More than meets the disc: Investigating form, function and meaning of Neolithic stone discs from the Ness of Brodgar, Orkney

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Cover image: a small sample of the Ness of Brodgar's stone-disc collection (photographs by Maria van de Fliert).

Page number illustration: drawing of a stone disc from Ty-Isaf, Wales (Grimes, 1939, as cited in Edwards, 2012, p. 147).

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Investigating form, function and meaning of Neolithic stone discs from the Ness of Brodgar, Orkney

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Acknowledgements

My husband and I first visited Orkney over 15 years ago. I was immediately fascinated by the abundance of archaeological sites and quite jealous of all the people meticulously excavating the already well-known Ness of Brodgar. That first visit so many years ago eventually led me to leave my teaching job and become an archaeology student. Fast forward to January 2025, and I could not believe my luck working on Brodgar's Neolithic stone-disc collection at Lochview House with a direct view of the iconic Ring of Brodgar.

I am enormously grateful to Nick Card and Anne Mitchell for making me feel part of the Brodgar family and for their expertise, encouragement and patience. A big thank you also goes out to Gary Lloyd, Mark Edmonds, Paul Durdin and Jan Blatchford for sharing their thoughts and ideas and to Dr Richard Jansen for his guidance at Leiden University.

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Maria van de Fliert
14 August 2025

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Chapter 1 Introduction

Trying to make sense of Neolithic stone tools and objects is not an easy task. Taking a technical approach contributes to our understanding of their past use; artefacts can be carefully measured, they can be analysed for use-wear, and in the case of lithics, cores and debitage can be refitted. However, this does not fully capture the object's whole story. Just like today, people in the Neolithic must have assigned deeper meanings to their objects, a sense of status or an expression of identity. At the same time, these meanings and functions most likely changed over time, just as we upcycle and recycle everyday materials into new tools or works of art.

Therefore, understanding Neolithic artefacts requires a multi-spectral approach that combines technological analysis with consideration of socio-cultural meanings and the natural surroundings. Mark Edmonds (2001, p. 18) points out that objects would have been intricately linked to the surrounding landscape, resources, manufacturing traditions and the people's ideas of kinship and identity. Taking this approach in mind, I have analysed the stone-disc collection of the Ness of Brodgar in Orkney to gain a better understanding of their form, function, meaning and their role in Neolithic society.

Figure 1.1 *Aerial photograph of the Ness of Brodgar (Pike, 2020). https://www.nessofbrodgar.co.uk/ness-flanked-by-lochs-in-prehistory-surveys-suggest-otherwise/*

1.1 The Ness of Brodgar

Although formal dating of the Neolithic Ness of Brodgar (NoB) site is ongoing, human activity at the Ness can be roughly dated to between 3500 BCE and 2400 BCE ('Ness of Brodgar Timeline', 2020). The site's research is outstanding in many ways; not only was it excavated for twenty years, but it has brought together thousands of volunteers, experts, scientists, students, celebrities and their camera crews, tourists and archaeology enthusiasts, to name but a few. The site is surrounded by Neolithic monuments such as the Ring of Brodgar, the Stones of Stenness and Maeshowe. In 1999, the area was designated by UNESCO as a World Heritage site of outstanding universal value, known as *the Heart of Neolithic Orkney* (UNESCO World Heritage Centre, 1999).

Situated on a small isthmus between Loch Harray, and the Loch of Stenness (see Figure 1.1), the NoB revealed its first discovery in 1925. Mr Whishart, of Brodgar Farm, was ploughing the field when he came across a decorated stone slab. Now known as the Brodgar Stone, it shows intricate geometric and linear patterns as well as peck marks (Figure 1.2).

