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STATEMENT OF SIGNIFICANCE

MOUSA BROCH



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MOUSA BROCH

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1 Summary

1.1 Introduction

Mousa broch is an Iron Age monument; it is built on a circular plan and its drystone walls rise to over 13 metres in height. It has justifiably been described as “one of the wonders of prehistoric Europe¹”. It was one of the first monuments to be taken into state care in 1885.

A few heavy stone artefacts remain on site: a trough quern and a rubbing stone, and also a broken socket stone.

The broch stands on a flat grassy area overlooking a rocky shoreline on the small island of Mousa, which lies off the Shetland mainland. Around it are the slight remains of several small dwellings, while a line of walling runs to landward of the broch, almost cutting off the small promontory on which it is set.

The site is unstaffed. It is accessed via a 1-kilometre unsurfaced path from Sandsayre Pier. In the summer months (May to September) a boat runs from the mainland to this pier. There are information boards at the broch and on the mainland at Sandsayre.

1.2 Statement of significance

Mousa Broch is of outstanding national importance as the best preserved and tallest of Scotland’s broch towers. Brochs are the only building type unique to Scotland. Their key features are a circular ground plan and tall tower-like walls with intra-mural passages, stairs and small chambers².

Mousa is the best preserved of all brochs and popularly accepted as the archetype for the group. Its construction date has not been directly established: alternative current theories exist which could place it as early as 400 BC or as late as the 1st century AD. The limited and poorly-contextualised excavated artefacts can do no more than place occupation of the site (and not necessarily its earliest occupation) within the middle to later Iron Age.

Some key aspects of its significance include:

- the excellent survival of its structure and physical fabric. Mousa is the tallest surviving broch, and indeed is the tallest surviving Iron Age structure in Britain. Its impressive profile has led to Mousa’s iconic status and widespread acceptance of it as the “typical” broch
- its dimensions and proportions. While Mousa follows the general pattern of brochs in terms of plan and form, its dimensions and proportions are unusual. It is an outlier on the spectrum of known broch dimensions: it has the most massive walls in proportion to overall diameter, the smallest overall diameter of any proven broch, and most notably of all, the highest walls.

¹ MacKie 2002, 17

² For more background information on brochs and broch studies, see Appendix 3

- its contribution to the field of broch-studies and the Iron Age. For instance its context, siting and relationship to other archaeological and landscape features can be compared to other broch sites. The degree to which it both typifies, and is exceptional to, the generality of brochs and how it has been referenced in developing theories of Iron Age architecture, society and economy
- the importance of the remains as they survive and the potential for further exploration to add useful evidence bearing on its construction, occupation and modification over time
- the dramatic and picturesque image of the site – while dramatic locations are not unusual among brochs, Mousa’s particular appearance and aesthetic produces an immediately memorable image which is widely used to signify Shetland and/or prehistoric archaeological sites
- Mousa features as a location in two Norse sagas. This allows a connection to be made with these narratives and gives some indication of the state of the broch and how it was viewed in early medieval times
- its use and presentation as an Ancient Monument. Mousa was one of less than two dozen monuments in Scotland identified for protection under the Ancient Monuments Protection Act of 1882 and was one of the earliest properties formally to be taken into care (1885).

The following pages give a fuller background to the site and go on to discuss the various aspects of its significance. A range of Appendices includes a Detailed Description of Mousa at Appendix 3, and an overview of Brochs – theories and interpretations at Appendix 4.

2 Assessment of values

2.1 Background

Introduction – Brochs

Brochs, exemplified by Mousa, are the subject of much study and attempts to understand them have given rise to numerous theories about their genesis, purpose, context and relationships to other Iron Age structures. The best preserved examples are striking and distinctive sights. For the purpose of this document, the term “broch” is used to refer to what some researchers have called “fully formed”, “tower brochs” or “broch towers”. Broch towers are characterised by their conformity to certain design elements which make them seem a very cohesive group (near-circular ground plan, hollow or galleried wall construction, single narrow entrance passage, staircase within the wall thickness, stacked voids, tower form). Dating evidence is scarce and most reliable dates relate to periods of occupation rather than necessarily of construction. However, recent radiocarbon dates from sites in Uist and

Shetland (sampled within walls or under the structure) indicate construction as early as 100 BC and between 200 and 400 BC respectively.

Brochs are acknowledged as the only building type unique to Scotland; their remains occur most frequently in the north and west, rarely in the south. It is not known how many brochs were built, so much depends upon survival rates and upon adequate investigation. Estimates for potential broch sites range from 150 – 600 sites; however most have not been investigated and criteria for assessing the sites vary. It is generally agreed that about 80 sites currently identified meet the definition for broch used here, though there may be many more which might be proven, if sufficiently investigated.

There are many competing theories as to the social context which gave rise to brochs, and their use and meanings for Iron Age society. As yet there are no agreed conclusions and a fuller account of these themes is given at Appendix 4.

Descriptive overview

Mousa broch is located on a small promontory just a few metres from a low rocky shoreline on the west coast of the island of Mousa, and overlooks the 1-kilometre wide Sound of Mousa, which separates the island from the eastern coast of Shetland's South Mainland. From the top of the tower, it is also possible to look across the low central valley of the island to the open North Sea.

The monument appears to have no other name than that of the island on which it stands, being referred to variously simply as Mousa, Mousa Broch, the broch of Mousa and, in earlier sources, the Brough of Mousa (in Shetland dialect Da Brough o' Mousa). Two references in 12th-century Norse sagas refer to it as *Moseyarborg*, which translates as *the fort of the mossy island*.

The broch is a drystone-built tower of circular plan, with an external diameter at ground level of 15.3 metres and a circular internal space 6.1 metres across, the broch stands to 13.2 metres tall. This appears to be close to its original height, making Mousa the tallest of Scotland's brochs by some margin. The broch's external wall tapers with height, and it possesses a distinctive ogee profile which is unique to Mousa, and is probably the result of progressive settlement of the masonry under compression since its construction.

A single narrow doorway leads to an entrance passage, which in turn gives access to a circular internal space, about 6 metres across. The base of the massive drystone wall of the tower contains three oval chambers, entered from the internal court. From just over 3 metres up, the wall is double-skinned, with six horizontal intra-mural gallery levels, through which a stairway runs upwards to the wall-head. The gallery floors, each of which forms the ceiling of the gallery below, are made of long stone slabs, which also serve to tie together the inner and outer skins of the wall. In the inner wall-face, which

risers vertically, elongated apertures (also referred to as “stacked voids”) allow light and air into the galleries.

At ground level within the central space are the remains of structures which were inserted into the broch some time after it was built. Towards the centre are a small hearth and a partly rock-cut tank which holds water. During ancient times an entrance was forced through above the original entrance, perhaps because the exterior was obscured by accumulated debris. This opening was closed up when the entrance was rebuilt during consolidation and restoration works after 1919.

Before clearance and repairs in the last 150 years, up to 3m depth of fallen stone lay within and around the broch, the result of partial collapses of the outer and inner wall-faces and of the wall-head.

Antiquarian study and associations

Mousa is unique amongst brochs in being referenced in pre-modern literary sources; it appears in both Egil’s Saga and Orkneyinga Saga.

From the early 18th century Mousa began to attract tourist and antiquarian attention. The first substantive published account of Mousa appears in Sir Robert Sibbald’s *Description* of 1711³. Subsequently it became a noted site for visitation, for example by Walter Scott in 1814.

A summary of 18th and 19th century accounts of the site, together with drawn surveys is given in Appendix 3. Probably the most useful of these is by Sir Henry Dryden, who visited Mousa twice in the 1850s and returned in 1866. His drawings show the site before and after its clearance of rubble and debris, which took place in 1861⁴.

19th century clearance

By the 19th century up to 3m depth of fallen stone lay within and around the broch, the result of partial collapses of the outer and inner wall-faces and of the wall-head. Clearance work was undertaken in 1861; this was not a formal excavation and was primarily intended to reveal the original structure, both inside and out, so that it could be properly recorded. While this work revealed much of structural interest (e.g. the original entrance level and intramural cells), it was also destructive and not properly recorded.

A few fragments of a single clay pot were discovered and are in the National Museum of Scotland collection. This has a black, burnished outer surface which would, according to current views, place it rather later in date than the broch itself. In addition, Dryden reported some stone objects, “a carved model of a Norway boat in fir, about 3 [inches] long and great quantities of animal bones, especially of otters⁵.”

³ Sibbald 1711, 20 and 42-4 citing “Maul”: possibly Robert Maule, a noted early antiquarian whose manuscripts were subsequently destroyed

⁴ Dryden 1872, 210

⁵ Dryden 1872, 210

Period of State Care

The site was taken into State care through a guardianship agreement with the landowner, John Bruce of Sumburgh in 1885, one of the earliest properties to come into State care following the Ancient Monuments Act of 1882. In 1919 the broch was again cleared (presumably of debris which had accumulated since 1861) but again without serious archaeological recording⁶. There have been no systematic excavations since.

While in State Care there have been ongoing repairs and maintenance, some of which have been unrecorded. For instance it is known that the areas around the outer end of the entrance passage and at the wall-head have been particularly heavily re-worked. Quantities of concealed mortar were inserted during earlier 20th-century consolidation, replacing large volumes of raked-out “stone debris and rubbish” – which may have removed evidence for the original constructional techniques.

In more recent times the entire structure has been recorded by laser scanning combined with high-quality photographic coverage, providing an objective digital record which will underpin future consolidation work. It is intended that this process will be repeated at regular intervals, capturing incipient micro-movements in time to address these before they become serious.

2.2 Evidential values

The evidential value of Mousa broch is exceptionally high for what its constructional details, physical fabric, location and setting can tell us about the Iron Age and later periods; and its potential to yield further information through ongoing research.

The element of “completeness”, given the surviving height of the structure, is a key feature of Mousa’s importance. The sequences of clearing, excavation and repair are given in some detail at Appendix 3, and this acknowledges that Mousa is not “pristine”. Yet it retains a large measure of authenticity and, so far as we can understand the early phases of alteration e.g. the Norse/Medieval breaking through of a door above the original entrance, evidences the ongoing use of the site. Insofar as it has been reconstructed as a *monument*, this relates largely to the entrance and part of the wallhead.

Probably the primary importance lies in what the site, in its excavated and consolidated state, demonstrates about the plan and form of brochs; this is discussed in para 2.4 Architectural values. It also offers the potential for further excavation and other investigation techniques which could provide additional knowledge about its Iron Age and later context.

While the 1861 excavations destroyed much, undisturbed Iron Age deposits are likely to survive in certain limited areas, although any evidence obtained

⁶ Paterson 1922, 172 and 182

would be difficult to interpret. Mousa is unlikely to contain extensive deposits capable of illuminating the economic and social aspects of life in the broch.

The areas of greatest potential within the area in State care are likely to be:

- Under the raised bench which runs around within the inner wall. Deposits below this would represent occupation after the broch's construction, pre-dating or contemporary with the later Iron Age insertions.
- Within the floors of wall-base cells and inner wall core of the lower 3 metres of the broch, below the level of the galleries. As these would presumably have been cleared out regularly, any deposits here are likely to represent the last use of these areas.
- Beneath the wall of the broch, which appears to be of typical construction, with large stones forming a basal course or plinth, but without any foundation trench. While accessing the area below the wall foot would be very challenging, it is not impossible that evidence for construction-contemporary activity might be preserved there and could add to the very small corpus of broch construction dates, as well as testing the idea that Mousa may have been built late in the history of brochs.

Developing scientific techniques may in time offer new ways of examining the structure: it would be particularly interesting to know the cross-sectional make-up of the walls at various levels, particularly in the lower, solid-walled portion. It is not impossible that other wall-base cells may have been concealed in antiquity or in early consolidation: in particular, the absence of a guard cell (or cells) opening off the entrance passage is unusual for such a solidly constructed broch.

Additionally, there are other areas of potential on the island but outside the area in State care. For instance the area around the broch may yield evidence of periods of occupation or activity; the bed of the nearby Mill Loch may contain deposits which might provide information about land-use and vegetation changes over time.

There have been a number of recent excavations at broch sites in Shetland, at Upper Scalloway⁷ and most recently and extensively at Old Scatness⁸. The results from these, combined with those from earlier excavations (such as at Jarlshof⁹ and Clickimin¹⁰) provide a context for Mousa (and also inferences about its date of construction) which the site itself does not.

There is further potential that data gathered from digital scanning programmes could be used to learn more about the structural techniques

⁷ Sharples 1998

⁸ Dockrill et al 2015

⁹ Hamilton 1956

¹⁰ Hamilton 1968, but see also Fojut 1998, MacKie 2005, Smith 2014 for just 3 of many variant readings of the sequence.

used. It might, for example be possible to calculate the volumes and weight of construction material, aspects which until now have been inferred using idealised geometrical models.

The location of the broch can provide some evidence of its original context. It is set near to the shore (though not immediately adjacent to a secure anchorage) and in an area of the best land locally available, capable of providing good grazing but unlikely to have allowed much arable cultivation¹¹. This setting is quite typical for Shetland.

Mousa is inter-visible with another broch on the shore of Shetland's mainland to the west, Burreland – this feature of inter-visibility has been noted since the earliest days of antiquarian study and continues to figure large in some current interpretations¹². The immediate shoreline is formed of smooth-grained sandstone flagstone, which was quarried until recent times and doubtless provided material for the broch.

2.3 Historical values

The primary historical importance of Mousa, and other brochs, is their ability to demonstrate Iron Age society and ways of living. They are such striking and singular structures that it is a constant frustration that despite an abundance of theory and interpretation (see Appendix 4), we do not actually know much for certain about who built these structures or why. Consequently their value for the development of explanatory narratives is a collective one. No individual broch, however closely investigated, would be capable of answering all of the questions which might be posed, and for many purposes data from a large number of sites is necessary.

