of Scotland and Ireland with stone-built architecture, although they could be common elsewhere as suggested by the discoveries at Deer Park Farms and their close reflection of late first millennium AD Irish laws (Lynn, 1994). The spatial and temporal situation of these buildings, found across a wide geographic area, indicates a large-scale organisation of Late Iron Age society. Similar claims can be made for other areas of Ireland where ringforts proliferate from the 6th or 7th century AD (Chapter 6). The developments in other areas are more obscure, mainly owing to the lack of archaeological visibility, although the development of enclosed sites in Wales may be analogous to the nuclear forts of northern Britain. Other sites such as Clogher in Ireland that re-use earlier earthworks to reinforce hierarchical spatial organisation may also be comparable.

This evidence suggests that the various communities across the Atlantic Seaways were vibrant and dynamic, developing along similar lines albeit with distinctive regional traits. Interesting details may be further gleaned from the analysis of these various settlement

sequences with the environmental evidence presented in Chapter 2. The period of increased woodland during the latter years of the first millennium BC and the beginning of the first millennium AD is coincident with an increase in the numbers of settlements, albeit a reduction in their scale. Many of these sites are associated with some form of pastoral activity, whether in their layout of ditches and associated enclosures, or in their artefactual remains. The mid-first millennium AD climatic decline is associated with another increase in the number of sites, although again associated with a decrease in scale. This period in Ireland for example is related to the proliferation of ringforts and the archaeological visibility everywhere of hierarchical settlement patterns and social relations. If any major settlement dislocation or disruption is evident in the archaeological record it would be at least one hundred years earlier in the 4th to 5th centuries AD with the decline of monumentality and the possible change in construction of the average building. This suggests that social and political movements were more influential than the environmental considerations, although the latter should not be entirely removed from consideration. A decline in agricultural productivity during the mid-first millennium AD may have helped to contrast and define the multiplicity of status distinctions already forming in the society, although the impact of an environmental decline on essentially pastoral economies may have been relatively slight. The Western Seaways may have been marginal to continental developments but were far from culturally poverty-stricken or economically marginal. The complex social and political ties developed across the area from the Late Bronze Age may have moved and changed but were rarely broken, resulting in closely synchronic patterns of settlement development.

It is probable that a generally pastoral economic regime is shared across the Atlantic seaboard but this should not in itself encourage close comparisons in terms of cultural contact. Other aspects of the material culture and settlement details should be encompassed to provide a more compelling argument. For example, contact across the Channel between Brittany and Cornwall is evidenced in the close similarities in pottery forms and decoration during the first millennium BC, and the presence of imports and exports between both areas; yet Cornwall may have had an entirely different social structure and economic background in which the mining of tin was increasing in importance. One remarkable pattern worth noting however, is the relative wealth in material terms located on small islands (Chapter 8). The islands of Guernsey and Jersey and the Scilly Isles have produced abundant coin hoards and have well-settled coastal fringes. These areas may represent the boundaries of major territories such as the Osismi or the Durotriges and acted as 'contact zones' between the different populations. These contacts brought ideas, trends and influences, as well as some

small-scale population movement in terms of marriage alliances and perhaps even artisans. They may have been interpreted as gifts exchanged at the highest levels between notable persons or families of status.

Promontory Enclosures in their Social and Settlement Context

Of all the sites investigated in this thesis, the ‘promontory fort’ (termed ‘enclosure’ here), has consistently been viewed in the past as a direct manifestation of population movement. Little extensive investigation of promontory enclosures has meant analysis is based on surface features alone, although these may often represent a palimpsest of activity over a long period. These sites, especially the multivallate examples, have previously been linked to the movement of the Breton Veneti tribe instigated by their confrontation with Caesar in the mid 1st century BC (Chapter 9). However, excavation and survey at several sites in northern Scotland (Chapter 3), the Outer Hebrides (Chapter 4), Ireland (Chapter 6), Cornwall (Chapter 8) and Brittany (Chapter 9) indicate the wide variation in dates for these sites between the Late Bronze Age and Early Historic or Norse periods. The variety in shape, form, internal structures and location suggests promontory enclosures were used to perform a multitude of different functions. It may be possible to tease out classifications of enclosure and location from the mass of heterogeneous sites that may aid in their chronological and functional interpretation, although more excavation would be necessary to test the applicability of these. Survey and excavation has also highlighted the difficulties of assigning either date or function on the basis of visible surface remains alone, because of the complexity and multi-phase nature of sites. Several general conclusions can, however, be tentatively proposed from the current analysis of the evidence. Many coastal sites and promontory enclosures located on navigable rivers probably have a close association with sea transport, trade and exchange. Several have evidence of industrial activities, probably related to their function as a focus for the interaction between specialists and the rest of the population. Others in similar coastal locations, but with little or no easy access to sheltered bays and natural harbours, often exhibit close-set multivallation and less evidence for intensive activity. These sites may also have narrow or dangerous access, although guidance can be provided by the arrangement of the enclosure features, and are located on high cliffs in spectacular coastal positions. They have evidence of earlier associations including burial of the dead and enclose very little habitable space, often dominated by rock stacks or other landmarks. The sites are generally poorly visible from the mainland, although the interior can be viewed easily from the coastal approach to the site. These types of promontory enclosure may have been locations of seasonal ritual congregations, perhaps associated with negotiating the dichotomy

between the importance of the sea and its dangers, and were often legitimised by earlier social activity. They may also have acted as landmarks in the seascape, used by traders and fishermen alike. Of course, these classificatory boundaries would have been very blurred to the Iron Age populations, and there is some evidence to suggest that industrial activities may also have been seen as in some way 'special'. The Knoxpark site in County Sligo, Ireland (Chapter 6) incorporates both early industrial activity and later burials, perhaps suggesting the continuation of the site as a location of importance with a sacred constitution. Sites can evolve, develop different and new functions, but often retain some understanding of the previous character of the site.

Evidence for Commonality and Regionalism: Souterrains and Related Monuments

Whereas promontory forts have been a somewhat marginal focus of study, the souterrains of the Atlantic west have been almost completely ignored save for small notes on their distribution and affinities in excavation reports; in Scotland this invariably includes reference to Wainwright's survey of the evidence in 1953 and 1963. Outside Scotland, the phenomenon of semi-subterranean or subterranean structures has been little studied and is rarely more than a curiosity. Recent work in Cornwall seems to highlight a ritual nature for the sites (Cooke, 1993), but it is probable that the functions of these varied across and within geographical areas and probably changed with time. Indeed, evidence from Ireland suggests that different types of souterrain on single sites were probably used for different functions (Chapter 6).

Studies have highlighted the discrete regional distribution of these sites, but it was never expected that this phenomenon reflected population movement in the same way as was assumed for many other structure types. Because in almost every instance the majority of sites are discovered either by accident or during development work, there has been no detailed strategy for recording or excavating sites with souterrains. The number of sites known and fully excavated has remained very low although an examination of aerial photographs across the agricultural landscape would no doubt increase the number and frequency of the souterrain in all the areas discussed. Although Ireland seems to have a greater number of complex souterrains, it has in fact the greatest number of known sites, and complex sites form a relatively small proportion of the population. Aerial photographs may also contribute toward discovering more of the ephemeral types such as Coolcran (Chapter 6) that could populate those areas currently believed devoid of the site type. Detailed coastal

survey of the machair lands of the west and north coasts linked to some intrusive work will no doubt prove their frequency in this area too. It is now obvious that the building of subterranean or semi-subterranean structures associated with above ground buildings is widespread, stretching from the Northern Isles through both the east and west of Scotland to Ireland, Cornwall and Brittany. Although similar architectural techniques can be used in various areas there are also significant differences. In eastern Scotland alone Wainwright identified two different type groups (1963). However, all souterrains in western Scotland, Ireland and Cornwall consist of excavated trenches often revetted with stone, wood or a combination of these two materials. This contrasts with the Breton souterrains that are generally excavated tunnels in the eroding bedrock, although examples of timber-lined trenches were discovered at Paule, Camp de Saint-Symphorien, at least one accessed from a typical tunnelled souterrain suggesting a compatibility in function (Chapter 9).

A small number of sites excavated, for example Dalladies 2 (Watkins, 1981a), are of a more complex nature than the majority of known sites. There is often a main chamber that is longer than it is wide and almost always curves, and many sites have subsidiary chambers - in Ireland and Cornwall these can be circular with corbelled ceilings. Many have more than one entrance, although often one entrance is larger and more easily accessed than the other. Almost all seem to have been associated with above-ground structures of some type. Beyond this simple correlation the actual architectural details of the sites do vary considerably across the landscape and provide interesting regions or sub-regions within which similarities outweigh differences.

Some souterrains in the west date to the first millennium BC, such as Tungadale on Skye (Armit, 1996) and perhaps the long chambers connected to some wheelhouses. There is probably a long period of souterrain utilisation in the rest of Scotland; radiocarbon dates span the first millennia BC and AD. Some sites were constructed after the Roman occupation, for example, Crichton Mains and Newstead which utilised square dressed stones retrieved from Roman sites *circa* the 2nd century AD (Wainwright, 1953b, 229). The datable material from all souterrains is almost exclusively from the fill and consists of mainly Roman or diagnostic Early Christian material that can only provide a *terminus ante quem*. Dates from these sites invariably indicate occupation or abandonment with very little evidence for actual construction; the cleanliness of the Newmill souterrain is a very good example (Watkins, 1981b).

Elsewhere there is more accumulating evidence for the use of souterrains in the first millennium BC right through to the first millennium AD, often on the same site. Chysauster souterrain, for example, was built in the 5th century BC but was obviously remodelled and re-used through to the abandonment of the courtyard-house settlement securely dated to the first millennium AD. Other fogous in Cornwall have early pottery or dates such as Halligye (Chapter 8). The souterrains of Brittany date from the early to mid-first millennium BC, but there is no precise dating for any. The souterrain at Le Boissanne was infilled around the end of the 3rd century BC before the end of the settlement in the 1st century BC. Those at Paule, Camp de Saint-Symphorien were filled in prior to the major re-organisation of the site in the 4th to 3rd centuries BC (Chapter 9). The hiding of pagan stele at Trézéan might indicate some continued usage into the Roman occupation, although this may be a simplistic interpretation of their placement within the souterrain (*infra*). Evidence from Brittany has also suggested that souterrain abandonment is associated with the construction of four-post structures, perhaps indicating a development in storage technologies (Chapter 9). In Ireland, the comparison of souterrain types on the same site suggests they were used for different functions (Chapter 6).

Most interpretations of souterrains involve the storage of materials (Edwards, 1990, 30; Clark, 1961, 76; Watkins, 1981b) and the evidence from Brittany might support this. However, many sites have evidence for considerable quantities of burning, often intensive and sometimes described as industrial. It is also clear that there can be an association with metalworking; often represented by bronze and iron slag, sometimes even with internal hearths and crucible fragments, this is often found within the souterrain itself or around the associated structures. Broken quern pieces are ubiquitous and always seen as indicating agricultural processing, but the fragmentary nature of every specimen could be deliberate and reflect an act of structured deposition (cf. Hill, 1996). There is always a lot of bone debris on souterrain sites, often mixed with ashes or charcoal and often burnt. The large quantities could represent domestic midden deposits but their discovery within fire refuse, the sheer quantity and the context of often deliberate deposition may be an indication of their importance within the souterrain complex. The use of bone (often calcined or comminuted) as a flux in iron-working processes has been noted previously (Watkins, 1981a; Hill et al., 1997, 68). The querns could be utilised to grind metal ore prior to smelting or grinding bone for use as a flux.

Many souterrains do have a mysterious and possibly sacred aspect, as indicated perhaps by the incorporation of 'special' stones in their construction or in close association, and their careful closure. Features range from cup-marked to ogham inscribed or dressed Roman stones. Several sites in Ireland and Orkney are associated with human remains, sometimes of children, during the final use of the structures. The presence of stele in the souterrain at Trézéan may be related to an aspect of souterrain closure. The curvature of many Scottish souterrains (Chapters 3 and 4) may represent an attempt to hide the end from the immediate view of the entrance. There is no structural or architectural reason for this, except perhaps to keep the far end in darkness even when the door is opened. However, these aspects do not indicate a purely ritual function for the souterrain itself, since recent studies of Iron Age sites and structure types highlight a very close relationship between the secular and profane. Examples include the socio-ritual functions of hillforts (Cunliffe, 1991), the possible non-secular functions for promontory enclosures, the entrance orientation of houses in Britain and Ireland (Parker Pearson et al., 1996), the votive deposits in wheelhouses (Armit, 1996) and the siting of many Early Iron Age roundhouses on earlier burial cairns in the north.

It should not be a surprise that these subterranean or semi-subterranean structures incorporate non-secular aspects and it is probable that some were workshops or ancillary stores to workshops - possibly to keep the raw materials and finished products. Although the iron ore is more common than bronze, smelted iron represents a major investment in labour and may require specialist knowledge (Manning, 1995, 313). It is possible that blacksmiths obtained their iron in a prepared form and it would thus be a precious commodity (op. cit., 315) treated with respect. The evidence of storage interpreted from barrels at Balrenny (Chapter 6) or hemp sacks at Cyderhall (Pollock, 1992) does not automatically indicate agricultural produce such as grain or dairy products. There may be a close link between fogous and the tin-bearing lodes of Cornwall (Cooke, 1993, 248) which has even been stretched to link the actual orientation of the geology to the construction of the fogou (op. cit., 249). Coupled with possible metalworking activity around souterrains from all areas of the Atlantic façade, this constitutes evidence for a distinct association between souterrains and metalworking. Certainly there is a partially sacred aspect to their construction and possible use; their underground nature coupled with fire and darkness suggests an immediate and logical association with the earth, and thus the original source of metalworking materials, and the underworld. Metal would have remained a precious and relatively rare resource judging by its scarcity on most Iron Age sites and there are very few Iron Age hoards; it seems that most metalwork could have been re-cycled. Non-ferrous metalworking

was a specialist activity although the working of any metal on-site may have been imbued with significance beyond the immediately utilitarian.

However, this does not explain the proliferation of souterrains in certain areas, nor their absence in others and the development in Brittany from souterrains to four-posters. An alternative suggestion that requires more detailed investigation is the use of many souterrain sites as smokehouses. The Breton sites originate after, and decline before, the use of salt manufacturing sites in the Late Bronze Age and 1st century BC (Chapter 9). Salt was used primarily for preserving meat and fish, although other foodstuffs such as cheese may have been similarly treated. However, with the decline of the salt-manufacturing sites there may have been a move to smoking as a preservative and antiseptic. In fact the smoking of flesh may have begun during the salting process, since it is this that prevents larval infestation by insects during drying (Sandro Lane, pers. comm.). In the case of salmon and other fish, the smoking process actually enhances the taste whereas the salting process results in unpalatable meat due to its high water phase salt concentration, requiring extended periods of rinsing under fresh water to 'freshen'. Unfortunately, this process of making the fish more palatable also makes the flesh 'soft or mushy' and would then require drying (and smoking) again to regain texture and flavour (Sandro Lane, pers. comm.). The souterrain may have evolved as a covered drying house for hanging meat, and the remains of charcoal and other burnt material may also suggest their use as smokeries. The replacement of souterrains by four-post structures might suggest that these too were used on many sites for hanging meat to dry and 'cure'. Perhaps some were also used for smoking the meat. This activity would require cleanliness, the objective being to prevent the meat from becoming infested with insect larvae, and since the long-term preservation of food is important to the community, especially over winter, the souterrain may have been recognised as a very important structure within the site. Smoke is regarded as a purification agent in many cultures, for example the Mbuti in the forests of central Africa 'wash' themselves in the sacred smoke of the hunting-fire lit by the children from the embers of the domestic fire before a hunt. This ritual 'cleanses' the hunters and helps negotiate the dichotomy between killing forest animals, which is seen as 'bad', and the need for meat (Turnbull, 1983, 41). It is possible that the smoke created from perceived important activities like metalworking and food preparation was regarded in a similarly symbolic manner during the Iron Age.

Romanisation and Mobile Populations or Cultural Contact?

In several areas studied in this thesis there have been arguments for population movements during the Iron Age. The evidence for the impact of different foreign incursions into regions of the Atlantic west is variable and equivocal. Roman conquest in Brittany dramatically affected the lives of the local populace with massive re-organisation of rural landscapes and the imposition of Roman rule focused on urban centres and rural villa farms. This influence is visible in the archaeological record, although the same evidence suggests that the preceding way of life was not entirely forgotten or immediately replaced. Some continuity is indicated by the construction of a religious building on the remains of a long-lived Iron Age farm at Le Boissanne, and the re-use of Paule, Camp de Saint-Symphorien as a small farmstead.

Direct Roman influence in other Atlantic areas was very much weaker, indeed some have suggested there was no Roman military or political presence in Ireland (Raftery, 1995), although other scholars would disagree (Warner, 1996a; 1996b). The archaeology of Cornwall and Wales is dominated by the continuation of local culture and there is little sign of significant cultural change during the period of the Roman conquest. Dominant settlement forms from the 1st century BC continue and only significantly change again around the end of the Roman occupation of Britain. Recognisably Roman villa sites and roads are relatively few compared to more eastern areas of southern Britain, and rarely penetrate to the western coasts. This is perhaps surprising given the predominance of sea travel in these areas, but may reflect the lack of Roman control over these sea-lanes during much, if not all, of the occupation. These same routes kept the various regions of the Atlantic west in close contact. If there was little or no Roman movement along the western coasts, then the distribution of Roman type artefacts in these regions must be explained by different processes.

Although several sites across the Atlantic façade in the early first millennium AD incorporate Roman artefacts, often including ceramics or other small items, these do not necessarily represent intrusive peoples or sudden changes in the indigenous way of life. Roman objects can be used in native processes and Roman fashion and styles can be copied using native material culture. Indirect Roman influence is suggested in the development of certain structural traits such as the increased use of rectilinear architecture, or the patterning in the deposition of domestic material, suggesting changes in social practices revolving around food preparation (Mytum, 1995). At Bryn Eryr, Anglesey, it was shown that the

distribution of Roman type ceramics and other artefacts was significantly different from that of native wares, and that this deposition changed over time. However, although becoming smaller and letting the enclosure fall into disrepair, the settlement layout and building form changes little from the previous occupation. This suggests that Roman influence may have been subtler and much less direct in the rest of the Western façade than in Brittany, but perhaps no less important.

Several scholars have argued that the construction of complex Atlantic roundhouses in Scotland or some variant thereof (Scott, 1948; MacKie, 1965; 1995) was a 'knock-on' effect of the Roman campaigns in Gaul. The supposed movement of Belgic refugees across the Channel in the 1st century BC triggered a movement of high-status persons from these areas into Atlantic Scotland. These people then organised the construction of round towers with intra-mural architectural features, developing and improving on the local, roughly semi-circular structures and promontory enclosures (MacKie, 1965). This argument has been critically assessed elsewhere (e.g. Armit, 1988) and is considered superfluous as an explanation of what is obviously an indigenous development (Chapters 3, 4 and 5). Further evidence for this movement of peoples was based on the recognition of certain artefacts from Atlantic Scottish assemblages that may be paralleled elsewhere; these have also been re-assessed (Clarke, 1971). The evidence in this thesis suggests that caution must be taken when analysing material from contexts considered primary to drystone roundhouses, owing to ubiquitous secondary occupation and the origins of these structures may therefore be much older than the Roman period. Others have suggested the same processes of population movement were responsible for the Roman and La Tène material from Lambay Island, County Dublin (Rynne, 1976; Lynch, 1990b). However, this material may represent the presence of a trading centre on the island, with foreigners and locals present in the same location. A similar argument could be made for the Drumanagh promontory enclosure. The later use of Lambay for the movement of imported wares during the mid- to late first millennium AD Ireland supports the continuation of this function for offshore islands.

Change and Continuity

Perhaps one of the most remarkable aspects of settlement in various Atlantic regions is that it is the end of the Roman occupation of Britain that brings the greatest cultural change rather than the beginning. It is from this point, sometime in the 4th century AD or early 5th century AD that several cultural aspects become archaeologically visible for the first time. Atlantic trade with the Mediterranean world, presumably via continental contacts, is evidenced by the

imports of A, B and D wares into important emerging political, economic and social centres. These are often enclosed sites, and enclosures had generally not been built since the late centuries of the first millennium BC. With these new centres and increased long-distance contacts came the development of Christianity, itself perhaps a western form of monasticism developed from the Near East, and the intensification of textual recording. A very hierarchical settlement pattern can be discerned clearly for the first time, with enclosed and unenclosed high-status sites interacting with lower-status but still powerful, well-built coastal sites. The previous farming communities carried on, re-using for generation after generation the husks of former monumental buildings and enclosures. Some will have been wealthier or able to wield more social and/or political power than others, allowing access to prestige goods from the controlled redistribution centres. Such exchanges may even reflect kin relations with and between certain elites. These were small-scale, often single, conjugal farmsteads re-occupying the ancient sites (of various types) that may have originally sheltered extended families. This may represent the division of the *derbfine* into smaller social units, possibly through the process of patriarchal partible inheritance. The latter should be seen as a product of the development of increased land ownership for individuals, displayed and negotiated in the monumental constructions of the first millennium BC. The evidence from Atlantic Scotland and western Ireland suggests that initially the average settlement reduced in scale and size then slowly increased again until the later first millennium AD figure-of-eight structures. A study of settlement size in Wales indicates a similar initial reduction in floor-area at Whitton that gradually increases as the villa develops (Mytum, 1995, 17). At Cefn Craenog II and Graenog in north Wales, these typical enclosed stone-built farmsteads are radically reduced in scale around the 4th and 5th centuries AD (Chapter 7).

The period soon after is often associated with an Irish presence in Wales suggested by the distribution of ogham in south-west Dyfed and supported by Irish place-names. This latter evidence indicates some influence by Gaelic speakers, probably during the mid- to late first millennium AD on the landscape of Wales. However, the main Early Historic site types in Ireland, the crannog and ringfort, are practically unknown in first millennium AD Wales where the majority of enclosed sites originate in the first millennium BC. Although some continue in use, few seem to have maintained the surrounding banks and ditches, and continued use is hardly evidence of new populations. Similar arguments have been rehearsed for the Dalriadic movement into Argyll (Chapter 5). Any attempt to assign precise ethnic identities to specific groups on the basis of the material culture evidence is likely to be

problematic at best; even more so when the background of settlement and economy has already shared closely similar traits for the preceding millennium. In Ireland, the assessment of several site-types suggests they may have origins, or at least continue in use, in the La Tène Iron Age (Chapter 6). This evidence begins to fill the sparse settlement record of Ireland prior to the Early Historic explosion in ringfort numbers and portable artefacts, adding to the relatively few absolute dated remains of the period (Warner et al., 1990) and the scattered finds of La Tène objects (Raftery, 1991; 1996). These sites and artefacts betray a complex social organisation, with contacts reaching into continental Europe, and the ability to construct monuments of an impressive scale and sophistication (Chapter 6). Synchronous developments can be perceived across the Atlantic Seaways and close parallels are particularly evident in Atlantic Scotland.

The later first millennium AD therefore emerges from an indigenous background of dynamic regionalism and varying degrees of commonality, and it is therefore unsurprising that several aspects of the settlement evidence are common to many areas of the Atlantic Seaways during this period. There are a few newly enclosed sites, for example at Dunadd, Dunollie, Dinas Powys, Dinas Emrys and perhaps even Tintagel, often associated with increased status. The unenclosed site at Longbury Bank also suggests that prominent undefended locations, strategically placed to take advantage of trade up and down the Atlantic Seaways, were also important. Indeed, it is likely that a peripatetic elite would visit various sites, both enclosed and unenclosed, on a regular basis (Bhreathnach, 1998, 20). Each may have concentrated on specialised functions such as long-distance trade and local gift exchange and redistribution. Others may have focused on agricultural production, both arable and pastoral, and still others may have been naval bases, situated to control the important sea routes. A reinterpretation of Dinas Powys suggests it was a typical site of this type (Gilchrist, 1988) and similar sites may have existed elsewhere, for example Garranes and the Clogher in Ireland.

Later first millennium AD imported pottery, and its associated luxuries such as wine and olive oil, were incorporated into local societies across the Atlantic seaboard as far north as Argyll and Skye. Further targeted survey and excavation in the areas further north may recover more of this imported material. However, the far north, while still entwined in the Atlantic Seaways settlement sequence and utilising the same structural developments and architectural types, has a complex relationship with more eastern 'Pictish' societies.

In conclusion, it has been argued that the Western Seaways communities displayed dynamic and complex contacts utilising the ocean as their communication route. Various discussions at different scales present intriguing aspects of Iron Age life-styles and commonality at various periods in different regions. These can probably only be adequately explained through close and reciprocal cultural contacts, although not necessarily through population movements. The analysis of regional settlement sequences highlights important developments that reverberated across the entire Atlantic seaboard and set the scene for the development of incipient kingdoms in many areas. The effect of these developments on more eastern areas should perhaps be given greater consideration. Instead of a cultural backwater, the Atlantic façade and its numerous important societies should be perceived as a possible motivator and catalyst for developments that shaped the social and political sphere of north-western Europe. Hints of such an influence can be traced in the archaeological record through the presence for example, of complex Atlantic roundhouses in southern Scotland that were perhaps the residence of an elite. The Norse incursions utilising the Western Seaways at the end of the first millennium AD were far-reaching and profound in their impact on many areas, and suggest the presence of previous systems of contact and communication along the same routes. The interaction between the Atlantic communities and these incomers is a particularly interesting and potentially rewarding aspect of the western façade that could help to understand the processes of acculturation and invasion, but is unfortunately outwith the scope of this thesis. The settlement developments of the first millennia BC and AD set in place the social and political spheres of interaction that eventually consolidated into much larger and wide-reaching social and political power structures of the late first millennium AD. Over this period the way of life of even the poorest farmer changed, although there were still very strong ties to the ancestral past, and the late first millennium AD settlement pattern is very different from that of the early- to mid-first millennium BC. Profound changes in the way of life of communities across the Western Seaways accompanied these settlement developments.

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Appendix A

Copy of paper to be published based on work in this thesis as required in section 3.8.3 of the postgraduate regulations handbook, **Gilmour, S. M. D.** forthcoming. First Millennia Settlement Development in the Atlantic West, in Henderson, J. C. (ed.) *The Prehistory and Early History of Atlantic Europe* British Archaeological Reports (International Series)

First Millennia Settlement Development in the Atlantic West

Simon Gilmour

Several profound changes can be charted in the settlement record of the Scottish Atlantic façade during the 1st millennium BC and the 1st millennium AD. I wish to highlight these and discuss their importance in the context of any possible Atlantic continuum. This paper will briefly lay out a sequence of settlement development in the Atlantic West from the end of the "brochs", or complex Atlantic roundhouses, to the development of a completely different type of settlement form exemplified by the figure-of-eight or "jelly-baby" houses. Examples will include the most recent excavations by the University of Edinburgh Department of Archaeology in Lewis including Loch na Berie, Bhaltois, West Lewis. The complex Atlantic roundhouse sites are traceable across the entire of Atlantic Scotland but the figure-of-eight buildings continue into Ireland. How this later phenomenon is related to the roughly contemporary appearance of Historic texts and their recording of contacts across the Irish Sea and beyond is obviously relevant. It is suggested here that the Atlantic façade was well connected to Ireland during the early centuries AD developing into the Dalriadic involvement in Argyll, the influx of continental trade and the introduction of Christianity. All must be considered important factors in the later cultural development of Western Scotland. A short paper such as this cannot hope to answer, or even tackle, all the potential problems and detailed archaeological evidence for the period but it is hoped that some interesting avenues of thought might be opened, and perhaps some new ideas proposed.

INTRODUCTION

Within the Atlantic region of Scotland, from the Shetland Isles to Argyll and the South West (**Figure One**), resides an extensive and uniquely preserved archaeological resource of structure and stratigraphy. Despite this, there is still academic conflict over the precise nature of the chronological contemporaneity or otherwise of the material recovered through excavation (Hedges 1984; Hedges 1990; MacKie 1994; Armit 1991; 1997; Sharples and Parker Pearson 1997; Parker Pearson *et al.* 1997; Gilmour and Cook 1998; Parker Pearson *et al.* 1999a). This paper sets out a possible sequence for the 1st millennia settlement development in the Atlantic West and some of its implications. The structural changes can be briefly summarised thus:

1. In the early to mid 1st millennium BC large simple Atlantic roundhouses were built with single storeys and thick stone walls, sometimes with external structures.

2. Within the later half of the 1st millennium BC single complex Atlantic roundhouses are constructed as multi-storey monumental structures; these sites can include earlier or contemporary outer walls, banks, ditches and perhaps even some external buildings.
3. Complex Atlantic roundhouses are dismantled around the end of the 1st millennium BC and beginning of the 1st millennium AD and secondary roundhouses are often inserted into the original casement. At the same time wheelhouses are constructed in Shetland and the Western Isles while clustered villages are erected around the original complex Atlantic roundhouses in Orkney and the northern mainland.
4. Sometime around the 4th century AD these are abandoned and a series of much smaller cellular structures are constructed across the Atlantic façade.
5. These then develop gradually until the later 1st millennium AD when a group of architecturally distinct structures called ‘figure-of-eight’ buildings emerge in the record.

Throughout this paper ‘raw’ radiocarbon dates are given with their lab code and are calibrated at 2σ on the 1986 Stuiver and Kra calibration curve using OxCal unless otherwise stated.

SIMPLE BEGINNINGS

In northern Scotland, the early to mid 1st millennium BC is marked by the construction of a class of monument known as the simple Atlantic roundhouse (Armit 1991; 1996; Mercer 1985; 1997; Hedges 1987; 1990). Thick walled roundhouses have been excavated at Pierowall (Sharples 1984), Quanterness (Renfrew 1979), Bu (Hedges 1987a), Tofts Ness (Dockrill 1988), St. Boniface (Lowe 1998) and Cnoc Stanger, Caithness (Mercer 1996). Further sites are known in the landscape of Caithness but remain unexcavated (Mercer 1980-85). The very ephemeral remains of a possible simple Atlantic roundhouse were recovered during excavations at the Howe in Orkney (phase 5), and assigned to the mid 1st millennium BC (Ballin Smith 1994, 38). A similar horizon of construction is unrecorded in the Western Isles, replaced by smaller, generally revetted buildings (Gilmour, forthcoming). This is significant since it means that the knowledge to build large upstanding monumental houses was either unknown or immaterial during the early to mid 1st millennium BC, and that the construction of complex Atlantic roundhouses is introduced to the area. In Skye and Argyll there is a suggestion that simple Atlantic roundhouses may exist among the poorly defined mass of heterogenic ‘duns’ (Gilmour and Henderson, forthcoming). Rahoy is an early site of this type (Childe and Thorneycroft 1938; Gilmour 1994, 77). In view of the lack of evidence to the contrary these simple walled roundhouses are generally considered to be single storey buildings and may represent the development of distinct social hierarchies. The early dates and obvious comparisons with later so-called ‘brochs’, i.e. complex Atlantic roundhouses that incorporate several specific architectural details in their visible construction, are the basis for considering 2nd or even 3rd centuries BC construction dates for the latter. Early dates from several sites with complex architecture supports the suggested local evolution from simple to complex Atlantic roundhouse.