Figure 1.2 *The Brodgar Stone. Decorated stone found while ploughing at the Ness of Brodgar (Kent, 1925) Orkney Library-Archive. From:* https://www.nessofbrodgar.co.uk/brodgar-stone-centenary/

It was not until 2002 that the site's archaeological significance became apparent. The Orkney Archaeological Trust and the Department of Archaeology at Orkney College carried out an extensive geophysics survey in 2002. The results from the magnetometry scans revealed dense clusters of many different shapes that would later turn out to be a multi-layered site of great complexity (Card et al., 2020, p. 18). In the next 20 years of excavation, almost 40 buildings were identified (Edmonds, 2024, p. 9). Many of these structures changed purpose and meaning and were built, extended, dismantled and abandoned in many cycles over the thousand-plus years of human activity. Although the site would have seen both domestic and ritual use at times, it is now thought that the Ness functioned as an important place of gathering (Edmonds, 2024, p. 15). The excavations also yielded thousands of pieces of pottery, cattle bone, flaked stone tools and worked stone items.

1.2 Stone discs

The Ness of Brodgar holds the biggest collection of stone discs in the British Isles. Made from laminated thin stone slabs, the pieces were chipped in a circular or oval shape using a hammer stone (Clarke, 2006, p. 37). Other stone disc collections have been identified in Scotland (Kilpatrick et al., 2024), southern England (Edwards, 2012), Denmark (Iversen et al., 2025), and the Levant (Rosenberg et al., 2008).

Little is known about the function of these objects. When Gordon Childe found stone discs at Skara Brae, he categorised them as pot lids (Childe, 1931, p. 5). Others have proposed that smaller pieces were used as game counters or jewellery (Clarke, 1995, p. 37; Clarke, 2020, p. 231) and larger ones as structural wall pieces (Mark Edmonds, personal communication, 22 January 2025). Some have assigned symbolic meanings to the stone discs. Edwards (2012, p. 53) poses that more stone discs were found at the Ness of Brodgar and Stonehenge than at any other site, suggesting a similar ritual significance. Iversen et al. (2025, p. 1) combined their study of the Danish stone-disc decorations (and lack thereof) with a change in climate conditions, suggesting the discs might have been ritual offerings to the sun.

1.3 Research questions and theoretical framework

The collection of stone discs studied for this thesis consists of 223 whole and partial stone discs. Not included are the 14 items from the 2023-24 excavation season and the decorated disc SF (Small Find) 2550, as these were unavailable for inspection. Earlier research into the NoB stone discs stems from Edwards (2012), Johnson (2019) and Clarke (2020). Where Edwards' research focused on the collection in relation to others in the British Isles, Clarke's research mostly focused on macroscopic analyses of the entire assemblage at the time. Geologist Martha Johnson performed a petrological analysis of the stone discs.

This thesis aims to analyse the collection up to and including 2022. Based on the mentioned research, additional macroscopic analysis and including contextual information, I want to shed new light on the use and meaning of these objects. To gain a better understanding of the Ness' collection, concerning form, function and context, I focused on the following research questions:

The main research question:

- What is the purpose and meaning of the stone discs found at the Neolithic Ness of Brodgar site in Orkney?

Sub-questions:

- How are stone discs defined, and what are the main characteristics regarding diameter, thickness, completeness and surface treatment?
- What can be said about the distribution and dating of the stone discs in relation to the structures of the Ness?
- What other disc assemblages can be found in the British Isles, and how do they compare to the Ness collection?

Adams et al. (2009, p. 44) suggest a standardised method for the analysis of stone tools; the stone-disc collection has been inspected according to this approach concerning use wear and residue traces,

petrography, morphology, size and context. The extensive work on the Ness of Brodgar and its complex stratification by Card et al. (2020) will be used to analyse the find contexts of the discs. Edwards (2012), Clarke (1995; 2006; 2007a; 2007b; 2016; 2020), and Iversen (2025) will offer a framework for the many different purposes that have been suggested in the past.

1.4 Thesis outline

Chapter 2 gives an overview of the research regarding the geological formation processes and the cultural engagement humans had with the landscape during late prehistoric times. The methodology used to answer the research questions is tackled in Chapter 3. Chapter 4 outlines the results of the stone-disc parameters regarding diameter, thickness, completeness and surface treatment, and the results of the context analysis are described in Chapter 5. Chapter 6 provides an overview of the literature study that was carried out on other stone-disc assemblages in the British Isles. Finally, all results are combined and analysed to find the potential purpose(s) of the discs in Chapter 7, the discussion. The final Chapter 8 outlines the answers to the research questions and finishes with suggestions for further research.

