

# FROM PRE-HISTORY TO BRAVEHEART - A MULTI-MEDIA DOCUMENT OF SCOTTISH SETTLEMENTS

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## **Abstract**

*An attempt is made to combine, in this written paper and in the multimedia presentation to the conference participants, an experience of the extra-ordinarily rich early Scottish settlements - of which little is known or understood throughout mainland Europe.*

*The text of the paper is unillustrated and historical in character; the conference presentation will be in multimedia and will discuss how the technology has been used to show and explain the physical development of early communities in Scotland.*

*This paper provides an historical context in which the paper on Skara Brae can be put in a context of settlement in some of the most northerly parts of our European continent.*

## **Introduction**

Modern Scotland comprises that part of Britain which lies to the North of the Cheviot Hills. It is an area that possesses complex landforms and geomorphology, to the extent that variety of scenery is one of Scotland's greatest natural assets.

There are strong contrasts between the east and west coast, but the basic divisions of the mainland of Scotland are the geological fault-lines which run southwest-northeast. The division is following:

- SOUTHERN UPLANDS
- CENTRAL LOWLANDS
- HIGHLANDS
- HEBRIDEAN ISLANDS (OFF THE WEST COAST)
- NORTHERN ISLES (ORKNEY AND SHETLAND).

## **Historical Development of Landscape**

The end of the Ice Age with its accompanying rise in temperature brought considerable changes in flora and fauna. Open grasslands were replaced by dense woodland, and reindeer were replaced by red deer and wild cattle. This was the environment encountered by the earliest human visitors to Scotland, and it was initially exploited as hunting grounds and latterly adjusted by forest clearance to meet the needs of farming communities.

Coastal pastures were very attractive to animal and human communities; good grass, seaweed and light soils for easy cultivation, together with exploitation of the sea as a food resource, accounts for concentration of human settlements in such areas.

Favourite inland environments from **Mesolithic** times onwards were river valleys, for ease of movement as well as for their hunting and fishing potential. The development of mixed farming in Neolithic times made the fertile soils of such areas as Orkney, Aberdeenshire, Angus and Central Perthshire attractive to settlers.

In early times, the combination of Highland terrain, dense woodland and boggy moorlands made internal communication very difficult and the sea remained the primary means of access. For this reason, the early colonisation of Scotland and subsequent movements of people, artefacts and ideas tend to follow **two main routes**: up the east coast from England or from north-west Europe, and a west coast route from Ireland or western England.

### **Prehistoric Settlements and their Natural Habitat**

The great variety of the natural habitats, the interplay of sea, mountain, river and forest, provided many different environments for the hunting - gathering - fishing communities who made their way into Scotland from the south from about 7000 BC.

The coast of the west offered calm fjords and sheltered bays with good fishing, a rich shoreline and a forested hinterland with abundant deer and boar. Skilled navigation and sturdy skin boats would be necessary for some sea crossings but sea travel would be the highway to many hunting grounds.

### **Neolithic Settlements**

The best known of the Scottish Neolithic settlements is Skara Brae in Orkney but there are others and Skara Brae is not the earliest among them. Traces have been found of only a dozen or so settlements in Scotland, datable to the third and fourth millennia BC and in most cases their surviving record is very incomplete; none can claim to be typical in terms of house plans and building tradition.

The best preserved sites are the three Orcadian settlements at **Skara Brae, Rinyo and Knap of Howar**, where the houses were not only built of stone, but also, in the case of Skara Brae and Knap of Howar, were enveloped in a protective covering of sand soon after their abandonment. Their walls stand to a height of 2m and more, and the architectural details thus preserved mirror the sophisticated stone-work of many chambered tombs.

Some recent excavations in Kincardineshire (north-east of Scotland) revealed existence of a timber long-house dated to around 3600 BC which is similar to timber long-houses from early Neolithic settlements in Holland and Germany. This evidence supports the possibility that rectangular timber-built houses may have existed elsewhere, particularly in the forest areas of north-east Scotland.