Therefore, our understanding of the nature of the society and circumstance that gave rise to Mousa is largely conjectural. So far as can be gleaned from excavated finds, the material culture of brochs does not stand out from the generality of finds in other Iron Age sites, whether located in areas where brochs were common, or not. The social structure appears fairly “flat” and composed of largely self-sufficient groups, which might be termed “chiefdoms”.

Recent work¹³ analysing the resources needed for broch construction indicate that each broch represents the work of a substantial community, somewhat larger than a single extended family. As noted, brochs are often located in areas not especially favoured as agricultural land. One explanation for this may be that the broch represented a visible token of possession, of willingness to defend that holding, and the social status of the group or at least its leaders.

It is generally agreed that brochs (and some other enclosed constructions), were created in a social context in which two aspects were significant:

¹¹ Fojut 1982, 42-6

¹² Smith 2016, 14-16

¹³ Barber 2018

defensibility and impressiveness. Mousa certainly appears impressive to modern eyes, and while certainly defensible, it does not appear to be constructed to withstand a prolonged siege.

Stuart in 1857 expressed things pithily: “there must have been something peculiar in the circumstances of the inhabitants to have given rise to these peculiar erections.”¹⁴ We are still far from understanding what this peculiarity might have been. It is entirely possible that there was some short-lived phenomenon which led to the rapid building of many brochs over a relatively short period of time, only for them to become redundant thereafter.

Although Mousa was sometimes referred to in historic times as the King’s or Queen’s Island (for example by Scott and by Hibbert in 1822), this seems to be a reaction to the impressiveness of Mousa to modern eyes and not a long-lasting tradition regarding the status of its builders. Smith has suggested that the district name of Cunningsburgh (Kings’ fort) on the adjacent mainland reflects this area’s proximity to Mousa¹⁵.

Lastly, and not negligibly, Mousa is a dot on the map of known brochs, and the distribution patterns to which it contributes, in relation to other sites of similar date and to the wider landscape, have considerable potential to contribute to explanatory narrative which seek to understand the nature and function of brochs and the society in which there were built.

Historic Associational values

A further aspect of Mousa’s historical value lies in its intangible associations with known people, events and movements.

Association with early written sources

The Romans are known to have circumnavigated Britain, and certainly knew of Orkney. A number of coin finds have been cited as possible evidence for contact with Shetland, but coins are notoriously mobile¹⁶. Even the name *Thule*, applied to land which the Roman fleet sighted to the north of Orkney, does not indisputably represent what we now call Shetland.¹⁷ It is interesting that no mention was made of brochs in Roman sources, given their impressive appearance and coastal siting. The fact that Rome did not conquer, or apparently seek to conquer, the area in which almost all brochs occur, while it did take on the peoples living in north-eastern mainland Scotland, may be highly significant in many ways – opening the door to endless theories about Roman-native and inter-tribal relations.

Although brochs are not mentioned in surviving classical sources, Mousa is unique amongst brochs in being referenced in pre-modern literary sources. Egil’s Saga (written down about around AD 1230) recounts that an eloping couple from Norway, Bjorn Brynlfsson and Thora Roaldsdottir were

¹⁴ Stuart 1857, 192

¹⁵ Smith 2016, 16

¹⁶ Meyer 2016

¹⁷ Wolfson 2008 considers that Thule is undoubtedly Shetland; others disagree

shipwrecked on Mousa en route to Dublin. With their crew they unloaded their cargo and spent the winter in *Morseyarborg* (mossy island fort), at a date which the narrative places in the early 900s AD. The couple (now outlawed in Norway) eventually found their way to Borg in western Iceland (near modern Borgarness), where their daughter in due course married Egil, the eponymous hero of the saga¹⁸.

Orkneyinga Saga (written down around AD 1200) recounts a rather similar tale, during a period when the Earldom of Orkney was shared with frequent disputes between rival contenders. Earl Erlend the Younger abducted Margaret, the mother of Earl Harald Maddadarson, and took her to *Moseyarborg* “where everything had been made ready”. Earl Harald, pursuing, found the broch, according to one translation, “an awkward place to get at” and in the end the parties were reconciled without violence, with Erlend and Margaret permitted to marry. Historical evidence would place this event in AD 1153¹⁹.

These references tell us that the broch was defensible and seen as a suitable place to defend in Viking and early Norse Medieval times – but this is self-evident, because it still survives in such a state. More subtly, they suggest that the broch was not permanently inhabited at that time (or else that any inhabitants were so readily displaced by a well-armed party of Vikings as to not merit mention). The broch serves to anchor two historical stories, hence its appearance in the sagas. In general, the sagas do not mention topographical elements which are not key to the actions they describe. So, while these two saga appearances might be regarded as extremely interesting, they shed little light on the broch of Mousa or its longer history.

Association with historical figures

The principal historical figure for whom Mousa claims an association is the antiquarian and novelist Walter Scott (later Sir Walter) who visited Shetland in 1814. His fascination with Old Norse led to his setting his novel *The Pirate* (1822)²⁰ partly in Shetland. He visited Mousa on 9 August 1814 and both his journal of the visit – published some years later²¹ and the notes accompanying his novels *Ivanhoe*²² and *The Pirate*²³ demonstrate his up to date knowledge of antiquarian thinking.

In his journal, Scott suggested, referencing *Orkneyinga Saga*, that the upper level of Mousa had been raised by the Norse hero:

...to Erlind's operations the castle of Mousa possibly owes the upper and perpendicular, or rather overhanging, part of its elevation and also its wide

¹⁸ Egil's Saga chapters 32-3 – pages 82-3

¹⁹ Orkneyinga Saga chapter 93 – page 190

²⁰ Scott 1822

²¹ Scott 1982, 45-47

²² *Ivanhoe*, note 52 (page 519 of the 1996 OUP edition)

²³ *Pirate* note XII (page 459 of the 1931 John Dent and Sons edition)

*staircase. In these two particulars it seems to differ from all other Picts' castles*²⁴.

While modern archaeologists have tended to dismiss any suggestion that the broch's structure is other than Iron Age, it is possible that some limited repair to the upper level was done at this time (see Appendix 3 for a fuller discussion).

Scott's journal appeared in the late 1830s, as part of Lockhart's multi-volume *Life*, so Scott's views would have been well-known to Dryden and other antiquarians and available to the new proprietor of Mousa in 1853.

Other historic figures associated with Mousa are its successive proprietors and those who excavated and studied it over the years. John Bruce of Sandlodge (1798-1885), acquired Mousa some years after Scott's visit. He arranged and part-funded the 1861 clearance of the rubble around and within the broch, partly so that Dryden could make better records of the structure, and also arranged repair work in response to vandalism. He passed on his enthusiasm to his son and heir, John Bruce of Sumburgh (1837-1907).

The Shetland Archives may well hold further information about the interactions of John Bruce, father and son, with the antiquarian community, to set alongside material already identified. Brian Smith (Shetland Archivist) has taken a particular interest in Shetland's brochs, and has recently illustrated this potential with the discovery of a transcript of an oral account regarding the discovery of contraband tobacco in the broch of Mousa by a 'scholar and gentleman' (almost certainly Dryden) in the summer of 1855. The gentleman reported the matter to John Bruce (senior) at Sandlodge, who tipped off HM Customs. However, a maid at Sandlodge overheard the conversation and tipped off the smugglers, who moved the contraband - to another broch site on the adjacent mainland (Brian Smith, pers. comm., July 2018).

The history of efforts to preserve the broch offer some important insights into how such matters were arranged both before the involvement of the State and later. In reporting to the Society of Antiquaries of Scotland in 1857 (arguing for funds to be raised), John Stuart, the Society's Secretary, set out the measures taken to cost the work required at Mousa. The passage bears quoting at length, not least for the light it may throw on early consolidation practices:

...Mr James Barron, who has had considerable experience in the architectural restoration of the Cathedral of St Magnus [was despatched] to inspect and report on the state of Mousa, and the extent of the operations necessary for its safety... Mr Barron... reported that "he had found the Tower in a very decayed state. From its building without mortar of any kind, parts of the building are bulging out in several parts, each to the extent of about six square feet, and which

²⁴ Scott 1982, 45-47

will fall in course of a very short time, and, of course, weaken the rest of the building. The top of the wall will require to be levelled up, two parts of it having fallen down, measuring about nine feet in length by five feet in height. The inside being filled up with rubbish, would require to be cleared out to a depth of at least three feet. I consider that £45 would be required to put the place into anything like an ordinary repair to save the fabric from tumbling down in the course of a few years.²⁵

Having set out what even at the time was a remarkable bargain (records have not been found, so far, to indicate how closely the cost of the work undertaken by local mason Gifford Laurenson in 1861 adhered to Barron's estimate), Stuart closed with a stirring peroration, which sounds all the more remarkable when it is borne in mind that this was some 23 years before the first Ancient Monuments Act):

Mousa is not interesting only to the proprietor of the ground on which it stands, or to the inhabitants of the Shetland Islands. It is as an authentic fact in the early history of the country that it claims to be regarded; and it would be a cause of bitter regret hereafter to all who are interested in the history of human progress, if it should be permitted to be blotted out from its records.²⁶

2.4 Architectural and artistic values

The details of broch architecture have been much studied and discussed (see Appendix 4 for an extended account) and it is always Mousa which forms the template against which other brochs are compared, although it is not entirely typical in some details.

The origin and emergence of the broch with its distinctive architectural features have long provoked strongly polarised debate, principally between those who argue for a long, gradual process of experimentation across a wide range of structural types culminating in tower brochs such as Mousa (in which case Mousa might be a very late example) and those who argue for the appearance of the broch tower as an act of creative inspiration (in which case Mousa might be an early example).

The features which brochs like Mousa share with other types of structure, such as blockhouses in Shetland and galleried duns (in western Scotland) have been explained by some as ancestral stages towards the broch tower, while others regard them as later borrowings from the broch architecture. Therefore, the relative construction dates of all of these different classes of structure is a key gap in knowledge: much more data is needed from more sites, especially sites where more than one type of Iron Age structure exists (as at Clickimin and Jarlshof). That said, both northern and western schools of thought concur that, once perfected, the broch phenomenon spread rapidly, with brochs swiftly being erected in most suitable locations within their regional landscapes.

²⁵ Stuart 1857, 194

²⁶ Stuart 1857, 194

Design

Both the ground plan and the elevation of Mousa are of the greatest importance for the study of the development and layout of brochs. They represent the end point on the spectrum of known broch dimensions, with the most massive walls in proportion to overall diameter and the smallest overall diameter of any proven broch. Researchers who think brochs developed over time towards more solid and taller forms have used these facts to argue that Mousa was one of the last brochs to be built. Despite its atypicality, Mousa continues to be widely cited as the archetype of broch form. It is often cited as the tallest building in prehistoric Britain and by anyone's reckoning is a deeply impressive structure.

Mousa's "cooling tower" or "ogee" profile is unique, but is more likely a feature of settlement of the built structure over time than a deliberate design feature. But for consolidation work in the past century, it is likely that this structural settlement would by now have resulted in significant if not catastrophic collapse. On the other hand, the extensive work of conservation has potentially removed some of the finer constructional detail and has certainly involved a considerable degree of "like for like" stone replacement.

The interior additions appear to belong to the later Iron Age family of aisled roundhouses and wheelhouses, and while the example within Mousa retains considerable archaeological potential, it is not particularly distinguished in its architectural form, such additions being frequent in brochs which have been excavated in Shetland and beyond, with much better-preserved examples at Jarlshof and its near neighbour, the recently excavated Old Scatness.

Construction

The broch is well-constructed in a strong silty sandstone of a flaggy character which is readily available near to the site, the foreshore forming the most likely source. As well as quarried stone, some more rounded material suggests boulders from the nearby storm beach were used, and some of these are formed of a conglomerate with small pebbles in a sandstone matrix.

The gradual settlement of the structure has led to bulging of the outer wall face and to the failure of many individual blocks of stone, especially but not exclusively lintels and tie-stones. While replacement of these and general consolidation has slowed down the process of slow-motion collapse, further bulging and stone failures do continue to develop and the structure is closely monitored so that action can be taken well before any potentially catastrophic failure.

Because of its greater height and good survival Mousa demonstrates the excellent techniques of drystone construction available to its Iron Age builders. From an engineering perspective it is reckoned to be near the limits of buildability for the material and design. Recent studies have identified some

of the engineering complexities and solutions in broch structures which have led to a greater appreciation of their importance as architecture²⁷.

Artists' representations

Mousa appears in Blaeu's *Atlas Novus* volume of 1654, based on Timothy Pont's earlier mapping, as "the Ancient Brugh of Mousa" – one of very few prehistoric antiquities to be featured²⁸. Interestingly, it is drawn with a neat conical "hat" or roof, presumably based on conjecture about how the broch looked when newly built.

The earliest semi-recognisable images are those in Low's *Tour* of 1774²⁹ (widely circulated but not published until 1879): these were "carefully reproduced" for the 1879 publication by J T Reid: though not explicitly stated, the assumption is that these were like-for-like copies of 1774 drawings. Certainly, the presence of the classic "gentleman pointing with stick" detail conveys a feeling of the idiom appropriate to the earlier rather than the later date. Although only published in original format in 1879, Low's notes and drawings were widely known before that date, and he appears to have shared information with Pennant (whose second tour was published in 1774, the year of Low's own tour³⁰. (Low may have hoped that Pennant would incorporate his account into a future volume, as Pennant had done with other correspondents in localities which he did not himself visit.)

A sketch by Charlton³¹ is typical of subsequent drawn images which have tended towards the strictly representational rather than the artistic, and the advent of photography has continued this trend: dramatic images of Mousa at sunset or in wild weather contrast with sunlit, calm images of island tranquillity.

Likewise, reconstruction drawings of Mousa as it might have appeared in use, while well-drawn and carefully considered, tend towards the generic and to avoid any artistic dramatisation beyond the insertion of human figures at their daily tasks³². It does not seem that Mousa has, as yet, inspired any work which is widely recognised as great art.

Alternative functional interpretations - performance / observatory

From time to time alternative interpretations for brochs arise, almost always referencing Mousa. One (unpublished) suggested brochs might have been early blast-furnaces.