Chapter 2 Research Area: Orkney's Natural and Cultural Landscape

2.1 Introduction

Figure 2.1 depicts the location of the Ness of Brodgar and shows that it is surrounded by several late Neolithic monuments. Because the Ness is commonly regarded as an important centre of ritual gathering, rather than a domestic site (Edmonds, 2024, p. 18), this chapter highlights the broader context in which the stone discs were found and created, to help find a potential purpose for these artefacts. It aims to answer questions about the formation processes that lie at the heart of Orkney's landscape, with a particular focus on the Brodgar area. Second, this chapter discusses what the environment would have looked like for the first occupants; how people in the Upper Palaeolithic and Mesolithic periods occupied Orkney and how the Neolithic era saw dramatic changes to the landscape both environmentally and ritually. Finally, this chapter describes how the Bronze Age and Iron Age brought new technology and ideas to the ever-changing landscape of Orkney but emphasises that the relationship with those who made a mark in the past would have remained.

Figure 2.1 *Location map of the Ness of Brodgar, (Card, et al., 2020, p.4, Figure 1.2).*

2.2 The geological formation of the Orkney Islands

Johnson (2019, p. 82) identifies four phases in Orkney's geological history. The first is known as the Precambrian/Proterozoic era, dating from 2,500 million years ago (mya) to 554 mya and is characterised by Rhyolite flow, which formed the Stromness basement complex. The magma responsible for this basement complex included the chemical components found in granite today: K feldspar, quartz, and micas (p. 84). Second, the Devonian period (416 mya – 359 mya) saw thousands of metres of fluvial, lacustrine and aeolian layers deposited in an interior drainage basin, now known as Lake Orcadie. This ancient lake spanned from Shetland to the south of the Moray Firth when it was at its greatest. These depositions eventually formed the Old Red Sandstone supergroup found in Great Britain and North America (p.85). In Orkney, the Yesnaby sandstone group, the Caithness flagstone group and the Eday group are all part of the Old Red Sandstone group. The Permian period (299 – 251 mya) introduced igneous intrusions, which formed Camptonite dykes on West Mainland. The final important formative phase for Orkney's landscape was the Pleistocene epoch, or the Ice Age (2,5 mya to 11,700 years ago). The glaciers that formed during this time sculpted the landscape into the low and rounded hills that we see today.

The geological formation of the Brodgar area

The Ness of Brodgar thus finds itself in a basin surrounded by hills that were formed during the last Ice Age. The isthmus, a small strip of land, is flanked by two lochs: Harray and Stenness. During Neolithic times, the Ness would have been much larger due to lower seawater levels. Originally, the Loch of Stenness was a small, freshwater lake, but from 3700 BCE onwards, seawater from the Bay of Ireland found its way in (Hamilton, 2015, p. 8, as cited in Johnson, 2019, p. 96). The sedimentary deposits of the Devonian period formed the Lower and Upper Stromness Flagstones, members of the Caithness flagstone group. These thick sand, silt and mud deposits created horizontal beds of sedimentary rock that easily split into flat slabs. The Ness of Brodgar, as a central point in a basin, surrounded by low hills, with a vast supply of workable bedrock, would form the backdrop for the early signs of human activity.

2.3 The early occupation of the Orkney Islands

Although human activity at the Ness of Brodgar was at its height during the Neolithic, there is evidence for earlier traces of prehistoric hunter-gatherers at the Ness and in Orkney in general. After the Neolithic, the Bronze Age and Iron Age saw new technologies, buildings, and ritual activities emerge; however, a close relationship with the cultural landscape from the past remained.

The Upper-Palaeolithic and Mesolithic hunter-gatherers

When the ice caps finally retreated, pre-Neolithic Orkney was covered in open grassland and ± 20 % of woodland, including oak, pine, birch and hazel (Bunting, 2022, p. 97). Evidence for the arrival of the first Upper-Palaeolithic hunter-gatherers in Orkney suggests sporadic activity around 11000 BCE and is limited to three lithic finds: two from the island of Stronsay and the most notable 'Brodgar point', a single-edged projectile point, from the Ness of Brodgar (Ballin & Bjerck, 2016, p. 2).