### **Knap of Howar (fourth millennium BC)**

Knap of Howar lies, at the present day, on the west coast of the very fertile island of Papa Westray, but to judge by the molluscan and soil evidence, at the time of its occupation in the **later fourth millennium BC** the site lay not directly on the coastline but well back from the sea, behind the sand-dunes.

The two houses are rectilinear with rounded ends, in plan-form, totally unlike the houses at Skara Brae and Rinyo. Internally, house 1 measures about 9.5m by 4.5m, and house 2 measures about 7.5m by 3.0m. Both are divided internally into two and three rooms respectively by upright stone slabs. House 2 appears to have been designed as a storage and working unit, with cupboards lining the westernmost of the three rooms and specialised working tools concentrated in the central room where hearth lay.

Although no trace survived of the roofs of the two houses, it is likely that here, as at Skara Brae, the inner stone wall-facing was corbelled inwards slightly, and a timber framed roof, perhaps supporting stone flags or simply turf, rested on the wall-tops. The discovery of tilting slabs inside one of the houses at Rinyo suggests the use there of a flagstone roof. The two houses are connected by a low passage through their conjoining walls.

### **Skara Brae** (Late Neolithic Settlement 3100 - 2500 BC)

On the west coast of the mainland of Orkney there is a large sheltered bay known as **Skail Bay**. Constant erosion of the sand-dunes behind the bay led, after a particularly violent storm around 1850, to the discovery of the Neolithic settlement of Skara Brae. This site has become one of Britain's most famous archaeological monuments.

The settlement was occupied over a period between about **3100 BC and 2500 BC**. During that period, individual houses were built, dismantled, rebuilt or modified, in a continuous sequence of occupation. Like Knap of Howar, Skara Brae was not originally as close to the seashore as it is today. Little structural trace survives of the earliest settlement which was built partly on sand-dunes and partly on bare rock. At least six new houses were built on top of this early level and, although they in turn were dismantled to floor level to make room for later houses, their ground plans survive in part. They were **square or rectilinear, one-room houses** with central hearths and flanking bed alcoves built into the walls.

The best preserved houses are those of the later phase of the settlement, which were inhabited just before the site was abandoned and blanketed with sand. It was this wind-blown sand, together with the habit of allowing domestic rubbish to accumulate around the houses, that preserved the site so well. The later houses and passage-ways survive virtually intact to eaves-level. There is a remarkable uniformity about these houses.

The Basic house in its final form is a one-room, single-storey model, built to last, with walls 2m thick. It measures between about 4m and 7m internally, with a central kerbed hearth and a slab-built box-bed against the wall on either side (projecting into the room rather than recessed into the walls as in the earlier houses).

### **Late Neolithic Domestic Architecture**

Aisled roundhouses and wheelhouses are structurally closely related forms of stone-built house: both are circular and both have radiating piers of masonry that help to support the roof and divide up the perimeter of the house floor area into cubicles. In the aisled roundhouse, the piers are free-standing, creating an aisle round the inner perimeter of the house, whereas the piers in a wheelhouse project from the outer wall like the spokes of a wheel.

A **wheelhouse** is so described because it resembles a wheel in plan: circular, with a central hearth and the periphery of the interior subdivided by radial piers of stone-work. In some cases, there is a gap between the piers and the house-wall, and this type is sometimes known as an **aisled roundhouse**, though the aisle is rarely wide enough to be negotiable. The primary function of the piers must be connected with roof support, though the bays that they created were no doubt useful for storage and perhaps sleeping accommodation. The bays appear to have been roofed over in some cases by overlapping stone slabs, and, in the aisled type of house, the piers were bonded into the outer wall by lintels at the same level. There were two methods of building the outer wall, either a thick free-standing structure or an inner face built as a revetment against the sand into which the floor of the house had been sunk.