COMPLEX ATLANTIC ROUNDHOUSES

Crosskirk, Caithness (Fairhurst 1984), the Howe, Orkney (Ballin Smith 1994), Dun Bharabhat on Lewis (Armit and Harding 1990; Harding, forthcoming) and perhaps even Langwell, in the Highlands (Nisbet 1996), have early dating evidence for complex architecture. These are massive walled, multi-storey monumental roundhouse sites. Radiocarbon dating is used without reliance on typological studies of artefacts and yet few have absolute dating evidence for their construction and original use. The radiocarbon assays from Howe frustratingly represent only *terminus ante quem* and *terminus post quem* dates. Recent reconsideration of the stratigraphy at Dun Bharabhat suggests that the later dates (GU-2435 2100±50bp; GU-2434, 2010±50bp) reflect the burning of a wooden floor or roof structure in the original complex Atlantic roundhouse (Dennis Harding, *pers. comm.*). The dating of burnt structural debris at Langwell may place the original construction between *circa* 550calBC and

calAD250 (Nisbet 1996, 65; GaK-4862, 2240±90bp; GaK-4860, 2210±90bp; GaK-4861, 2200±100bp; GX-3274b, 2040±140bp). Armit has suggested a pre-200calBC construction for the original complex Atlantic roundhouse at Crosskirk (1991, 189) and the radiocarbon dates and architecture certainly support such a conclusion (Fairhurst 1984, 162-163). The presence of an intramural stairwell indicates a multi-storey building. These sites are taken here as evidence for the early inception of complex Atlantic roundhouses from the mid to late 1st millennium BC.

The traditional definition of developed ‘broch’ sites has been subject to detailed critiques on numerous occasions (Armit 1988; 1992; 1996; 1997; Harding and Armit 1990; Hedges 1990; Gilmour and Cook 1998) and need not be reiterated here. However, it should be noted that the concept of simple and complex Atlantic roundhouses, used here, is still debated by some (MacKie 1995; Parker Pearson *et al.* 1996; Sharples and Parker Pearson 1997).

At the Howe (Ballin Smith, 1994) the construction and original occupation of the second complex Atlantic roundhouse (‘broch 2’) can only be inferred from radiocarbon dating of the construction of the first complex Atlantic roundhouse (‘broch 1’). Later dates originating during the continued use and re-use of the second complex Atlantic roundhouse provide a *terminus ante quem*. The radiocarbon dates suggest the first complex Atlantic roundhouse is constructed and occupied between the 6th or 5th centuries calBC and the 3rd or 2nd centuries calBC (GU-1789, GU-1799 and GU-2348). Construction of the second complex Atlantic roundhouse could therefore have occurred anytime from the end of the use of the first building. It is then remodelled in the 1st century calAD and re-used into the 3rd or 4th centuries calAD as dated by radiocarbon assays (*op. cit.* 264).

Construction of the second complex Atlantic roundhouse at the Howe is often perceived as being relatively late, yet the radiocarbon dating evidence suggests it could lie between the 5th century calBC and 2nd century calAD. At Scalloway the dating material from occupation deposits within the primary complex Atlantic roundhouse is immediately succeeded by a series of dates from secondary material suggesting a rapid development from one to the other (Sharples 1998, 85-86). Sharples has argued that many of the deposits produced through occupation of this site were either eroded or swept out of their primary locations and therefore those recovered relate only to the ultimate use of the site (*op. cit.* 40). A similar argument can be supported for every large inhabited stone built structure in the Atlantic area. At Dun Vulcan, South Uist (Parker Pearson *et al.* 1999a), it is arguable whether the radiocarbon dates, “within the core of the broch” and “beneath the broch’s revetment wall” (Parker Pearson *et al.* 1999b, 149) actually relate to the original complex Atlantic roundhouse. The radiocarbon date from beneath the outer revetment (AA-14004, 2086±55bp) calibrates at 2σ to between the 4th century calBC and the 1st century calAD, and at 1σ between 190calBC and 40calBC. The other date (AA-13997, 1940±60bp) originates from a deposit lying on the floor of the intramural stair-cell and calibrates to between 100calBC and calAD220 at 2σ. Neither date comes from a context necessarily related to the original use of the complex Atlantic roundhouse (Parker Pearson *et al.* 1999a, 31 and 40). Indeed, the single carbonised grain used as dating material in the intramural cell, comes from a context that is described as, “disturbed and contaminated” (*op. cit.* 31). These dates could therefore support the early dating of the Dun Vulcan complex Atlantic roundhouse to the 4th to 1st centuries calBC with secondary re-use, including external midden deposits (*op. cit.* 129), beginning to accumulate in the 1st century calBC. An alternative late 1st millennium AD date suggested by this author (Gilmour and Cook 1998) for these nearby midden deposits, currently assumed by the excavators to be contemporary with the primary use of the complex Atlantic roundhouse, is no longer tenable. However, it is still quite possible for this material to be secondary to the original use of the complex Atlantic roundhouse.

The radiocarbon dating problems at Dun Mor Vul (MacKie 1974) and the implications for

the stratigraphic relationships retrieved from this site have been analysed by others (Harding 1982, 1997; Armit 1991, 210; Lane 1990) and some reaction to these problems has also been published (MacKie 1997). This is not the place to go into detailed discussions of this important site but recent analysis of the radiocarbon dating has suggested much larger errors are applicable to the raw dates which make close comparisons impossible (Ashmore 1997).

Excavations at two sites on Skye with complex architecture produced dates with wide errors. Dun Ardtreck was interpreted by MacKie as a 'semi-broch' and thus a precursor to the 'broch' (MacKie 1969). Certainly the radiocarbon date suggests an early construction and use (GX-1120, 2005±105bp) ranging from 400calBC to calAD250 at 2σ, but this author does not see the need for a separate structural type (*cf.* Harding 1984) and the site probably represents a roundhouse suffering partial collapse. A similar incomplete site was excavated at Flodigarry and interpreted as unfinished (Martlew 1985). Again, a single radiocarbon date could suggest an early construction before the 2nd century calBC (GU-1662, 1995±65bp). Excavations at Ruigh Ruaidh in Ross and Cromarty also set out to investigate a 'semi-broch' (MacKie 1980). This has been commented on previously and its dating should be regarded with care (Armit 1991, 209; Harding 1984, 211). However, once again radiocarbon dates for original deposits could indicate construction prior to 100calBC (GU-1366, 2225±80bp; GU-1365, 2085±80bp) but the latest date from the post-ring (GU-1368, 1951±65bp) and occupation deposits (GU-1367, 1980±60bp; GaK-2496, 1960±100bp) combine to suggest a date between the early 1st century calBC and early 3rd century calAD. Although complex Atlantic roundhouses are plentiful in Argyll, excavated examples such as Kildalloig, Kintyre (RCAHMS 1971, 87-88; Bigwood 1964), are probably dated using secondary material (Gilmour 1994 73-74; Gilmour and Henderson, forthcoming).

THINGS CHANGE: SECONDARY SETTLEMENT

MacKie (1994) has eloquently argued the case for secondary re-use at Gurness and Midhowe using detailed architectural analysis. There is now a corpus of evidence for very similar developments occurring on other excavated sites. The evidence from the Howe has been discussed above and would suggest a secondary re-use of the second complex Atlantic roundhouse ('broch 2') before the 3rd and 4th centuries calAD. At Loch na Berie there is evidence for a substantial secondary roundhouse having been inserted into the original complex Atlantic roundhouse (**Figure 2**, g) with a radiocarbon dating sequence suggesting it was out of use by the 4th century calAD (Harding and Gilmour, forthcoming). The same structural sequence is visible at Scalloway (Sharples 1998). Radiocarbon dates suggest a later use of similar secondary facing in the original complex Atlantic roundhouse during the 5th to 7th centuries calAD (ut-1656, 1490±40bp), and went out of use by the 9th century calAD (GU-3925, 1300±50bp). However, this relates to a secondary casement wall associated with a lot of re-use (**Figure 2**, b). The primary casement (**Figure 2**, a) was unrelated to any internal deposits (*op. cit.* 43) but must presumably post-date the surprisingly late use of the original complex Atlantic roundhouse in the 5th to 6th centuries calAD (GU-2929, 1620±70bp; ut-1657, 1570±40bp). The association of these casement walls with external cellular type settlement (*ibid.*) is unparalleled elsewhere.

The external structures that are generally contemporary with the secondary re-use of the original complex Atlantic roundhouse are primarily a northern phenomenon. Sites such as the Howe, Gurness, Midhowe and Lingro etc. all incorporate an external settlement of a sub-rectilinear nature, well built and sometimes even radial in layout. These well known 'villages' have previously been regarded as contemporary with the central complex Atlantic roundhouse (Hedges 1987; 1990; Foster 1989; Barrett and Foster 1990; Ballin Smith 1994, 38-39). MacKie has convincingly argued that they are secondary in nature at Gurness and Midhowe (1994), but accepts their contemporaneity at the Howe (MacKie 1998). Yet the argument for their secondary nature remains cogent and is supported at the Howe by their radiocarbon

dates which are consistently later than or contemporary with the late internal complex Atlantic roundhouse dates ranging between the 1st century calAD and 6th century calAD (GU-1787, 1670±55bp; GU-2344, 1810±50bp; GU-2346, 1750±50bp; GU-2351?, 1850±50bp). The earliest reliable succeeding phase 8 dates at the Howe begin in the 5th century calAD and thus provide a *terminus ante quem* for the external settlement. This would also apply to the proposed secondary use of the complex Atlantic roundhouse (Ballin Smith 1994, 75), although these dates do not represent original phase 8 occupation (*op. cit.* 116).

In the West and Shetland, there are indications that although external buildings may have taken on new importance during this period, there were no planned villages. External buildings at Loch na Berie are revetted into deposits that accumulated against the exterior of the complex Atlantic roundhouse and although only partially exposed are curvilinear, probably circular, structures (Harding and Gilmour, forthcoming). The external buildings at Dun Vulcan are rectilinear and date from the 2nd century calAD to the 7th century calAD (Parker Pearson *et al.* 1999a, 171). The earliest, Building A, ranges between the 2nd and early 5th century calAD but with a *terminus ante quem* of mid 4th to 7th centuries calAD and is considered an ancillary, non-domestic structure (*op. cit.* 137).

Elsewhere in the West there are similarly few visible remains of external settlement. Some structures within the enclosure at Dun Mor Vul, Tiree (MacKie 1974), include pottery similar to that in the complex Atlantic roundhouse (*op. cit.* 64). Within Dun Mor Vul a secondary roundhouse had been constructed (*op. cit.* 46) and may be associated with second century AD Samian ware (*ibid.*) and Roman glass (*op. cit.* 47 and 149). At Druim an Duin, Mid-Argyll, a probable complex Atlantic roundhouse was found to incorporate a secondary wall (Christison *et al.* 1905). In addition, the differing construction and height of the eastern scarcement compared to that on the south suggests it too has been rebuilt (Gilmour 1994, 82). Detailed re-survey of this site has located the probable footings of the original complex Atlantic roundhouse on the steep eastern slope among a mass of rubble (Gilmour and Henderson, forthcoming). Other unexcavated sites may also include secondary roundhouses in their visible layout such as at Ballymeanoch, Mid-Argyll (Gilmour 1994, 81; RCAHMS 1988, 173). It is probable that in many earlier excavations material considered to date the original Atlantic roundhouses to the 1st and 2nd centuries calAD may in fact relate to this period of re-use; the material recovered from Gurness in Orkney and Dun Kildalloig in Argyll may relate to this issue. The problems of relying on artefactual evidence for dating any period in the Iron Age (Barrett 1981; Clarke 1971) must be carefully considered in the light of structural and radiocarbon evidence.

Radiocarbon dating has also begun to reveal a pattern of probable construction dates for wheelhouses in the west. Recent analysis of the Cnip material, on Lewis, has suggested a clear 1st and 2nd century calAD period of use for the wheelhouse. It is suggested, based on radiocarbon dating, that the site may have been built as early as the 1st century calBC (Armit, forthcoming). Sollas Site B, North Uist A was constructed and used in the 1st century calAD (Campbell 1991, 139), and Kildonan III, South Uist, is also considered to have been built and used in the 1st and 2nd centuries calAD (Marek Zvelebil, *pers. comm.*).

That wheelhouses are chronologically later than Atlantic roundhouses is exemplified when both are discovered on the same site. Jarlshof, Shetland, is a good example of a wheelhouse abutting an original complex Atlantic roundhouse and even a secondary aisled structure (Hamilton 1956). Scatness in Shetland has produced a wheelhouse secondary to the original complex Atlantic roundhouse, and again the secondary buildings on this site incorporate another aisled structure (Dockrill 1998). Recent re-excavation in North Uist of the site at Eilean Maleit has confirmed that a substantial roundhouse structure underlies the wheelhouse there, perhaps by a long period (Armit 1999). Excavations of wheelhouses on Barra have unfortunately produced little to further this discussion (Foster 1999; *pers. comm.*).

On the face of it there is relatively little to link the wheelhouse and the secondary roundhouses inserted into complex Atlantic roundhouses, except that both are post-complex Atlantic roundhouse. However, both are also pre-cellular where such buildings are recognised. Both have a predilection towards internal radial division of space (**Figure 2**); at Scalloway, Scatness and East Shore (Carter *et al.* 1997), in Shetland, Loch na Berie, Lewis, St. Boniface, Orkney and possibly even Mousa and Clickhimin (Hamilton 1970; Fojut 1998), Shetland, there are the remains of stone piers projecting from the secondary casement walls. A series of piers is also visible in a roundhouse at Skail, Orkney, (**Figure 2**, c) where construction is dated to the early centuries calAD (Buteaux 1997, 53). The secondary roundhouses retain and re-organise access to intramural space, where it exists, producing subsidiary spaces perhaps analogous to the subsidiary passages and cells constructed off wheelhouses. Examples of the latter include Sollas, A'Chaerdach Mhor, A'Cheardach Bheag, Cnip, and Jarlshof. Both building types incorporate distinct entrance alignments often, but not always, facing the south east (e.g. **Figure 2**).

The most important distinction that wheelhouses and secondary roundhouses share however, is their lack of a well-defined first storey. Although some secondary reuse of complex Atlantic roundhouses incorporates a stone staircase, there is no evidence to argue for the presence of a second storey and it is difficult to imagine anything more than a partial first floor construction. At sites such as Midhowe and Gurness the scarcement that presumably carried such a floor in the original complex Atlantic roundhouse was partially covered by later masonry (MacKie 1994, 116). At Loch na Berie, the intramural stair was blocked before the construction of the secondary roundhouse and there is no sign of a secondary stairwell (**Figure 2**, g). At the Howe it was argued that the interior area during this period may only have been partially roofed (Ballin Smith 1994, 75). At Gurness the internal staircase was not only a tertiary feature but may have been used simply to access a re-organisation of space on the lowered wall head (Hedges 1987). The Howe also had evidence of a small structure inserted into the walling and the stairwell here may have been used in a similar fashion to that at Gurness (MacKie 1994, 120).

MacKie has argued that the piling of stone outside the main complex Atlantic roundhouse at Gurness and Midhowe was not a structural feature but represented the remains of dismantled walls and galleries of the original complex Atlantic roundhouse (1994, 126-127). A similar interpretation is proposed here for Burrian where stones were found stacked on edge against the outside wall of the complex Atlantic roundhouse yet no structural failure is visible in the original masonry (MacGregor 1974, 69). The positioning of similar slabs in the ditch at Gurness is paralleled at St. Boniface where it too could relate to a later phase of dismantling (Lowe 1998, 203). It is interesting in this respect to note a 'buttress' wall built against the exterior of Dun Vulcan with an underlying radiocarbon date (AA-14004) placing it into the late centuries calBC and early centuries calAD (*infra*). Rectilinear platforms outside the entrance to the complex Atlantic roundhouse at this site were built shortly after and material began accumulating in the intramural spaces of the complex Atlantic roundhouse (Parker Pearson *et al.* 1999a, 60). A secondary casement wall could be lying unexcavated below the later cellular structure at this site. This would concur with a widespread pattern of height reduction and external constructions associated with the re-arrangement of interior patterns of access during the 1st and 2nd centuries AD, and possibly as early as the 1st century BC.

The suggestion here is that complex Atlantic roundhouses were built across the Atlantic coasts in the mid to late 1st millennium BC. They formed the typical settlement of the area although probably with an internal hierarchy of settlement reflected in different locations, scales and complexity of construction. The last century BC and first two centuries AD bring a change in settlement pattern with the reduction of tall towers and an increase in the numbers of external structures. Such a development may reflect a change in attitude to the symbolism of the complex Atlantic roundhouse. Alternatively, the ability to express this type of symbolism may have been lost. There is an increased focus on internal structural

developments at the general expense of outward monumentality and the visible access patterns are therefore subtly but importantly different from those analysed by Sally Foster (1989). The number of settlements increases during this period with the re-occupation of original complex Atlantic roundhouses and the construction of wheelhouses and other external settlements. This may indicate the fissioning of the extended family that occupies each roundhouse, or the reduced ability to command the resources to construct and maintain large monumental stone buildings with major investments of wood. With the reduction in size of individual buildings and a general reduction in height, there is a concurrent reduction in the quantity of organic materials necessary for internal components of roundhouse architecture. Wheelhouses have often been argued as representing, in part, a response to environmental factors, requiring less sizeable roofing components (Armit 1992) and an increase in internal stone architecture, also visible at Gurness and the Howe. This period could reflect the introduction of partible inheritance, possibly within a patriarchy and, although this suggestion needs more analysis and further investigation, its development could be responsible for the subsequent settlement patterns described here.

CELLULAR STRUCTURES

Around the 4th century AD there is a dramatic shift in settlement as multiple small cellular structures replace the previous large-scale settlements. An analysis of the developments at Loch na Berie typifies the picture (Harding and Gilmour, forthcoming); a complex Atlantic roundhouse with 3 possible floors of *circa* 95m² each is reduced in height and a secondary internal, single storey roundhouse is built with additional external buildings. Consequently, the overall floor area reduces from *circa* 285m² to *circa* 101m² although the total number and scale of external structures is unknown. However, the greatest reduction in useable floor space occurs with the introduction of cellular structures in the 4th century calAD. During the initial cellular phase at Loch na Berie the floor area falls to 23-25m² and thence gradually diminishes over the next three phases into the mid 1st millennium calAD. Many other sites, both complex Atlantic roundhouses and wheelhouses, follow a similar pattern with small buildings incorporating individual cells generally surrounding central areas with three sided hearths. These structures are radically different to the previous buildings in both size and construction.

The same structural sequence echoes across the Atlantic façade and heralds a dramatic development in society. This is marked at Loch na Berie by not only a shift in settlement size but also a very marked change in pottery (Harding and Gilmour, forthcoming). Intricate incised decoration disappears and applied cordon decoration on everted rim wares predominate from this point until the latter half of the 1st millennium AD when Plain Ware dominates (Lane 1990). The former dramatic change in pottery decoration does not mark the *introduction* of everted rims and applied decoration, merely its continuation, and the later development of Plain Ware was gradual through several phases of occupation. The change to cellular settlement at Berie is also associated with a brief but important phase of metalworking. Developed and proto-handpin moulds are directly associated with doorknob spearbutt moulds, slag and other metalworking debris. Detailed analysis of this material and a reassessment of the doorknob spearbutt moulds and artefacts in Britain and Ireland is in progress (Andrew Heald, *pers. comm.*). However, the metal artefacts themselves are generally, but not exclusively, found in Ireland (Raftery 1982). The Scottish remains of moulds and their stratigraphic associations are obviously closely linked with the artefacts and considered relevant to the analysis of the important social changes reflected in architecture.

Further changes in architectural form are visible elsewhere along the Atlantic coast. In Argyll, a background of presumably re-used Atlantic roundhouses is supplemented during the early centuries of the 1st millennium AD by the appearance of rectangular structures located on coastal stacks (Gilmour 1994). Examples include Dun Fhinn (Bigwood 1966; RCAHMS 1971, 84) and Dun an Fheurain (RCAHMS 1975, 82-83; Ritchie 1970, 102). The location of

these sites by the sea, often near beaches or easy landing points, is suggestive of a close association with sea travel. Although generally examined decades ago using relatively poor recording and excavation techniques, these sites have produced some exotic items in their assemblages and may represent a higher social class. With specific stack locations and alien rectangular layouts, these sites stand out from the previous Atlantic roundhouses and their contemporary re-use. Close ties with Ireland in the 4th century AD alluded to earlier, prior to the commonly held 6th century AD introduction of the Dalriada, provides an important background for the presumed incorporation of Gaelic Scots into Argyll. Such a move may have prompted resounding social changes and is marked by dramatic architectural change and developing hierarchies in Argyll. To what extent these contacts with Ireland either stimulated the construction of small cellular structures and social change at this time, or were the result of these developments is unknown. Certainly stone built sites in Ireland were following a remarkably similar trajectory of construction and secondary occupation towards the end of the 1st millennium BC and into the early 1st millennium AD. Atlantic roundhouses in Argyll invariably incorporate secondary settlement of both secondary roundhouse and cellular form (Gilmour and Henderson, forthcoming). Even stronger architectural similarities between Atlantic Scotland and Ireland were to develop over the later centuries of the 1st millennium AD.

By the middle of the 1st millennium AD several sites in Atlantic Scotland had developed a particular cellular building form (**Figure 3**). At Gurness, Orkney, Loch an Berie, Lewis, Eilean Olabhat, North Uist (Armit *et al.* forthcoming), Buckquoy, Orkney (Ritchie 1979) and perhaps Scatness and Scalloway on Shetland, a form of building called the ‘shamrock’ at Gurness, was constructed in the mid 1st millennium AD. The layout of these buildings neatly encapsulates the concept of cellularity, incorporating small cells, often corbelled or partially corbelled, surrounding a central area with a central three-sided hearth. They often used a combination of vertical slabbing and drystone coursing in their masonry and may have included aumbries, although these become more prevalent later. The remarkable similarity between the ‘classic’ shamrock at Gurness (**Figure 3**, a) and the structure excavated at Loch na Berie (**Figure 3**, d) must be noted, even down to details such as the use of single and double vertical slab thresholds at the entrances to the same cells. These structures often incorporate a secondary space off the main area, perhaps a workspace or storage area off the main living area. At Loch na Berie this is represented by the ‘souterrain’ curved storage area and Cell 3, a possible working area. At Gurness this is represented by the ‘Annex’ and similar structures are visible on other sites, and reflects a preoccupation with discrete functional areas defined by walls and doors. The scale of these structures is such that in many instances the occupants would be forced to lower their heads or even crouch to move within the various cells. This is in marked contrast to the lofty spaces enjoyed by the occupants of antecedent wheelhouses, secondary roundhouses and rectangular, hall type, buildings. The specific similarities in structure type across a wide area suggests a discrete chronological horizon of activity and represents the presence once again of wide ranging contacts. It could also be argued that the shamrock structures herald the beginning of a more coherent political structure in the area, providing the impetus for a specific architectural form to help define itself. The repetition of building plan and detail across wide geographical and previously distinct areas, such as Orkney and the Western Isles, suggests an underlying design ‘blue-print’. Cellular structures have the potential for many different floor plans, yet society chose consistency, perhaps to help reinforce its own identity. In Argyll, these buildings would be at least partially contemporary with larger sites such as the early phases at Dunadd and the later use of Dun Fhinn.

FIGURE OF EIGHT CELLULAR BUILDINGS: WIDER TRADITIONS?

Cellular buildings reach their apogee in the later 1st millennium AD with the construction of figure-of-eight style buildings (**Figures 4 and 5**) and their associated artefactual assemblage. Stratigraphically these structures are consistently the latest in any structural sequence as at

Loch na Berie, Dun Vulcan and Scalloway, and are immediately pre-Norse as at Buckquoy (Ritchie 1977). It is these structures that often produce Lane's Plain Ware pottery in the West (1990) and the more personal artefacts such as bronze penanular brooches, decorated composite combs and other toiletries much discussed as the direct consequence of the demise of outward architectural monumentality (Armit 1990, 208-209; 1992, 134). The buildings themselves do get larger but the cellular concept is not lost and many architectural details continue and are developed. Combination vertical slabbing and drystone coursing continues, although several sites such as Machrins, Colonsay (Ritchie 1981), the Udal, North Uist (Crawford/Selkirk 1996) and the Brough of Birsay, Orkney (Hunter 1986) are represented only by the lowest courses and often only vertical slabbing remains. Probably the best structurally preserved site of this class is Bostadh Beach, excavated recently by the Department of Archaeology and Centre for Field Archaeology, University of Edinburgh (Neighbour and Burgess 1997; Neighbour 1997). Work on the material from this site is in progress but the structural remains included three figure-of-eight buildings that typify the layout of the class as a whole (**Figure 4, e**). The walls probably stood to their full height and were partially revetted into machair sand, the smaller cells incorporated vertical slabbing and partial corbelling, and the buildings made good use of aumbries.

The homogeneity of these structures across a wide geographical area and relatively restricted late 1st millennium AD timespan suggests they are an expression of some close connections in Atlantic Scotland. However, these are also visible in Ireland (**Figure 6**). Figure of eight structures are prominent in the stone architecture of western Ireland, for example at Leacanabuaile, Co. Kerry (O'Riordain and Foy 1943), Caher Murphy (Cuppige 1986, 203) or Reask (Fanning 1981) on the Dingle peninsula. They are also visible in the wooden remains, often located within ringforts, in the less stone dominated architecture of central and eastern Ireland, for example at Deer Park Farm, Co. Antrim (Lynn 1988) and Dressogagh Rath, Co. Armagh (Collins 1966). Other sites also exist, such as Ballynavenooragh (Cuppige 1986, 192; Edwards 1990, 45) and Ballinknockane Cashel (Cuppige 1986, 188) both on the Dingle peninsula, located and surveyed but as yet unexcavated. Invariably the dating of these structures is late 1st millennium AD, for example the material from phase 2 at Reask (Edwards 1990, 118) and the dendrochronological dating of a single phase at Deer Park Farm to AD648 (Edwards 1990, 25). The Irish sites also produce much the same type of personal artefacts, including penanular brooches, pins, glass beads and composite bone combs (e.g. Leacanabuaile). Many architectural details such as low, narrow entrances to the secondary cells, aumbries and partial corbelling are comparable to the Scottish sites. The late 1st millennium AD development of Souterrain Ware in north-east Ireland, remarkably similar to Plain Ware, is surely not coincidental. It is probable that these close affiliations are attested to earlier in the 1st millennium AD. Support for this may be drawn from the doorknob spearbutt distribution and early to mid 1st millennium AD cellular buildings at Cahercommaun, Co. Clare (Hencken 1938) that included three-sided hearths. Similar cellular structures are visible at Dun Concobhair, Co. Galway and may underlie later remains at sites such as Ballinknockane Cashel.

It is important to remember that these figure of eight structures are only one aspect of a reasonably well-defined settlement system operating during the later 1st millennium AD. Contemporary sites include late crannogs in both Ireland (O'Sullivan 1998) and Scotland (Henderson 1998), nuclear forts in Scotland (Alcock *et al.* 1989, 206-214; Harding 1997, 121) and the re-use of large stone built cashels and other ringforts in Ireland. In Argyll there are in addition, several distinctive irregularly shaped rectilinear sites with material and radiocarbon dates that place them into this same period of occupation (Gilmour 1994). The artefacts and structural remains at Kildonan Bay for example, have led to the reasonable assertion that it is a late 1st millennium AD relatively high status site (Fairhurst 1939; Peltenburg 1984). This evidence suggests a well-defined late 1st millennium AD hierarchical society that is reflected in the various contemporary settlement types.

It can be argued on the basis of the structural evidence that there is an understanding of, and wish to construct, a particular building type across the Atlantic façade, including Ireland, during the later half of the 1st millennium AD. Written records of Dalriadic influence in Argyll during this time may only be the tip of the iceberg. A much wider expansion of Gaelic or western culture occurred during the development of a complex political structure. This is reflected in the conservatism of the architecture across the Atlantic areas and the concomitant increase in personal adornment, presumably relating to relations that are more interpersonal and result in increased face-to-face contact. The relationship of this powerful movement to the traditional eastern heartlands of the Picts, and the interaction between the two supposedly very distinct cultures requires further study. Much of this late 1st millennium AD material and architectural development occurs in areas previously regarded as Pictish, for example Orkney in the north. The participation of these areas in detailed structural and chronological sequences defined in terms of a distinct Western Atlantic phenomenon suggests a dynamic and wide-ranging society with close ties to the west. Movement across the Atlantic seaways was at its height, eclipsed only by the subsequent Norse incursions using the same routes.

CONCLUSION

Various areas of the Scottish Atlantic façade have strong internal links throughout the 1st millennia BC and AD. The Outer Hebrides may only be fully integrated into this communication system in the mid to late 1st millennium BC and even then continues its own strong traditions, for example in terms of decorated pottery. The entire area follows a pattern of settlement development so similar in the various regions that it is difficult to believe it is not roughly contemporary and probably driven by similar pressures. A marked difference in development includes the northern 'villages' as opposed to wheelhouses elsewhere and the current lack of either in the Inner Hebrides and Argyll. The situation in Argyll is now very much in need of re-analysis in the field. The entire façade is again closely tied together with the cellular developments of the 1st millennium AD. Finally, there are clear indications of close archaeological links with Ireland in the mid to later half of the 1st millennium AD that are probably the culmination of much earlier contact and communication.

ACKNOWLEDGEMENTS

I am grateful to Rob Sands, Catherine Flitcroft and Ian Armit who read and commented on various drafts of this paper. Thanks also to Ian Armit and Marek Zvelebil for providing information before publication and Dennis Harding for discussions on Bharabhat. Finally, thanks to Jon Henderson for organising the conference session and his patience during editing.

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Illustrations

Illustrations referred to in the text of the thesis. Figures 1 to 40 drawn by the author, others as referenced.

Figure 1: Location Map.



Figure 2: Classification Scheme.