According to Brend et al. (2020, p. 228), the Mesolithic period (± 9000-4000 BCE) is similarly ephemeral in today's landscape. Geophysical investigations have revealed very few indicators that suggest settlements

or prolonged activities, as people in the Mesolithic would have been predominantly hunter-gatherers with a nomadic lifestyle. Nevertheless, they still left behind some faint traces, such as pit-like features and Mesolithic microliths, blades and cores. A small number of these have even been found at the Ness of Brodgar but were deemed "residual finds" (p. 229). Radiocarbon dating from various sites shows well-established human activity around 6800 BCE. The Mesolithic landscape would have looked dramatically different from what we see today. Sea levels were estimated to be approximately 10 metres lower; this meant that Orkney was divided into two main bodies of land, rather than the many islands that form the archipelago today. The sea levels continued to rise into the 4th millennium. The Brodgar isthmus was therefore much bigger during Mesolithic and early Neolithic times, and remote sensing has revealed potential structures on the slopes that are now submerged (p. 229).

The Neolithic Farmers

Compared to Britain and Ireland, the Neolithic period started relatively late on Mainland Orkney, spanning approximately from 3400 to 2700 cal BCE, according to Bunting et al. (2022, p. 87). Pollen records indicate significant changes in the landscape from approximately 3400 cal BCE, when woodland coverage decreased from 20% to 10%. By 3200 cal BCE, records show that land disturbance increased from 3% to 30%.

When the first farmers started settling down on the Brodgar isthmus, not only was it much broader due to lower water levels, but the Loch of Stenness was also transitioning from a freshwater body to a saltwater one. In addition, analysis of the loch sediment showed a big change in vegetation (Bates et al., 2016, p. 394). This is the environmental backdrop to a new way of life, as pollen records point towards a steady increase of pastures (Bunting et al., 2022, p. 87). The archaeological record from the Ness of Brodgar confirms the need for these fields, as it is estimated that ± 175,000 animal bone fragments were excavated from the site (Mainland et al., 2020, p. 266). They continue to report that cattle played the biggest role in animal domestication at the Ness, contrary to sheep, which dominated in other parts of Orkney and Scotland (p. 270). Not only were these animals an important part of their sustenance, but they also began to feature in deliberate deposits in structures and doorways (p. 271). Domestic settlements developed at the Knap of Howar on Papa Westray and Rinyo on Rousay during the early Neolithic period. Examples of late Neolithic settlements are Barnhouse, Skara Brae and the Links of Noltland, among many others. Towards the end of the 4th millennium, the landscape reveals more of the ritual relationship of the people with their surroundings in the construction of the megaliths that we still see today. Paragraph 2.4 will zoom in on how the Neolithic landscape was changed to suit the people's need for a deeper connection.

Bronze Age and Iron Age activity around the Ness

It was long thought that the Orcadian Bronze Age reflected a time that was a step down from the Neolithic era and that climate change caused the population to decrease (Mamwell, 2018, p.1). This gloomy perception, however, is mainly due to a general lack of interest and Bronze-Age excavations. Ranging from roughly 2200 BCE to 800 BCE, the Orcadian Bronze Age saw burial practices similar to places like Shetland, rather than the British Isles. This focus on the north is demonstrated in the use of steatite (soapstone) burial urns, only found in Shetland (Mamwell, 2018, p. 307). Mamwell reports 289 Bronze Age settlements in combination with burnt mounds (p. 247) but only 15 pieces of metalwork (p.147). On Mainland, the

most noted Bronze Age site is the Knowes of Trotty (a barrow cemetery). Farrell & Bunting (2025, conclusions, paragraphs 4-6) say that although the climate turned more volatile in terms of storms and precipitation, the abundance of heath in the landscape saw a different approach to land use. This should not be associated with post-Neolithic decline but is rather a sign of resilience and adaptation. Around the Ring of Brodgar and Maeshowe, Bronze Age burial mounds appeared, indicating a significant relationship with the past Neolithic landscape (Mamwell, 2018, p. 132).