### **Historical Introduction to Brochs** (Iron Age)

The centuries between about 900 BC and 500 BC saw novel and far reaching changes in the prehistoric lifestyle of Scotland, as elsewhere in the British Isles. The Scottish bronze industry expanded, adopting new techniques and producing new types of weapon and tool, and the appearance of exotic imports such as beaten bronze vessels from continental Europe implies the existence of a wealthy and extrovert home market.

The fact that so much bronze-work was deliberately buried and not recovered indicates considerable social unrest, and it is against this background that the first defensive forts appear in the sixth or seventh centuries BC. The distribution of locally manufactured bronze swords and spearheads coincides with that of the early forts with which they were contemporary. Settlements and home-steads enclosed by timber palisades also appear at this time.

Towards **500 BC**, the establishment of an iron industry was under way, and the acceptance of iron as a proper material for tools and weapons must gradually have made an enormous impact upon everyday domestic life. We have to assume that a new language, the **P-Celtic Gallo-Brittonic** language, was introduced into Scotland around the middle of the first millennium BC, but there is no direct evidence as to how or exactly when this happened; it was certainly well established before the advent of the Romans. The introduction of a new language ought to involve physical immigration of new settlers, in this case Celts, but their number need not be large.

### **Brochs (100 BC - 100 AD)**

By about **100 BC**, a new and unique type of fortification had evolved in Scotland: the Broch. almost five hundred brochs have been recorded, mostly in the far north of mainland Scotland and in the Northern isles but also in western Scotland and the Hebrides, and they are entirely a Scottish phenomenon.

Broch are essentially dry-stone towers, and there is a considerable degree of uniformity in their designs and construction. Despite their wide geographical distribution, that must in part reflect the short chronological span of some two hundred years during which they were built. It has also been suggested that they were erected by travelling professional engineers.

Brochs are circular with a tapering profile that is reminiscent of a modern cooling-tower, and they are characterised by the height and massive thickness of their walls and by their peculiar hollow-wall construction. This characteristic hollow wall of the broch was achieved by building an inner and an outer casement wall bonded together by horizontal stone slabs or lintels which in effect created a series of superimposed galleries within the wall. A stairway led clockwise up through these galleries, presumably to the wall-top. A single entrance at or just above ground level was the sole aperture in the broch wall, and the wall-top must have provided a vital look-out point.

This hollow-wall construction must have been designed to lighten the wall and, together with the thickness of the wall, it allowed the broch to be built to considerable height. The vertical openings in the interior wall-face played a dual role in helping to lessen the weight of the structure and in allowing air and light into the staircase.

A protruding ledge or scarcements running round the interior of the broch at a height of between 1.5m and 3.3m is likely to have carried a timber gallery, supported by vertical wooden posts for which a range of post-holes has been found in several recent excavations. At Mousa there is a second scarcements at a height of 9m and 4m respectively, which probably supported a roof over the gallery, and it is likely that other brochs were originally built with such upper scarcements. This timber gallery and the intramural cells commonly found at ground level represent living accommodation and the floor of the broch was furnished with a central hearth and sometimes storage tanks.

The question of how brochs were roofed is unlikely ever to be resolved, as there is no direct evidence; an overall roof at wall-top level would be impractical for several reasons, including stress on the walls, vulnerability to winds and scarcity of suitable timber to span the diameter of the broch. Whatever form the roof took, it is likely to have rested on the upper scarcement.

The only weak point in the defence of a broch was its entrance, but the length of the entrance passage through the thick broch wall made it a narrow and easily defended tunnel. Checks and bar-hole for a massive wooden door occur at varying distances along the entrance passages, and in a few brochs there were two doors.