As a more serious example, Mousa was the subject of a study in 2009 by Thomas, who questioned the customary interpretation of the finished structure as a roofed space, equipped with raised wooden floors. He argued instead

²⁷ Barber 2018

²⁸ Blaeu 1654

²⁹ Low 1978; 181-4

³⁰ Pennant 1774

³¹ Charlton 1834

³² Armit and Fojut 1998, 15

that the acoustic and constructional characteristics of the bare stone tower offered an alternative interpretation as an unroofed performance space or celestial observatory:

Photographs and video recordings of the action of sunlight around the walls inside Mousa broch during the solstice period suggest that the broch may perform the function of an interface between ground and sky, a construction in which vertical void sets and stairs are component parts of a solar/celestial measuring device (this possibility remains to be investigated).³³

This view has not found favour with mainstream archaeology, and the proposed investigation of solar/celestial alignments does not appear to have been taken forward.

More generally, there have long been alternative views that at least some brochs were originally open to the sky, having been built solely to serve as lookout or signal towers³⁴.

2.5 Landscape and aesthetic values

The broch of Mousa is located on a low grassy promontory, with a small shingle beach to the north, across which it is usually approached. The well-grazed grassland rises gently to the south and to the east, where the ruins of a late 18th century “haa” or laird’s house and its surrounding enclosure stand in ruins. To the north-east is a small shallow loch with the remains of a Bronze Age “burnt mound” (a cooking place or possibly sauna) and the ruins of a small post-mediaeval horizontal corn-mill, of the type known as a “click” mill. Further away are the ruins of a farmstead, abandoned in the late 19th century.

The location evokes settled security rather than desperate defence – there are other points on the island which would have offered more naturally defensible sites, whereas the broch lies near to one of the largest areas of (relatively) fertile land on the island. It looks across the narrow Mousa Sound towards Shetland’s south mainland, with the more ruined broch of Burreland clearly visible. From the wall-head, restricted views to the east, out to the open North Sea, are available through the low saddle or “slap” in the centre of the island. Conversely, a fleeting glimpse of the top of the broch is visible from the ferry which links Lerwick with Aberdeen and Orkney.

Merely accessing the island has the character of a memorable but manageable challenge for most visitors. For the average summer visitor, the overall feeling is one of safe, acceptable remoteness, closeness to non-threatening nature (marked by the sight of seals’ heads in the water and the call of arctic terns and other birds) and tranquillity. Alternative experiences are harder to come by, since the boat does not cross to the island in rough weather, although the broch looming out of a shifting sea-fog can be a memorable experience.

³³ Thomas 2011, section 6

³⁴ Smith 2016, 15 and preceding pages

A particular feature of the Mousa island experience, arising from its natural heritage (see below), is the availability of tours at sunset and in early mid-summer mornings, when the eerie, shadow-less light of Shetland's "summer dim" is enhanced by the sound of storm petrels leaving or returning to their nest sites in and around the broch.

2.6 Natural heritage values

The whole island of Mousa is managed by RSPB as a Nature Reserve³⁵, primarily for breeding seabirds: storm petrels *Hydrobates pelagicus* which nest in cavities within the broch's stonework as well as the nearby shingle beach, black guillemots *Cephus grylle* which nest on the rocky coast (but have also been observed nesting in the outer face of the broch wall, Noel Fojut pers. obs.), arctic terns *Sternus paradisaea* and both great skuas *Stercorarius skua* and arctic skuas *Stercorarius parasiticus*. The distinctive Shetland subspecies or race of wren *Troglodytes troglodytes zetlandicus* nests in drystone walls and building ruins, including those near the landing place (Noel Fojut pers. obs.). The island offers a reliable place for bird-watchers wishing to see all of these species, which can often be seen at or en route to the broch. Visitors may be requested to avoid some areas during the breeding season for ground-nesting species such as terns.

The coastline is home to seals of both resident British species, grey seal *Halichoerus grypus* and harbour or common seal *Phoca vitulina*, while porpoises and other cetaceans are regularly seen offshore. Small sea caves and offshore reefs offer important habitats, as does the seabed around the island, which is an important breeding ground for sandeels, on which many of the other species rely. These are diminishing rapidly in numbers in northern waters, possibly due partly to over-fishing and partly to changes in currents and seawater temperatures. (Note, species names not cited for sandeel, which is a collective term for a number of similar-sized species of small, oily fish.)

Botanical interest is more limited, with typical Shetland assemblages for closely grazed and rougher grassland, and small areas of wetland and coast-edge vegetation. No particular rarities are noted.³⁶

The island's geology is of some interest³⁷. Middle Old Red Sandstone beds (Devonian, about 400 million years old), typically flaggy in character, make up almost the entire island and have in the past been quarried for building – including the broch. It forms ideal flagstones for paving purposes, and at one time provided the paving for the streets and steep lanes ("closes") of Lerwick. Some of the stone is bedded thinly enough to have been used in the past for roofing purposes, although it tends to be heavier and more fragile than ideal. Two narrow beds with a higher lime content run NW-SE across the north end of the island and across the south end, the latter reaching the sea

³⁵ RSPB website 2016

³⁶ Berry and Johnston 1980, 73-91

³⁷ Mykura 1976 pp 62-64

not far to the south of the broch. These contain fish remains and have at times been subject to over-enthusiastic collecting. (The higher lime content may also have provided marginally better soil for agriculture near to the broch.) There is no sign of lime-burning on the island, this could have taken place in small-scale clamp kilns which would leave little trace.)

The island of Mousa bears multiple natural heritage designations³⁸:

- SSSI under Nature Conservation Acts (site designated 1961): arctic tern, black guillemot, storm petrel, harbour seal [whole land area of Mousa – SNH ref 1204 – the broch lies within the SSSI]
- SPA under Birds Directive (site designated 1995): arctic tern, storm petrel [whole land area of Mousa plus foreshore and shallow inlets – SNH ref 8551 – the broch lies within the SPA]
- SAC under Habitats Directive (site designated 2005): harbour seal, reefs, sea caves [shoreline of Mousa plus waters offshore – SNH ref 8333 – the broch lies just outside the SAC, part of which it overlooks]
- NCMPA under Marine (Scotland) Act 2010 (site designated 2014): sandeel, seabed geomorphology [sea around Mousa and running southwards towards Boddam – SNH ref 10410 – the broch lies just outside the NCMPA, part of which it overlooks]

2.7 Contemporary/use values

Much of the value of Mousa for contemporary communities lies in its iconic and much reproduced image, its identification with Shetland, and its value as a tourist site. The broch of Mousa is one of the few Scottish ancient monuments which genuinely merits the overused term “iconic.”

Photographic images of the broch have been used widely as cover images, in particular on archaeological reference works but also on general guidebooks to Shetland. Photos of Mousa appear in the public spaces on the ferries linking Shetland to Orkney and Aberdeen and at the islands’ main airport at Sumburgh. The broch acts as a visual signifier for Shetland, serving in that role alongside the Shetland pony, Fair Isle/Shetland knitwear itself and its logo in the outline of a woman knitting.

The broch is a source of considerable local pride, not least for being the best-preserved in Scotland. A simplified outline of Mousa forms part of the logo of the Shetland Amenity Trust. The Trust excavated and operates the broch and Iron Age village at Old Scatness as well as running the Shetland Museum and Archives and many other cultural enterprises.

Mousa appears in almost all Shetland tourism information resources, including online, and is an objective for many first-time (and repeat) visitors, those who have less interest in archaeological heritage being drawn to the island by its natural heritage, its scenery and the experiential quality of the

³⁸ SNH website (accessed 28 August 2018)

short boat crossing and the “safe adventure” this offers. Local tour companies offer guided tours to Mousa (island and broch) and many tour operators based outside Shetland offer visits, although often as an added extra or a “weather permitting” item.

Access is possible to those with their own sea transport, and the increasing popularity of sea kayaking has seen Mousa become a popular destination for independent day visits and overnight camping, both by visitors and by local residents. School groups visit the island regularly. All groups appear to respect the broch and its surroundings, with littering and vandalism rare.

On-site interpretation is provided by a simple interpretation board. Due to the natural/unspoiled nature of the site and also bearing in mind practicalities of management on an uninhabited island, there are no more elaborate visitor facilities. More extensive information is provided in the waiting area at Sandsayre, on the mainland side of the crossing, and aboard the boat itself.

Recognition of the uniqueness of brochs in general, and of Mousa and other Shetland brochs in particular, has prompted a locally-led campaign towards nomination of Mousa as part of a bid for UNESCO World Heritage Status, with “Mousa, Old Scatness and Jarlshof: the Crucible of Iron Age Shetland” accepted onto the official UK Tentative List for World Heritage Status in 2011³⁹.

3 Major gaps in understanding

A wide range of unanswered questions surround brochs in general, despite two centuries of excavation, study and theorising (see Appendix 3).

This section briefly lists these questions from the specific viewpoint of Mousa, and seeks to assess how far Mousa itself might make future contributions towards answering them:

- When was Mousa built and did it replace earlier structures on its site? It is possible that dating evidence may lie buried below the massive wall-base or under the later structures within the interior: accessing, or even assessing the potential for this would involve disturbance to the historic fabric. Likewise, the same areas might conceal evidence of pre-broch structures but there is no surface trace of any.
- How does this relate to the construction date and pre-construction history of other brochs? This cannot be addressed without answers to the previous question, and also dating evidence from more brochs. A number of other brochs have produced evidence for pre-broch activity, including massive wooden roundhouses (Càrn Liath in east Sutherland and Buchlyvie in Stirlingshire) southern Scotland) and also for the

³⁹ <https://www.shetlandamenity.org/world-heritage-status> accessed 6 September 2018

construction of brochs on much earlier remains, including a Neolithic chambered tomb (Howe of Howe, near Stromness, Orkney).

- Is Mousa a one-off, or simply an extreme example on a spectrum of normality? Mousa appears to be at the narrow, massive end of a spectrum of broch sizes. In engineering terms this means that it could have been built taller than was normal for brochs. However, as fully 75% of supposed broch sites have not been investigated in any way, rivals for its extreme dimensions may yet be discovered.
- Linked to this, did Mousa have an unusual purpose compared with the majority of brochs, which might account for its unusual dimensions?
- Why did Mousa survive so well when most other brochs did not? As noted above, Mousa has a more massive wall for its diameter than any other known broch. Setting aside the abilities of the builders of different brochs, this means that Mousa is likely to have been more solidly built than other brochs, which may have contributed both to its height and to its survival. That said, but for conservation interventions from 1861 onwards, Mousa might not have survived until the present day, due to incremental structural failure. It may also be significant that Mousa did not, unlike some other brochs, go on to form the core of a long-lived later settlement. Brochs which did, such as Jarlshof and Old Scatness, show clear signs of being reduced in height, perhaps to make their increasingly unstable structures safer to build around and live within. Mousa's relative isolation and poor agricultural potential may have been factors contributing to this lack of later occupation and thus to its preservation.
- Was Mousa built by (and for) long-resident Shetlanders or by recent incomers? This cannot be definitively answered on the basis of existing evidence. Most current opinions would favour the physical work of constructing Shetland's brochs being done by Shetland hands, but opinions differ as to who might have been in charge of the building projects. Views on this latter point have included: an elite who invaded in force (from Orkney or even from south-west Britain), an immigrant elite who came in smaller numbers but brought new ideas which changed Shetland society, or an emergent local elite seeking to increase territorial control or responding to some external threat, who either invented the broch idea or borrowed it from elsewhere in the north. Evidence may emerge, from new excavations or analysis of artefacts, to support one or other of these ideas more strongly, but this is not likely to come from Mousa itself.

- Were specialist architects involved? The first brochs, wherever they were built, must by definition have been constructed by people who had never built a broch before. While Shetlanders, living in a largely treeless landscape, were undoubtedly skilled drystone builders, something like Mousa was probably beyond their conceptual if not practical grasp. However, once the idea of a broch had been formed, and the first “proof of concept” examples built, constructing one might have been within the practical reach of a group of competent drystone builders. So, perhaps an architectural flash of brilliance which then, in modern parlance, “went viral”. But roving consulting architects might not have been necessary, and indeed the evidence for partial collapse in several brochs might support local copying rather than skilled design. This question is unlikely to be answered definitively.
- What can be said about the social and territorial organisation of those who had Mousa built? A great deal can be said, but little can be proved. Most would support the existence of an elite within Iron Age society, who would have directed the activity of each group and conducted relationships with neighbouring groups and perhaps further afield. A chiefdom model seems to fit best, perhaps analogous to later Highland clans, with a chief and a few senior individuals leading a “client group” bound by kinship ties. There seems to be no evidence for a more layered society akin to Medieval feudalism. While (in theory) each broch might represent an isolated independent group, it is perhaps more likely that groups worked together, perhaps sharing leadership in times of crisis. It has even been suggested that brochs such as Mousa were first built as defences and lookout points in response to a crisis, perhaps the threat or fear of invasion, and were not intended to operate as long-term residences, though in many cases later adapted for this purpose.
- And how did they survive day to day, in terms of subsistence? Since the wishes of the builders are not accessible, only inferences can be offered. It is possible to construct an “economic model” for Shetland based on assumed “territories” (the land nearest to each broch, and worked by local communities in later centuries. This suggests that grazing land and access to marine resources were most important, but that each “broch territory” would have had an area of arable ground, though in some cases – such as at Mousa – this must have been very small. But such models beg the question, posed above, of what the broch builders intended. We cannot be certain if the original intention was to live in brochs full-time, or if full-time occupation was something which came later, and then only at some brochs, not at all.