The Iron Age (± 800 BCE to 800 AD) is widely recognised by the existence of brochs, of which over a 100 were found in Orkney. These drystone, tall and circular towers were regarded as defensive structures in past research; however, more recent studies include the notion of wealth and prestige (Towrie, 2020a). Some brochs feature vast underground structures known as broch wells, such as Mine Howe in Tankerness. Iron Age activity around the NoB shows an engagement with older Neolithic structures; an Iron Age round house was carefully built into the front of a Neolithic stone cairn in Quanterness (Towrie, 2020a). Tisdall et al. (2013, p. 214) mention that the Iron Age saw a continuation of the stormy conditions that started during the Bronze Age, depositing large layers of sand on agricultural land. Despite these setbacks, once the heathland was re-established, grazing continued on a large scale.

2.4 The monumental Neolithic landscape

Despite human activity before and far beyond the Neolithic, what draws many people to Orkney these days are the Neolithic stone monuments that are scattered throughout the landscape. A common phrase heard in Orkney is that "if you scratch the surface, it bleeds archaeology" (Card et al., 2020, p. 2). Looking around the largest island, Mainland, it is immediately clear that even a scratch is not always necessary; Neolithic monuments surround the spectator. As of today, there are thousands of Neolithic sites in Orkney; although these can be found on most islands, dense Neolithic clusters can be found on Mainland and Rousay, according to Bayliss et al. (2017, p. 1175).

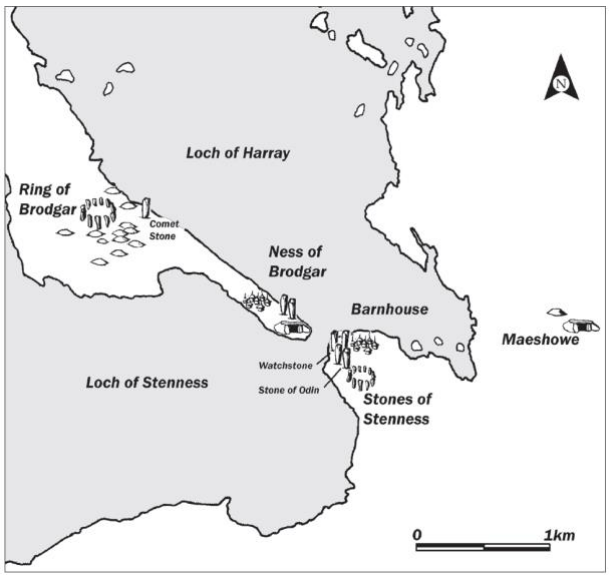

Figure 2.2 *Overview of late Neolithic sites around the Ness of Brodgar (Richards, 2013, p. 67, Figure 3.4)*

To understand any of the artefacts of the NoB, knowledge of how the landscape is woven into the everyday lives of the Neolithic people is essential. *The Heart of Neolithic Orkney,* as described by UNESCO contains four sites (UNESCO World Heritage Centre, 1999): Maeshowe, the Stones of Stenness, the Ring of Brodgar and Skara Brae, as depicted in Figure 2.2. Figure 2.3 shows the dating of the sites compared to the Ness of Brodgar's time span. Although many more noteworthy monuments make up this monumental landscape, these four are briefly described below.

Maeshowe

Maeshowe is a chambered cairn (a stack of stones to indicate an important purpose, such as a burial mound or landmark) and can be found about a mile east of the NoB. What looks like a green mound today, the interior reveals a three-sided chamber with alcoves built into the sides. This inner chamber can be reached via a long and narrow passage entrance on the south-western side. During the winter solstice, the sun reaches the chamber's back wall. Inside, eight standing stones can be found in the corners and at the entrance. As they serve no structural purpose, it is thought that Maeshowe was erected around them. Outside, the cairn is surrounded by a ditch and bank. Dating the site has been proven difficult due to its many disturbances over the years and lack of substantial organic finds, but a date of ± 3000 BCE is generally accepted (Towrie, 2020b).