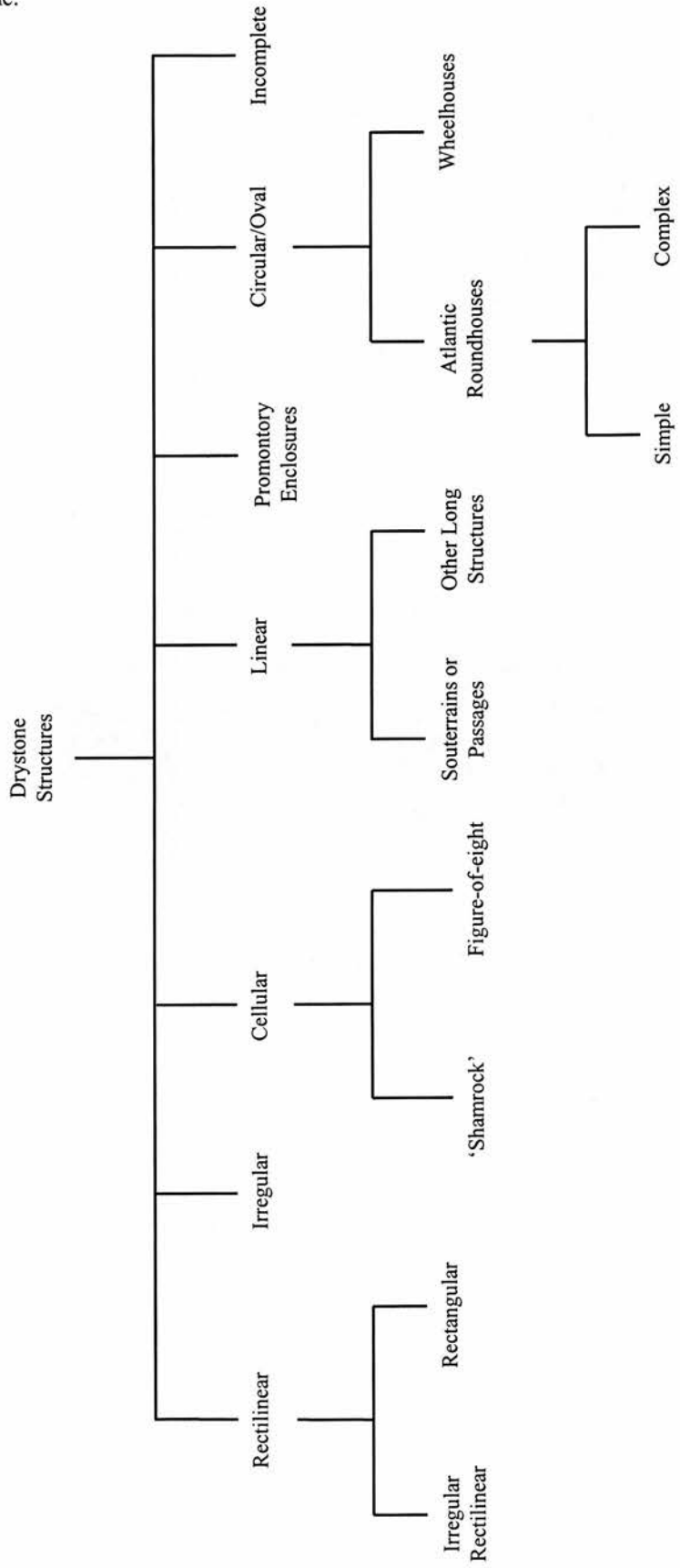


Figure 3: Location of Environmental Sites – 1: Sheshader, 2: Tob nan Leobag, 3: Little Loch Roag, 4: Loch na Beirgh, Dun Bharabhat, Cnip, 5: Loch Ruadh Guinnerso, 6; Northton, 7: Vallay, 8: Loch Olabhat, 9: Loch Lang, 10: Loch Hellisdale, 11: Lairg, 12: Loch an t-Sil, 13: Loch na Cartach, 14: Loch a’Bhogaidh, 15: Aros Moss, 16: Killymaddy Lough, 17: Cashelkeelty, 18: Dromatouk, 19: Dromteewakeen, 20: Cullenagh, 21: Moughanasilly, 22: Bog of Donard, 23: Rocky River, 24: Derryville Bog, 25: Dallican Water, 26: Gunnister Water, 27: Murraster, 28: Loch of Knitchen, 29: Glims Moss, 30: Tofts Ness, 31: Gallanach Beg, 32: Llynn Cororion, 33: Hiraethog, 34: Bolton Fell Moss, 35: Walton Moss, 36: Glasson Moss, 37: Mooghaun Lough, 38: Thinhope Burn, 39: Wotter Common, 40: Broad Amicombe Hole, 41: Rough Tor, 42: Slapton Ley, 43: Glen Bretadale, 44: North Connel, 45: Cloître, 46: Spézet, 47: Ebihens, 48: Ouessant, 49: Plouer sur Rance, 50: Kervigen, 51: Saint Egerec, 52: Kernier, 53: Le Braden, 54: Ruffiac, 55: Ploubalay, 56: Vicomté, 57: St Michel-Chef-Chef, 58: Fay-de-Bretagne, 59: Kerné, 60 Borve Headland, 61: Corlea, 62: Lochan an Druim, 63: Loch of Winless, 64: Suisgill, 65: Wood Moss, 66: Migneint, 67: Brecon Beacons, 68: Letterfrack, 69: Loch Cleat, 70: Kinloch, 71: Loch Shiel, 72: Mallaig, 73: Loch Cholla, 75: Harold’s Bog, 76: Crosskirk, 77: Kebister, 78: Scord of Brouster, 79: Scatness, 80: Braehour, 81: The Howe, 82: Bu, 83: Dun Mor Vaul, 84: Dun Vulcan

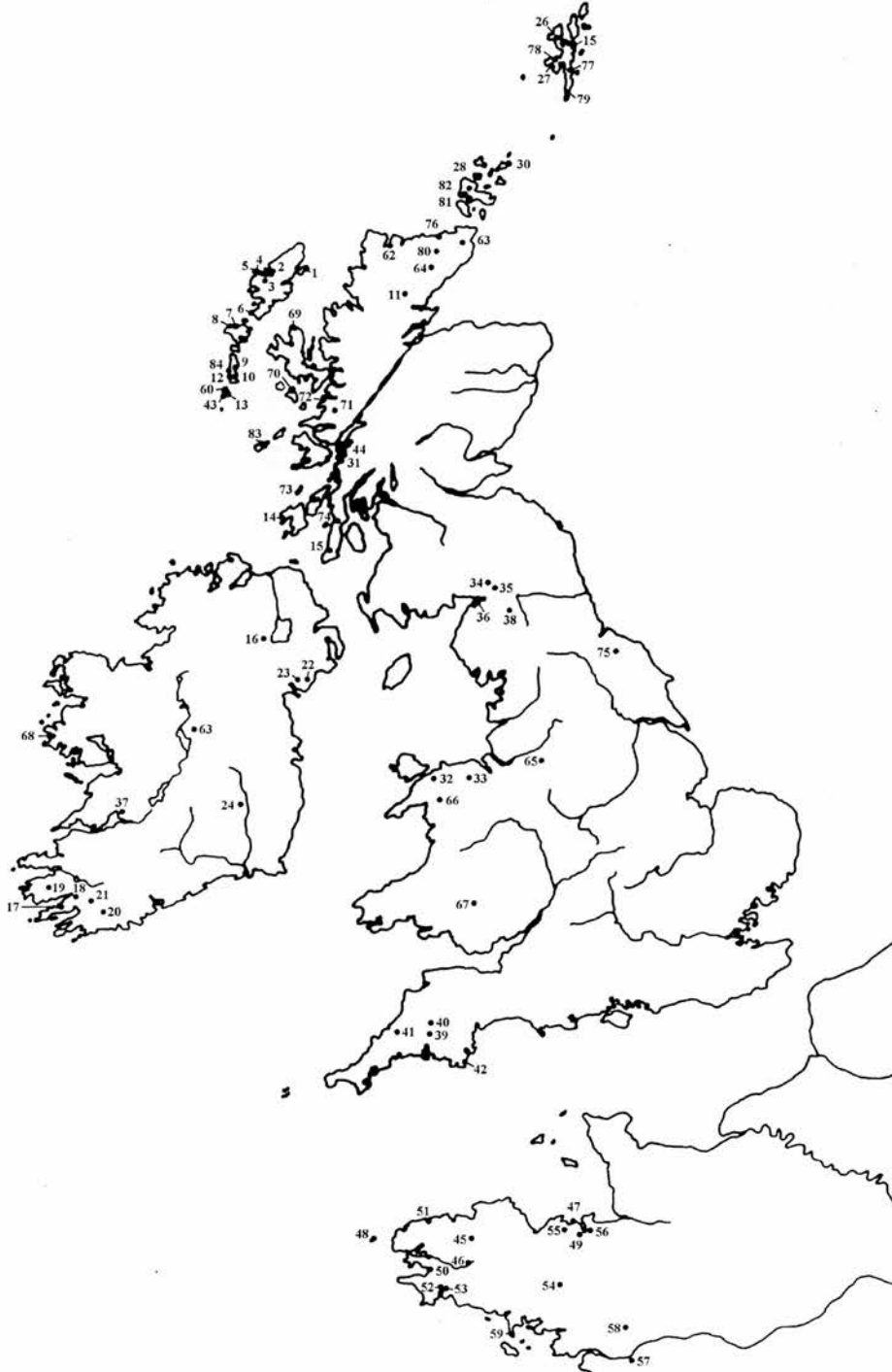


Figure 4: Location of Sites in Atlantic Scotland - 1: Loch na Berie, 2: Dun Bharabhat, 3: Cnip, 4: Bostadh Beach, 5: The Udal, 6: Sollas, 7: Eilean Olabhat, 8: Cletraval, 9: Eilean Maleit, 10: A'Cheardach Mhor, 11: A'Cheardach Bheag, 12: Dun Vulcan, 13: Kildonan III, 14: Dun Cuier, 15: Dun Ardtreck, 16: Dun Flodigarry, 17: Dun Mor Vault, 18: Rahoy, 19: Machrins, 20: Dun an Fheurain, 21: Ballymeanoch, 22: Dunadd, 23: Druim an Duin, 24: Dun Fhinn, 25: Kildonan Bay, 26: Kildalloig, 27: Dun an Ruaigh Rhuaidh, 28: Dun Lagaidh, 29: Langwell, 30: Cnoc Stanger, 31: Crosskirk, 32: Wag of Forse, 33: Bu, 34: Howe, 35: Gurness, 36: Brough of Birsay, 37: Buckquoy, 38: Midhowe, 39: Pierowall, 40: St. Boniface, 41: Toftsness, 42: Pool, 43: Quanterness, 44: Skaill, 45: Scalloway, 46: Clickhimin, 47: Scatness, 48: Mousa, 49: East Shore, 50: Jarlshof, 51: Broch of Ayre, 52: Freswick Sands, 53: Keiss, 54: Kilphedir, 55: Upper Suisgill, 56: Lairg, 57: Portmahomack, Tarbat, 58: Craig Phadrig, 59: Grugaig, Glenelg, 60: Dun Troddan, 61: Dun Telve, 62: Dun Fhiadhairt, 63: Dun Totaig, 64: Dun Beag, 65: Dun Riudh an Dunain, 66: Grugaig, Skye, 68: Galson, 69: An Dunan, 70: Guinnerso, 71: Gob Eirer, 72: Barra Head, 73: Ben Tangaval, 74: Allasdale, 75: Kilpheder, 76: Cladh Hallan, 77: Dun Cuil Bhuirg, 78: Iona monastery, 79: Tirefour Castle, 80: Dun mac Sniachan, 81: Dunollie, 82: Loch Glashan, 83: Dumbarton, 84: Buiston, 85: Dunagoil, 86: Dunaverty, 87: Keil Cave, 88: Teroy, 89: Kirkmadrine, 90: Mull of Galloway, 91: Craggleton Castle, 92: Rispain, 93: Whithorn, 94: Isle of Whithorn, 95: Torrs, 96: Mote of Mark, 97: Milton Loch, 98: Carronbridge, 99: Stair Haven, 100: Killantragan Bay, 101: Doon Castle, 102: Crammag Head, 103: Castle Haven

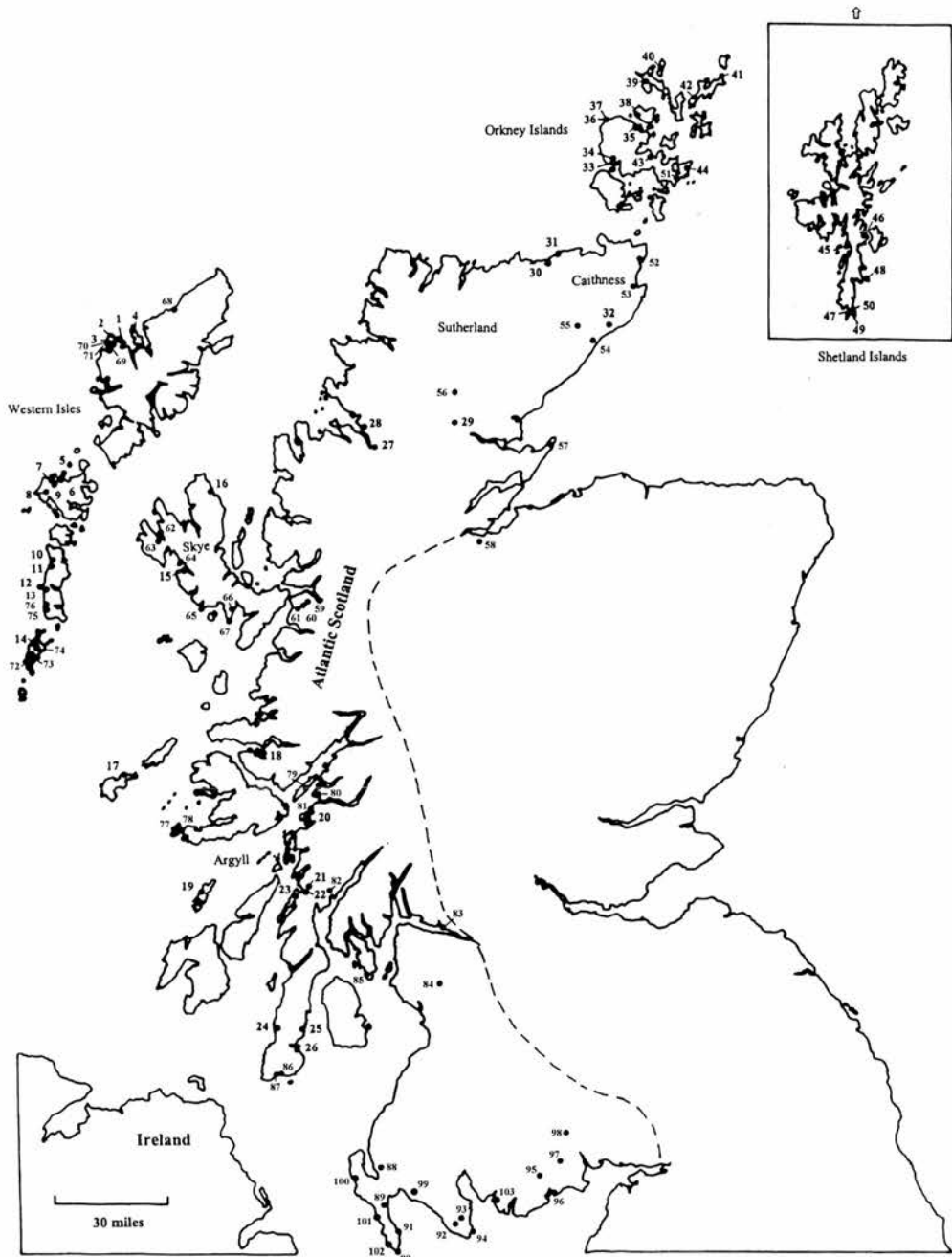


Figure 5: Location of Sites in Ireland – 1: Cashel Reagan, 2: Cashel Downies, 3: Dunseverick, 4: Knockdhu, 5: Sconce, 6: Altagore, 7: Ballypallady, 8: Deer Park Farms, 9: Dunsilly, 10: Ballywee, 11: Rathbeg, 12: Seacash, 13: Castle Upton, 14: Scrabo, 15: Lissue, 16: Ballyfounder, 17: Clogher, 18: Kiltierney, 19: Grianan, 20: Carrowmore, 21: Knoxpark, 22: Carrowmably, 23: Lisdoo, 24: Navan, 25: Dorsey, 26: White Fort, 27: Ardglass, 28: Downpatrick, 29: Rathmullan, 30: Dundrum, 31: Marshes Upper, 32: Knowth, 33: Tara, 34: Millockstown, 35: Kells, 36: Raffin, 37: Moynagh, 38: Keshcarrigan, 39: Drumsna, 40: Rathcroghan, 41: Rathtinaun, 42: Lislackagh, 43: Lough Gara, 44: Killtulagh Hill, 45: Carrowjames, 46: Dunamo, 47: Aran Islands, 48: Feerwore, 49: Granagh, 50: Cahercommaun, 51: Ballykinvarga, 52: Mooghaun, 53, Knocknallapa, 54: Dowris, 55: Clonmacnois, 56: Corlea, 57: Clonfinlough, 58: Kilbeg, 59: Ballinderry, 60: Lagore, 61: Drumanagh, 62: Lambay Island, 63: Dun Ailinne, 64: Spinans Hill, 65: Rathgall, 66: Freestone Hill, 67: Stoneyford, 68: Cashel, 69: Friarstown North, 70: Carraig Aille, 71: Castle Gale, 72: Reask, 73: Dunbeg, 74: Beginish, 75: Leacanabuaile, 76: Staigue, 77: Carigillihy, 78: Garranes, 79: Ballycatteen, 80: Killanully, 81: Aghinish, 82: Cush.

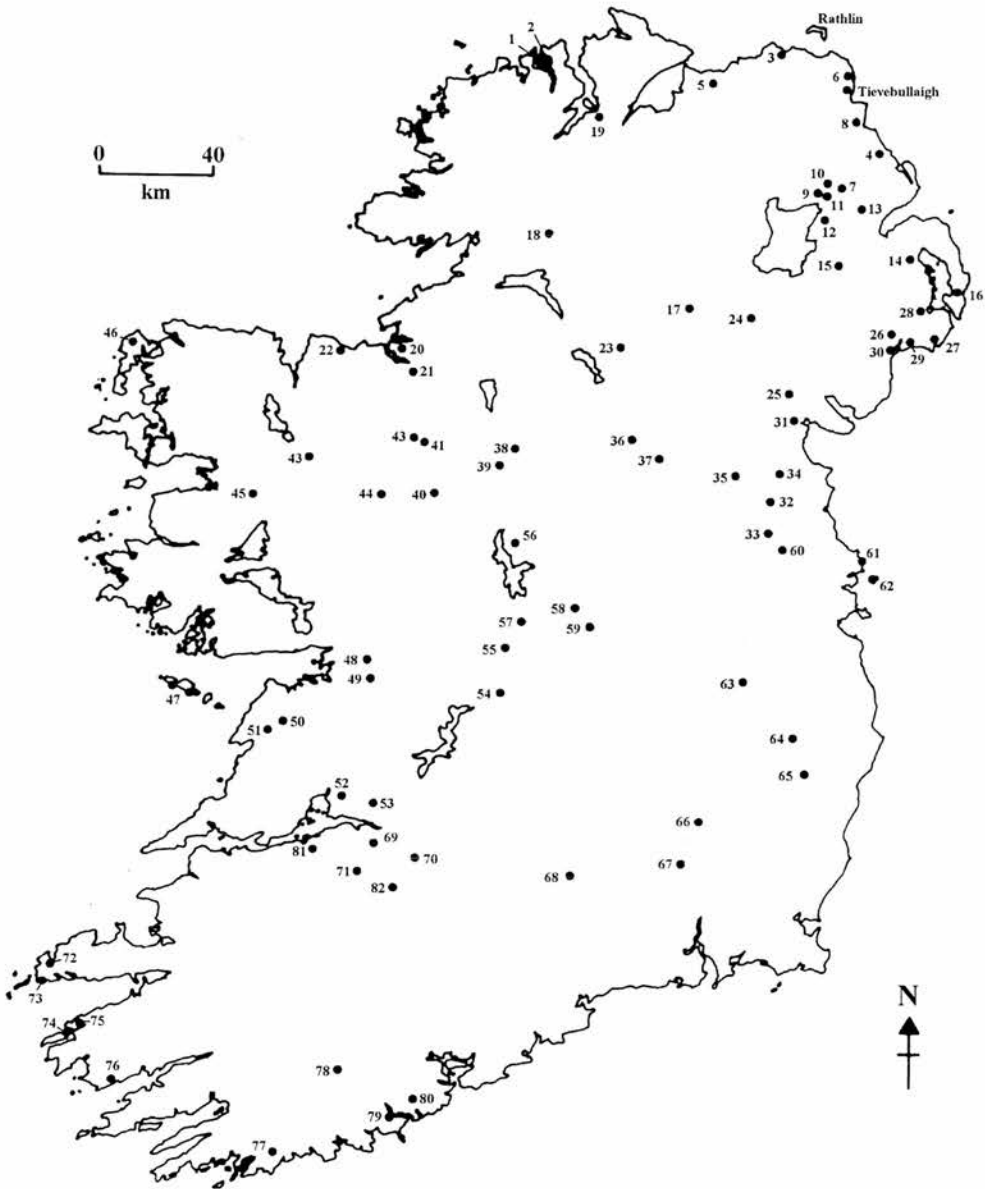


Figure 6: Location of Sites in Wales – 1: Bryn Eryr, 2: Conway Mountain, 3: Pen y Dinas, 4: Dinorben, 5: Pen y Gaer, 6: Moel Hirradug, 7: Moel y Gaer, 8: Graenog, 9: Cefn Graenog II, 10: Tre'r Ceiri, 11: Garn Boduan, 12: Carn Fadrun, 13: Castell Odo, 14: Erw-wen, 15: Moel Goedog, 16: Moel y Gerddi, 17: Pen y Dinas, 18: Pen Dinas, 19: Caerau, 20: Caer Cadwgan, 21: Collfryn, 22: Lwyn Bryn Dinas, 23: Old Oswestry, 24: Four Crosses, 25: Breiddin, 26: Fridd Faldwyn, 27: Croft Ambrey, 28: Midsummer, 29: Clegyr Boia, 30: Walesland Rath, 31: Gateholm, 32: Sheep Island, 33: Bosherton, 34: Stackpole Warren, 35: Longbury Bank, 36: Llawhaden, 37: Carmarthen, 38: Llanstephan, 39: Colgan, 40: Caldey Island, 41: Hen Gastell, 42: Methyr Mawr, 43: Mynydd Bychan, 44: Llandough, 45: Whitton, 46: Dinas Powys, 47: Goldcliff, 48: Pant y Saer, 49: Ty Mawr, 50: Castell Henllys

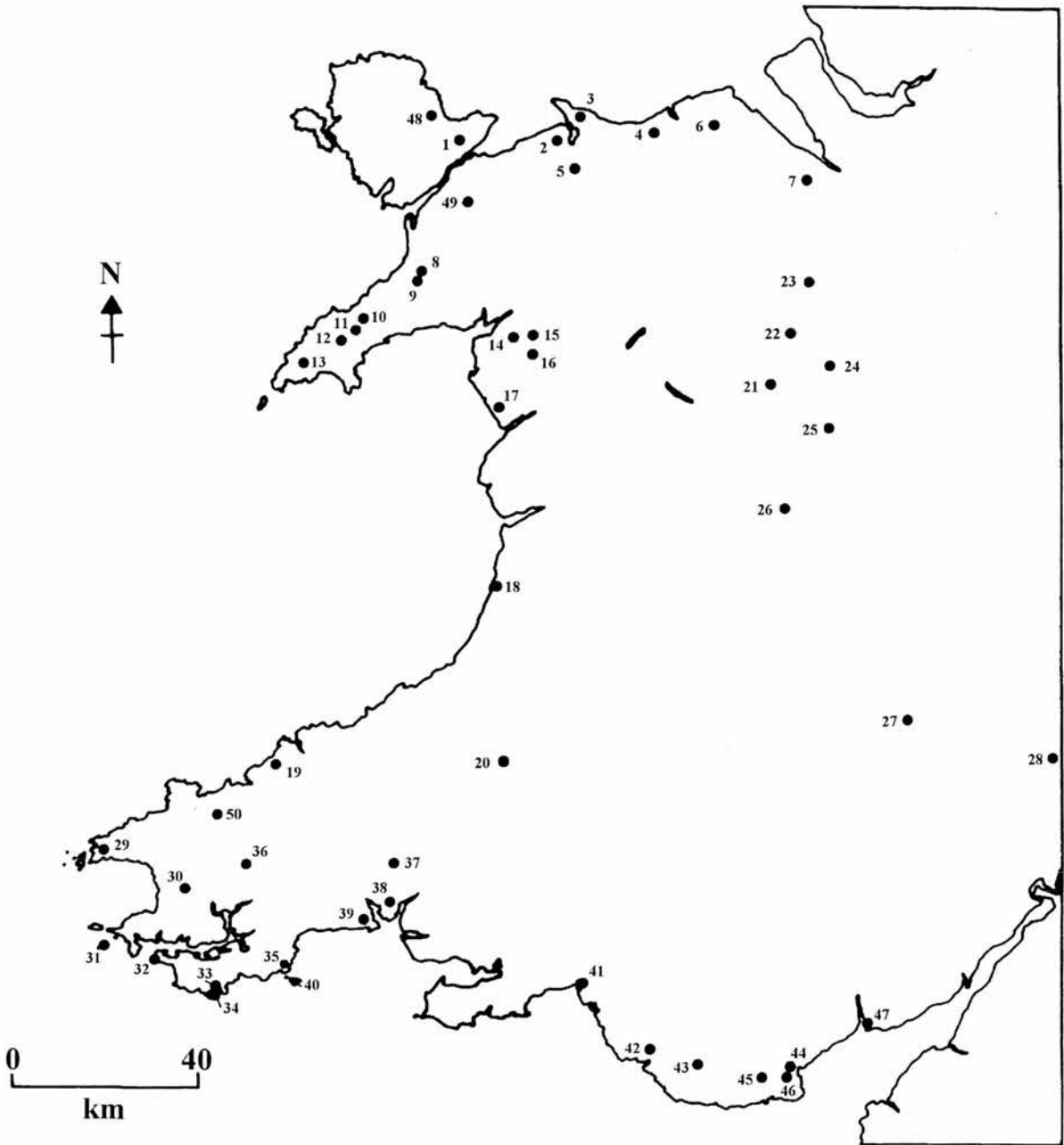


Figure 7: Location of Sites in south-west England and Brittany – 1: Mear, 2: Glastonbury, 3: South Cadbury, 4: Maiden Castle, 5: Hengistbury, 6: Pool Harbour, 7: The Rumps, 8: Tregear, 9: Harlyn Bay, 10: Trevisker, 11: Carloggas, 12: Trelvegue, 13: Castle Dore, 14: Mount Batten, 15: Kynance, 16: Bodrifty, 17: Chûn Castle, 18: Gurnard’s Head, 19: Gwithian, 20: Porthmeor, 21: Croftoe, 22: Bosulow, 23: Boscaswell, 24: Caer Brân, 25: Carn Euny, 26: Chysauster, 27: Treveneague, 28: Tregerra, 29: Sancreed, 30: Goldherring, 31: Landunvez, Ile d’Yoch, 32: Ouessant, 33: Le Yaudet, 34: Les Ebihens, 35: Alet, 36: Le Boissanne, 37: Corseul, 38: Plouaret, 39: Penfel, 40: Locquirec, 41: Camp d’Artus, 42: Paule, 43: Lostmac’h, 44: Castel Coz, 45: Castel Meur, 46: Kercaradec, 47: Kermoisan, 48: Le Braden, 49: Hennebont, 50: Pluvigner, 51: Ile de Groix, Kervédan, 52: Quiberon, Goulvars, 53: Le Pinnacle, 54: La Marguanderie, 55: Le Catillon, 56: Le Câtel de Rozel

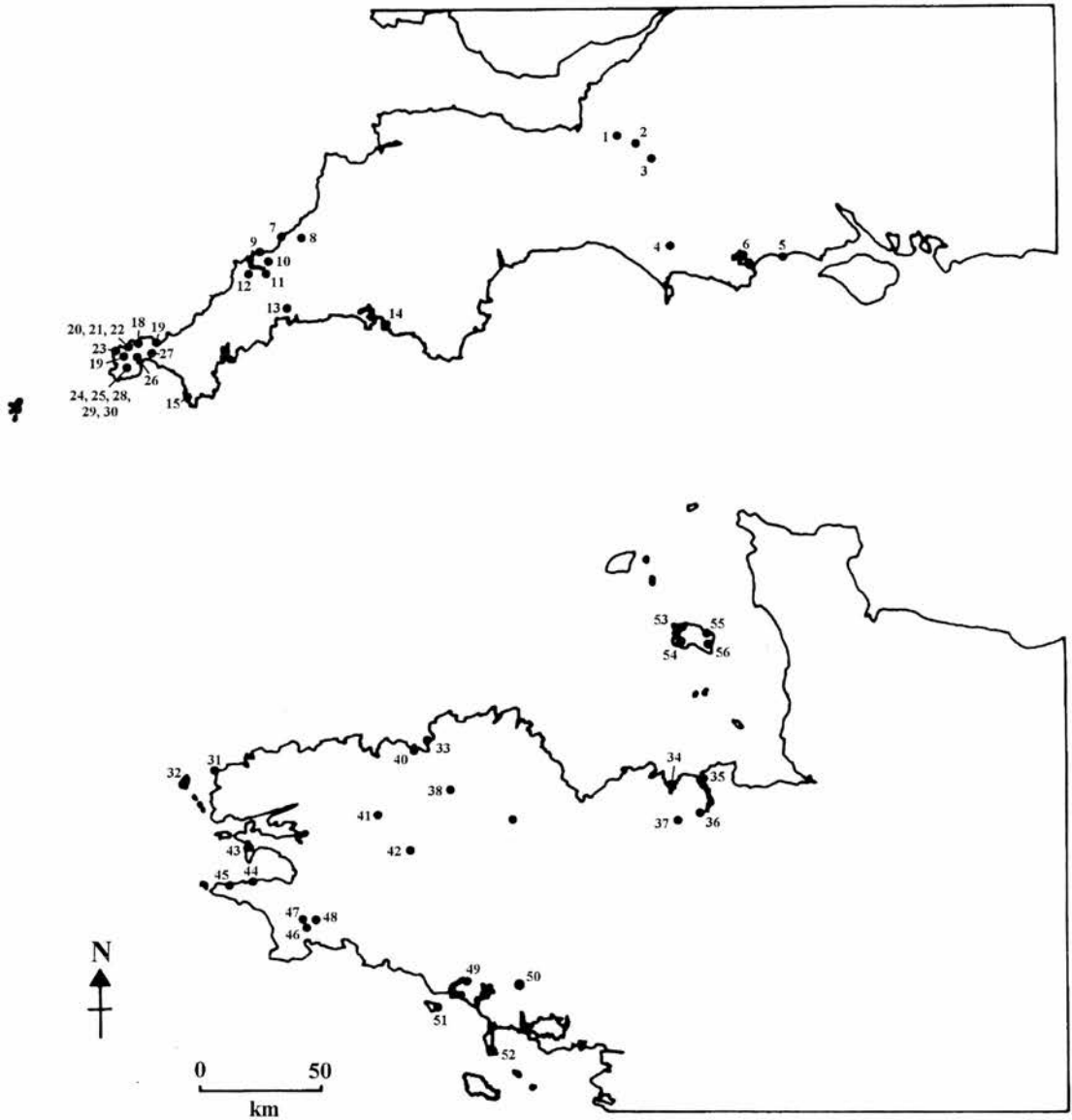


Figure 8: Atlantic roundhouses in western Scotland.