- What stimulated the building of brochs like Mousa: what were brochs actually for? Were they residential, defensive or for what other purpose? Although we can say what happened to brochs – how they were used after they had been constructed – we do not know what was in the minds of the builders. All we can do is look at the structures and their locations and surmise. At the two extremes of many explanations which have been offered are (at the “soft” end) the gradual emergence of a society in which leading individuals gradually exerted more and more control over resources and gained in status, competing with their neighbours in displays of monumental building, until the broch became the “must-have accessory” of its day and (at the hard end) a quasi-military and highly organised response to an urgent threat (or the perception of such a threat), either by long-resident Shetlanders or by newly-arrived conquerors determined not to be displaced by late-comers. The “soft” and the “hard” are far from irreconcilable: manipulation of public attitudes through fear of some real or imagined external threat is seen throughout history as one means by which an elite can gain and exert control over its fractious client populace.
- What changes did brochs go through after they had been constructed: is Mousa’s post-construction history typical? Brochs in locations which were well-favoured in terms of agricultural potential and natural resources often went on to form the centres of gradually enlarging settlements, which over time might entail the modifications or even demolition of broch itself. Typically, the broch would be remodelled over time but remain the “big house” of the village. Where the locality of the broch was less well-endowed, as at Mousa, it is not uncommon to find that there is little post-broch history. Sometimes (again as at Mousa) a modest re-fitting of the interior was undertaken to convert it for everyday use, perhaps as a fairly humble farmstead, but well before the end of the Iron Age, most brochs without access to good land and natural resources seem to be abandoned. Mousa is typical of this.
- What do the “biographies” of brochs tell us about changes in society over time? Mousa, along with other brochs constructed on small islands and exposed shorelines, may suggest a degree of “over-reach”, perhaps at a time of great stress. Their subsequent abandonment, and the apparent concentration of later Iron Age settlement on sites better endowed for agriculture and exploitation of natural resources, might be argued as a relaxation, a gradual adjustment to normality after such a period of crisis. But if this is so, it is a new normality, since the villages around former brochs such as Jarlshof and Old Scatness do not seem to have any parallel in pre-broch days: earlier settlement in Shetland, over more than 300 years from the Neolithic through the Bronze Age and into the earliest Iron Age, seems to have consisted of scattered

farmsteads or, at the every most, handfuls of such farmsteads loosely clustered into townships. It is interesting that, towards the end of the Iron Age, even the successful villages at sites such as Old Scatness seem to be abandoned in favour of a return to a more dispersed scatter of farmsteads, a pattern which was only reinforced by the arrival of Norse settlers in Shetland after AD 800.

There are some areas of inquiry to which Mousa is unlikely to make a significant contribution. Due to its early date of excavation, and the fact that it has been largely emptied, these areas include:

- Artefact studies – the few artefacts found in 1861 and 1919 lack context and there is only limited potential for more to be found.
- Analysis of surviving deposits for environmental evidence – although such evidence may be available elsewhere on the island, notably in deposits within the nearby loch, the area which is in State care has very little potential in this regard.

Additionally, as a structure which attracted early antiquarian attention and was later to become one of the earliest Scheduled Monuments and Properties in Care in Scotland, Mousa has the potential to offer evidence towards more recent questions, including

- Does Mousa help to illustrate how conservation philosophy and practice have developed over time, especially for drystone prehistoric constructions such as Mousa? Undoubtedly: Mousa might almost serve as the epitome, with initial efforts being made by a well-intentioned owner supported by a few, well-connected enthusiasts, followed by State-funded actions which change over time, each generation working to the best of current standards only to be criticised by following generations. Thus, the early “breaking into” of Mousa, its “clearance” of debris (and deposits) so its structure can be better understood, its heroic early consolidation and the later rebuilding of “lost” details such as the doorway, the raking out of material between the masonry and the insertion of large volumes of cement: all actions justified in their time and regretted later. Yet they may have saved the structure for us to enjoy: we cannot know what would have happened otherwise. The so-called modern approach, that of minimal intervention, is in fact very long-established: it is more that the definition of what constitutes “minimal” has developed over time.
- Is more information available regarding the initial scheduling of Mousa and the background to its being taken into Care; records of early works and excavations/clearance – are there images or documents which could help piece together this history?

- Does Mousa help to illustrate the development of concepts such as the importance, significance and value of heritage, at regional, national and international level? Again, Mousa offers a good example of how monuments have come to be valued, and how values change over time. It is quite typical that early recognition was afforded at a national level (initially Scotland and then Great Britain, including Westminster legislation) and only later followed by European recognition. From the 1930s onwards, diffusionist models of social change came into vogue. Attempts to derive brochs from the superficially similar Bronze Age *nuraghe* of Sardinia helped to introduce both classes of monument to a much wider audience. What is also typical is that the process of according significance to Mousa and to Shetland's other brochs has tended until recently to bypass local perspectives, and academic theorising has always placed local knowledge at a discount. Only in more recent decades has the local community become more engaged partly aided by the establishment of a locally-managed heritage trust.

4 Associated properties

4a *Associated properties managed by HES*

- Clickimin (broch and associated remains, Shetland)
- Jarlshof (broch and associated remains, Shetland)
- Ness of Burgi (fort, Shetland)
- Gurness (broch and associated remains, Orkney)
- Midhowe (broch and associated remains, Orkney)
- Càrn Liath (broch, Highland)
- Dun Dornaigil (broch, Highland)
- Dun Beag (broch, Highland)
- Dun Telve (broch, Highland)
- Dun Troddan (broch, Highland)
- Dun Carloway (broch, Comhairle nan Eilean Siar)
- Edins Hall (broch and associated remains, Scottish Borders)

4b *Associated property managed by another organisation*

Old Scatness (broch and associated remains, Shetland)

4c *Other associated sites*

A number of other broch sites have had work done to make them more accessible to visitors, although this has often been done as part of time-limited funding programmes. Examples of such sites include Nybster and Dunbeath (Highland), while at time of writing a major excavation and consolidation programme is under way at Clachtoll (Highland).

5 Keywords

Broch; Iron Age; Solid-based; Intra-mural stair; Batter; Guard cell; Entrance passage; Inter-visibility; Saga

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[Note: The exact dates of printing and publication of the volume containing the above paper remains unclear. Containing a range of longer papers about brochs by different authors, with illustrations of a quality much superior to that possible at the time in the Society's Proceedings, it may have appeared in sections, only being bound up as a composite volume some years afterwards: research into the records of the Society of Antiquaries have so far failed to clarify this. Dates ranging from 1875 to 1890 have been offered by different commentators, but this account cites the known date on which Dryden presented his paper to the Society, 13 May 1872.]

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Note: Footnotes throughout the text offer page numbers where appropriate. If no page number is given, this indicates that reference is being made to the general thrust of the publication cited rather than a specific point of detail.

Appendices

Appendix 1 – Timeline

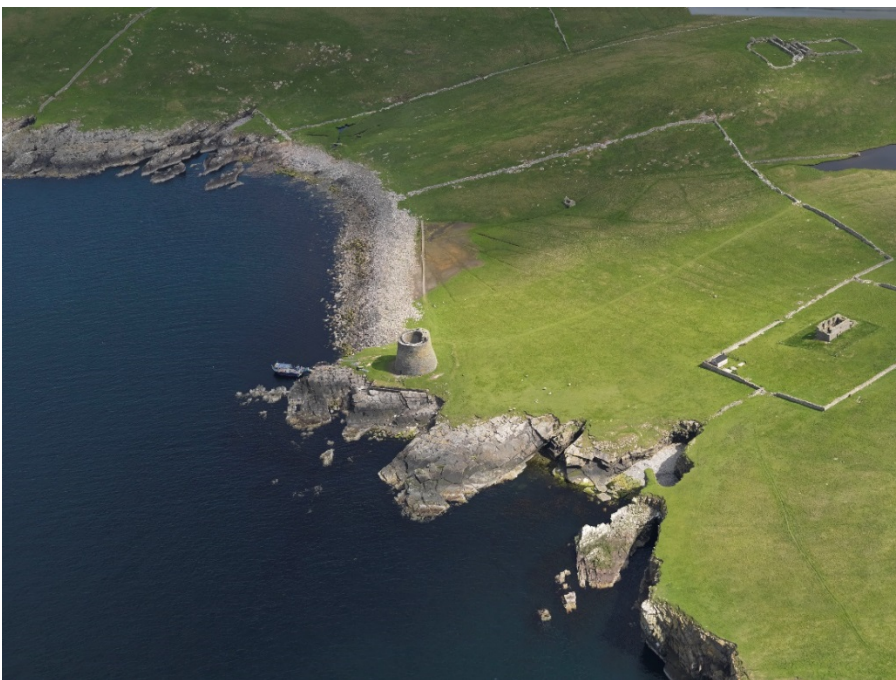
Iron Age (early to middle)	Construction of broch, either in 4 th /3 rd centuries BC or in 1 st centuries BC/AD. Flanking wall/rampart erected (may be later).
Iron Age (later)	Insertion of wheelhouse within broch. Construction of small structures near broch entrance. Site abandoned by ?400 AD.
Viking/Norse	AD c.910 and c.1153 Mousa features in two separate Norse saga accounts (both first written down in 1200s) as the refuge of fugitives, with text indicating that it is regarded as defensible against a small well-armed party of warriors.
Medieval	Find of a small carved wooden model of a “Norway boat” recovered in 1861
Early modern	Broch depicted on late 16 th / early 17 th century maps. 1711 mention in Sibbald’s <i>Description</i> Antiquarian visits from 1770s onwards.
19th century	Sir Walter Scott visits on 9 th August 1814, discusses Mousa and brochs in notes to his novels <i>Ivanhoe</i> (1820) and <i>The Pirate</i> (1822) – latter a critical failure due to its obsession with Shetland and its antiquities and is nowadays assessed as the weakest of Scott’s <i>Waverley Novels</i> (fondly regarded in Shetland, though little-read) c.1814 Proprietor James Pyper undertakes work to open up the (later) entrance. c.1853 Mousa acquired by John Bruce of Sandlodge. 1852 and 1855 Sir Henry Dryden visits and draws the surviving remains, in 1857 (with support of John Stuart, Secretary) seeks and gains support of Society of Antiquaries of Scotland for clearance and repair. 1861 John Bruce arranges workmen to clear the structure and for Gifford Laurenson, stone mason, to undertake repairs to bulging areas of wall and to wall-head. 1866 Dryden returns to complete his record drawings, which are presented to the Society along with those for Clickhimin in 1872 (but do not appear in print for some years). 1876 and following years: Vandalism is reported, broch provided with a door and the island “placed out of bounds” with warning notices erected, all by John Bruce of Sandlodge.

Scheduling	<p>1882 Mousa is scheduled (as the term was originally understood), being named on the Schedule to the Ancient Monuments Protection Act which was passed on 18 August 1882.</p> <p>1885 John Bruce of Sandlodge dies, his son John Bruce of Sumburgh inherits.</p>
State guardianship	<p>1885 the State (Office of Works) takes on all responsibility for maintaining the broch and for providing access and interpretation, though title to the land remains with the proprietor.</p>
20 th century	<p>1919 Office of Works undertakes final clearance of the broch, revealing the original entrance passage, undertakes consolidation work including rebuilding of the outer wall around the entrance and at the wall-head. Thorough drawn record of broch made by supervising architect John Wilson Paterson.</p> <p>1930 Royal Commission on the Ancient and Historical Monuments of Scotland investigators visit, prepare record drawings (possibly simply adapting Paterson's of 1919) – not published until 1946.</p> <p>1965 serious distortion noted in wall above rebuilt entrance.</p> <p>1967 – 1985 (approx.) systemic programme of consolidation involving replacement of large majority of tie-stones and lintels, reconstruction of large areas of inner and outer wall-faces.</p> <p>1968 Mousa (whole) island designated as Site of Special Scientific Interest</p> <p>Late 1990s Safety rail installed at broch wall-head.</p>
21 st century	<p>Laser scanning commences, with view to regular repeat surveys.</p> <p>2005 Campaign to make Mousa (along with Jarlshof and Old Scatness) a World Heritage Site begins, added to UK Tentative List in 2011, requiring full technical assessment of bid to be submitted to UNESCO by 2021 (Shetland Amenity Trust in lead).</p>

Appendix 2 – Images



Aerial view, showing interpretation board, remains of structures outside broch entrance, grass-covered remains of wall beyond broch. Note gabions at coast edge and flagstones of foreshore.



Aerial view showing broch in its setting: the Haa to the right, the end of the loch top right with ruins of farmhouse above, and just visible the tiny roofless “click” mill. The building in the corner of the Haa field is the consolidation squad’s base.



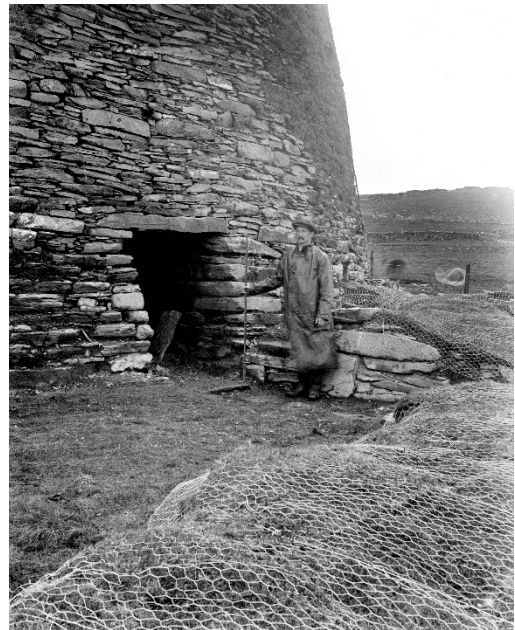
Distant aerial view from WSW: note the broch is on the more sheltered side of the island. The boat landing is towards the left hand (north) end of the island, where the very distinct wall reaches the rocky shore.