### **Broch at Jarlshof**

Less than half the broch at **Jarlshof** (on Shetlands) survives, the rest having been destroyed by coastal erosion, but originally this was a solid-based broch with two or more cells within the wall at ground level, and it measured about 19m in overall diameter. An unusual external feature is a walled courtyard attached to rather than encircling the broch; no structural features were found within the surviving area of the enclosure.

An aisled roundhouse was later inserted into one end of the enclosure, and the wall of the latter is thought to have been robbed of stone to build accommodation. This in turn was demolished to build two wheelhouses, bringing the history of the settlement into the mid-first millennium AD.

The Jarlshof excavations were thus useful in providing evidence for the post-broch sequence of settlement, but the hiatus in the stratigraphy of the site immediately preceding the construction of the broch meant that there was no information about the social environment into which the broch had been introduced.

## Broch of Mousa

The Broch of Mousa in Shetlands survives to a height of 13m and must originally have reached a height of 15m or more, and its wall occupies no less than 64% of the overall diameter of 15.2m. It is the embodiment of the romantic ideal of a broch - a stark tower set against a rocky seascape, human endeavour dominating both time and the elements. Mousa is the best preserved of all surviving brochs, and it may well be the most extreme example both in height and proportions.

The broch stands on a low rocky headland on the west side of the island of Mousa; on the mainland opposite is the broch of Burray, and the pair of them seem to loom like sentinels over the southern entry into Mousa Sound. At a **height of just over 13m**, the tower must be almost complete, lacking perhaps another metre above the present wall-head; its diameter is about **15m at the base**, tapering elegantly to about **12m at the top**.

The solid base of the wall is immensely thick, so that the entrance passage is very long and the interior only 6m across. There no guard-cells opening off the passage, but there are three large cells within the wall entered originally from the broch interior just above ground level, though their entrances are now on a level with later structures built inside the tower - indeed the layout of the interior is almost entirely secondary to the broch, and represents a wheelhouse inserted in perhaps the 3rd or 4th century AD.

Two ledges projecting from the internal wall face of the tower represent the floor and roof heights of an original timber gallery, at which level, reached now by a stone stair but perhaps originally by a ladder, there is an entrance leading to the stairway inside the broch-wall. It is still possible to climb this stair up to the top of the tower, and it is an experience that not only gives some impression of what it must have been like to live in such a broch but also allows a fuller appreciation of how the hollow wall of the broch was built. At the top, there is now a safety grill across the interior of the broch, but it is thought that originally the tower would be open down to the roof of the timber gallery with the wall top taking the form of a parapet.

The Roman army with its war machines was probably the only force capable of successful attack on a broch. That the broch of Mousa was built to last may be gauged from saga references to two occasions in the Viking age when the tower, then some eight or nine hundred years old, was used as a refuge. Brochs were normally sited with an eye to natural strength, and in the Hebrides and western Sutherland additional defences are rare.

Elsewhere in northern Scotland and especially in Orkney and Shetland, however, outlying defences are common and often elaborate, taking the form of outer walls or ramparts. The fact that the causeway through the outer defences is often aligned with the entrance into the broch suggests that prestige rather than practical defence may have been a dominant factor.

## Broch of Gurness

At Gurness in Orkney, the broch was circled by three stone-faced ramparts and ditches. Gurness has the most extensive and well-preserved domestic buildings surrounding the broch to be seen anywhere in Scotland, and these make this monument a most fascinating place to visit.

Coastal erosion has destroyed the northernmost part of the site, but the outer defences of the broch, a wide band of three ramparts and three ditches, originally encircled the broch completely, with an entrance causeway still surviving on the east side. The broch itself was almost certainly built as a tall tower, but its walls have been much reduced in height, probably as a source of building stone; it has a solid wall-base, with cells within the wall on either side of the entrance. The layout on the ground floor has been complicated by later modifications, but the original design included a well-constructed rectangular hearth and steps leading down to a subterranean water-tank fed by a spring, both of which still survive.