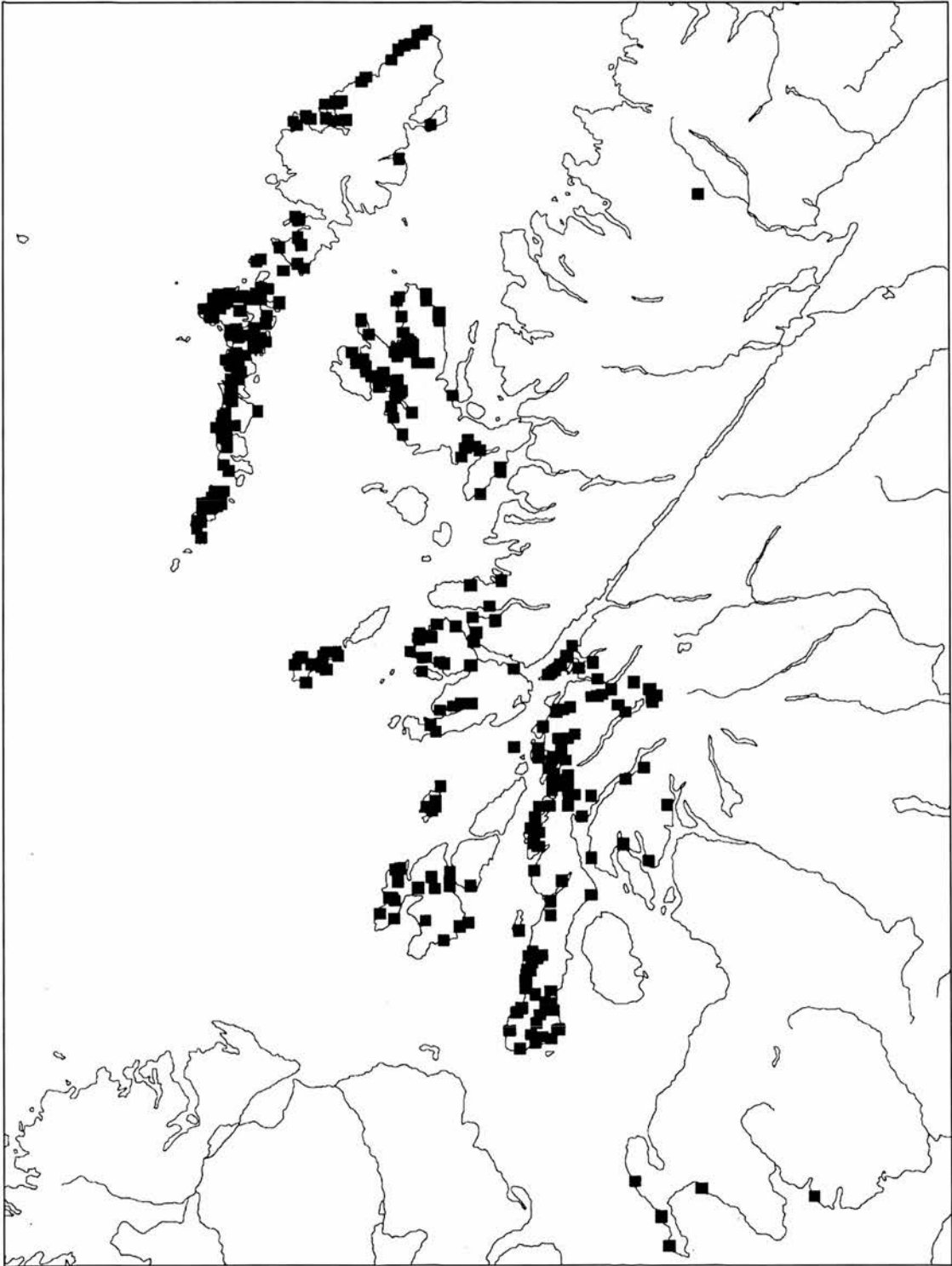


Figure 9: Atlantic roundhouses in Argyll: solid square – complex, solid circle – possibly complex, open circle – simple.

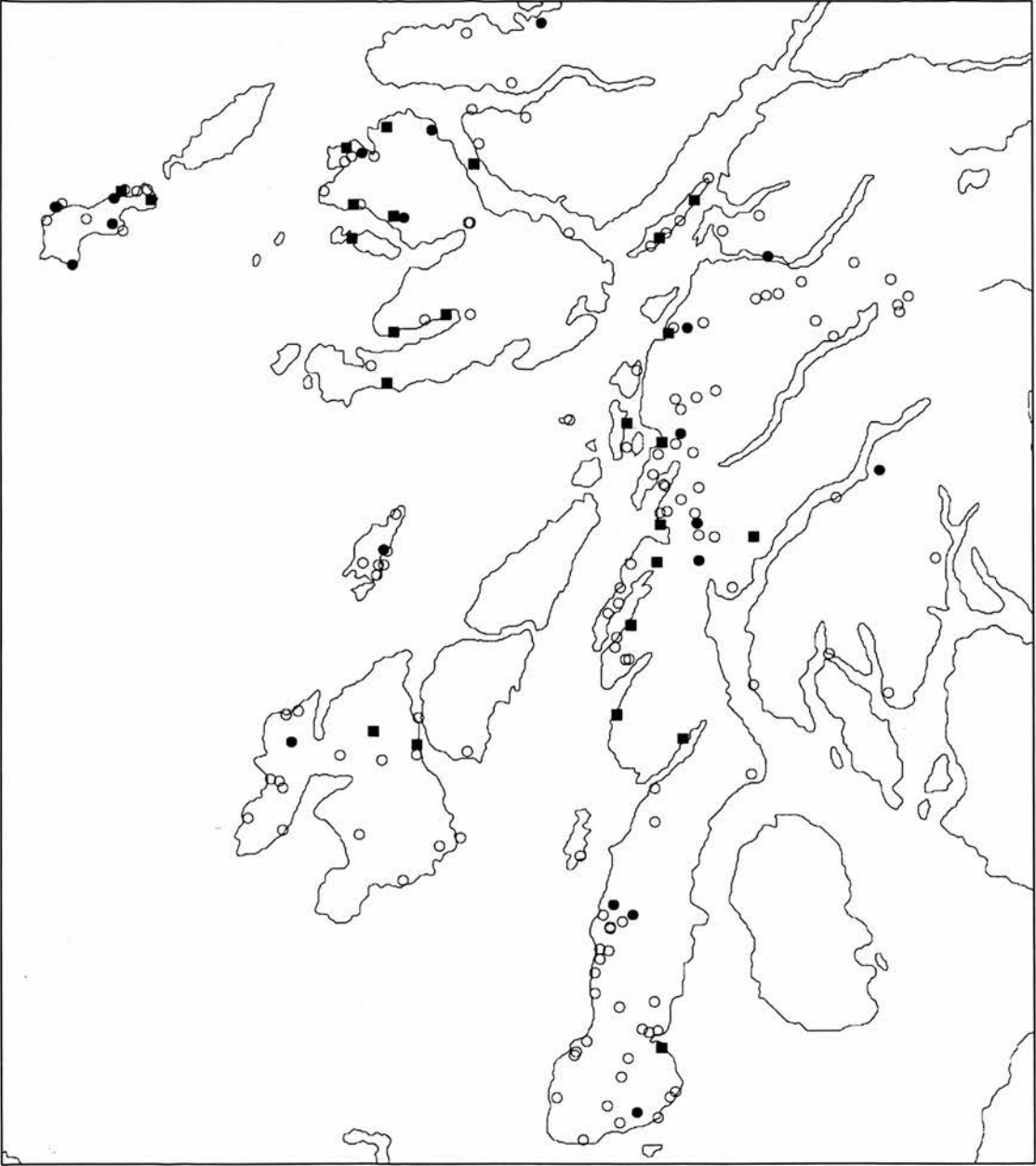


Figure 10: Complex Atlantic roundhouses in Orkney with secondary external settlement.

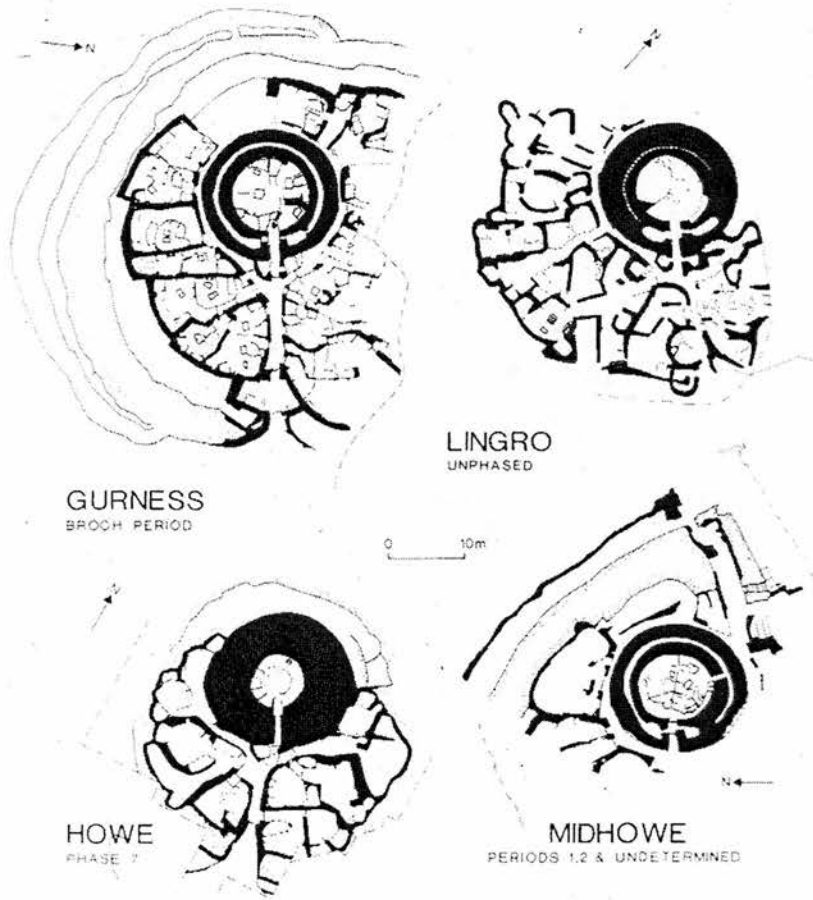


Figure 11: Complex Atlantic roundhouses, wheelhouses and other structures in Scotland: a) Scatness, Shetland (after Dockrill, 1998), b) Clickhimin, Shetland (after Hamilton, 1968), c) Jarlshof, Shetland (after Hamilton, 1956).

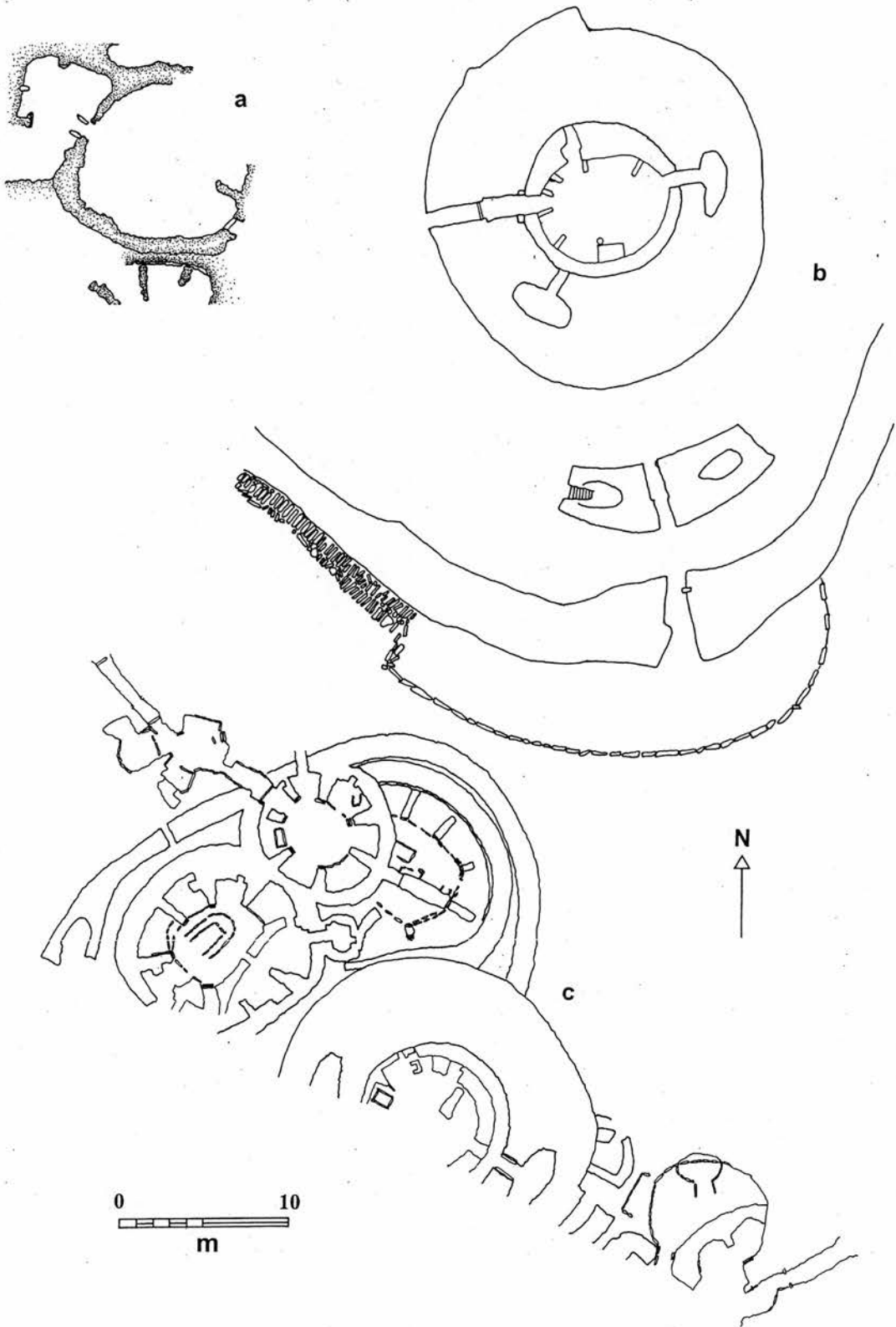


Figure 12: Complex Atlantic roundhouses in Scotland: a) Scalloway with secondary roundhouse phase 1, Shetland (after Sharples, 1998), b) Scalloway with secondary roundhouse phase 2, Shetland (after Sharples, 1998), c) Skaill Site 6 North Level 2, Orkney (after Buteux, 1997), d) Mousa, Shetland (after Paterson, 1922), e) St Boniface, Orkney (after Lowe, 1998), f) Scatness, Shetland (after Dockrill, 1998), g) Loch na Beirgh, Lewis (author).

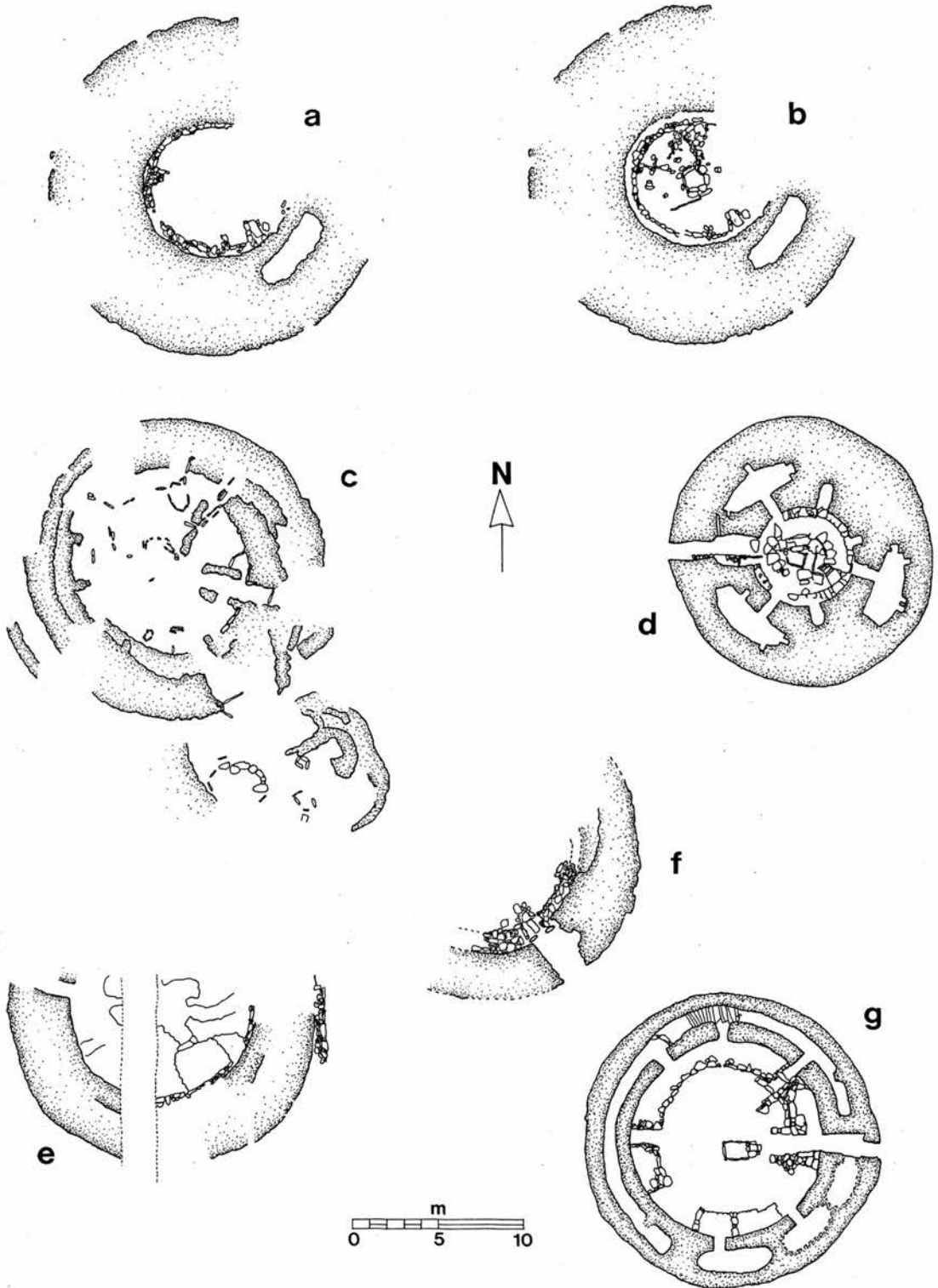


Figure 13: Complex Atlantic roundhouses in Scotland: a) Dun Fhiadhairt, Skye (after MacSween, 1988), b) Dun Beag, Skye (after MacSween, 1988), c) Dun Telve, Glenelg (after Curle, 1916 with modifications), d) Howe Phase 6, Orkney (after Ballin Smith, 1994), e) East Shore, Shetland (after Carter et al., 1995), f) Howe Phase 7, Orkney (after Ballin Smith, 1994).

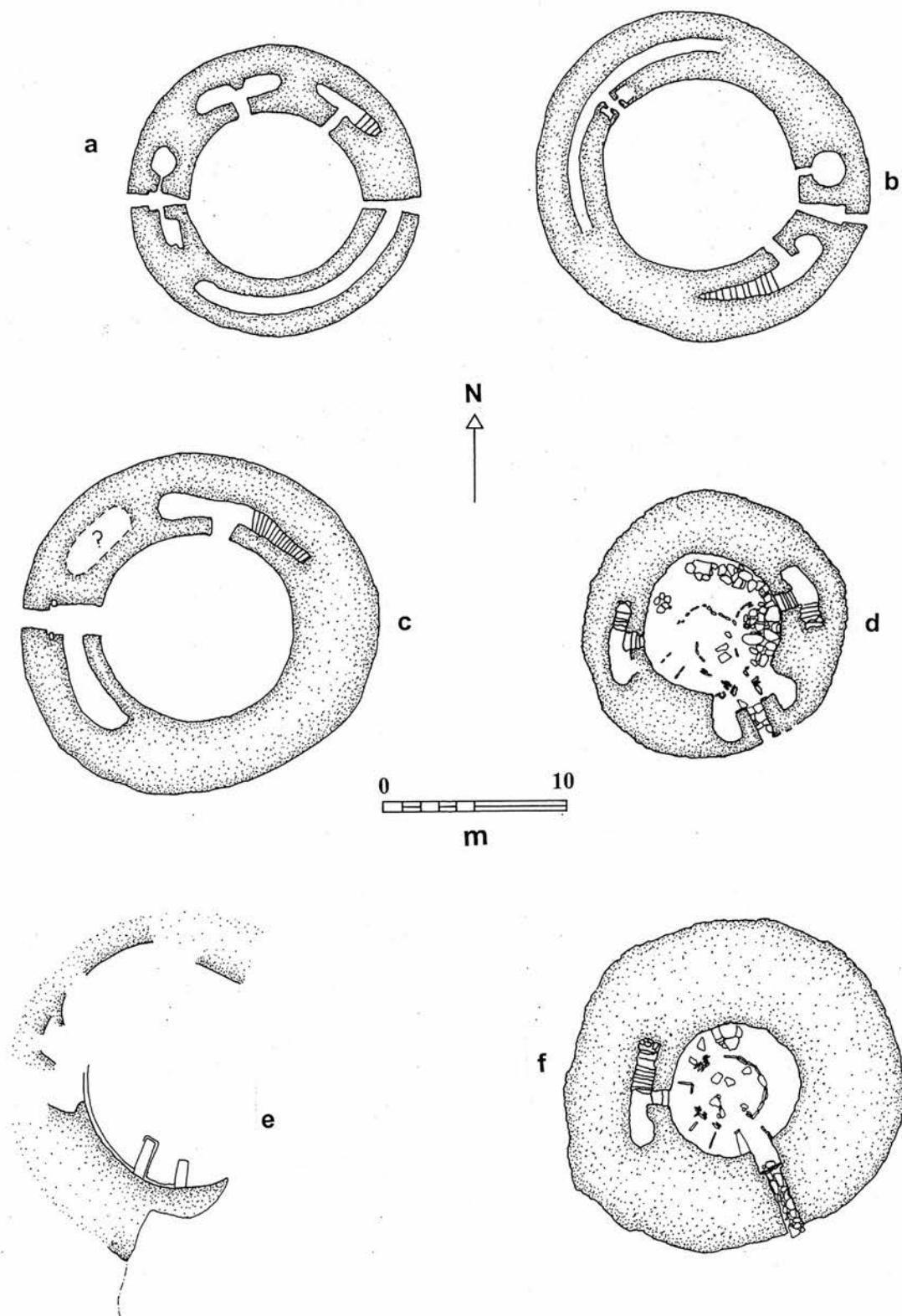


Figure 14: Complex Atlantic roundhouses in Scotland: a) Dun Rostan, Argyll (after RCAHMS, 1988), b) Dun Mor Vul, Argyll (after MacKie, 1974), c) Kildalloig, Argyll (after RCAHMS, 1971), d) Tirefour Castle, Argyll (after RCAHMS, 1975), e) Dun Vulcan, South Uist (after Parker Pearson and Sharples, 1999), f) Dun Cuier, Barra (after Young, 1956).

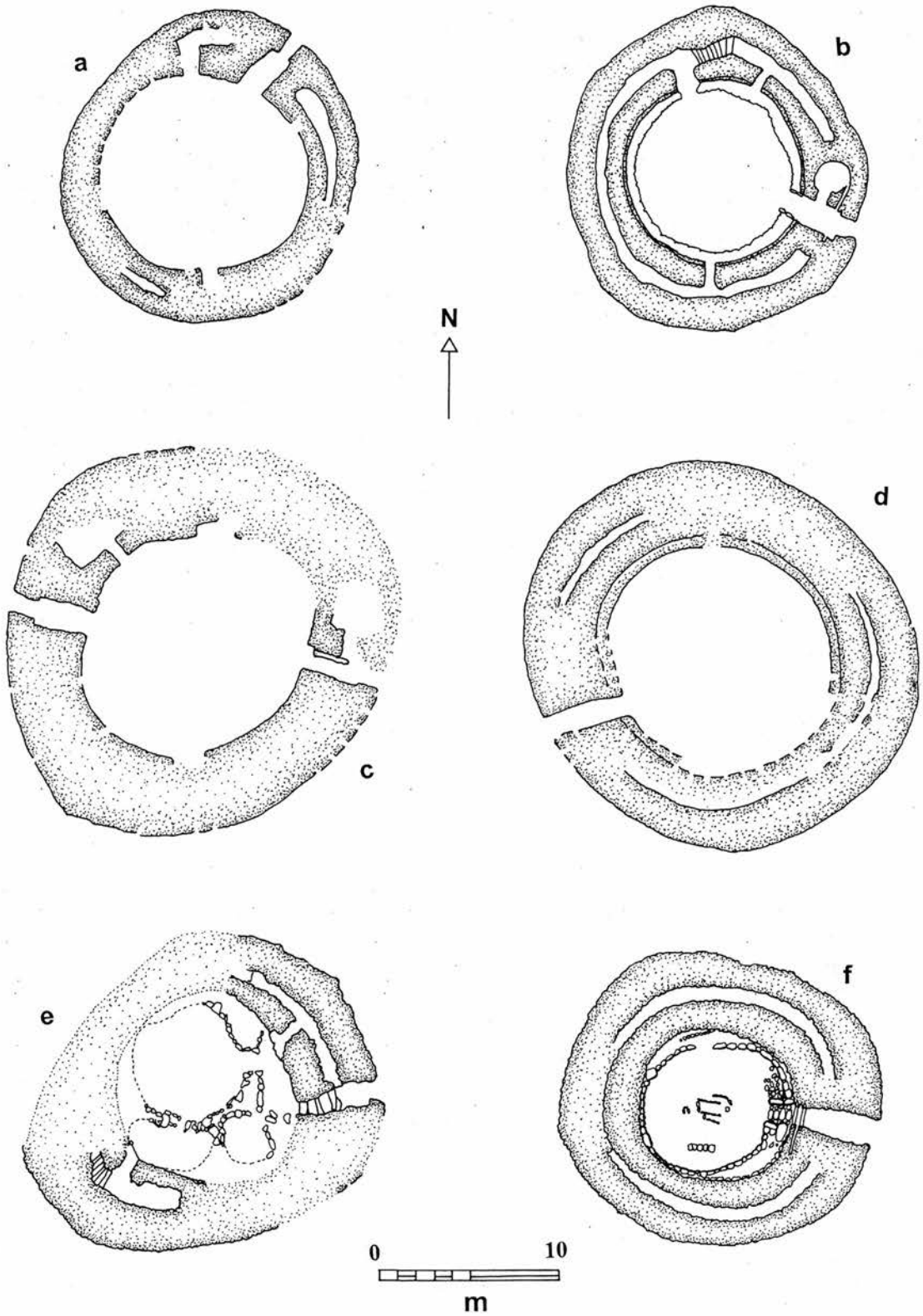


Figure 15: Wheelhouses and roundhouses in Scotland: a) Garry Iochdrach, North Uist (after Callander, 1932), b) Dun Thomaidh, North Uist (after Callander, 1931), c) Bac Mhic Connain, North Uist (after Callander, 1932), d) Cnoc a Comhdhalach, North Uist (after Beveridge, 1911), e) Clettraval, North Uist (after Scott, 1948), f) Eilean Maleit, North Uist (after Beveridge, 1911; Armit, 1999).