The ruined structures outside the broch entrance. **SC 336040 © Crown Copyright: HES.**

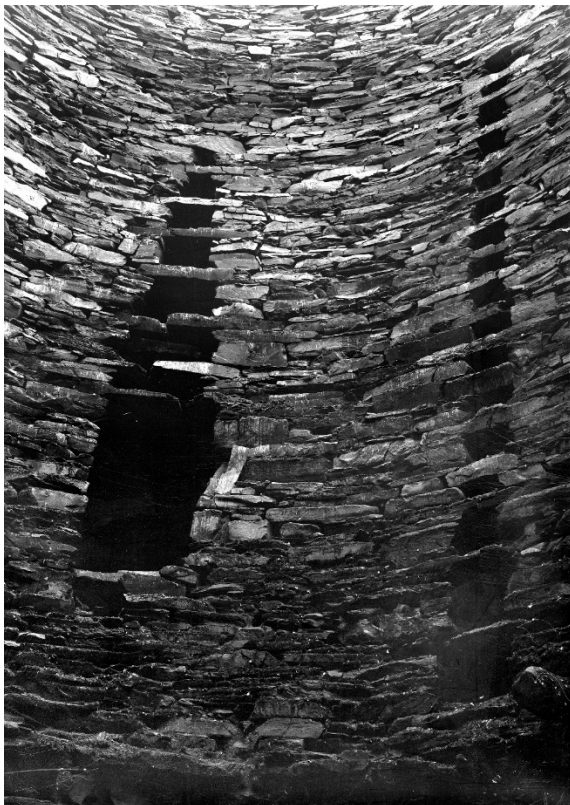


SC 1166524 © Crown Copyright: HES.



SC 1166526 © Crown Copyright: HES.

Exterior view in 1919 showing before and after rebuilding of wall above entrance.



Interior wall-face showing stair landing between first and second gallery levels and ascending "stacked voids". SC 336038 © Courtesy of Historic Environment Scotland.



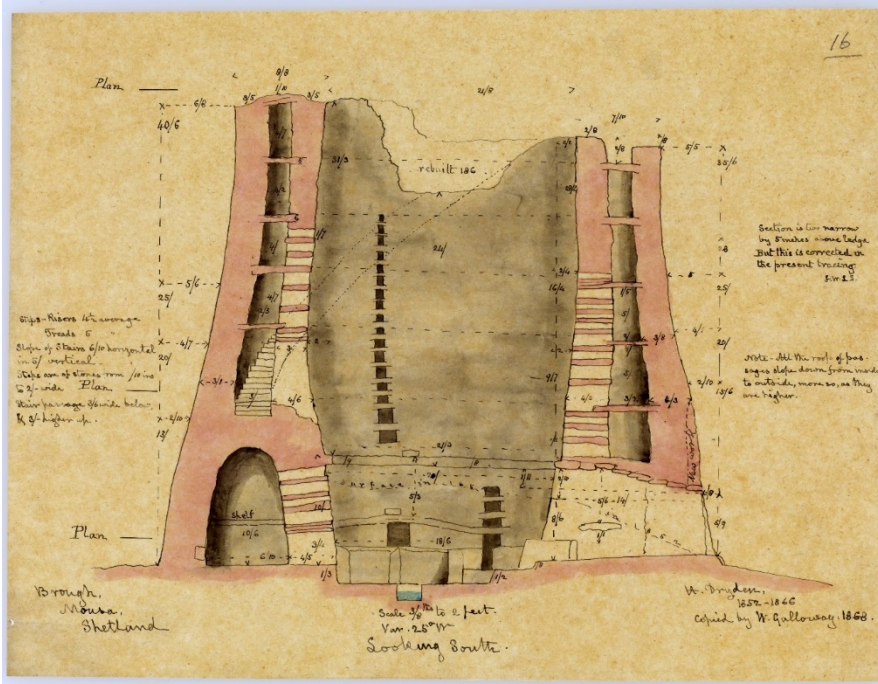
Central space form above, showing stair-foot landing at top left, entrances to wall-base cells, scarcement ledges and later features: bench around inner wall-face, masonry "pier", square hearth (rebuilt) and floor tank (dry). **SC 1224494** © Crown Copyright: HES.



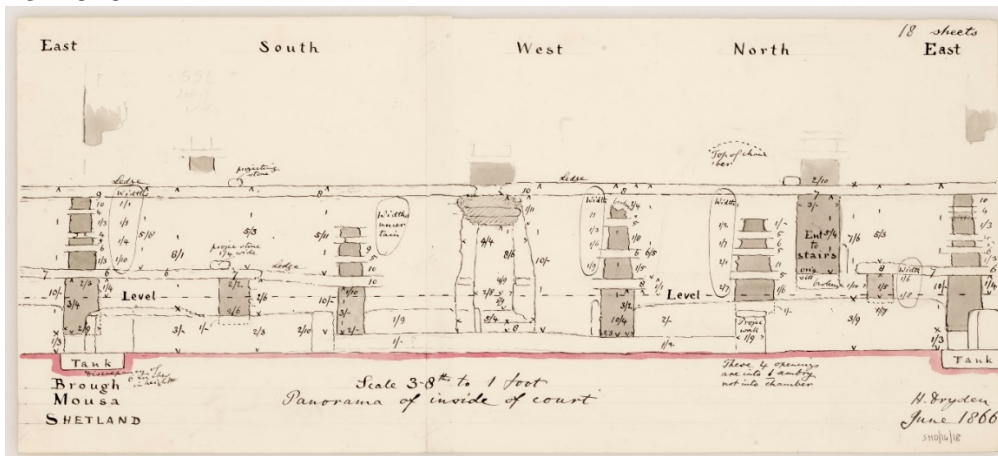
View inside stairway looking upwards. SC 336270 © Crown Copyright: HES.



View of wall-head. SC 336236 © Crown Copyright: HES.



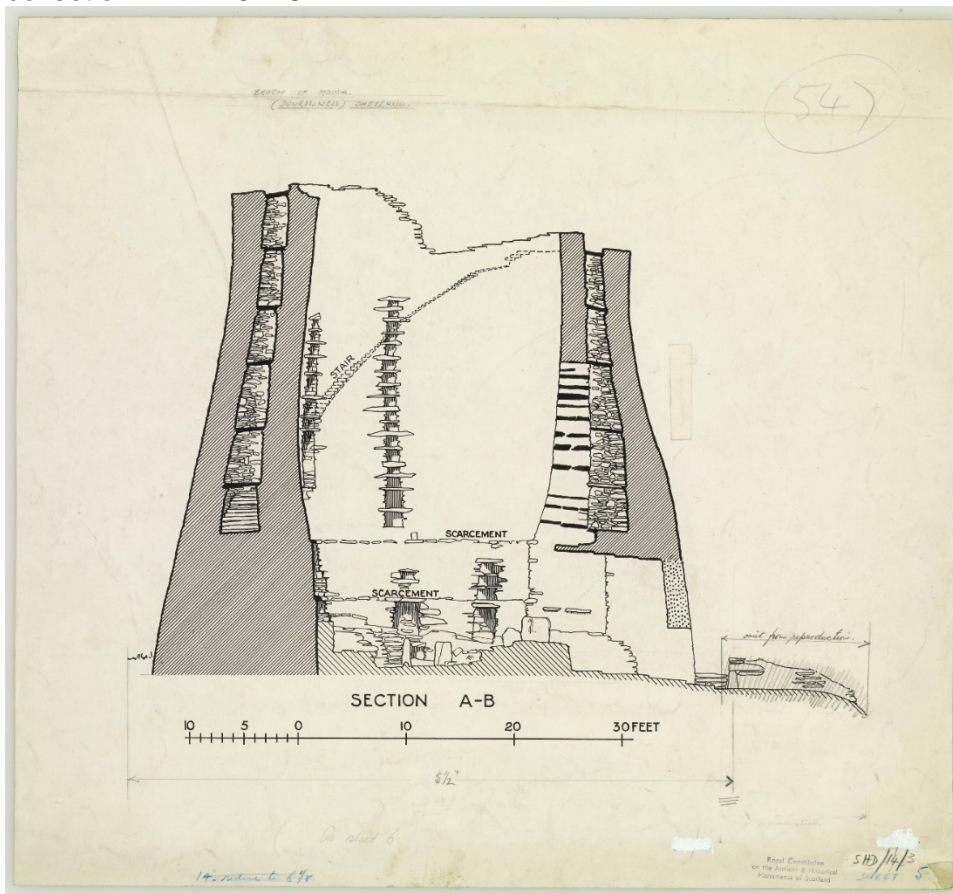
Dryden's section through the broch in line with the entrance. HES collection DP 1321945



Dryden's ingenious "unwrapped" drawing of the lower inside wall-face. HES collection DP 1365527



1875 view -note that the figures are slightly too large for true scale. HES collection – DP 1322822



Paterson's section 1919. Compare with Dryden's 1866 version above. HES collection DP 1505509



Paterson's 1919 photograph, clearly showing rebuilding above the entrance but still with a considerable amount of consolidation to be done on the walls, and the wall-head work apparently not yet done. HES collection – SC 1330617

Current / local use examples:

Logo of Shetland Amenity Trust – Museum and Archives





As well as forming the basis of various souvenir items, Mousa sometimes appears in surprisingly creative forms – as in this knitwear shop window display. (Image courtesy of Brian Smith, Shetland Archivist)

Appendix 3 – Mousa Broch, Detailed Description

*Description - detailed*⁴⁰

Primary structure: The external diameter of the broch at ground level is 15.3 metres, and forms a near-perfect circle. The diameter of the internal space is 6.1 metres. The wall stands to a height of 13.2 metres, and may once have stood slightly, but not much, higher. Mousa has the distinction of being the most solidly-constructed of any known broch, in terms of the proportion of the total diameter taken up by the thickness of its walls. The external profile of the tower is approximately that of part of a topless cone, but with a pronounced bulge partway up, giving it an ogee profile. It is generally assumed that the broch when built would originally have had a regularly inward-sloping (or “battered”) external profile, and that its present double-curved profile results from the distortion of stonework under the weight of its upper levels. The inner wall-face is vertical.

The entrance, facing west towards the mainland, has been repeatedly disturbed, entry to the rubble-filled broch having been forced through into a chamber at a level 2m above the true entrance, ripping away the lintels above the original entrance passage in the process. This probably occurred in Medieval times. The broken lintels over the original entrance passage were not replaced in 1919, other than at the external and internal ends of the passage, leaving a high gap above the entrance passage where there was originally an intramural chamber. There is a slot for a draw-bar on the left side of the passage (facing inwards), but no sign of a guard-cell opening off the passage, as is frequent in brochs. The interior has been extensively excavated, to bedrock in places.

Three oval chambers or “cells” in the wall-base are accessed by narrow passages opening off the central space. Two scarcement ledges protrude from the inner wall-face at approximately 2.1 metres and 3.7 metres above ground level, and are presumed to have anchored raised wooden floors. About 2.1m up, an entrance in the inner face at the level of the first scarcement gives access to a chamber in the wall thickness, which serves as the landing to a stone stairway. This ascends clockwise within the thickness of the wall.

At a landing 3.8m up, the same level of the upper scarcement ledge, the stair passes through the first of six horizontal “galleries”, which run around the full circuit of the broch, to emerge at the present-day wall-head. Early descriptions suggest there may have been at least one more gallery above the 6th level, but this is not certain. The galleries within the wall thickness do not narrow rapidly with height, as is the case in the few other brochs which survive to any great height. Instead, the 6th or uppermost gallery is almost as wide as the 1st and 2nd. The gallery width is maintained by a gradual thinning of the outer skin of the hollow tower wall, while the inner skin remains of more or less constant thickness. The inner faces of the galleries are also more regularly built than in other tall-surviving brochs, but this may be at least partly an artefact of conservation work in more recent times.

⁴⁰ MacKie 2002, 7-19; 82-87 and 161-170 for more detailed description.

It is worth noting that the stairway cuts through the gallery floors/roofs, so that access to the galleries (except the first level gallery) can now only be gained by placing a short ladder onto the stairs, leaning back to the open end of each gallery. It is possible that, when the broch was in primary use, access to at least the lower galleries would have been gained by wooden stairs or ladders from within the central court.

In the inner skin of the wall are three long “stacked voids”, openings penetrating from the interior to the galleries, running from 1st up to 4th gallery level. Spanned by occasional long flagstones, these voids appear to be weight-relieving devices for openings below them: the entrance to the stair-foot landing lies below one set of voids while the entrance to the landing at the higher level lies below another void. There are also three similar though lesser vertical recesses which may serve the same purpose. These openings also allow light and air to penetrate into the intra-mural galleries.

It is generally assumed that brochs contained one or more raised wooden floors and were roofed. At Mousa, as elsewhere, the details of such hypothetical structures are unknown and indeed their existence is by no means proven.

Secondary structures: Within the internal space are partially preserved features which are mainly of later date, though almost certainly still Iron Age. A wall approximately 0.6 metres thick has been inserted around the inner face of the tower wall, with projecting “piers” of masonry running toward the centre – only one pier now survives, though early accounts describe three. At the foot of this wall, a low bench, topped with thin flagstones, encircles the central area, where there is a stone-built hearth and a sloping floor-tank which still catches water: the latter may be an original feature and reaches to bedrock.

Immediately outside the broch’s entrance are the grass-covered remains of stone structures. These appear to have suffered seriously during the course of later work to clear and consolidate the tower, and simply through having been left exposed for many years, so that little of them remains. Finally, a low, stone-faced enclosure wall runs across the promontory to the east of the broch. This is impossible to date from its superficial appearance and has also been much reduced since it was first recorded.

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A modern metal gate (to exclude sheep) closes the entrance passage and a strong metal mesh has been stretched across the top of the central space (to exclude larger birds and to offer a measure of safety for visitors). A handrail has been provided at the open wall-head in recent years, also to improve visitor safety.