The Stones of Stenness

This stone circle can be found just south-east of the Ness and is known as a henge monument, according to Cummings, as "a later Neolithic enclosure with a circular bank and inner ditch, usually with one or two entrances" (2019, p. 1). The circle is approximately 44 metres in diameter, with an entrance of 8 metres. The original circle comprised 10 or 11 standing stones, of which only 4 remain today. Animal bones and pieces of grooved ware that were found in the earthwork could be dated to 3350 – 2600 cal BCE (Barclay, 2005, as cited in Cummings, 2019, p. 224). Although the Stones of Stenness are generally regarded as one of the oldest henge monuments in existence, the author (p. 224) notes that this assumption originates from past research that was overly focused on Scotland and Wessex's Durrington Walls. In 1973, a large hearth was discovered in the centre of the stone circle, suggesting feasts and ceremonies had been held. The discovery of grooved ware and the nearby settlement of Barnhouse point towards a landscape that integrates the ritual and the domestic (Richards, 2013, p. 70; Cummings, 2019, p. 224).

The Ring of Brodgar

The Ring of Brodgar is one of the largest British stone circles; its ditch was carved directly into the bedrock and measures approximately 123 metres in diameter. Although the digging of the ditch was dated between 2600 BCE and 2400 BCE, it is unclear whether the ditch and circle are from the same period (Towrie, 2020c). The stone circle itself consisted of between 60 and 70 standing stones, of which 27 remain standing today. Unlike the Stones of Stenness, geophysical surveys have not detected any structures or features in the centre of the henge. The circle has two entrances, opposite each other, which could point towards an entry and exit route. Downes et al. (2013, p. 91) allude to a possible route trajectory, even though the causeways are particularly narrow. Standing approximately 1 km northwest of the Ness of Brodgar, a link

between the two sites is easily made; however, it must be noted that the dating of the Ring falls in a time when occupation of the Ness seemed to be in decline.

Skara Brae

This Neolithic settlement lies 9,5 km to the northwest of the Ness of Brodgar and was rediscovered when a storm in 1850 revealed the site. Various excavations took place from that moment on, the most famous of which is Gordon Childe's work, who excavated the area from 1927 to 1930 (Childe, 1931). The houses that can still be visited today represent the two phases of occupation that the village saw. A recent study by Bayliss et al. (2017, pp. 1184–1185) indicates that Skara Brae was occupied from approximately 3300 cal BCE to around 2500 cal BCE, when it was abandoned. This study also shows an interim abandonment and reoccupation around the year 2800 cal BCE. Each building in Skara Brae has a central hearth and a dresser-like feature with shelves opposite the entrance. The exact function of the 'dressers' is not clear; however, they have been found in both domestic and ritual contexts (Towrie, 2025).