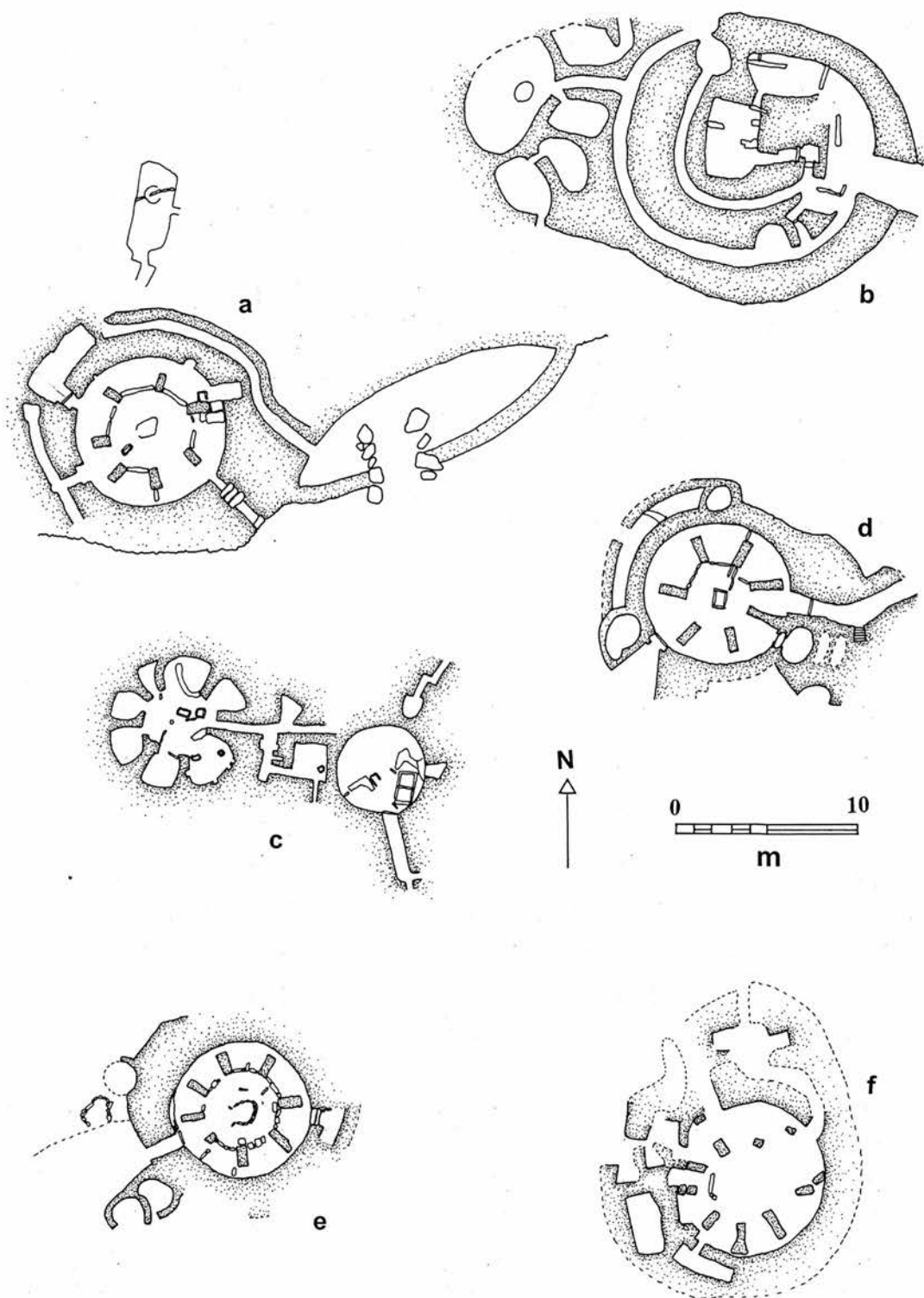


Figure 16: Wheelhouses and other structures in Scotland: a) Tigh Talhamanta, Allasdale, Barra (after Young, 1952), b) Sollas Site A, North Uist (after Campbell, 1991), c) Uisnish, South Uist (after Thomas, 1868), d) Foshigarry, North Uist (after Callander, 1931), e) A'Cheardach Mhor, South Uist (after Young and Richardson, 1962).

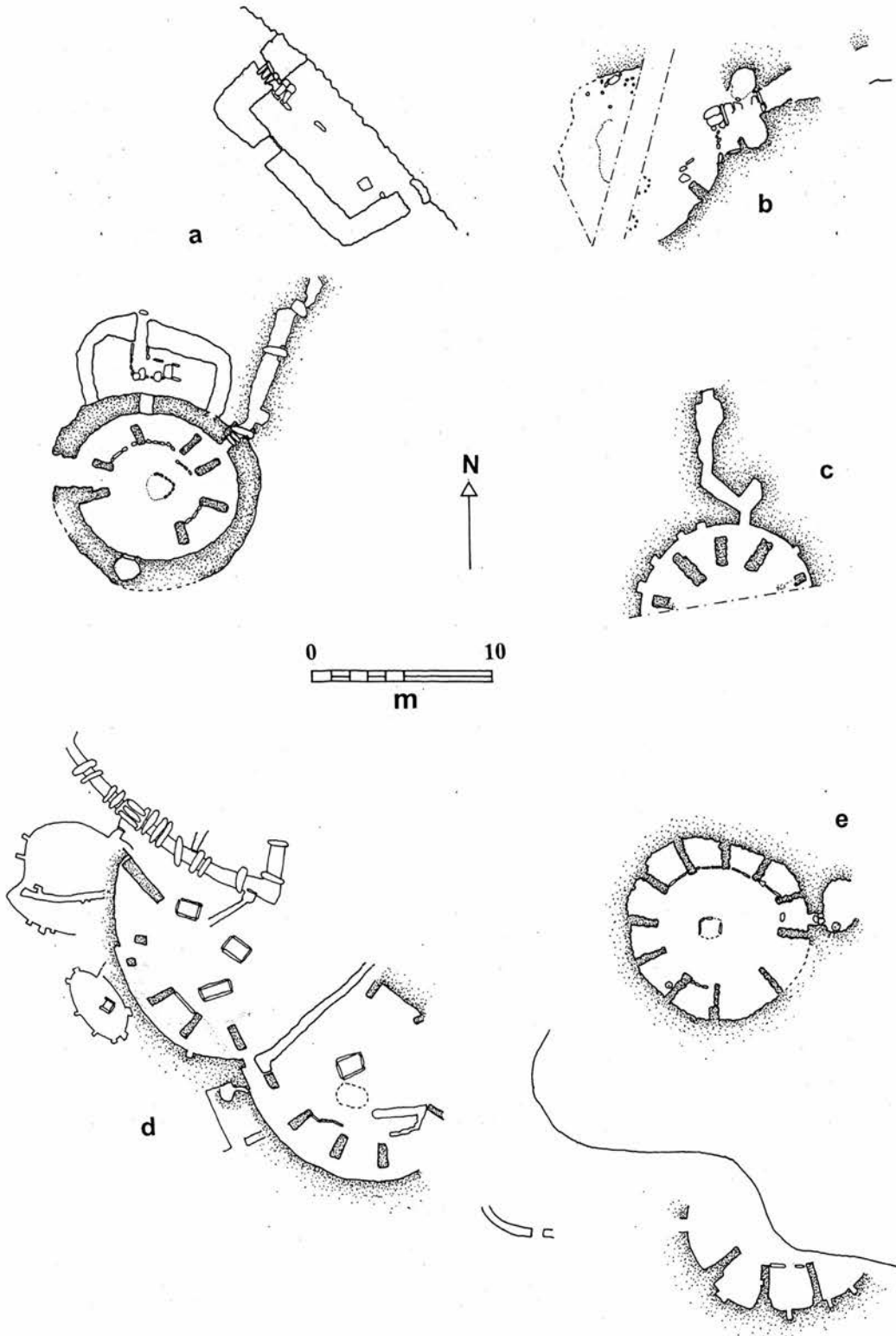


Figure 17: Wheelhouses in Scotland: a) Kildonan III, South Uist (after Zvelebil, 1991), b) Scatness, Shetland (after Dockrill, 1998), c) A'Cheardach Bheag, South Uist (after Fairhurst, 1971), d) Sollas Site B, North Uist (after Campbell, 1992), e) Kilpheder, South Uist (after Lethbridge, 1952), f) Cnip phase 1, Lewis (after Harding and Armit, 1990), g) Cnip phase 2, Lewis (after Harding and Armit, 1990).

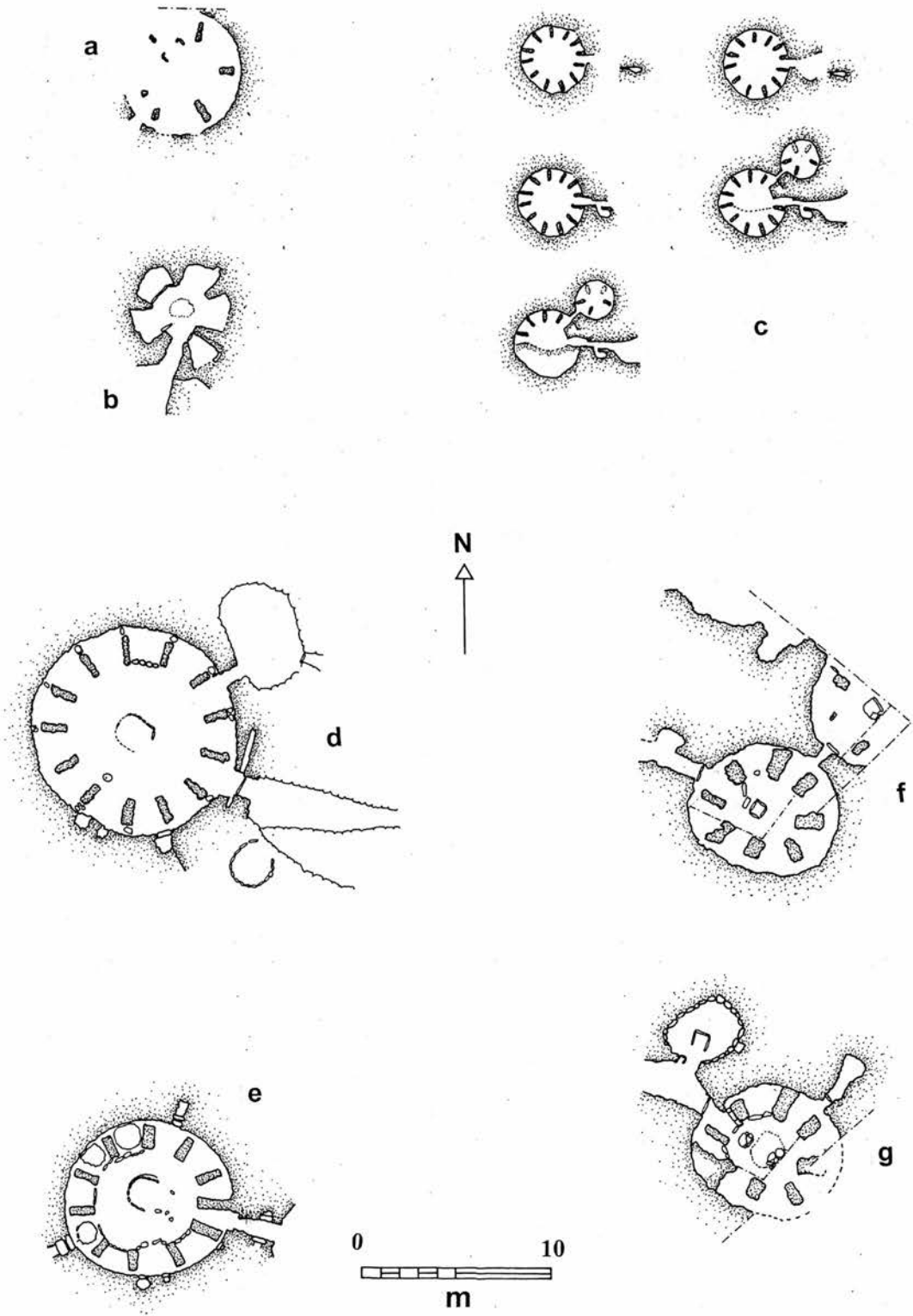


Figure 18: Partial complex Atlantic roundhouses (previously 'semi-brochs') in Scotland: a) Dun Ringill, Skye (after MacSween, 1988), b) Dun Ruigh Ruaidh, Loch Broom (after MacKie, 1980), c) Flodigarry, Skye (after Martlew, 1985), d) Dun Grugaig, Glenelg (after MacKie, 1992), e) Druim an Duin, Argyll (after RCAHMS, 1988), f) Dun Adrteck, Skye (after MacSween, 1988).

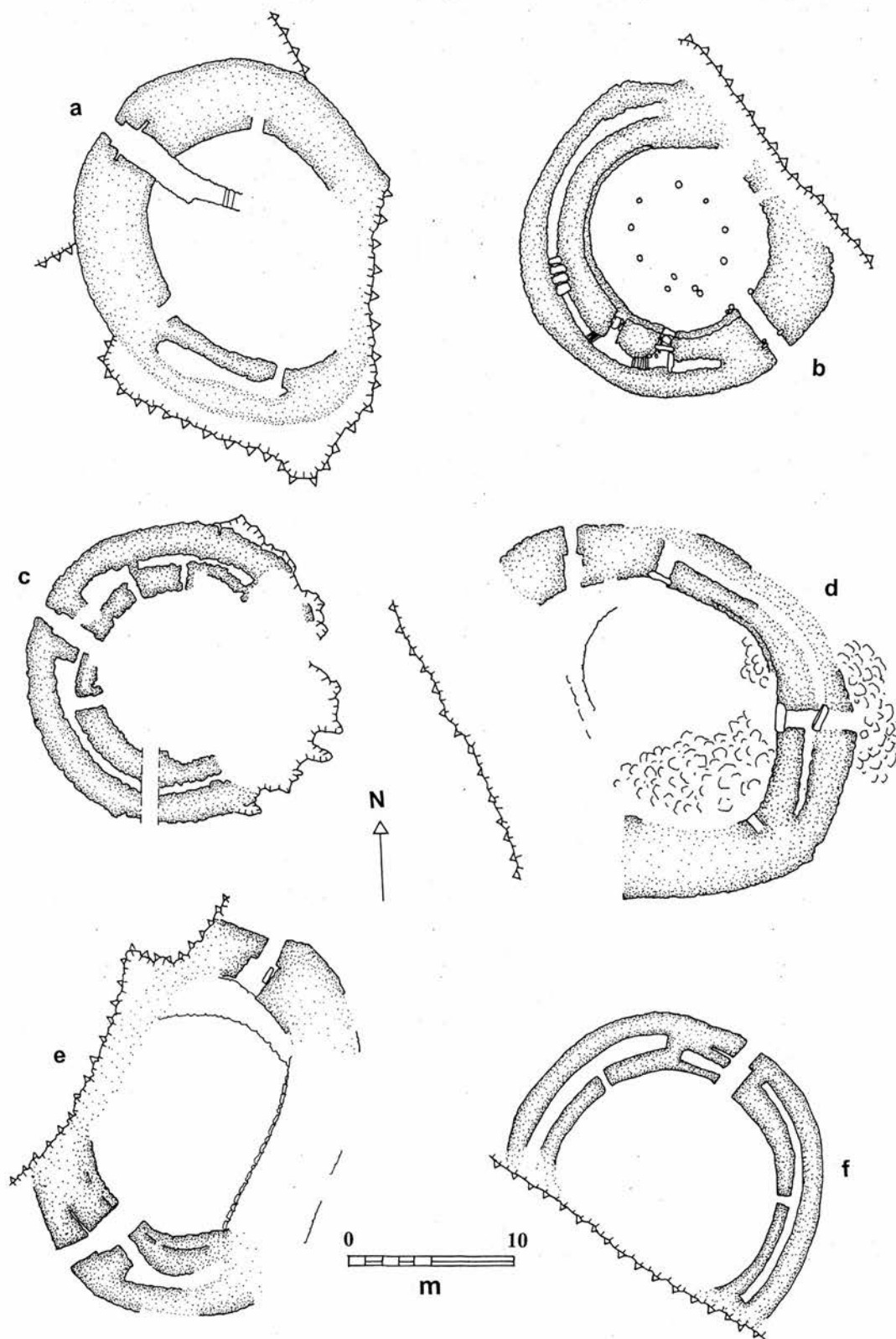


Figure 19: Irregular rectilinear sites in Argyll and Early roundhouses in the north and west of Scotland: a) Dun Aorain, Argyll (after RCAHMS, 1975), b) Kildonan Bay, Argyll (after RCAHMS, 1971; Fairhurst, 1939), c) Rahoy, Argyll (after RCHAMS, 1975; Childe and Thorneycroft, 1938), d) Langwell, Sutherland (after Nisbet, 1996), e) Crosskirk, Caithness (after Fairhurst, 1984).

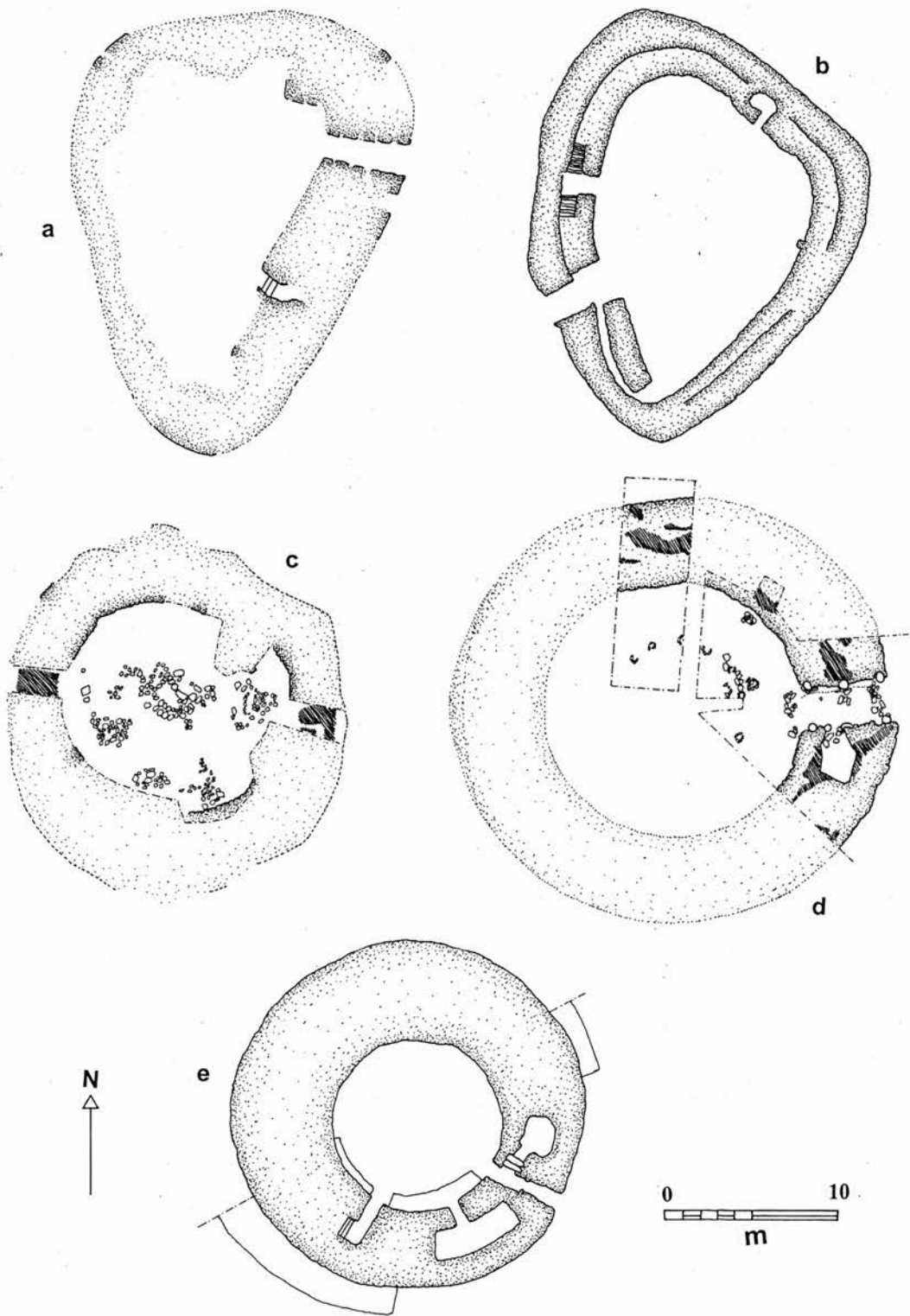


Figure 20: Rectangular sites in Skye, Argyll and south-west Scotland: a) Castle Haven, Dumfries and Galloway (after RCAHMS), b) Dun Mucaig, Argyll (after RCAHMS, 1975), c) Dun Fhinn, Argyll (after RCAHMS, 1971), d) Dun Grugaig, Skye (after MacSween, 1988), e) Dun Totaig, Skye (after MacSween, 1988).

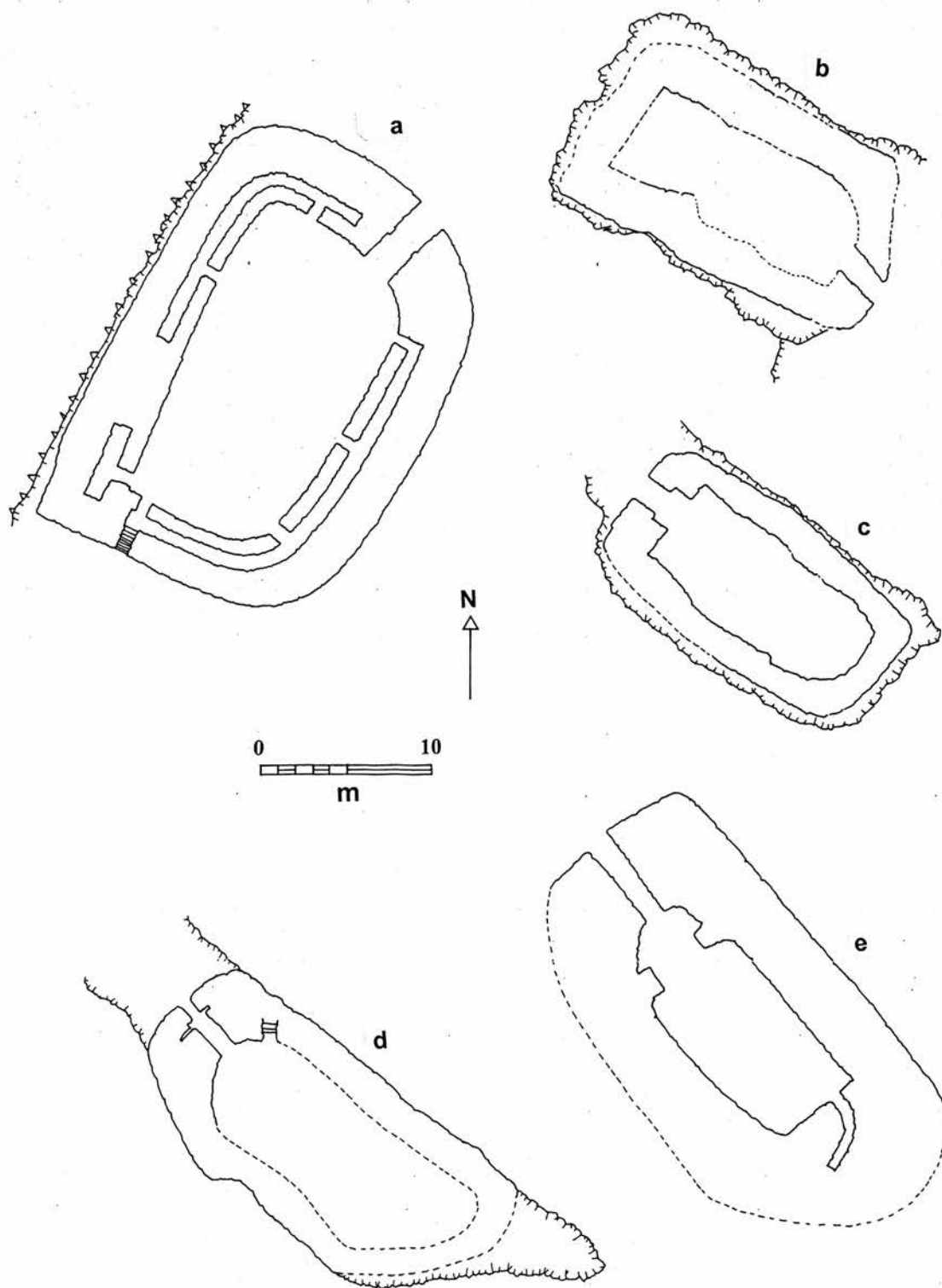


Figure 21: 'Shamrock' cellular structures in Scotland: a) Gurness, Orkney (after Hedges, 1987i), b) Eilean Olabhat, North Uist (after Armit, 1996), c) Buckquoy Buildings 5 and 6, Orkney (after Ritchie, 1977), d) Loch na Beirgh Phase 6, Lewis (author).

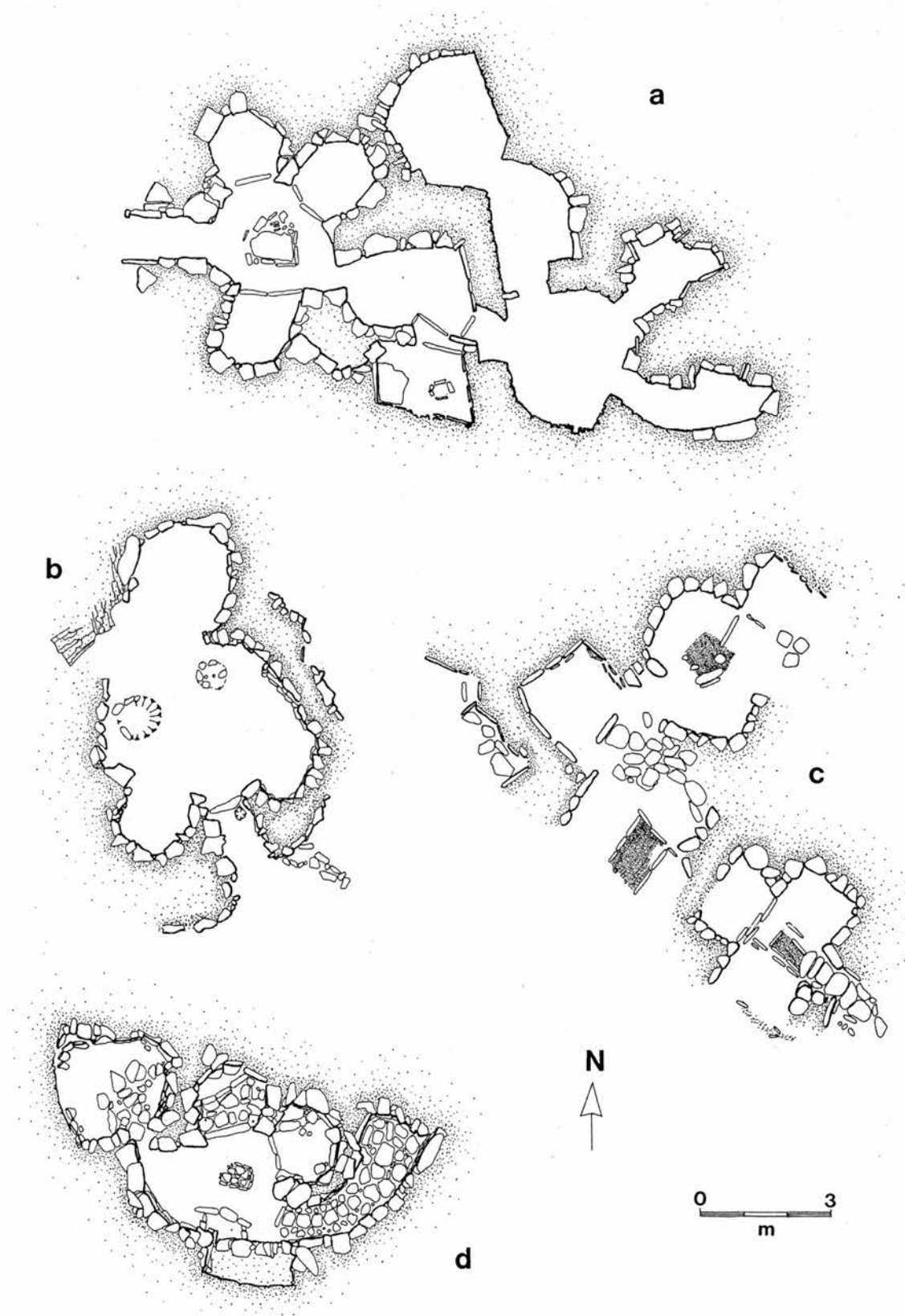


Figure 22: 'Figure-of-eight' cellular structures in Scotland: a) Loch na Beirgh Phase 1, Lewis (author), b) Buckquoy Building 4, Orkney (after Ritchie, 1977), c) Howe Phase 8, Orkney (after Ballin Smith, 1994), d) Howe Phase 8, Orkney (after Ballin Smith, 1994), e) Bostadh Beach, Lewis (after Burgess and Neighbour, 1996), f) Brough of Birsay, Orkney (after Hunter, 1986).

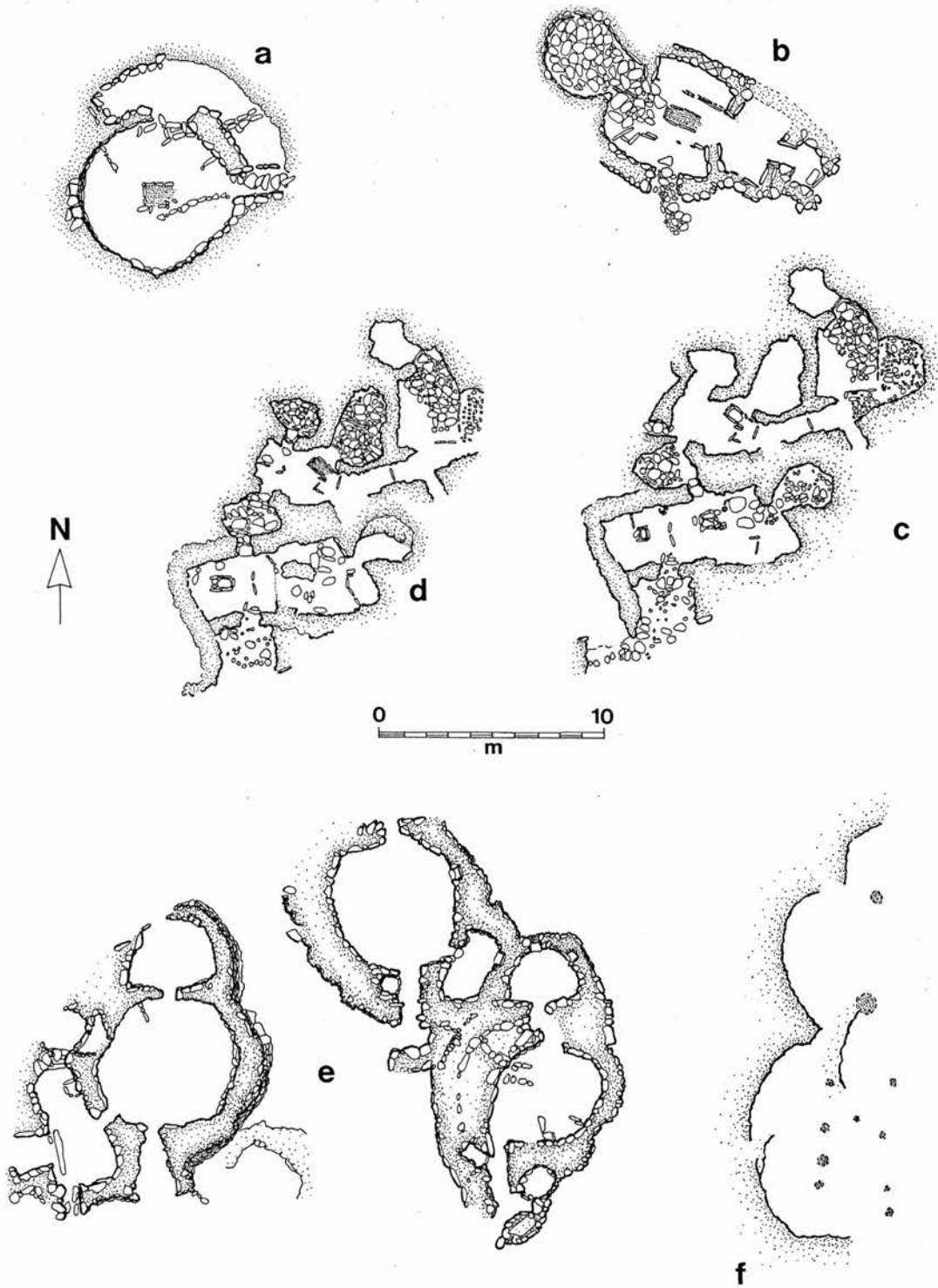


Figure 23: 'Figure-of-eight' cellular structures in Scotland: a) Brough of Birsay (after Hunter, 1986), b) Scatness, Shetland (after Dockrill, 1998), c) Red Craig, Orkney (after Morris, 1996), d) Howe Phase 8, Orkney (after Ballin Smith, 1994), e) Howe Phase 8, Orkney (after Ballin Smith, 1994), f) Ceann nan Clachan, North Uist (after Armit and Dunwell, 1996), g) Wag at Forse, Caithness (after Curle, 1947), h) Wag at Forse, Caithness (after Curle, 1947).