Surrounding the broch and filling the entire space available within the outer defences is a marvellous series of semi-detached houses, which, it has been estimated, might have been the homes of some 30-40 families. The construction of these buildings takes every advantage of the available stone, using large upright slabs as well as horizontal drystone masonry. Although secondary in the overall sequence of building, it is thought that these houses were inhabited contemporary with the use of the broch - their arrangement neatly respects the pathway leading from the broch out through the ramparts and ditches.

### **Round Houses in Highlands and Lowlands**

Whilst the duns, brochs and hillforts are the most obvious features of prehistoric settlement, across much of the country settlement took the form of groups of unenclosed round houses. These survive in large numbers in areas which are marginal to modern agriculture and which, since the abandonment of the sites themselves, have been given over to pasture. The houses now survive only as stone foundations, and we cannot be entirely certain of the nature of their superstructures, or even if the walls stood to any height at all. However, stone or turf are the most obvious and likely building materials. The houses, usually occurring in groups, are normally accompanied by clearance cairns, that is heaps of stone collected together when the ground was first cleared for farming activity - either cultivation or grazing. Often entire prehistoric farming landscapes are preserved, as at Pitcarmick, Perthshire, in the south-eastern highlands.

But it would be a mistake to think that such landscapes all belonged to one period. They have built up over time and may even represent phases of occupation interspersed with periods of abandonment. Round houses such as those at Pitcarmick have been shown to span the period from the late 2nd millennium BC to the mid 1st millennium AD, and the cairns may often be much earlier in date.

Similar settlement forms occurred across the lowlands, though they have not survived above ground and are only located now as cropmarks on air photographs. Often the lowland round houses were accompanied by underground storage chambers known as souterrains, visible as dark tongue-like marks on the air photographs.

In the south-east of Scotland the situation is rather different, and generally settlement is enclosed by ditches and earthen banks which would have been capped by timber stockades. At Braidwood, just a few miles to the south of Edinburgh, a light covering of snow picks out the timber houses. Whilst sites like Braidwood are clearly the settlements of more than one household, there were settlements comprising a single timber round-house enclosed within a timber stockade and which probably represent just a single household. Unfortunately their slighter nature has left them more vulnerable to destruction by later agriculture.

These settlements were all abandoned at the latest by the early centuries of the first millennium AD, and whilst many were re-used in the middle ages we have no evidence of continuity, and there was clearly a long period of abandonment. Typical re-occupation of a prehistoric settlement is seen at Milnholm in Dumfriesshire, the medieval buildings have been constructed on the upper lip of the prehistoric settlement which then became a farmyard.

Pitcarmick is one of the few sites where we can say that there was possibly some continuity of occupation, though even here the evidence is ambiguous. Found interspersed amongst the groups of roundhouses are long subrectangular buildings, often with bowed sides and round ends. Usually one end is slightly hollowed out suggesting that it served as a byre for cattle. Recent excavation of one of the houses has confirmed this and revealed a domestic hearth at the other end. The buildings at Pitcarmick are in fact early long houses, where animals and humans lived under the same roof. It has been suggested that they are likely to date to the end of the first millennium AD, but we still await the radio carbon dates. If such a date does

result then the gap between hut circles, which we can bring as far as the mid first millennium AD, and later rectangular buildings will be closing, though the question of *why the change?* remains unanswered!

## Fermtouns

A third element in the Pitcarmick landscape makes it clear that permanent settlement there had been abandoned by the high middle ages. The third element are shieling huts, the temporary dwellings of herdsmen (and women) bringing the cattle from more low-lying settlements to what had then become summer pasture. Easter Bleaton, also in highland Perthshire, is typical of just such a settlement, a classic Scottish fermtoun.

The **fermtoun** characterises settlement across most of Scotland throughout the middle ages and up to the 18th century, in some areas even later. The fermtoun was a community of joint tenants holding the land from the laird on leases often less than five years. The settlements varied in size though a toun with perhaps four tenants was common. In addition there would be the houses of landless labourers who might often be craftsmen, and cottagers who worked for the wealthier tenants and had a small plot for growing vegetables and the rights to graze one or two cows on the common land.