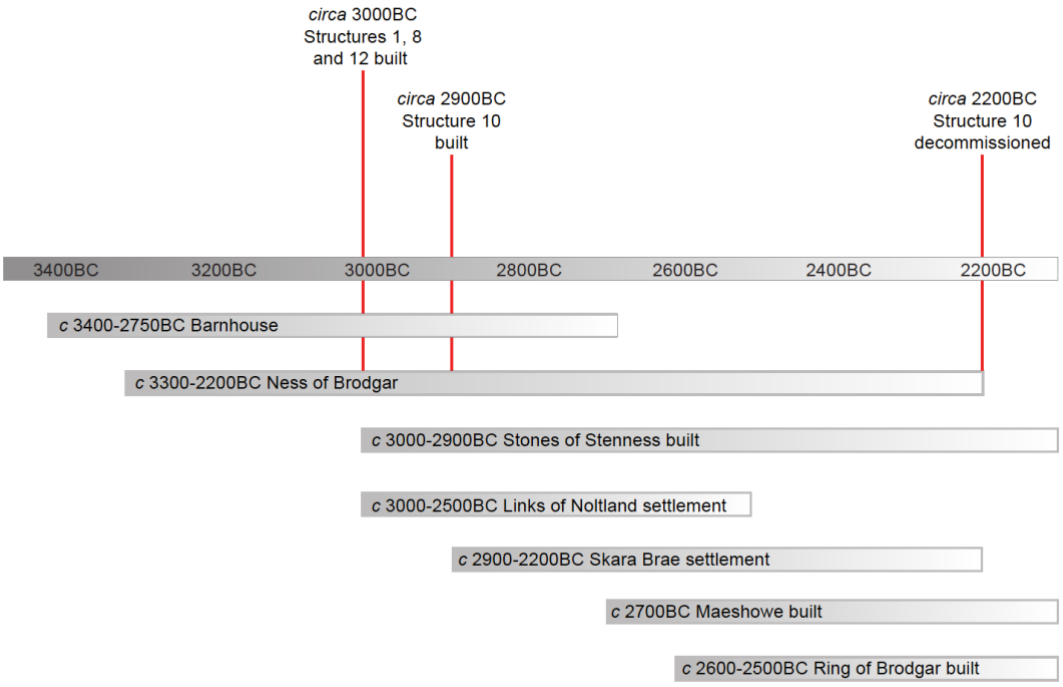

Figure 2.3 *Approximate timeline of the NoB and the surrounding Neolithic sites (Thomas, 2016, p. 37, Figure 19).*

2.4 Conclusion

The analysis of the NoB's stone-disc collection should start with its broader context. As will be highlighted in Chapter 4, the Stone Disc Parameters, the type of rock that these artefacts were made of is the result of a millennia-long process of sedimentary deposition to form the flagstones that served as the building blocks for Neolithic societies settling in Orkney. By the end of the Ice Age, new settlers found a place that would have had a much lower water level than it does today. The Neolithic age saw a change in the landscape; forests decreased by 10%, making more room for pastures to keep predominantly cattle. During the Bronze Age and Iron Age, weather conditions turned wetter, but the Orcadians found new ways of shaping the landscape to make a living. The Bronze Age burial mounds and later Iron Age brochs marked the landscape in new ways as places of remembrance and/or power. However, the relationship with the landscape's past was ongoing, as is demonstrated by the Bronze Age burial mounds near monuments such as the Ringl of Brodgar and the integration of a Neolithic cairn into an Iron Age house in Quanterness.

The Orcadian environment reveals both a ritual and domestic relationship with the wider landscape towards the later part of the Neolithic. Monuments such as Maeshowe, the Stones of Stenness, and the Ring of Brodgar are remnants of a ritual commitment on a much larger scale. Although the Ness of Brodgar already had a substantial history of occupation before the erection of these megaliths, it does highlight the importance of the area as being the centre of the later *Heart of Neolithic Orkney*.

Chapter 3 Methodology

3.1 Introduction

From the 6th to the 24th of January 2025, I carried out my research on the NoB's stone disc collection at Lochview House in Orkney. Situated on the Ness itself, this building houses most of the finds that have been uncovered during the 20-year excavation process. To find answers to the research questions, I took Adams et al.'s (2009) work on the development of a standardised approach for the functional interpretation of macro-lithic artefacts as a starting point. Figure 3.1 shows the specific stages for the analysis of these artefacts.