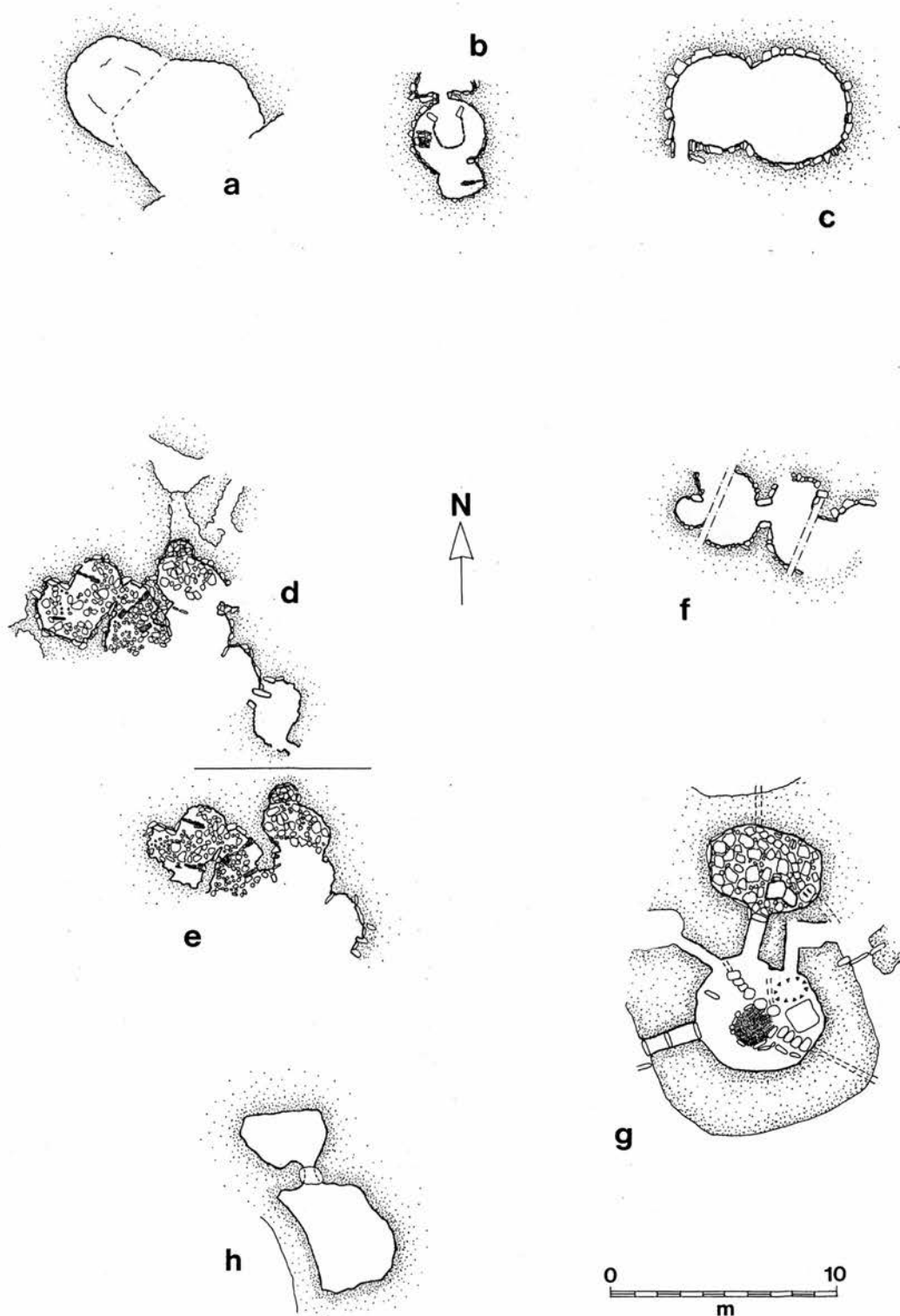


Figure 24: Ringforts and other enclosed sites in Ireland: a) Ringforts in County Down (after Limbert, 1996) - 1) Lisnagade, 2) Farrell's Fort, 3) Ballywillwill, 4) Aghavilly, 5) Rathturret, 6) White Fort, 7) Moybrick Upper, 8) Lisnavaragh, 9) Todd's Grove, 10) Dunnaval, 11) Drumena, 12) White Fort, Achlisnafin, 13) Tara, 14) Moneydorrugh Beg, 15) Water Hill Fort, 16) Big Fort, 17) Glenloughan, b) Garryduff 1 (after O'Kelly, 1962), c) Garryduff 2 (after O'Kelly, 1962), d) Grianán na Aileach, County Donegal (after Lacy, 1983), e) Freestone Hill, County Kilkenny (after Raftery, 1994), f) Rathgall, County Wicklow (after Raftery 1994), g) Garranes, County Cork (after Ó Riordáin, 1942), h) Ballycatteen, County Cork (after Ó Riordáin and Hartnett, 1943), i) Navan Site A Phase 2, County Armagh (after Lynn, 1997c), j) Navan Site B Phase 3, County Armagh (after Waterman, 1997b), k) Carrigillihy Phase 1, County Cork (after Wailes, 1976; 1990), l) Dun Ailinne, Knockaulin, 'Rose' Phase, County Kildare (after Wailes, 1976; 1990), m) Raffin Phase 5, County Meath (after Newman, 1995), n) Ballykinvarga, County Clare (after Harbison, 1971).

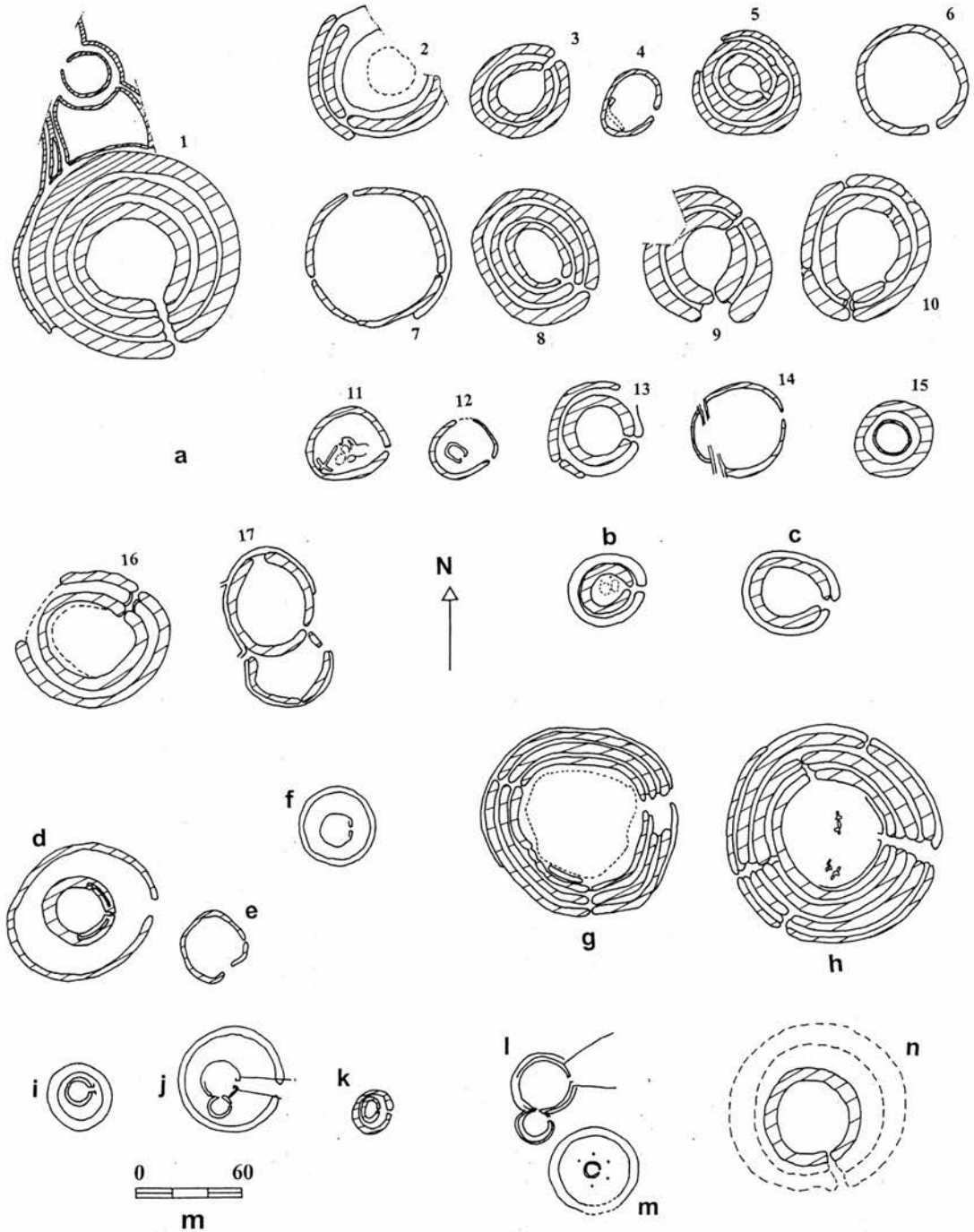


Figure 25: Cashels in Ireland: a) Cahercommaun, County Clare (after Hencken, 1938), b) Drumena, County Down (after Edwards, 1990), c) Grianán na Aileach, County Donegal (after Lacy, 1983), d) Dún Fearbhaí (after Cotter, 1994), e) Dún Chonchúir (after Cotter, 1994), f) Dún Forma (after Cotter, 1994), g) Dúcathair, h) Dún Eoghanachta (after Cotter, 1994), i) Dún Eochla (after Cotter, 1994), j) Dún Aonghasa (after Cotter, 1994).

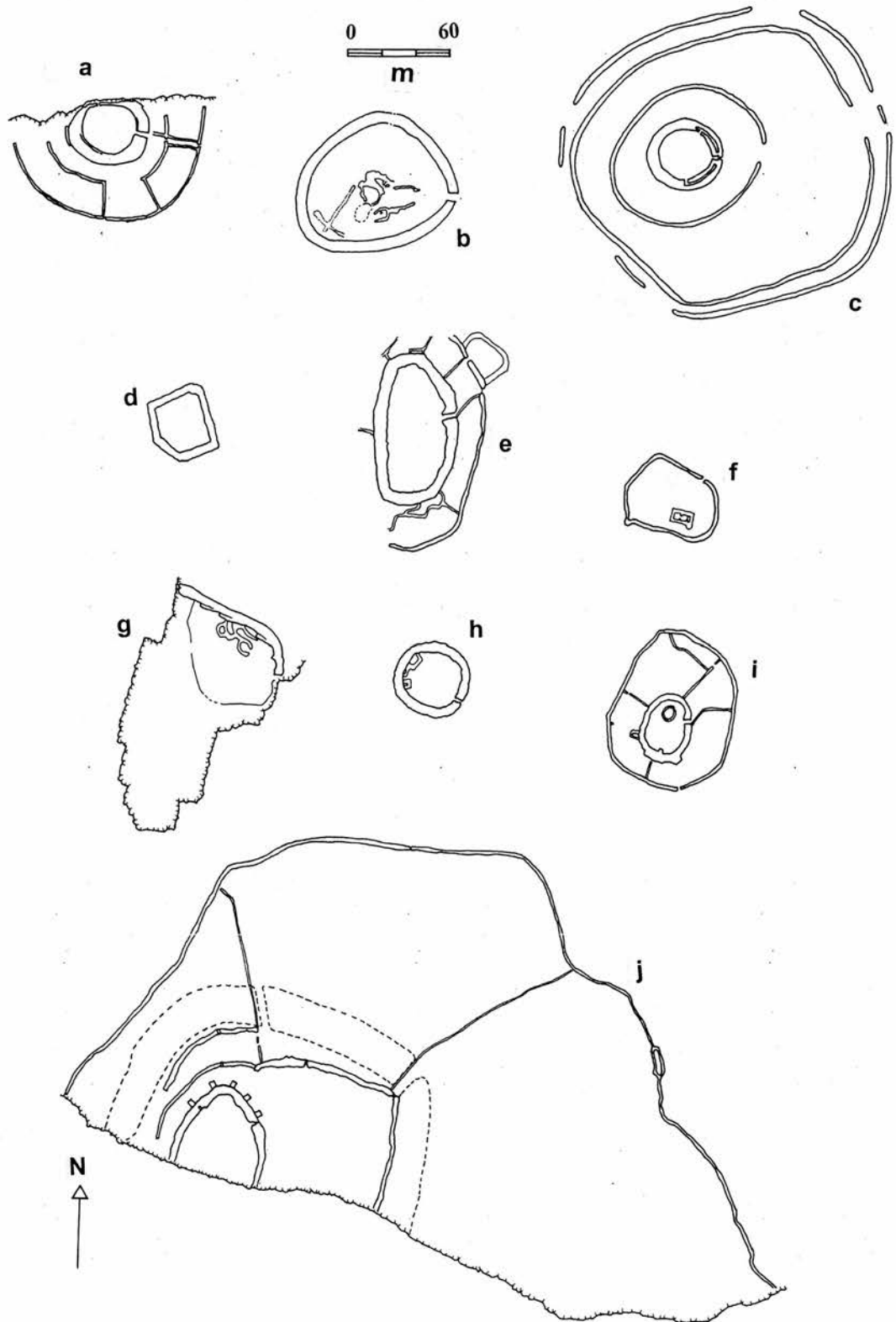


Figure 26: Cashels in Ireland: a) Carraig Aille II Phase 2, Lough Gur, County Limerick (after Ó Riordáin, 1949), b) Carraig Aille II Phase 1, Lough Gur, County Limerick (after Ó Riordáin, 1949), c) Carraig Aille I, Lough Gur, County Limerick (after Ó Riordáin, 1949), d) Cahercommaun, County Clare (after Hencken, 1938).

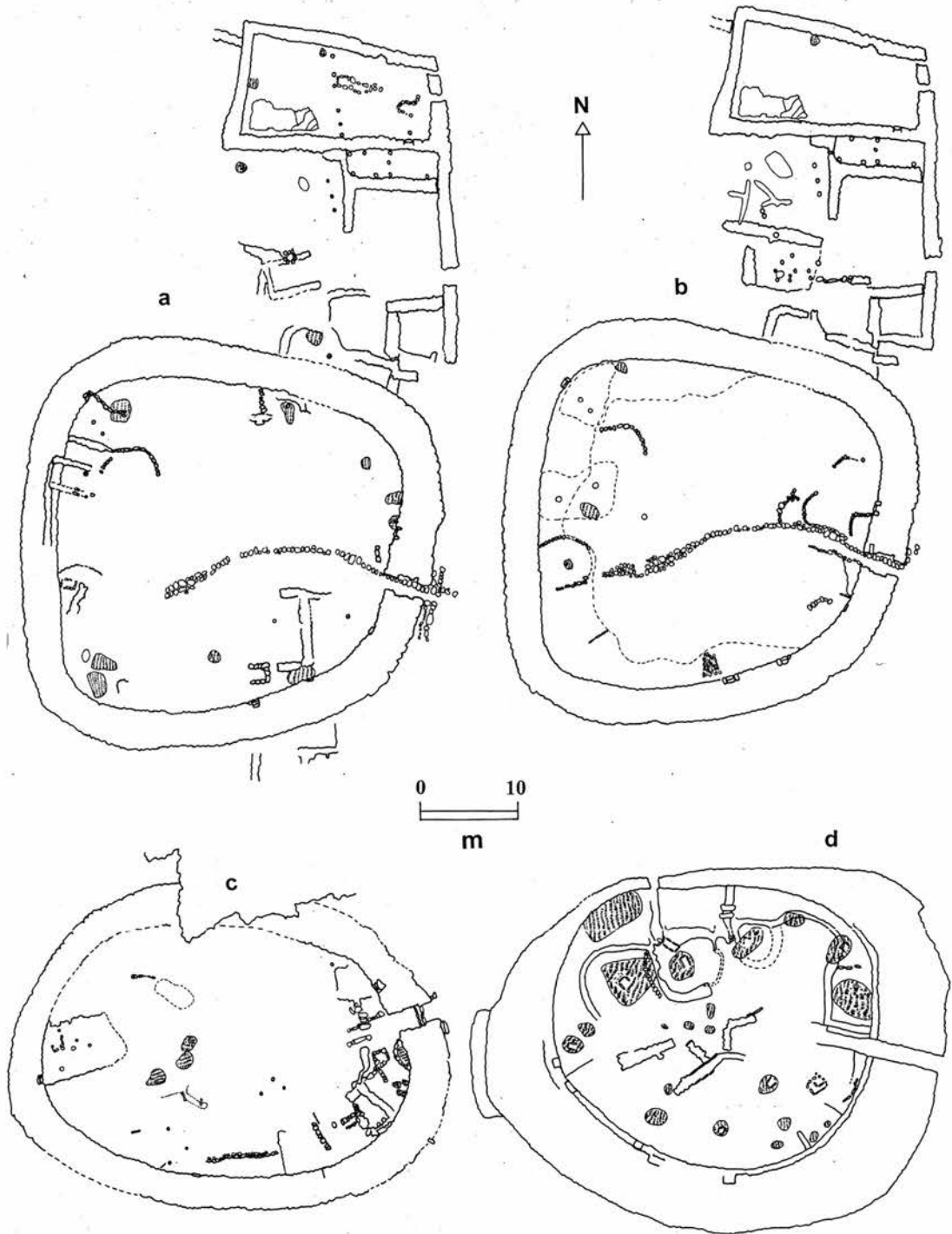


Figure 27: Cashels in County Donegal, Ireland (after Lacy, 1983): a) Annagary, b) Ballymore Lower, c) Dunnarealt Island, d) Cor, e) Lurganbrack, f) Downies, g) Roxborough Glebe.

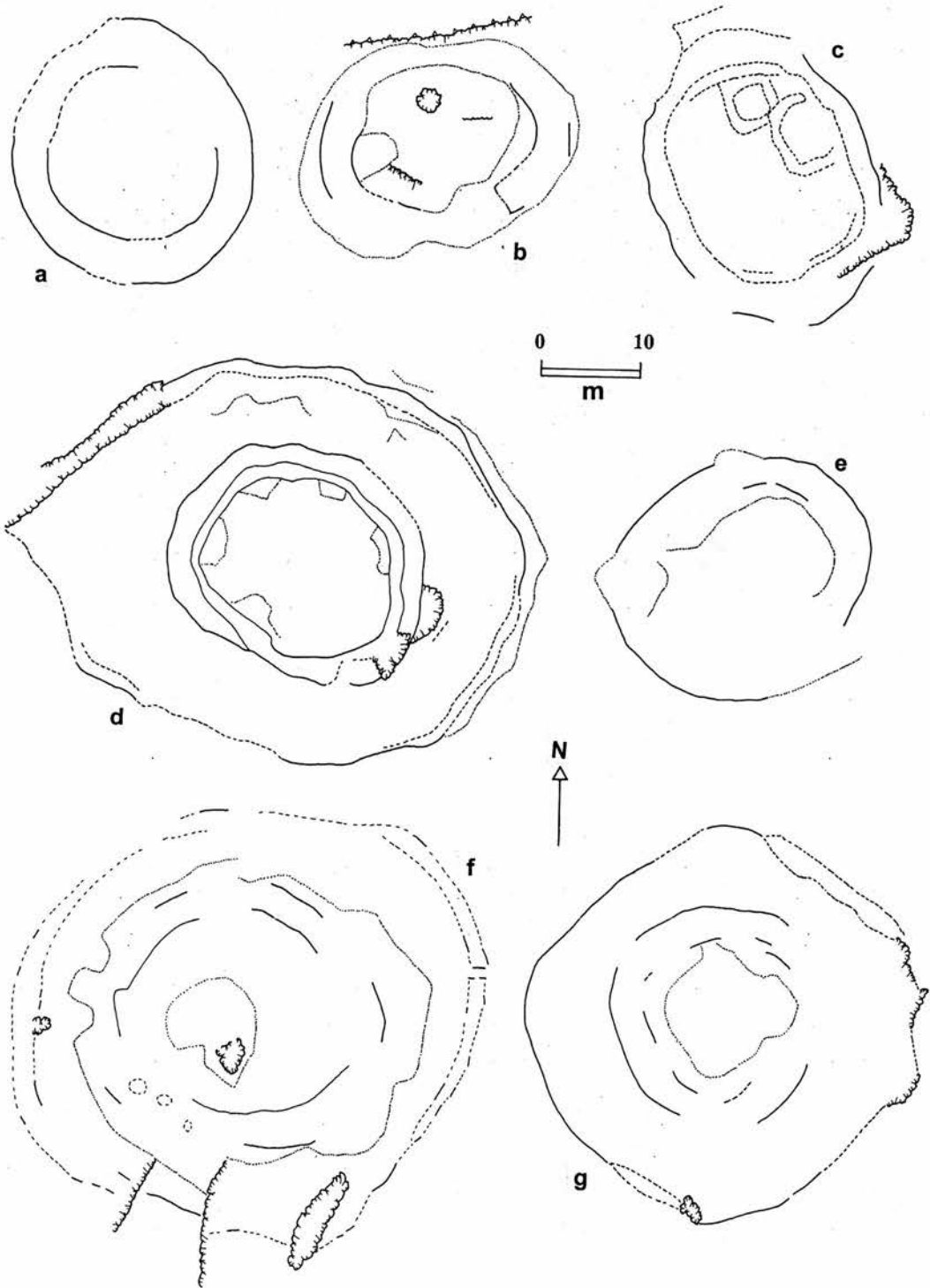


Figure 28: Enclosed sites in Ireland: a) Reask, County Kerry (after Fanning, 1981), b) Cashel-na-Vean, County Donegal (after Avery, 1994a), c) Deer Park Farms, County Antrim (after Lynn, 1988d), d) Lislackagh, County Mayo (after Walsh, 1995), e) Knowth multivallate enclosure, County Meath (after Eogan, 1977), f) Knowth later activity, County Meath (after Eogan, 1977).

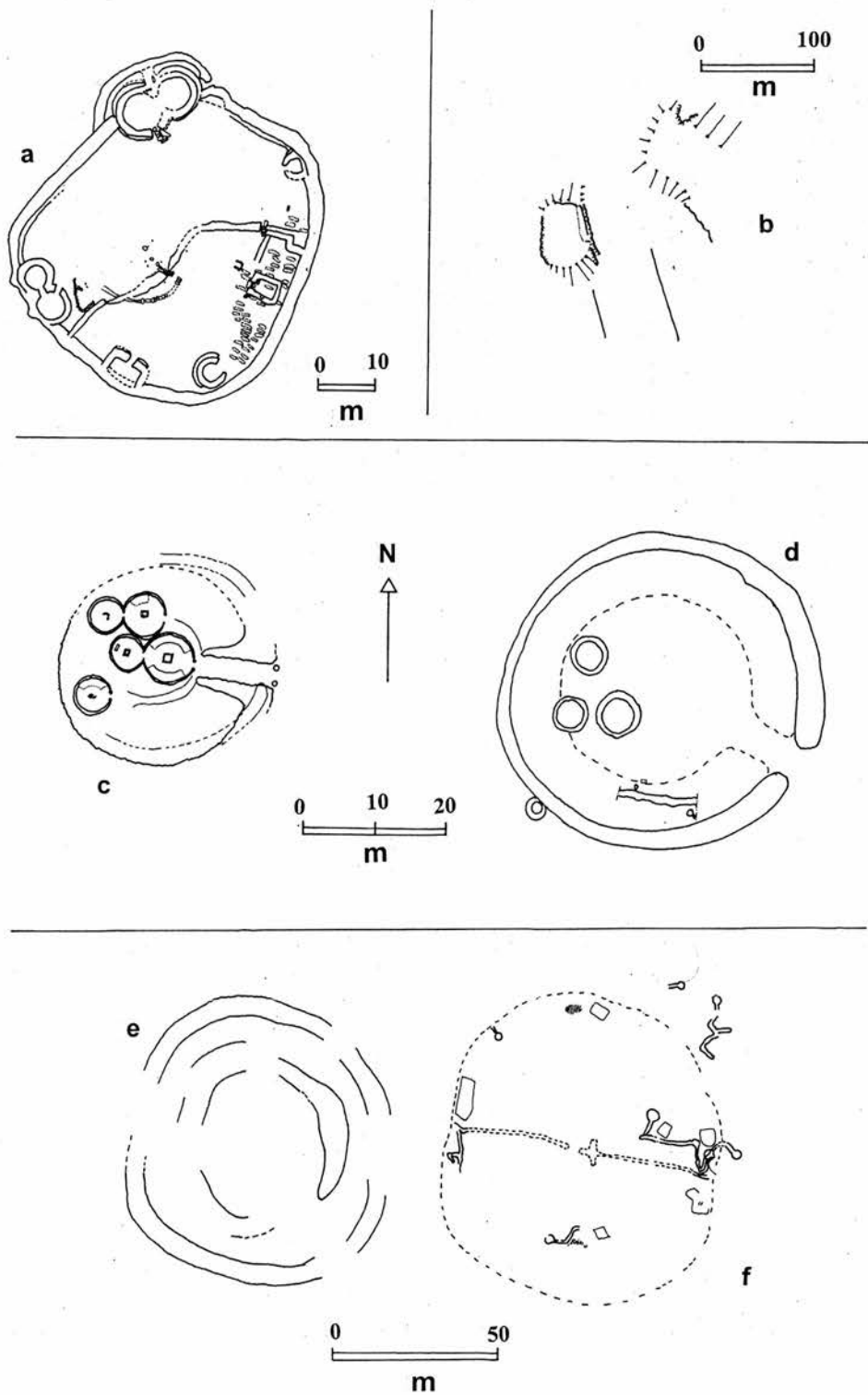


Figure 29: 'Royal' complexes in Ireland: a) Navan Site B Phase 3, County Armagh (after Waterman, 1997b), b) Navan Site B Phase 4, County Armagh (after Lynn, 1997a), c) Dun Ailinne, Knockaulin 'Rose' Phase, County Kildare (after Wailes, 1976; 1990), d) Dun Ailinne, Knockaulin 'Mauve' Phase, County Kildare (after Wailes, 1976; 1990), e) Raffin, County Meath (after Newman, 1995), f) Rathgall, County Wicklow (after Cooney and Grogan, 1991), g) Navan Site A, County Armagh (after Lynn, 1997c), h) Rath of the Synods (Ráith na Seanad), Tara, County Meath (after Ó Riordáin, 1971), i) Tara Complex, County Meath (after Newman, 1995; 1996), j) Dun Ailinne, Knockaulin, County Kildare (after Wailes, 1976), k) Navan, County Armagh (after Waterman, 1997a), l) Rathgall, County Wicklow (after Raftery, 1976).

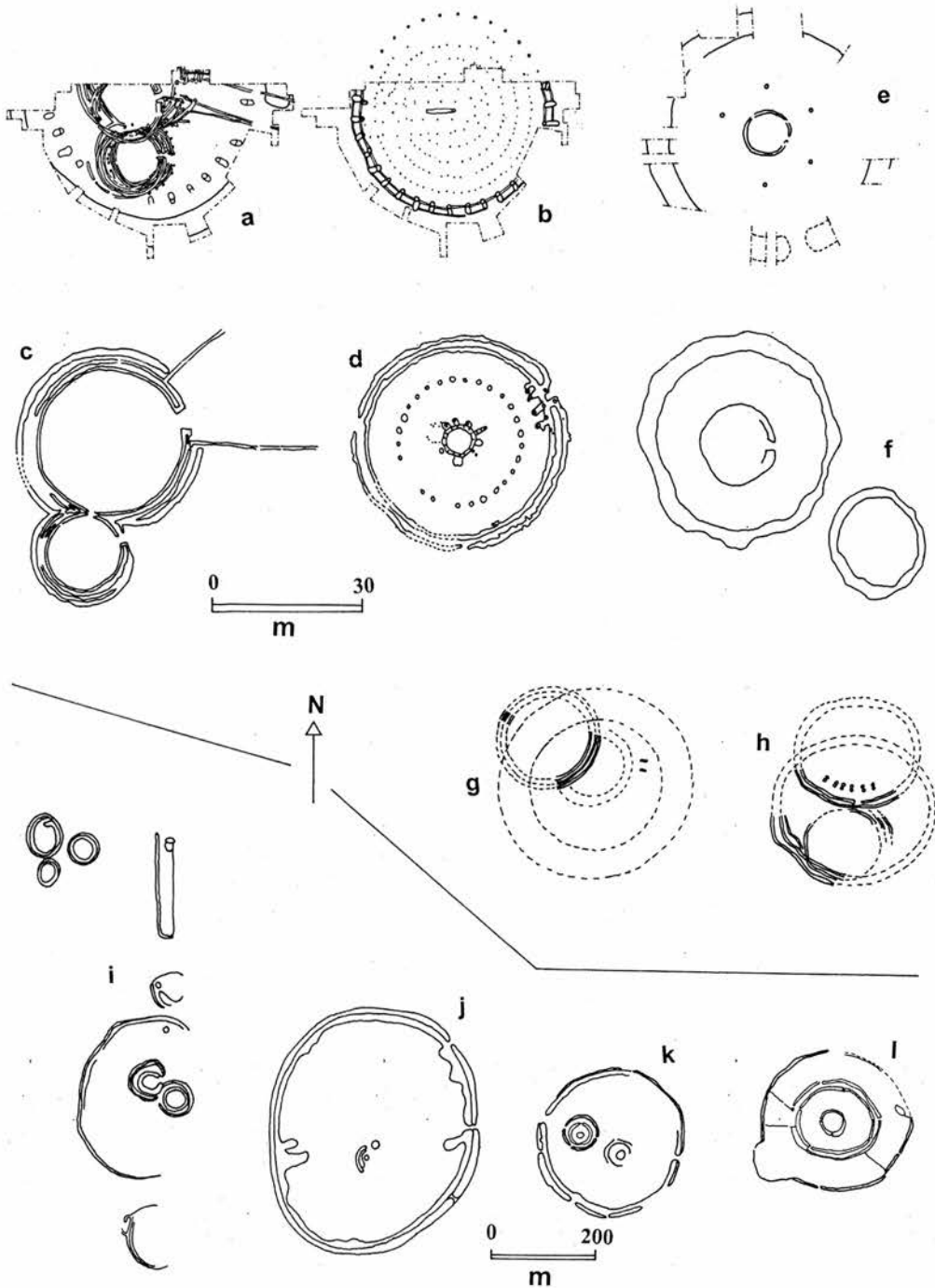


Figure 30: Promontory and other enclosures in Ireland: a) Dunbeg, County Kerry (after Barry, 1981), b) Muckross, County Donegal (after Lacy, 1983), c) Dun Balor, Tory Island, County Donegal (after Lacy, 1983), d) Derrylahan, County Donegal (after Lacy, 1983), e) Largysillagh, County Donegal (after Lacy, 1983), f) The Dorsey, County Armagh (after Lynn, 1992).