Nearby historic sites

There are a small number of other ancient and more recent sites of interest on the island. To the north of the small loch near the broch are the remains of an oval house

of probable Neolithic or Bronze Age date (though some excavated examples of this form have produced early Iron Age dates). Not far away, at the point where the loch drains towards the sea, is a burnt mound, a monument-type typical (in Shetland at least) of the Bronze Age and usually interpreted as a cooking place (though use as a sauna or sweat-house cannot be ruled out). From the post-broch period, ruins include those of a number of post-Medieval farmsteads, the last of which was abandoned in the early 1840s and a small horizontal grain-mill of the type commonly referred to as a “click” mill or a “Norse” mill. Finally, a late 18th-century house of two stories (in Shetland parlance a Haa) stands in ruins near to the broch, within a ruined enclosure wall. The Haa was built in 1783 for James Pyper, a Lerwick merchant who purchased Mousa and lived there until his death. He reputedly chose this out of the way life “to keep his wife from drink”. It was during Pyper’s tenure that Mousa’s mid-18th-century population of about 50 began to dwindle, as the island began to be used increasingly as seasonal grazing. After Pyper’s death, his second wife lived there until 1851, after which time the island ceased to be inhabited. In 1853 it was acquired by John Bruce of Sandlodge.

Antiquarian interest

Mousa began to attract tourist and antiquarian attention from the early 18th century. The first substantive published account of Mousa appears in Sir Robert Sibbald’s *Description* of 1711⁴¹: (Although usually referred to as Sibbald’s, this account is based on an account by a local Minister dated around 1683 (pers. Comm. Brian Smith).

The text offers a short description of Mousa and relates that an underground channel allowed the sea to flow under the broch, an interesting though inaccurate tale. The partly rock-cut water tank at floor level, which might otherwise have formed the basis for this belief, was only revealed during the clearance of debris in 1861. Sibbald discusses the origins and purpose of brochs, agreeing with the earlier views of ‘Maul’ (probably Robert Maule, an early antiquarian, whose manuscripts were subsequently lost in a fire, or possibly his uncle Henry Maule). These are cited at length (in Latin): in summary, that brochs were inspired by Pictish contacts with Roman architecture.

The next detailed account, and this time by someone who did visit in person, dates to 1774. The Reverend George Low’s manuscript, with its lively if somewhat schematic depictions including a cross-section and a cut-away drawing, was to remain unpublished until 1879⁴², although it appears to have circulated widely in manuscript form.

Walter Scott (later Sir Walter) visited in 1814 (on Tuesday August 9th). Although his lively journal did not see the light of day until 1839⁴³ he included his thoughts on brochs in the end-notes to two of his Waverley novels: *Ivanhoe* (1820) and *The Pirate* (1882). Scott travelled at the invitation of the Commissioners of Northern Lights and in the company of Robert Stevenson (senior), founder of the “Lighthouse Stevenson” dynasty of civil engineers⁴⁴.

⁴¹ Sibbald 1711, 20 and 42-4 citing “Maul”

⁴² Low 1978, 181-4

⁴³ First published in 1839 in J G Lockhart’s *Life of Sir Walter Scott* (10 volumes), Vol IV, 125-162 (Lockhart was Scott’s son-in-law), and since republished in freestanding form as Scott 1982

⁴⁴ Bathurst 1999 offers a detailed account of the Stevenson family’s work in this field

Samuel Hibbert visited in 1822, and published a very schematic and inaccurate cross-section⁴⁵ as well as making the suggestion that brochs were built by the Saxons.

In 1852 and again in 1855, Sir Henry Dryden visited Mousa, and made and published the first reasonably accurate records, returning in 1866 to record the site afresh after its clearance and repair.

Dryden's work was energetically supported by John Stuart, then Secretary of the Society of Antiquaries of Scotland (which received Dryden's drawings and reports), though there is no record of Stuart himself ever visiting Mousa. Stuart was instrumental in helping to raise funding for the clearance, in 1861, of almost 3 metres depth of rubble from within the broch and around its exterior. This was done on the instructions of the owner, John Bruce of Sandlodge, and at the expense of Bruce, Dryden and a number of other Fellows of the Society of Antiquaries of Scotland. The public subscription sheet survives in the Shetland Archives (pers. Comm, Brian Smith).⁴⁶

The landowner, John Bruce of Sandlodge, was keenly interested in antiquities and liaised closely with Dryden and with other interested fellows of the Society. It was he who was instrumental in arranging for estimates for the work required (see below) and for the engagement of a local mason to undertake essential repair work as his own workmen dug out the accumulated debris.

Excavations

It could not be said that the clearance of the accumulated rubble in 1861 and subsequent recording constituted archaeological excavation, even by the standards of the time⁴⁷. The primary purpose of the exercise was to reveal the original structure both inside and out so that it could be properly recorded. In the order of 3 metres depth of loose stone and bird droppings was removed from the interior and up to 2m from the exterior.

While this work revealed much of structural interest, including the discovery that the original entrance lay 2 metres below that which had been broken through in Norse times and also revealing for the first time the cells in the base of the internal wall, it was also destructive. However, it was not undertaken totally without care, as it did not remove the remains of the later wheelhouse-like structure within the broch's central space, though this may have survived simply because the excavators failed to realise that they had not bottomed the broch's original entrance passage.

A few fragments of a single clay pot are in the National Museum of Scotland collection, with a black, burnished outer surface which would, according to current views, place it rather later in date than the broch itself. In addition, Dryden reported some stone objects, "a carved model of a Norway boat in fir, about 3 [inches] long and great quantities of animal bones, especially of otters⁴⁸. The paucity of finds (in marked contrast with Clickhimin and even more so with Jarlshof) suggests either that the broch

⁴⁵ Hibbert 1822, 251-5

⁴⁶ Dryden 1857, 124

⁴⁷ Dryden 1872, 210

⁴⁸ Dryden 1872, 210

was not inhabited for long or that it had been regularly and systematically cleared out while in use

In 1919 the broch was again cleared (presumably of debris which had accumulated since 1861) but again without serious archaeological recording⁴⁹.

There have been no systematic excavations since.

Surveys

Following sketches by Low in 1774 (published 1879)⁵⁰ and Hibbert in 1822⁵¹ measurements made by Robert Stevenson (senior) in 1814 and published by Scott⁵², it was Dryden who made the first effort to record the structure accurately, in 1852. The fact that he recorded the broch both before and after the rubble clearance of 1861 is particularly important. Interestingly, Dryden never seems quite to have captured the correct relationship between the internal stair and the wall galleries. These records led to the presentation of fine drawings to the Society of Antiquaries of Scotland⁵³.

It was not until 1919 that an accurate measured survey was undertaken, by Paterson for the Office of Works⁵⁴. This resolved some inaccuracies in Dryden's earlier work, and has remained the basis of later depictions, including that of the Royal Commission on the Ancient and Historical Monuments of Scotland (who visited and described the monuments of Shetland in 1930, only to see publication delayed until 1946)⁵⁵.

In more recent times, measured surveys and extensive photographic and later photogrammetric recording have been undertaken by the successors to the Office of Works, until recently Historic Scotland and nowadays Historic Environment Scotland. Much of this detailed work concentrated on specific areas of concern in relation to structural stability or serious deterioration of stonework.

Consolidation and repairs

[this section draws heavily upon partly unpublished notes compiled by Brian Smith, Shetland Archivist, with grateful acknowledgement]

Mousa has been subject to many campaigns of restoration and consolidation over perhaps 200 years. Around the time of Walter Scott's visit in 1814, the landowner James Pyper arranged for the entrance to be enlarged and strengthened. This was later recognised to be a secondary opening, forced through in earlier times. Pyper does not appear to have followed Scott's advice to clear out the interior of the broch to reveal more of the structure.

When the broch was first extensively cleared of debris in 1861, a programme of repair was carried out by Gifford Laurensen, stonemason from Tingwall, Shetland, along the

⁴⁹ Paterson 1922, 172 and 182

⁵⁰ Low 1978; 181-4

⁵¹ Hibbert 1822, 251-5

⁵² Scott 1982, 46

⁵³ Dryden 1872, plates XXI and XXII (between pages 210 and 211)

⁵⁴ Paterson 1922, 172-83

⁵⁵ RCAHMS 1946, 48-55, figs 531-541, plates 17 and 18

lines previously set out by James Barron of Kirkwall⁵⁶. The extent of these repairs is captured in Dryden's 1866 drawings, and it is clear that Laurenson carefully repaired the wall-head of the broch (but did not heighten it or alter its essential character) and repaired the bulges in the outer wall which were causing concern. The true entrance was established but the breach in the wall above it was not repaired at this time.

In 1876 John Bruce denounced in the local newspaper, *The Shetland Times* the 'evil-disposed persons...wickedly and maliciously damaging and casting down the upper stones' and offered a reward for information, as well as placing the island out of bounds. It is not known exactly when repairs were effected in response to this new damage, though by in 1885, when the broch was passed into State care, Bruce had spent a total of £15 on notice-boards warning off trespassers, repairs to the wall and for a 'very durable and substantial' oak door.

Now secure from human disturbance, the broch interior was colonised by birds and was described in 1892 as "one vast pigeon-house", with the Bruce family removing a ton of guano each year for use as garden manure. This activity seems to have led to attrition of the later Iron Age structures on the floor of the broch interior, which were recorded in Dryden's 1866 plan as of wheelhouse form, with three radial piers, but which by 1919 had been reduced to only a single pier.

There seems to have been steady but unspectacular deterioration until 1919, by which time over 1 metre of debris had once again accumulated inside the tower, largely consisting of bird-droppings and smaller fallen stones⁵⁷. In that year, John Wilson Paterson, architect with the Office of Works, arrived on Mousa with a squad of masons, to oversee "certain works of repair" and make an accurate, up-to-date, measured survey of the broch. Paterson unravelled the history of the entrance passage, excavating down to the original entrance level.

Paterson's detailed survey accompanied a sizeable campaign of consolidation. This included the rebuilding of the outer wall-face above and around the newly-revealed original entrance level, intended to restore an approximation of the original. This work involved the re-insertion of lintels in the outer skin of the wall above the restored entrance passage, but did not extend to replacing the snapped or removed lintels further along the passage. The absent inner lintels allowed the additional height required to allow visitors to pass over the raised (secondary) bench around the inner space, to cross which wooden steps were provided⁵⁸.

Less restrained was the insertion of substantial volumes of cement into the lower broch walls, which was seen as the only possible solution to continuing settlement of the structure, short of complete rebuilding. Considerable work was also done to the wall-head which was in a very precarious state, to ensure it was secure for visitor access, and the present trapdoor arrangement for access from the top of the stair onto the upper gallery level may have been created at this time. The original of a later succession of metal gates was inserted at the outer end of the newly restored entrance passage at this time.

⁵⁶ Stuart 1857, 194

⁵⁷ Paterson 1922, 210

⁵⁸ Paterson 1922, 183

Over the succeeding decades, occasional campaigns of minor consolidation and removal of lichen took place, but nothing more major was seen as necessary until 1965, when it was noted that a serious bulge in the outer skin of the broch had developed above the rebuilt doorway, with the tie-stones between the outer and inner skins faces of the broch wall broken or wrenched loose, and the risk of imminent failure of the wall.

This led to a campaign from 1967 onwards, during which masons reset or replaced, as far as possible like-for-like, almost every one of the tie-stones which floor/roof the galleries and the majority of these stones in the stairway. This, combined with other consolidation work to the outer and inner walls of the broch, took almost 20 years to complete. The works squad, sometimes reinforced by colleagues from Orkney, undertook several weeks of work each summer, living during the week on the island initially in tents and later in huts erected for that purpose within the walled enclosure of the nearby ruined Haa'.

The primary focus of work over the last century has been to maintain the structural stability of the broch. The major concern has been continuing natural settlement of the drystone structure, which can lead to bulging in the exterior wall-face to a point where they become points of catastrophic failure. A specific mechanism within this is the failure of individual stones at key points in the wall faces, especially the snapping of tie-stones and lintels. Such stones have been replaced item by item with stones of similar dimensions and appearance. The entire visible surface of the walls has been subjected to the insertion of small stone pinnings, to mitigate against stone slippage and fracture. Those areas of the walls so treated have usually had any loose material between stones removed and sometimes replaced with concealed mortar. The replacement of pinnings has become a significant component of routine maintenance.

Heightened concern for staff and visitor safety, in the face of increasingly stringent regulations, have led to the addition of railings at the wall-head: these are anchored in a way which minimised disturbance to the stonework – which in this area had already been consolidated extensively, so was far from original.

A note is necessary regarding the (non) consolidation of features outside the broch tower. The largely vanished external structures, shown clearly on the 1919 plan, seem to have been accorded almost no significance, being slowly trampled away by the feet of visitors and sheep – their much-reduced stumps appear to have been turfed-over only in the later 1950s. The gradual erosion of the turf at the edge of the low coastal cliffs also ate into these remains. Gabions – stone-filled wire-mesh baskets – were emplaced to address erosion in the 1980s. Over the same period of the time the stone wall which runs across the grassy promontory on the landward side of the broch was also left unattended and was steadily reduced: its appearance today would not justify Low's description in 1774 as a "stone rampart in ruins" and its robust depiction in the same volume⁵⁹.

⁵⁹ Low 1978; 181-4

Appendix 4 - Brochs – theories and interpretations

a) *Defining brochs*

For the purpose of this and other similar documents, the term “broch” is used to refer to what some researchers have called “fully formed” or “tower” brochs. There is no way of knowing exactly how many such structures once stood to heights approaching Mousa’s 13 metres plus, only that the visible surviving remains of many sites do not rule this out.

Dryden first attempted to define brochs in 1872:

“A broch is a circular tower formed of wall 10 to 16f thick at the base, enclosing a court from 24 to 38f diameter, with one entrance from the outside into the court. The usual thickness of wall is about 15f, and the usual diameter of the court about 28f. All were in outline truncated cones – that is, the outside of the wall “batters” or inclines inwards. The wall is also decreased in thickness towards the top by set-offs inside. The chambers of the broch proper are in the thickness of the walls, but there are usually partitions in the court of later construction. The original height of these towers of course varied, and except Mousa, we have no broch more than 20f high, but Mousa is still 40f high and was somewhat more. No mortar was used in them, but probably the chinks were stopped with moss or mud just as in modern Shetland cottages.”⁶⁰

There have been a number of definitions over intervening years, of which that by MacKie in 1965, refreshed in 2002, remains the most influential. MacKie offered a tight definition of brochs, to distinguish them from other drystone structures of broadly similar date. For Mackie, for a structure to be classed as a broch required five essential characteristics which must all occur in combination: (1) a circular ground-plan, (2) a thick wall, (3) large size, (4) a ledge (or scarcement) on its inside wall face and (5) at least one “hollow wall feature” from a list of four: (5a) an upper gallery (that is, a hollow wall at a level higher than the ground level), (5b) a chamber over the entrance passage, (5c) a void or voids in the inner wall-face and (5d) an intra-mural stair at an upper level.