Every toun or farming unit was made up of the settlement, its infield where crops were regularly grown on a regular rotational basis, its outfield which was used for occasional crops, and its pasture which was often moorland grazing shared with adjacent communities. There might also be remoter hill pastures, like Pitcarmick, where each year in early summer the cattle were taken to graze.

**Easter Bleaton** occupies the most common settlement location, at the interface, between arable fields and pasture. The settlement often sits on the edge of the poorer ground and has survived destruction by modern agriculture, though its fields have now become neat, regular modern fields still ploughed. The houses appear as irregular clusters, though it is sometimes possible to identify discreet units which may be the farmsteads of individual tenants.

It is possible to identify four groups on the fermtoun of **Boyken**, in the hills of Dumfriesshire, otherwise the settlement is remarkably similar in most respects to Easter Bleaton. It occupies the same pivotal position in relationship to its arable and pasture, and again its arable fields have been rationalised into the fields of the modern farm. There are, however, differences in the buildings themselves. It is clear from the amount of rubble associated with the Easter Bleaton Buildings that they were of drystone construction, whereas little stone is visible at Boyken where the buildings were probably constructed of turf on a foundation course of stone. Seventeenth century travellers' accounts of the area describe such buildings. Evident at Boyken is a tradition, local to that part of Dumfriesshire, of erecting the buildings upon artificially constructed platforms set end-on to the slope. This is probably an attempt to provide drainage in what is documented as one of the wettest valleys in Scotland.

Of course not all settlements were of the size of Easter Bleaton or Boyken, and the landscape of Scotland before the middle of the 18th century was a mixture of settlements of various sizes, with only very few reaching the status of villages as we understand them. The Scottish hills are, in fact, littered with an enormous number of much smaller individual farmsteads, perhaps comprising just one or two buildings, as at Todholes in Kincardineshire, or at the nearby Shank of Cardowan, where the presence of roundhouses shows that the medieval farms were re-colonising land initially cleared and settled in prehistory - a reminder that on the upland margins settlement was in a constant state of flux. Advances occurred when conditions were right, that is when pressure to expand was matched by favourable climatic conditions, and retreat followed when conditions, usually climatic, deteriorated.

## **Improvement ?**

The rural and progressively sophisticated settlements of an emerging nation were all in place in the Fermtoun culture had not war broken out. The long, bloody and ultimately divisive encounter between the north and south of the island nation were in full swing. Scotland produced its two national heroes - Wallace and Bruce - both Bravehearts - but became a nation of "improvement" or "clearances".

Improvement - except to absentee landowners - meant misery for those in Scotland: exploitation, deprivation, starvation, deportation, alienation. People gave way to deer (sport) and sheep (for profit).

## **Retrospective**

The Information Technologies give us a renewed opportunity to re-visit our ancient past and to re-evaluate its relevance to our current European condition. Everything which is touched upon in this paper has been stimulated by the existence of IT and made manifest, at least to those at the Conference, by the technology.

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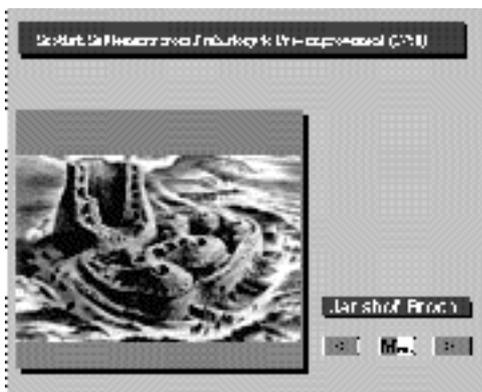
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Broch of Mousa on Shetlands



Broch at Jarlshof (historical reconstruction)

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