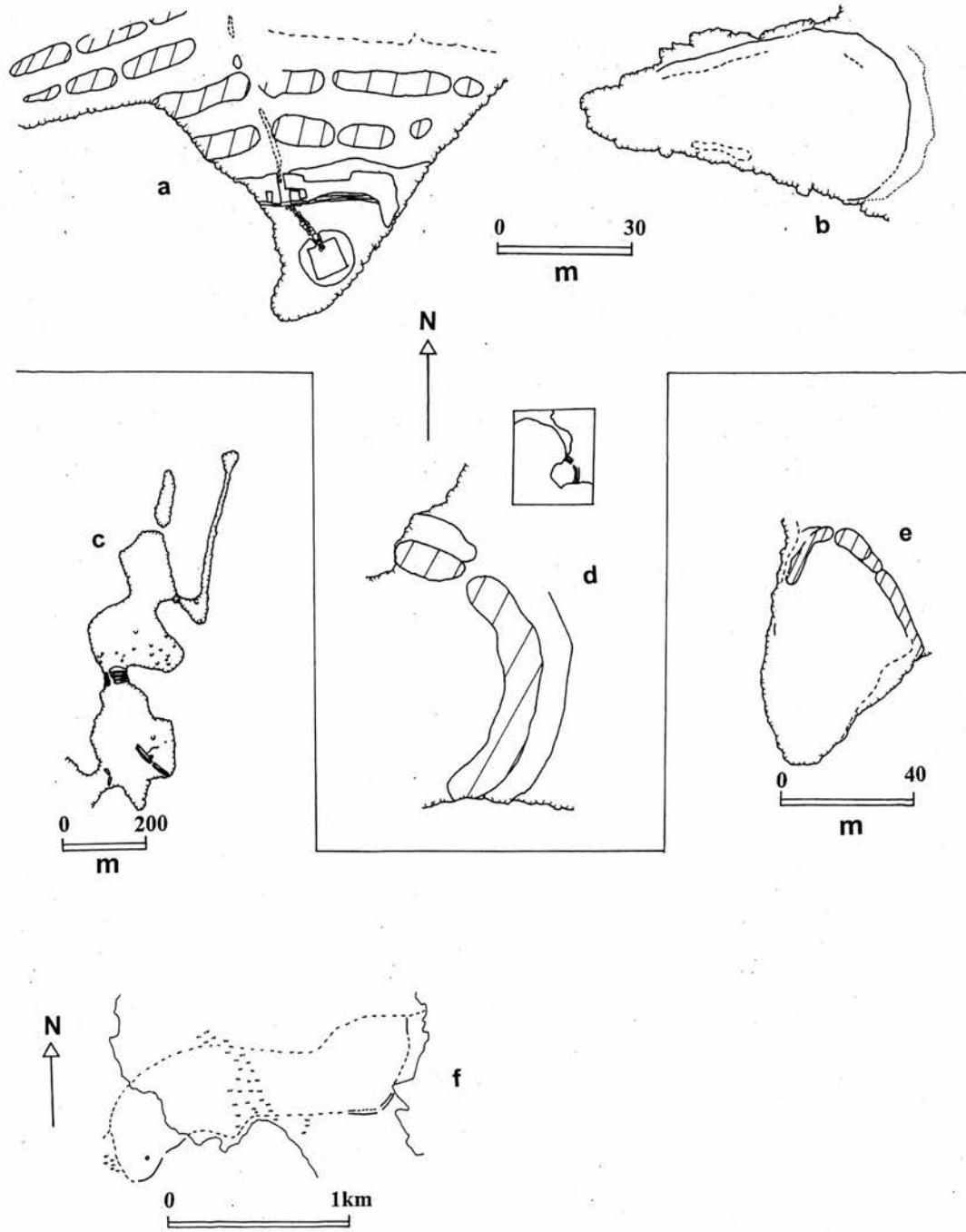


Figure 31: 'Figure-of-eight' cellular structures in Ireland: a) Dressogagh Rath, County Down (after Collins, 1966), b) Deer Park Farms, County Antrim (after Lynn, 1988d), c) Ballnavenooragh, Dingle Peninsula, County Kerry (after Cuppage, 1986), d) Leacanabuaile, County Kerry (after Ó Ríordáin and Foy, 1943), e) Beginish Island, County Kerry (O'Kelly, 1956).

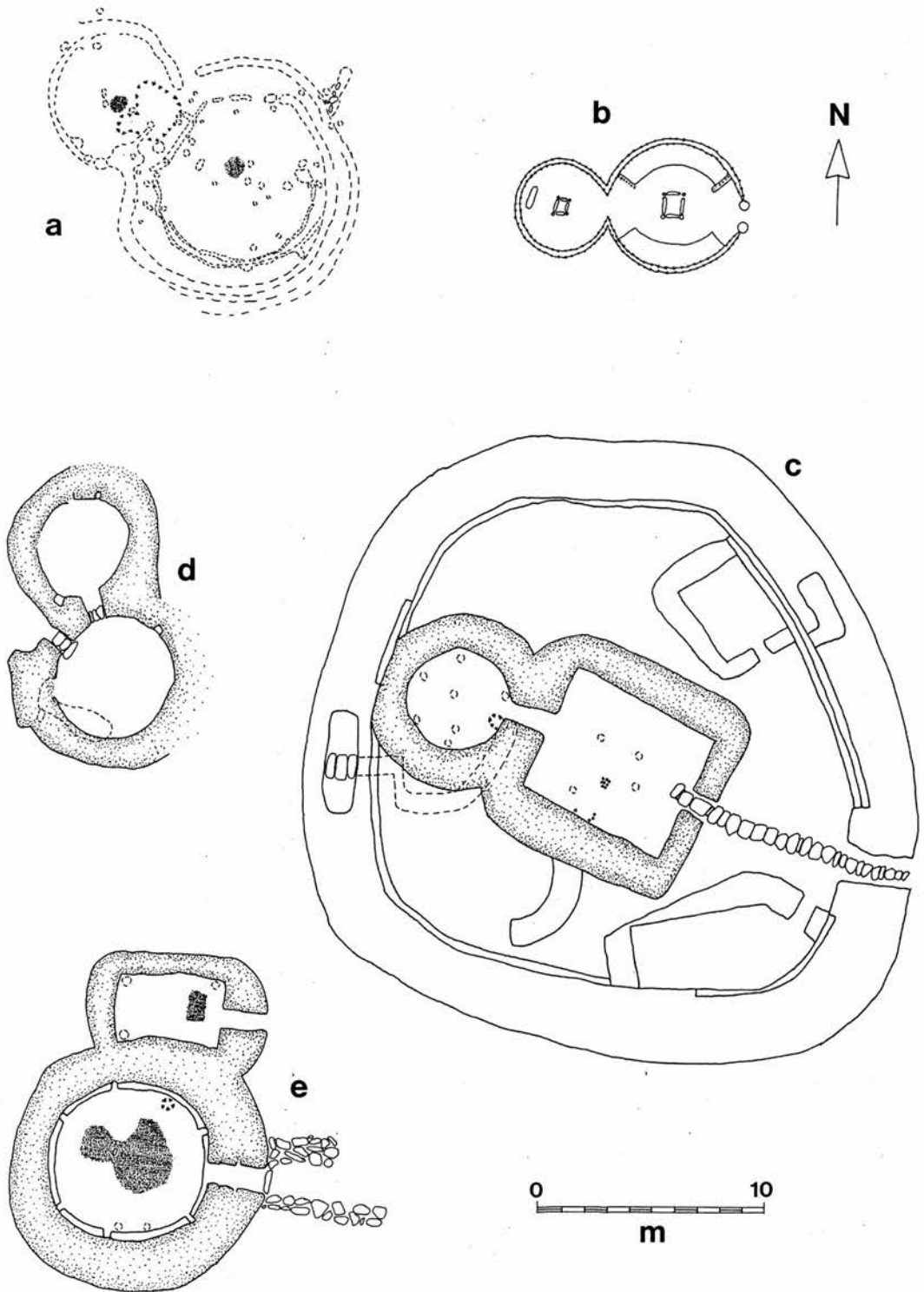


Figure 32: Large enclosed sites in Wales: a) Pen Dinas, Cardigan (after Hogg, 1975), b) Pen-y-Gaer, Caernarvon (after Hogg, 1975), c) Llwyn Bryn-dinas (after Musson et al., 1992), d) Moel y Gaer, Flintshire (after Guilbert, 1976; 1982), e) St David's Head, Pembroke (after Hogg, 1957).

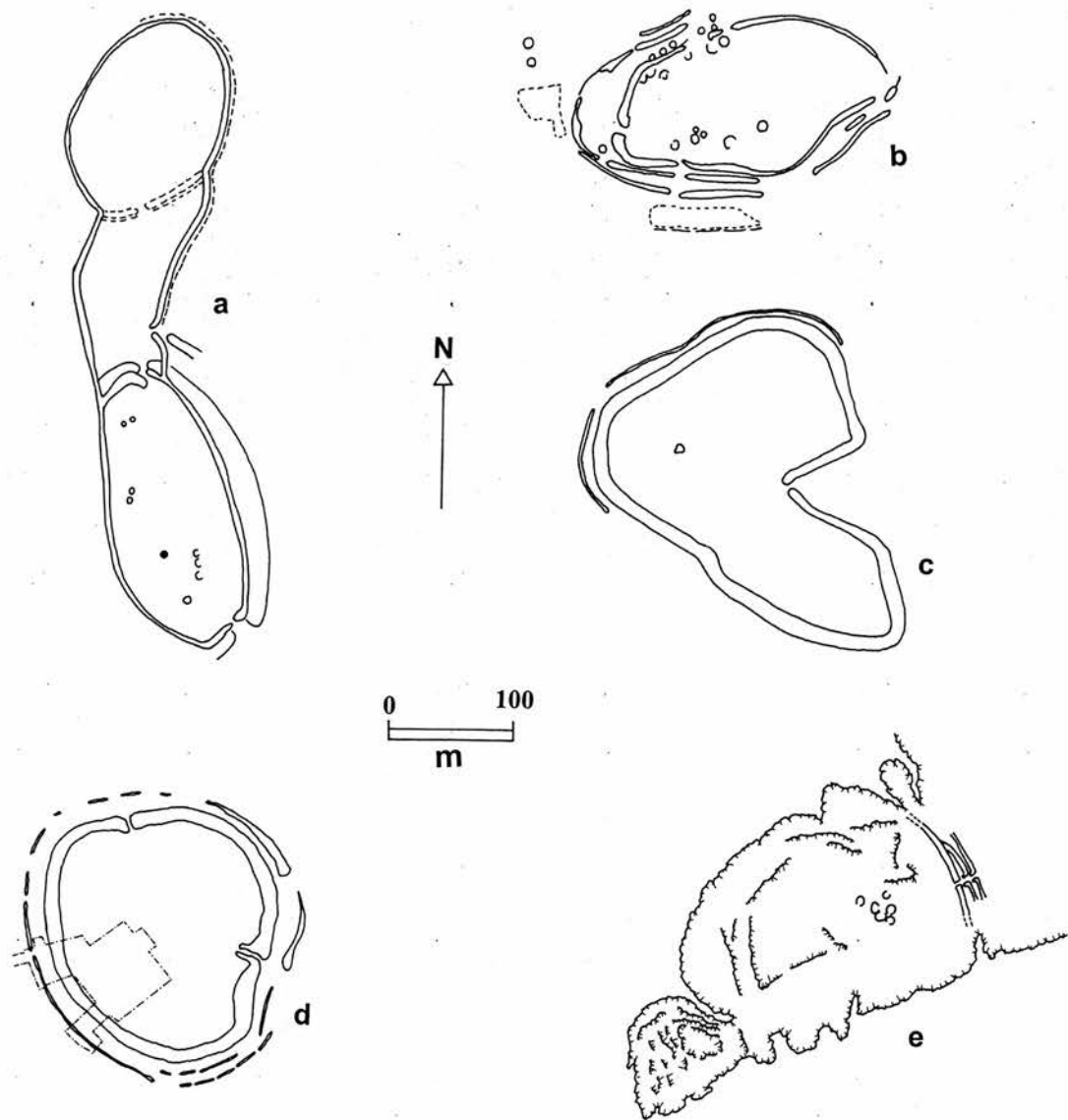


Figure 33: Small enclosed sites in Wales and Dinorben: a) Mynydd Bychan Phase 1 (after Savory, 1954; 1976), b) Mynydd Bychan Phase 2 (after Savory, 1954; 1976), c) Pant y Saer (after Edwards and Lane, 1988), d) Coygan Camp, Carmarthen (after Wainwright, 1967), e) Dinas Powys, Glamorgan (after Alcock, 1963), f) Parc Cynog, Carmarthen (after de Quincey, 1970), g) Dinorben, Denbigh (after Savory, 1971).

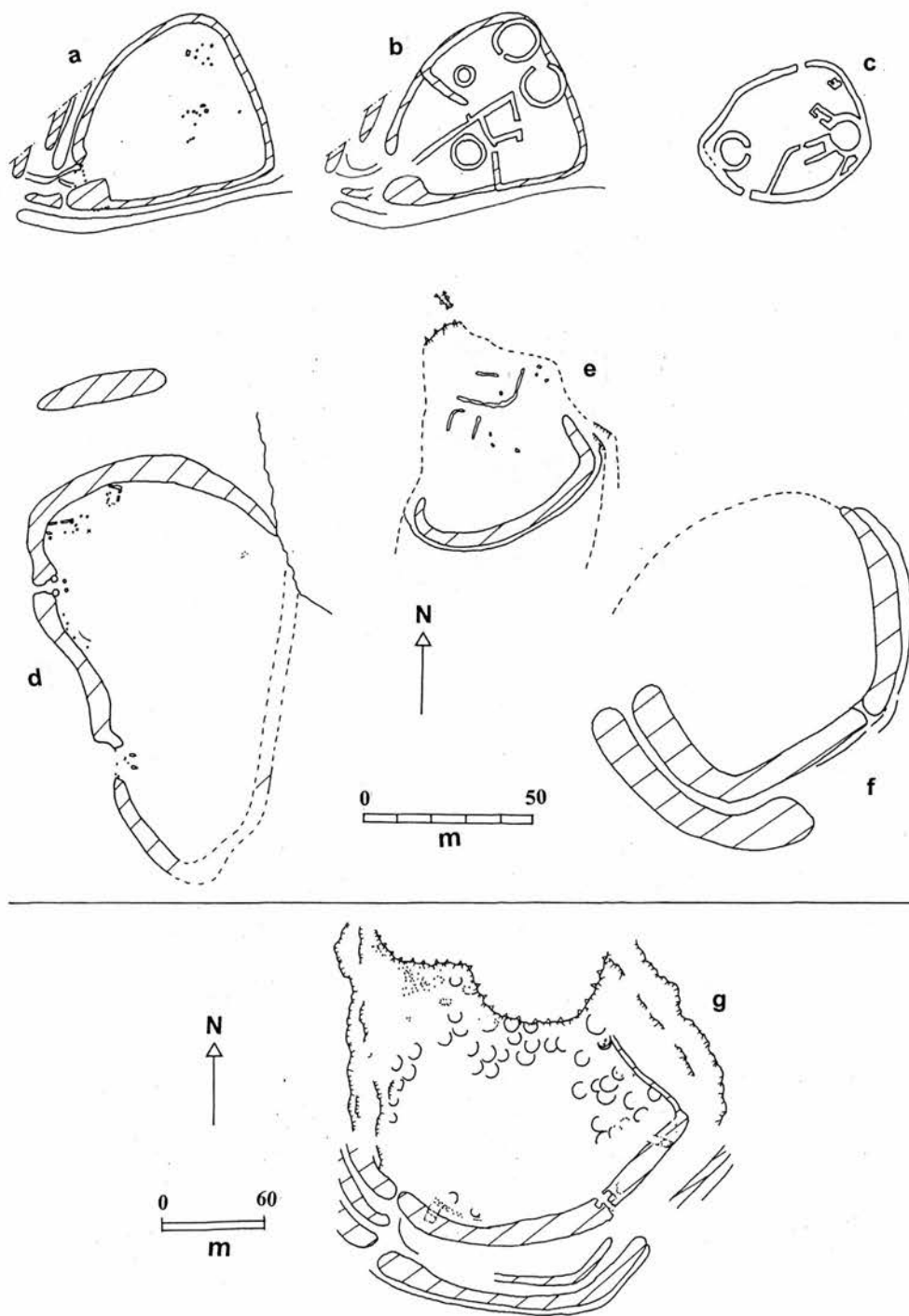


Figure 34: Small enclosed sites in Wales with building plans: a) Walesland Rath, Pembroke (after Wainwright, 1971), b) Drim Camp, Dyfed (after Mytum, 1995), c) Woodside, Dyfed (after Williams, 1988), d) Dan y Coed, Dyfed (after Williams, 1988), e) Collfryn, Powys (after Britnell, 1989).

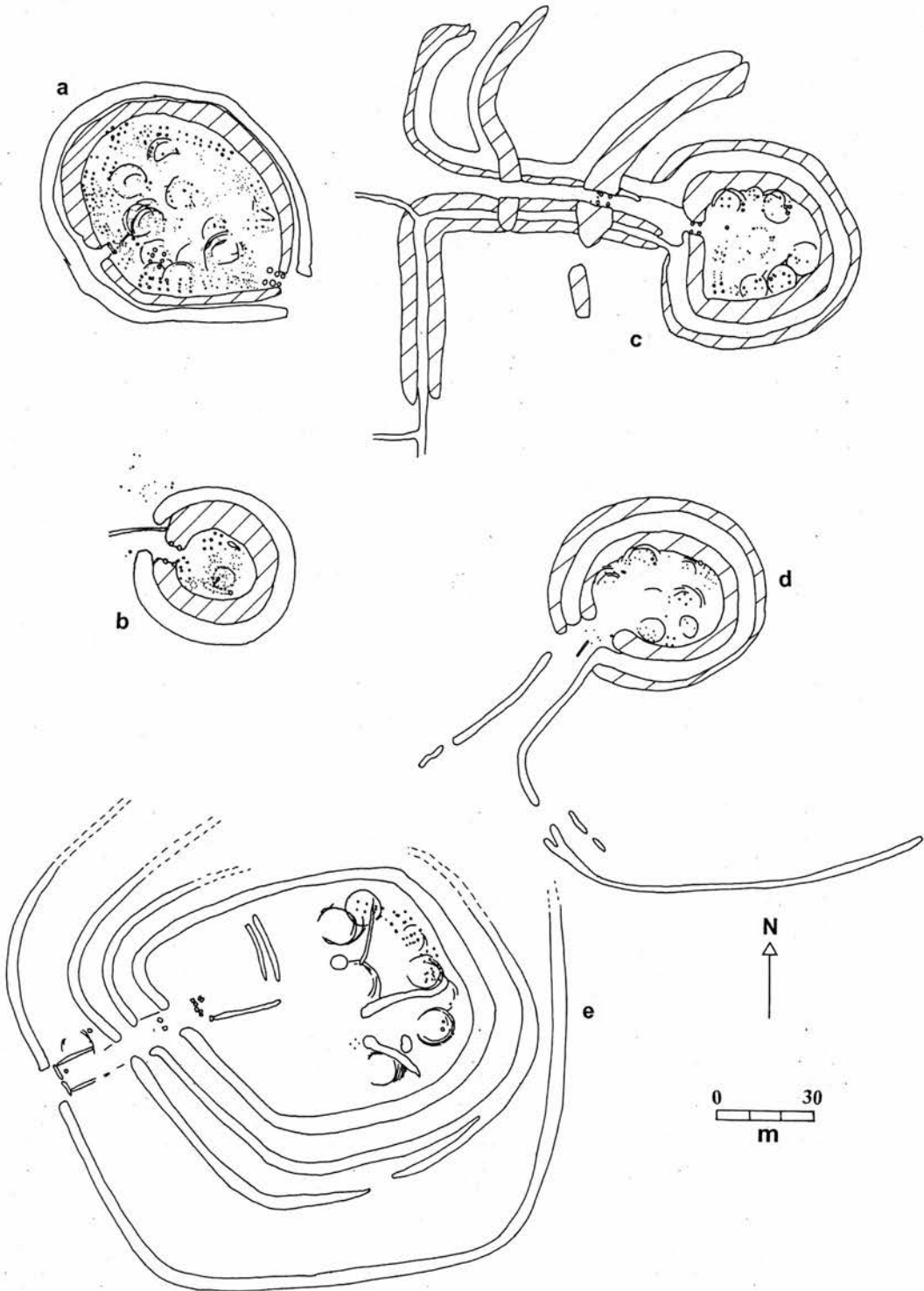


Figure 35: Development of small enclosed site in Wales and south-west Scotland: a) Carronbridge, Dumfries and Galloway (after Johnston, 1994), b) Whitton, Glamorgan, Wales (after Jarrett and Wrathmell, 1981 and Longley, 1998), c) Bryn Eryr, Anglesey, Wales (after Longley, 1998), d) 1.Llwyn-du Bach, 2.Moel y Gerddi, 3.Erw-wen, 4. Llwyn-Bedw (after Kelly, 1988).

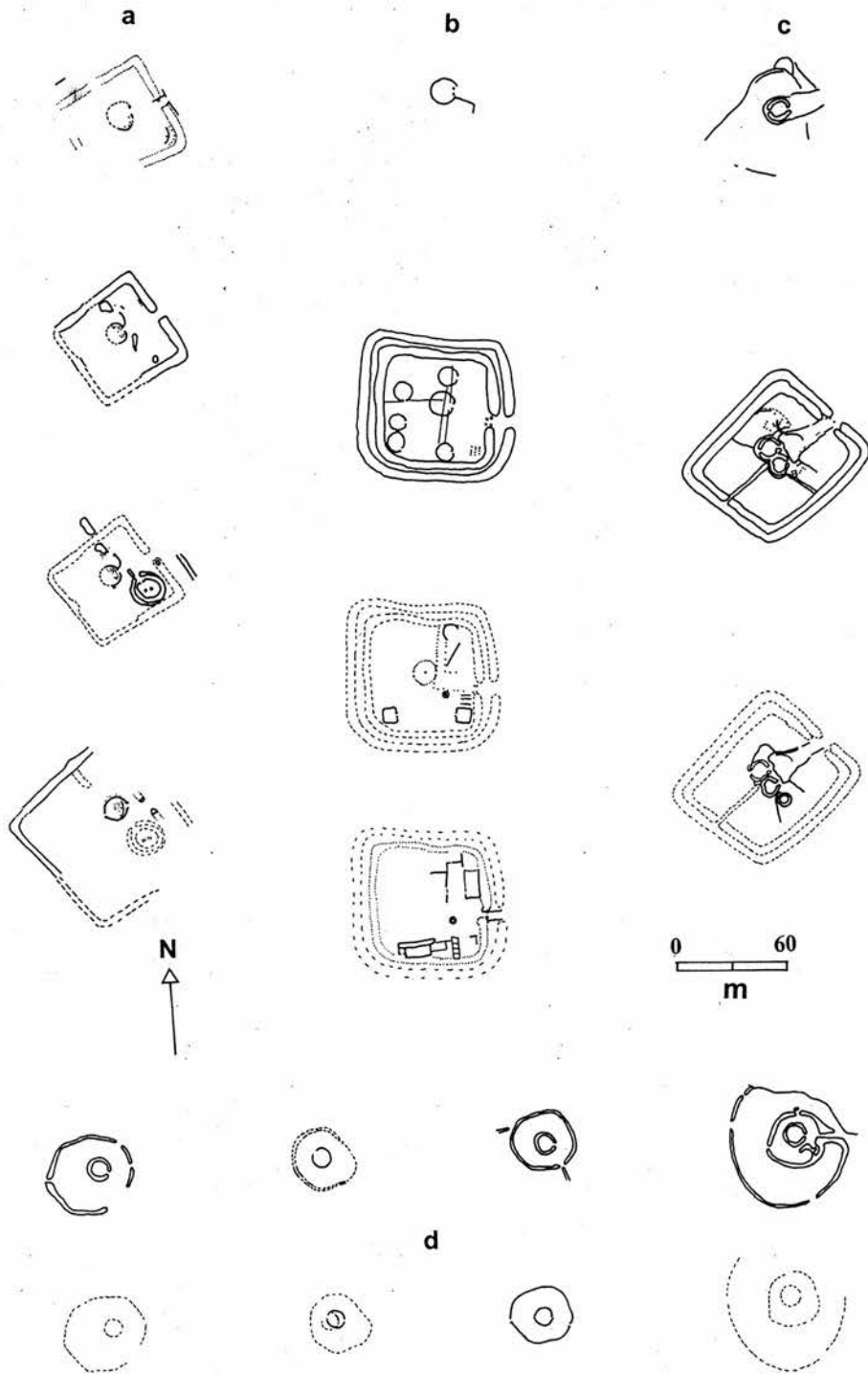


Figure 36: Hierarchically organised settlement in Wales: a) Carn Fadrun, Caernarvon (after Hogg, 1975), b) Garn Boduan, Caernarvon (after Hogg, 1962), c) Conway Mountain, Caernarvon (after Griffiths and Hogg, 1957), d) Dinas Emrys, Caernarvon (after Savory, 1960), e) Tre'r Ceiri, Caernarvon (after Hogg, 1962), f) Hen Gastell, west Glamorgan (after Williamson, 1995), g) Carreg y Llam (after Hogg, 1957), h) Clegyr Boia, Pembroke (after Williams, 1952).

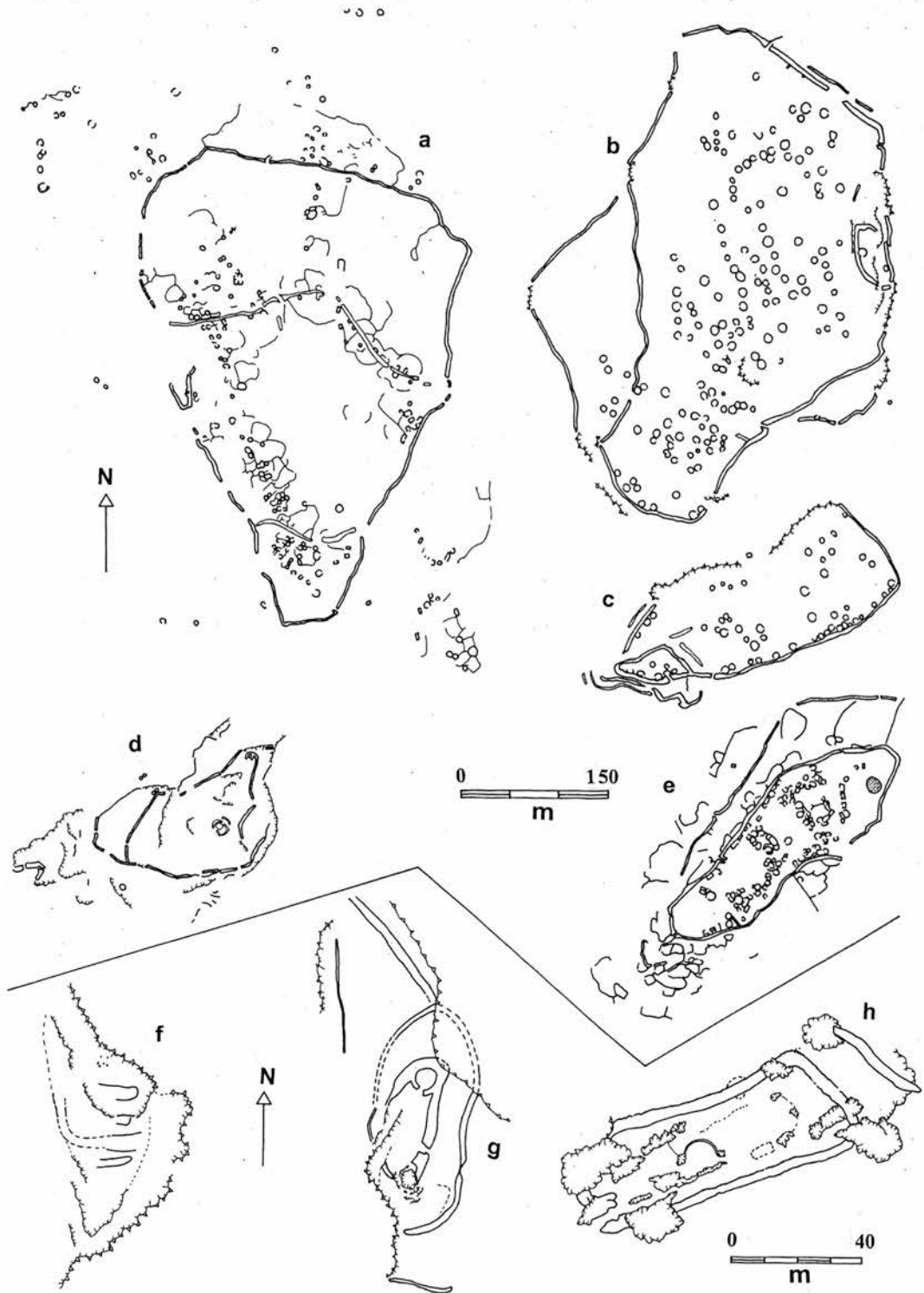


Figure 37: Unenclosed and enclosed sites in Wales and Cornwall: a) Llanllechid, Caernarvon (after Hencken, 1933), b) Carn Euny, Cornwall (after Christie, 1978), c) Chysauster, Cornwall (after Hencken, 1933), d) Chûn Castle, Cornwall (after Leeds, 1927), e) The Breiddin and New Pieces, Powys, Wales (after Musson, 1976), f) Ty Mawr, Anglesey, Wales (after Smith, 1988), g) Goldcliff, Newport, Wales (After Davies, 1995).