MacKie noted that some “classic” features of brochs, such as their narrow and well-built entrance passages, occur in other types of structure. He also excluded from broch-defining characteristics the possession of a hollow wall at the ground level only, and also the possession of a stair which starts at ground level unless it rises to a much higher level.

As MacKie noted, relatively few of the c.600 sites referred to as brochs can be shown to possess this set of features, and he proposed that “probable” brochs could be defined as possessing features 1 to 4 but not demonstrably possessing any of the hollow wall features, with possible brochs having “no diagnostic features exposed but which seem likely from their situation to be brochs”⁶¹.

⁶⁰ Dryden 1872, 200

⁶¹ MacKie 2002, 1-2 [Comment: MacKie’s definition of “possible broch” effectively undermines the whole point of defining brochs, since it allows any site to be a broch if the researcher in question thinks it is one.]

The features of MacKie's "brochs" and "probable brochs" are known to be present at no more than 15 percent of the 600-plus suggested broch sites in Scotland, and there is no knowing how many of the remainder might, or might not, reveal such features on excavation, which means that Scotland is known to possess at least 80 brochs but could in fact possess many more, not to mention sites lost or destroyed over the centuries before antiquarian interest.

Stepping back from technical structural definitions, it is common practice, where a broch has proved on excavation to be surrounded by a complex of smaller structures and sometimes also by outer walls and ditches, to refer to the entire site simply as a broch. (The Broch of Mousa is an example of a (more or less) solitary broch, whereas the Broch of Gurness comprises a broch surrounded by an extensive settlement and set within large ditches.)

Brochs are unique to Scotland, and arguably represent Scotland's only "endemic" prehistoric architectural form. Their greatest concentration is in Orkney, Shetland, Caithness and East Sutherland, with more examples scattered rather more thinly across the Western Isles, Skye and the adjacent mainland, a few further south on the west coast and a handful of outlying examples in central, south-west and south-east Scotland.

b) A brief account of broch studies⁶²

Brochs have been the subject of vast quantities of research and discussion over many decades. It is necessary to review these antiquarian and archaeological debates in some detail, because the significance of Mousa (and other brochs in State care) lies to a considerable extent in how each site offers, or could offer, evidence in support of competing definitions of "broch-ness" and towards competing narratives about the origins, date, nature and purpose of these enigmatic sites. The outcome of a huge amount of study appears to be that very few of the key questions about brochs have been resolved, while at the same time new and even less answerable questions have been stimulated. All narratives rely to some extent on assumptions, and the most which can be hoped is that these are made explicit.

The word "broch" was being used by antiquarians alongside "brough", "burgh" and "Picts' House / Castle" by the early 1800s, and it was formally adopted by the Society of Antiquaries of Scotland in the early 1870s, though older usages lingered for a generation. Initially it signified a structure which was either, like Mousa, a tall-standing tower or which had a lower height but showed sufficient structural detail for its similarity with surviving tall-standing examples to be asserted with confidence.

It is worth noting in passing that "broch" does not seem to have been in popular usage for this class of structure: the only pre-1800 use of "broch" was in relation to the town of Fraserburgh, where Scotland's first planned "new town" was created in the late 1500s and early 1600s, and referred to as "Fraser's broch" or "Fraser's burgh"⁶³, suggesting that broch was a northern synonym for burgh. The nickname Broch is still

⁶² For a much more detailed treatment of the early years up to 1960 (but sadly partial and tendentious beyond that date) see MacKie 2002, 27-43

⁶³ Oram et al, 5

in popular use today, especially in local newspapers, where it allows for a larger typeface and more striking headlines than does Fraserburgh⁶⁴.

As archaeological research and fieldwork progressed, the number of “possible” broch sites has risen to about 600⁶⁵, although as time passed the majority of sites so designated were usually no more than large grass-covered mounds of masonry of approximately the right dimensions, which in their physical appearance and siting appeared to informed observers less like a large burial cairn and more like a broch – a rather unsatisfactory approach, but one which persists in modern research.

A recent estimate is that only about 150 of 600+ “possible” broch sites show any details of built masonry at all, with about half of these, 70 or 80, either surviving as towers or showing sufficient structural evidence to suggest they could once have achieved such a height.⁶⁶ That said, when “possible” broch sites have been tested by full or partial excavation, or otherwise disturbed, they do prove more often than not to reveal features allowing them to be counted as brochs⁶⁷. Additional “possible” sites continue to be added, and in some cases demonstrated to be brochs⁶⁸. In summary, Scotland has at least 80 brochs, but may have many more.

It has been accepted from the early days of serious study that few other brochs had ever stood quite as tall as Mousa and the other partially surviving towers such as Duns Telve, Troddan and Carloway, though views vary radically as to just how many were towers at all. Scott in 1947 argued that only a dozen or so tall towers had ever existed across Scotland, with the rest simple solidly built low-rise farmhouses⁶⁹. Graham immediately disputed this, based on data from Royal Commission surveys, and his view, that the majority of brochs were tall enough to be imposing, if not as lofty as Mousa, has been the prevailing view since then⁷⁰.

Attempts to define “true” or “tower” brochs as distinct from a wider class of drystone-built round-houses, forts and duns have tended to centre on the presence of specific constructional features: near-circular ground plan, hollow or galleried wall construction, single narrow entrance passage, staircase within the wall thickness, a wall thick enough to have supported a sufficient height to act as a defence, etcetera⁷¹.

Although early commentators tended to agree that brochs were originally unroofed towers, over time opinion has shifted to the extent that most commentators, while disagreeing about details, accept that brochs contained significant internal fittings, typically including one or more raised floors and some form of a roof, and that timber was the major component of these “now vanished” elements. However, such features

⁶⁴ One memorable headline from the Press and Journal, in 1980: “Broch man told lies to gain credit”

⁶⁵ Armit 2003

⁶⁶ Barber 2018

⁶⁷ E.g. Cloddie Knowe, trial trenched in 1988 (MacKie 2002 p 82)

⁶⁸ E.g. Channerwick, revealed in winter 2013/14 <http://scharp.co.uk/shoredig-projects/channerwick-broch/> accessed 6 September 2018 (illustration also shows Mousa used as the archetype of a broch)

⁶⁹ Scott 1947

⁷⁰ Graham 1947a and 1947b

⁷¹ MacKie 2002, 1-2

are in all cases inferred, based on what makes best sense of surviving stone-built features such as scarcement ledges. Initially, it was suggested that broch roofs were “obviously” annular, lean-to structures leaving the centre for the inner space open to the sky (for light and smoke to escape)⁷². More recently, broch reconstructions have tended to feature conical roofs sitting on the wall-head or just below it, with the weight taken by stout posts⁷³. Fojut (sceptically) and most recently Romankiewicz (more optimistically) are among those who have recently published on possible roofing structures⁷⁴.

Physical evidence for such features is extremely rare amongst excavated broch sites, and even at the only two brochs where evidence of really substantial floor-set timber posts has been found, Dun Troddan (Highland)⁷⁵ and Leckie (Stirlingshire)⁷⁶, these cannot conclusively be confirmed as having been constructed at the same time as the brochs⁷⁷. The need for caution is emphasised by the substantial post-rings found at Buchlyvie (Stirlingshire)⁷⁸ and Càrn Liath (Highland – Sutherland)⁷⁹ which in both cases can be shown to relate to pre-broch roundhouses.

If all brochs were indeed fitted out in timber, this would have interesting implications for wider relationships and poses the question of how quality timber for construction was obtained by those living in relatively treeless areas such as Shetland or the Western Isles.⁸⁰ The earlier view, that brochs as first constructed were not intended to be roofed, still has adherents, who offer an alternative view of brochs as a network of defensive lookout towers built in response to the threat of raiding or invasion. Smith has recently re-opened this debate by suggesting that Mousa and some other (although not all) brochs were never intended to be roofed⁸¹.

c) *Broch origins*

The date and antecedents of brochs have been pushed progressively earlier. The idea that brochs were built by the Danes or Vikings⁸² persisted for some decades, despite the outright rejection of this idea by Scandinavian antiquarians as early as 1852⁸³. The alternative, that they were built as watch-towers by the native population against the Vikings, was also popular⁸⁴ and led to them being called “Picts’ House” or “Pictish Castle”. However, by the 1880s, it had become generally accepted that brochs were somewhat earlier, dating to what had come to be termed the Iron Age and constructed at a time when the Romans were expanding their Empire actively further south⁸⁵.

⁷² Curle 1921, 90-92

⁷³ For example that by Alan Braby, widely reproduced, e.g. in Armit and Fojut 1998, 15

⁷⁴ Fojut 2005b, 194-6; Romankiewicz 2016, 17-19

⁷⁵ Curle 1921, 90-92

⁷⁶ MacKie 2007, 1312-3 (see also MacKie 2016 for more detailed account)

⁷⁷ Fojut 2005b, 192-3

⁷⁸ Main 1989, 296-302

⁷⁹ Love 1989, 165

⁸⁰ Fojut 2005b, 196-9

⁸¹ Smith 2016, 15

⁸² Fergusson 1877, 630-9

⁸³ Worsaae 1852, 233

⁸⁴ Stuart 1857, 191-2

⁸⁵ Anderson 1883

As the discipline of archaeology developed, and in the absence of direct dating evidence, efforts were made to fit brochs into wider perspectives. The idea of a series of “cliff castles” along the west coast of Britain, originating in Cornwall and gradually spreading north as they increased in architectural sophistication and complexity, was proposed⁸⁶, and led to the dominance of various “diffusionist” models, in which brochs were seen as the strongholds of an incoming elite⁸⁷. Elaborate “family trees” of Iron Age fortification across western Europe were drawn up, culminating in the broch, and these carried some influence well into the 1980s.⁸⁸

The discovery in excavated broch sites of some types of artefacts with similarities to those found in southern England and Brittany was held to support this idea, with any thought that their presence might have arisen through trade being rejected. Clarke and others warned that many of the artefact types cited were much more broadly distributed and in some cases near-ubiquitous⁸⁹ in the middle Iron Age, and could not be relied upon to demonstrate invasion.

The observation has been made that the local Bronze Age in the area in which brochs are subsequently built is poor, but this may be a mis-reading of the evidence: a lack of monumental building does not necessarily imply an impoverished culture. The fundamental problems for the immigration/invasion hypothesis as an explanation for the appearance of brochs, which has never been satisfactorily addressed, are (a) why the arrival of people from an area which held no structures anything like brochs should lead to their construction in their new homeland, and (b) why the limited amount of “exotic” pottery which is held to mark their arrival in the area (supposedly at Clickimin) might not have been obtained by trade or by gift exchange.

The idea that brochs were built by “warlike chieftains” to “overawe a subject population” remained popular⁹⁰, although not with all commentators. Stewart in 1956 was typically concise in this respect:

“Shetland at its best had two feudal castles, and all the local lairds of later times (very small fry indeed) would not have added up to the fraction of her hundred brochs, so it is useless to think of a lord controlling a group of serfs... We have a form of life based on a group much larger than the family, and a communal effort to meet some unprecedented sort of danger.”⁹¹

The older, alternative view, that brochs were a unique local invention, began to be revived in the 1950s, notably in Shetland⁹². Broad contemporaneity with the Roman presence was still supported, but now with the added idea of brochs as refuges against slave-raiding, possibly by the Romans or by war-bands selling slaves into the Roman Empire. The persistence of immigration, if not invasion, as a stimulus was maintained, with the invention of brochs, probably in Orkney, by a “mixed” population⁹³. At the

⁸⁶ Childe 1935

⁸⁷ Scott, 1948

⁸⁸ Hamilton 1968, 51

⁸⁹ Clarke 1971

⁹⁰ RCAHMS 1946 (visited/written 1930), 48-55

⁹¹ Stewart 1956, 15

⁹² O'Neill 1954

⁹³ Stewart 1956, 15-16

same time, the idea that brochs were built over a very short period and then abandoned or converted into non-defensive structures was revived.⁹⁴

The period of broch construction was still assumed to be in the last century BC and the first century AD (largely on the basis of a few Roman artefacts found in and around brochs). This allowed for several centuries of experimentation to “perfect” the broch, wherever it first emerged in its ultimate expression as a tower, although there was a tendency to push this date a little earlier, perhaps into the second or third century BC, with an increasing preference for local invention over external inspiration. There was general agreement that brochs as well-built as Mousa came late in any sequence of structures⁹⁵.

The search for the architectural antecedents of brochs produced two competing theories. A western origin school saw brochs developing from simpler D-shaped enclosures with some broch features which occur in Skye and the neighbouring mainland, and which MacKie termed semi-brochs, via the “ground galleried” brochs of the west into the “solid-based” brochs of the north⁹⁶. A competing northern origin school of opinion saw brochs arising in Orkney or Caithness (or even in Shetland, where a small number of so-called “blockhouse forts” contain broch-like features, such as wall-base cells, stairways and scarcement ledges)⁹⁷. Dating evidence emerged in Orkney during the early 1980s for a few thick-walled roundhouses, such as that at Bu, near Stromness, dating to 600 – 500 BC, which some claimed as forerunners to brochs⁹⁸, although these possessed few if any of the classic defining features of brochs.⁹⁹ Nonetheless, this led some to believe that brochs might go back as early as 600 BC¹⁰⁰.

Until recently there have been few secure radiocarbon dates for the actual construction of brochs, since few excavators had dug under their massive walls. Almost all dates from broch sites related to deposits within and around them, and almost by definition later than the construction of the brochs on each site – and usually later by an unknowable length of time. This changed with the dating of Dun Vulcan (South Uist) from carbonised grain within the matrix of the wall. Taken with other material nearby, this suggested a construction date in the 1st century BC. Slightly less securely, the construction of a broch at Upper Scalloway (Shetland) appeared to have taken place in the 1st century AD¹⁰¹.

The radiocarbon dating of the construction of a fully-formed Shetland broch the period 400 - 200 BC, at Old Scatness in southern Mainland¹⁰², has forced a radical re-thinking of broch origins. The date, from well-stratified animal bone which was fresh at the time of its burial and lay directly under the well-built primary wall of the broch, has confirmed

⁹⁴ Stewart 1956, 15

⁹⁵ Fojut 1981, 226-7

⁹⁶ MacKie 1992

⁹⁷ Lamb 1980, Fojut 1981

⁹⁸ Hedges and Bell 1980, Hedges 1987

⁹⁹ Armit 1990 p 195

¹⁰⁰ Fojut 1981, p 34

¹⁰¹ Parker Pearson et al 1996

¹⁰² Dockrill et al 2015, 168-171

the growing suspicions that brochs were a considerably earlier development than had generally been supposed, at least in the north.

This has not entirely banished an attachment to the idea of immigration as a stimulus for changes in society which led to the appearance of brochs, although its continuing adherents now place the hypothetical arrival of the supposed highly skilled incomers into northern Scotland much earlier, perhaps even at the start of the local Iron Age (around 700-600 BC), the new date MacKie has suggested the arrival of the supposed high-status southern immigrants to Shetland¹⁰³.

The arguments for this, are problematic in the extreme, due to the disturbed nature of the structures and deposits at Clickimin, which Hamilton largely failed to take into account¹⁰⁴. At Clickimin, key pottery forms with internally fluted internal rims and sometimes black burnished exteriors, were held by both Hamilton and MacKie to mark the arrival of southern immigrants well before the broch was constructed. It was suggested as early as 1980 that these particular forms of pottery appear not before, but in fact well after, the building of the broch at Clickimin and probably elsewhere in Shetland¹⁰⁵.

This interpretation has now gained strong support from the extensive excavations at Old Scatness, where these pottery characteristics consistently appear from the 1st century BC onwards – long after the construction of the broch. A similar date has been ascribed to comparable pottery at Dun Vulcan in South Uist. This change – which may or may not mark the arrival of incoming settlers – is therefore no longer relevant in terms of dating the first appearance of brochs, either in Shetland or in the Western Isles.

MacKie's recent suggestion that brochs were invented first in the north, possible even in Shetland, and then later reinvented in the west¹⁰⁶ seems unnecessary, and the scenario suggested by Parker Pearson and collaborators more likely¹⁰⁷, with the broch tower invented in the north and only spreading to (or being adopted in) the west considerably later. This is consistent with the fact that brochs are fewer in number and occur interspersed with other small stone forts which were unlikely to have stood as tall. The dating evidence from Clachtoll broch in West Sutherland, currently (2018) under investigation, should shed light on this, occupying as it does what might be seen as a step on the journey from north to west.

Reinforced by the new dating evidence, and following detailed architectural and engineering analysis, plus his own work at Thrumster broch and other sites in Caithness, Barber has suggested that, in the north at least, "classic", "fully-formed" or "tower" brochs such as Mousa may in fact all be of relatively early date and built over a short span of time short duration ("perhaps only a single, say 35 year, generation...in the early fourth century BC" John Barber pers. comm. August 2018), often being reduced in height not long after their construction and in some cases incorporated as

¹⁰³ MacKie 2008

¹⁰⁴ Smith, 2014, 4

¹⁰⁵ Fojut 1989, especially 29-31 (first discussed in unpublished PhD thesis 1980)

¹⁰⁶ MacKie 2008, 272

¹⁰⁷ Parker Pearson et al 1996, 58-62

the cores of more extensive settlements. This latter phase of conversion Barber sees, with many caveats, as being already underway in Caithness by 200 BC and continuing perhaps until AD 200¹⁰⁸.

So, while the date of origin for some brochs has been pushed earlier, there remains good evidence that they were still being built around the turn of the millennia in Shetland, and possibly built for the first time then in the west. There is also some evidence which may suggest direct contact with the 1st – 2nd century AD Roman occupying forces in central Scotland on the part of the inhabitants of Leckie in Stirlingshire, one the “outlying” brochs which have always proved problematic to fit into the mainstream of broch theories: these have tended to be regarded as among the very last brochs to be built, and the broch at Leckie appeared to have been recently built at the time of the suggested Roman contact¹⁰⁹.

The wide span of dates now available suggests that the narrative which best fits the evidence is that broch was a successful structural form which was first developed in the north, where it was quickly built in sizeable numbers. Brochs continued to be built in the north in appropriate circumstances over several centuries, and the architectural form was adopted further afield in later centuries. The artefactual evidence from Dun Vulan does not suggest the Western Isles were colonised in force from the north, being more consistent with limited contact. The idea that Shetland may have been taken over by Orcadian broch-builders, as floated by Stewart in 1956, similarly lacks artefactual support. But this returns us to the core of the problem, that we still have next to no excavated evidence for Iron Age culture at the point of broch building, but only from later centuries.

That is probably as much interpretation as the available evidence can currently support, and debate will continue as to exactly what the “appropriate circumstances” were which made building a broch a suitable response.

d) How special are brochs, and what was their purpose?

Many writers, including MacKie¹¹⁰ and more recently Barber¹¹¹, have emphasised the combination of architectural features which they felt pointed towards what Barber has termed “canonicity” – the intention of the builders of each broch to conform to a model which was clearly defined closely resembled other such towers so far as geology would allow. MacKie posited a “professional” architect cadre¹¹² while Barber has recently pointed to the engineering knowledge involved in constructing so close to the physical limits of buildability¹¹³.

Others have seen brochs simply as one end of a much wider spectrum of enclosed drystone structures which were all intended to serve the same broad purpose, presumed to be that of a defensible and impressive dwelling¹¹⁴. Armit developed the idea of the “Simple” and “Complex Atlantic Roundhouses” to emphasise similarities

¹⁰⁸ Barber 2018

¹⁰⁹ MacKie 2007, 1314-5 (See MacKie 2016 for more detailed discussion)

¹¹⁰ MacKie 1965

¹¹¹ Barber 2018

¹¹² MacKie 1965

¹¹³ Barber 2018

¹¹⁴ Barrett 1981, 207-17

within a larger class of approximately circular structures¹¹⁵, while Romankiewicz has since taken this further to include all thick-walled structures, regardless of plan form, which contained intra-mural spaces and could have been roofed¹¹⁶, though to refer to such a wide range of structures as brochs seems unhelpful¹¹⁷.

These contrasting views are interwoven with debate and with assumptions about how brochs “worked” in practical and social terms: about whether they represented the communal homes of whole communities or only of landlords or chieftains; whether they were defensive at all, or solely intended to demonstrate status¹¹⁸, and also about how and when the tower form emerged: possibly early and as a brilliant stroke of creative genius, or possibly late and as the product of a gradual process of experimentation. (Although, as Barber has recently observed, the frequent use of the term “evolution” is inappropriate in a Darwinian sense – ideas may evolve but structures cannot.)¹¹⁹

e) Brochs and Iron Age society

A further source of continuing debate has been the nature of contemporary society, ranging from early visions of a near-feudal society with immigrant overlords and their armed warriors living in brochs and levying rent and other support from subservient native, peasant farmers¹²⁰, through one of embattled local communities seeking to defend themselves against raiders or invaders¹²¹, to one of peaceable, hierarchical farming communities building brochs not for defence at all, but as a symbol of their possession of the land and their prestige and to store accumulated wealth in the form of surplus grain¹²². Even though, as several commentators have observed, many brochs stand in locations where large-scale arable agriculture seems unlikely to have been any more viable in the Iron Age than it would be today¹²³.

Almost all of the dated evidence for life in and around brochs relates to their occupation in primary and subsequent forms, and not to their construction, and this is likely to remain the case. We have no way of knowing if society at the precise time brochs were built was similar to that in subsequent centuries, from which most of our excavated evidence derives.

The explanation for the regional distribution pattern of brochs probably lies in the nature of Iron Age tribal groupings, but there is insufficient evidence to provide a

¹¹⁵ Armit 1991

¹¹⁶ Romankiewicz 2011

¹¹⁷ Romankiewicz 2016

¹¹⁸ Armit 2005b

¹¹⁹ Barber 2018

¹²⁰ Scott 1947, 1948

¹²¹ O'Neill

¹²² Hingley 1992, 19; Dockrill 1998, 493-7 et passim

Closer inspection of the data used to support the “grain surplus” theory tends to overstate the significance of finds of charred grain, usually barley, as for example in Sharples’ discussion of the Upper Scalloway excavations: “The evidence for crop production is dominated by an assemblage of several thousand barley grains...and it has been suggested that the quantity of cleaned grain must represent a centralised store for the surrounding communities.

This rather breathless summary misses one vital fact: “several thousand” – say 10,000 – barley grains would produce one decent-sized loaf!

¹²³ Smith 2014

satisfactory explanation. The types of artefact found in broch excavations also occur on non-broch sites and also beyond the so-called “Broch Province”, and brochs do not appear in some adjacent areas where physical conditions suggest they might, for example, in mid and south Argyll or Arran – in short, brochs do not align with a single distinctive “material culture”. Stuart in 1857 expressed things pithily: “there must have been something peculiar in the circumstances of the inhabitants to have given rise to these peculiar erections.”¹²⁴ We are still far from understanding what this peculiarity might have been.

It seems likely that each broch represents the work of a substantial community, larger than a single extended family, which controlled a distinct area of land (and perhaps sea) and that the broch represented a visible token of their possession, willingness to defend that holding, and the social status of the group or at least its leaders. While the first part of that statement must be valid in general terms and in the longer view: whatever dwellings or fortifications they chose to build, people must have continued to make their living from the land and sea, so access to resources would have been a constant concern. However, how society was organised is less self-evident, and the unanswered question remains: what combination of circumstances led to the building of a broch?

So far as can be ascertained from excavated evidence, Iron Age society in the north of Scotland, including Shetland, at the time of the brochs appears to have been relatively “flat”, composed of largely self-sufficient groups, which might be termed “chiefdoms”. These various groups doubtless interacted, both productively (trade, social exchange and agreed marriage) and negatively (raiding to steal livestock and perhaps to take prisoners, and even to take over territory). Brochs presumably provided enough defensibility to offer a degree of deterrence against the less desirable forms of interaction which might be expected locally, though they would not have withstood prolonged siege warfare – which in itself says much about how the builders perceived their wider world.

Widespread artefact types such as pottery, and finds of environmental remains, such as animal and bird bones, suggest there was a coherent Iron Age material culture throughout Shetland, in which locally-restricted resources circulated relatively freely. This material culture changed relatively slowly over time, for example with the emergence of new forms of pottery. Evidence for contacts outwith Shetland is not particularly abundant, and what little there is all seems to derive from deposits dating to some considerable time after brochs are built, with the problematic exception of apparently early non-local pottery at Clickimin.

Over time, some brochs which were sited in naturally well-favoured areas went on to form the focus of more extensive villages (for example Old Scatness and Jarlshof) which lasted until the end of the Iron Age and in some cases beyond. Other brochs, located in less well-endowed locations, did not. Mousa is in the latter category. That fact may have assisted in Mousa’s survival, since brochs which formed the centre of later villages seem to have been deliberately reduced in height and modified over

¹²⁴ Stuart 1857, 192

centuries, until in some cases their stumps were entirely hidden beneath later buildings.

It is possible to imagine economic models for communities living in and around brochs, and while this might have been possible in the more favoured parts of Orkney or Caithness (both of which exported grain late medieval times), neither the Western Isles or Shetland seem likely to have been able to support a subsistence economy founded solely on the cultivation of grain, though what grain could be produced would have been a valuable resource. Reliance on pastoralism and on the use of coastal and marine resources would have balanced such an economy more broadly, especially if exchange or barter operated between nearby communities with access to different resource bases¹²⁵.

However, the feasibility of theoretical economic models is inter-twined with the particular model of social structure which is assumed. Primitive communalism, client-elite relationships, inter-group collectivities (very close to a chiefdom society), a proto-feudal or even a full-blown feudal system have all been suggested at various times. Each would all have made subtly, sometimes radically, different demands upon the resources available. The sole indisputable fact remains that each broch must have been built by a locally-available workforce, sustained by locally available resources for at least as long as it took to build.

Once built, brochs may well have served a variety of functions, or at least acted as bases for a mix of activities which varied widely from site to site and from time to time. Eventually, some brochs went on to become the cores of more extensive settlements, while others seem to have been abandoned not long after they were constructed. Many brochs became farmhouses in later years, but whether any brochs were built to be farmhouses is likely to remain an open question. It is hard to escape the impression, especially when standing next to a broch such as Mousa, that brochs were originally intended to offer outward vantage, impress the viewer and suggest the invulnerability of their possessors, and that thoughts of agrarian domesticity were not paramount.

f) Conclusion

In conclusion, despite two centuries of study, most of the basic facts about brochs, beyond physical measurements of surviving structures, remain conjectural, with interpretations usually based upon a very small sample of evidence, selectively interpreted, fitted to “off-the-shelf” social models. The revision of explanatory narratives will continue as new evidence emerges and as old evidence is reviewed: every few years brings another brave attempt to present a unified and coherent account of the issues discussed here^{126 127 128} only to see each effort, rather than unifying the field of study, simply add fresh fuel to debate.

It remains true, as Stewart sagely remarked in 1956, that “it is easier to guess why the broch came into being than how”¹²⁹. But neither question has yet been answered conclusively.

¹²⁵ Fojut 1982a

¹²⁶ Hedges and Bell 1980

¹²⁷ Armit 2003

¹²⁸ Most recently, Romankiewicz 2016.

¹²⁹ Stewart 1956, 21