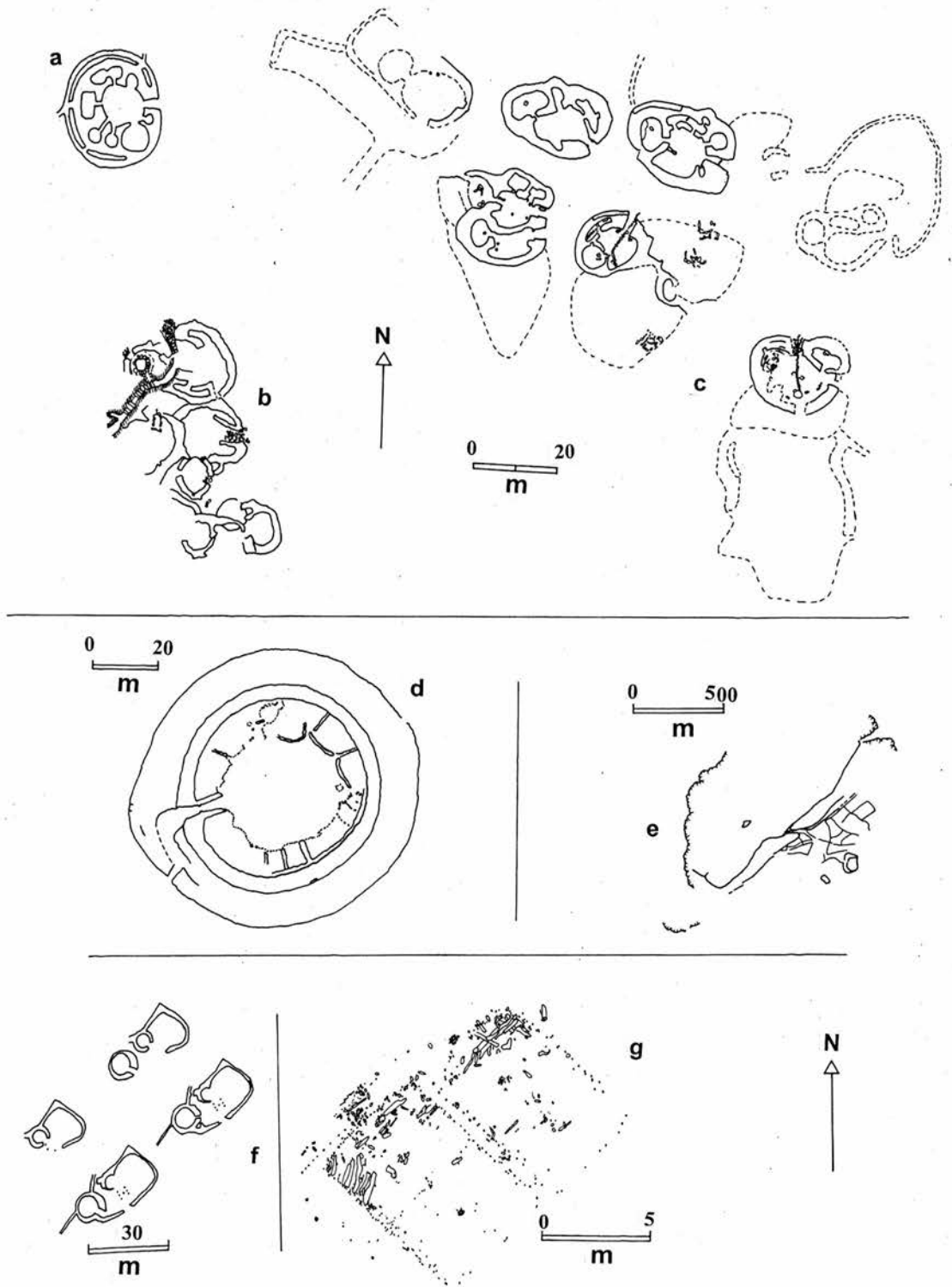


Figure 38: Phased development at Graeanog and Cefn Graeanog II, Wales (Mytum, 1995).

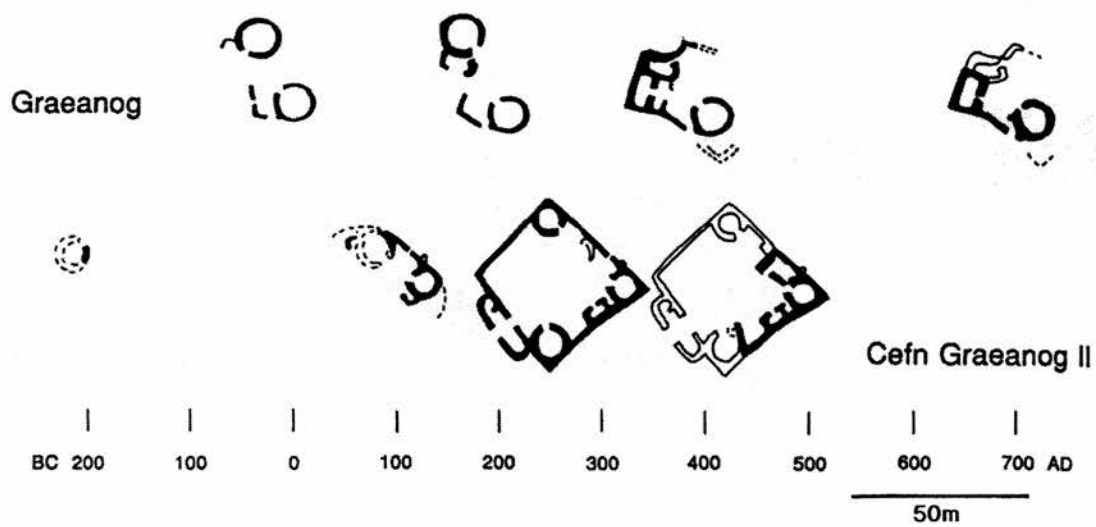


Figure 39: Unenclosed and enclosed settlement in north Wales (RCAHMW, 1964).

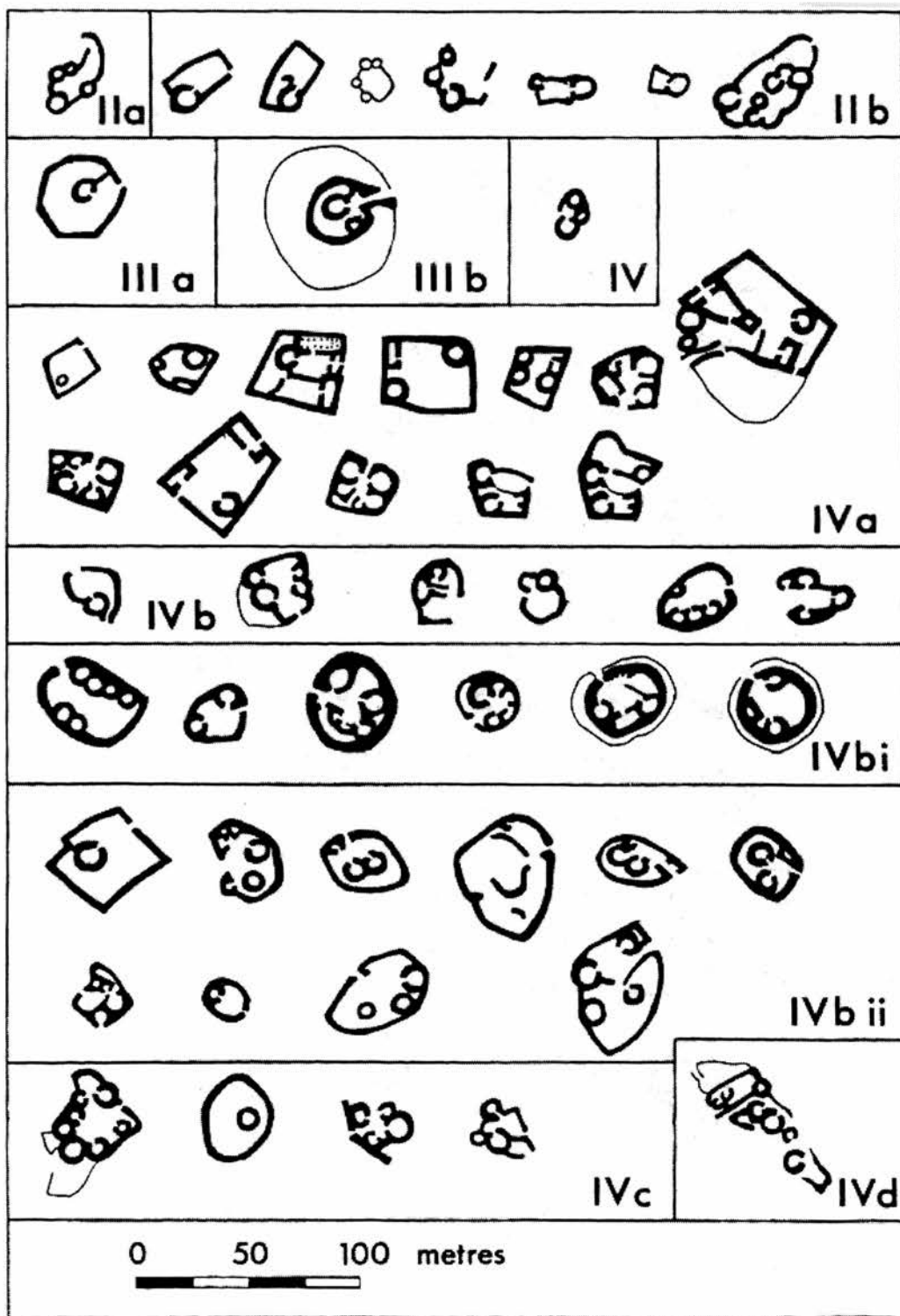


Figure 40: Unenclosed and enclosed settlement in north Wales (Smith, 1974).

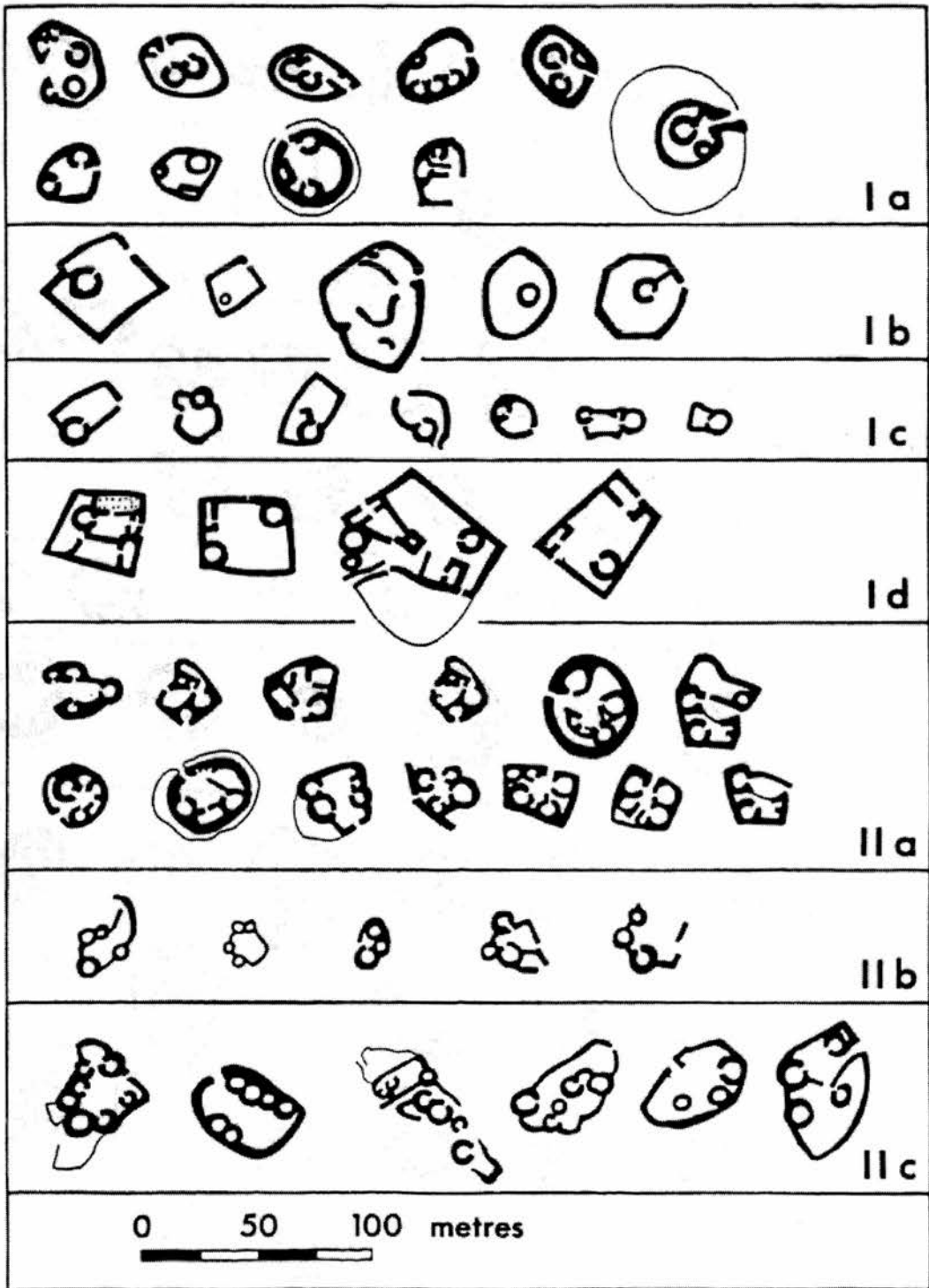


Figure 41: Excavated sites in Cornwall (Johnson and Rose, 1982).

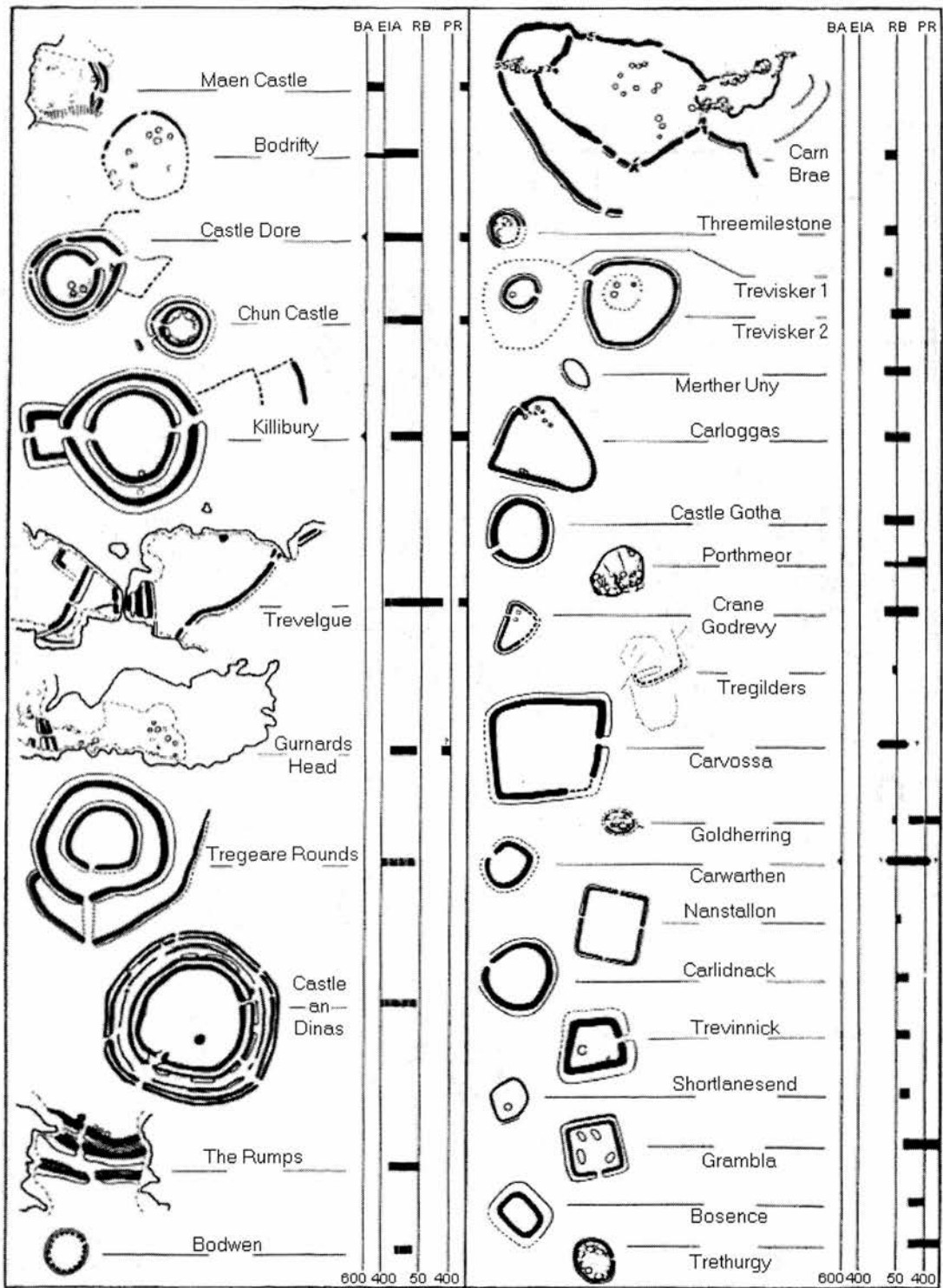


Figure 42: Multivallate promontory enclosures in Cornwall with close-spaced ramparts (Johnson and Rose, 1982) - 1: Redcliff Castle, 2: Treyarnon, 3: Trevelgue, 4: Chynhalls, 5: Gurnard's Head, 6: Penhale, 7: Griffin Point, 8: Treryn Dinas, 9: Maen Castle, 10: Black Head, 11: The Rumps, 12: Park Head, 13: Kenidjack, 14: Crane Castle, 15: Carn les Boel.

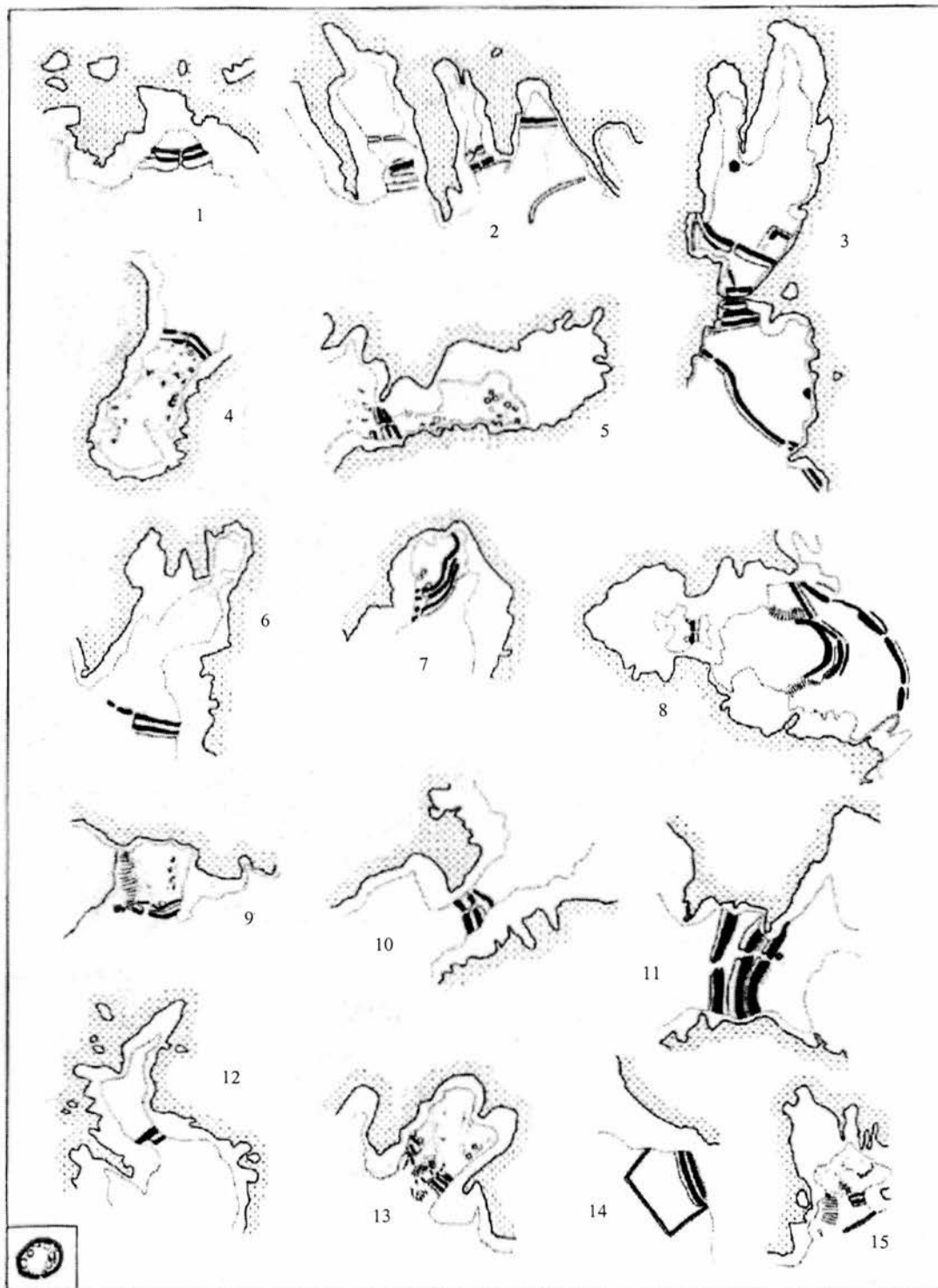


Figure 43: Distribution of aerial photographic sites in south-west England and north-west France (Arbousse-Bastide, 1997).

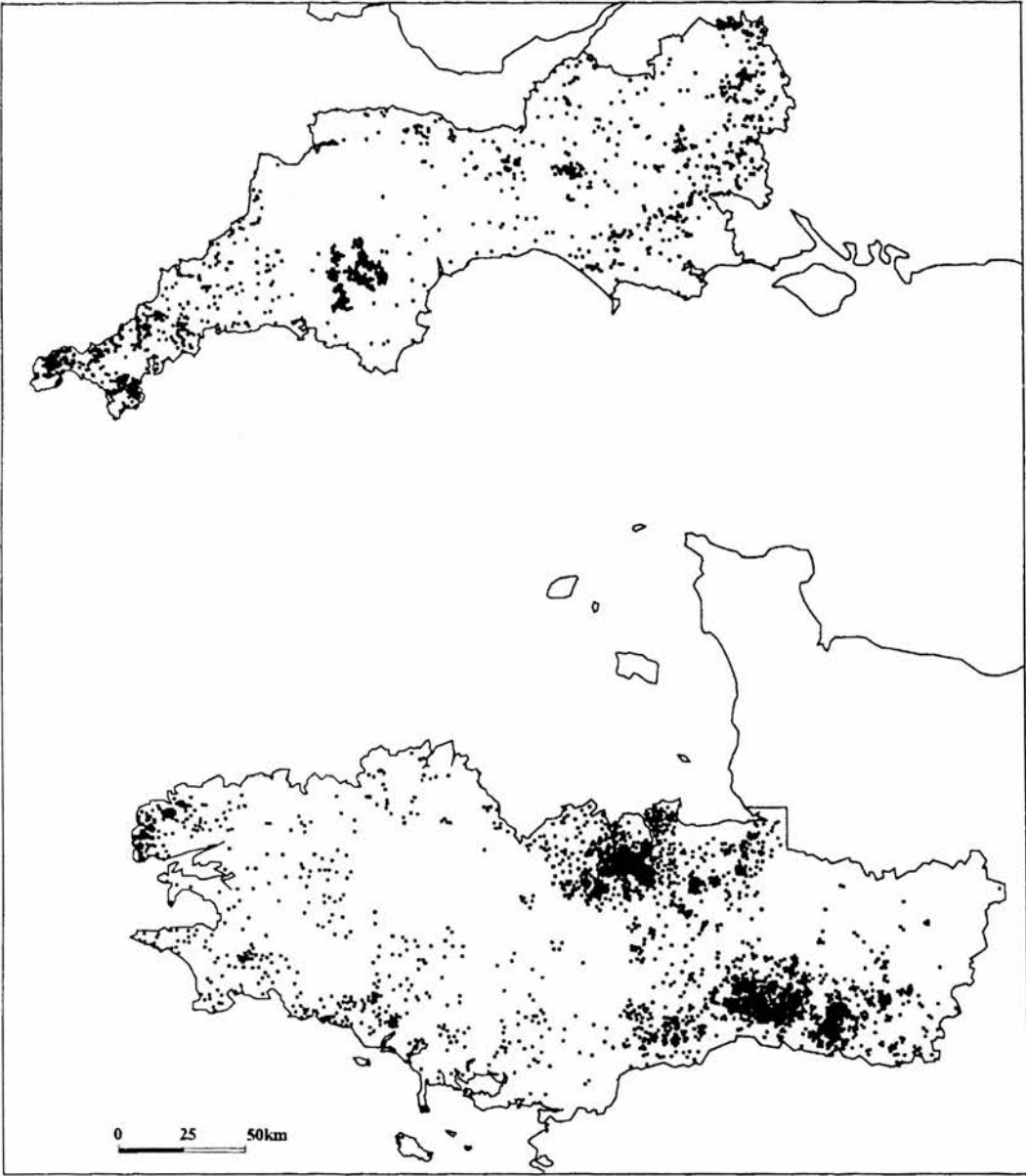


Figure 44: Phased development of 'native farms' at Paule, Camp de Saint-Symphorien (after Menez and Arramond, 1997) and Le Boissanne (after Menez, 1996), Brittany.

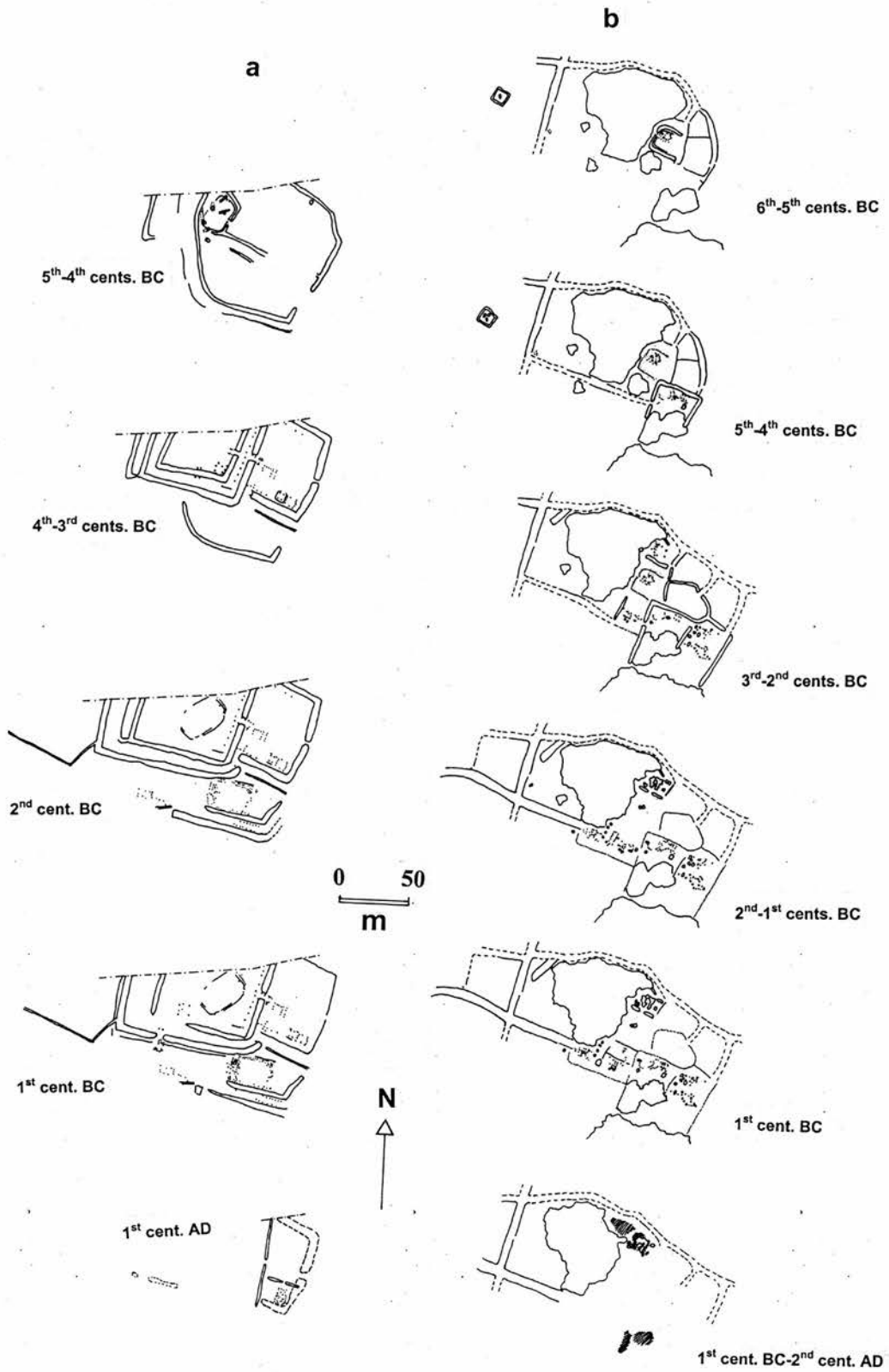


Figure 45: Pottery in Ireland – 1: Navan (Waterman, 1997a), 2: Rathgall (Raftery, 1976), 3: Dunsilly (McNeill, 1994).