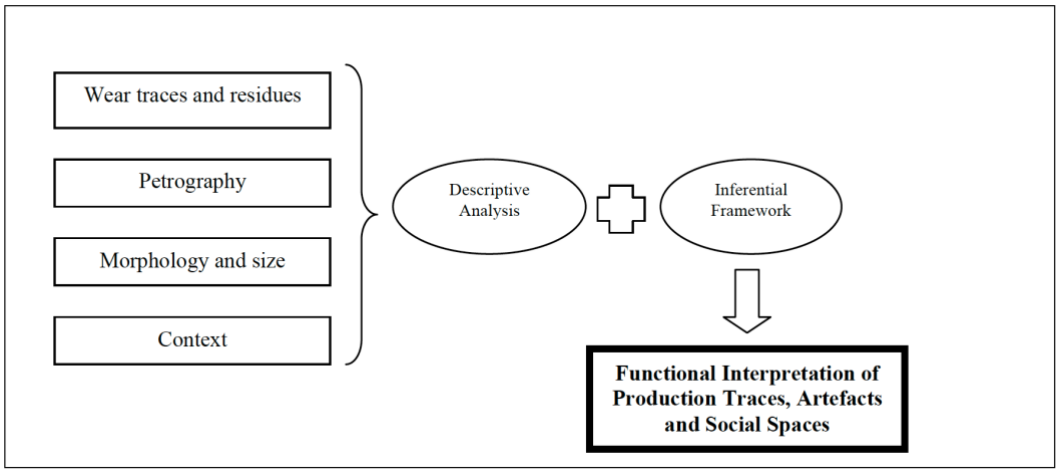

Figure 3.1 *Analytical steps to be taken for the analysis of macro-lithic artefacts, according to Adams et al. (Adams et al., 2009, p. 44, Figure 6.1).*

This chapter gives an account of the methodology used for the analysis of the 223 stone discs. Morphology and size were analysed to establish an answer to the first sub-question of how these stone discs should be defined. Johnson (2019) had already carried out petrological research, and the results are included in this study. To answer the second research question, a context analysis was carried out using simplified phasing categories. Due to the scope of this bachelor's thesis, macro analysis was carried out on the discs regarding wear traces and residues, rather than a microscopic use-wear analysis. Finally, a literature study was carried out to provide an inferential framework for interpreting similar stone disc collections found in the British Isles.

3.2 Methodology used for the stone-disc parameters

To find an answer to the sub-question of what defines a stone disc, each of the 223 discs was examined on twenty different characteristics and subsequently recorded into the main database 'The Ness of Brodgar Stone Discs', included in Appendix A. Table 3.1 shows an overview of all the aspects and applied methods.

Due to prior petrological research by Johnson (2019), Clarke (1995; 2006; 2007a; 2007b; 2016; 2020) and Anne Mitchell (Head of Finds at the Ness of Brodgar), cross-reference with four other data sets was possible: Johnson's database, the NoB-Overall-SFs-in-Batches version 25, Clarke's Worked Stone-

Catalogue-All-Years including 2024, and the NoB-All-Contexts version 28. Table 3.1 shows an overview of the twenty characteristics and methods used:

Examined aspect	Method or technique used
Year of excavation	Taken from existing database created by geologist Martha Johnson and cross-referenced with small-finds bag and the 'NoB Overall SFs in Batches' database.
Small-finds number	Taken from existing database created by geologist Martha Johnson and cross-referenced with small-finds bag and the 'NoB Overall SFs in Batches' database.
Context	Taken from existing database created by geologist Martha Johnson and cross-referenced with small-finds bag and the 'NoB Overall SFs in Batches' database.
Trench	Taken from existing database created by geologist Martha Johnson and cross-referenced with small-finds bag and the 'NoB Overall SFs in Batches' database.
Structure	Taken from existing database created by geologist Martha Johnson and cross-referenced with small-finds bag and the 'NoB Overall SFs in Batches' database.
Coordinates	From the NoB Overall SFs database.
Phase	From the NoB All Contexts database (version 28).
Simplified phase	Determined by Nick Card.
Type of rock	Determined by geologist Martha Johnson, information from her database.
Colour	Determined by geologist Martha Johnson, information from her database.
Texture	Determined by geologist Martha Johnson, information from her database.
Nature	Determined by geologist Martha Johnson, information from her database.
Completeness	My estimation of the disc's completeness in percentages.
Diameter	Measurement of the longest possible diameter using a tape measure.
Thickness	Measured with a digital calliper and cross-referenced with worked-stone specialist Ann Clarke's database.
Macroanalysis comments	Any findings and queries that arose from macro-analysing each disc.
Notched	Presence of notches was recorded (y = yes, present), however, these need further inspection to see if they were human made.
Heated	Macro analysis and cross-referenced with Martha Johnson's and Ann Clarke's database.
Box number	From Martha Johnson's database and double-checked with the boxes themselves.
Picture number	All items were photographed twice (one with and one without the SFs bag). The camera used is a Nikon D780 with a 24 – 120 mm f/4.0 lens. The picture numbers in the spread sheet correspond with the numbers in the photolog book. All photographs were edited (i.e. cropped and light, exposure and saturation adjusted).

Table 3.1 *Overview of methods used while building the stone-disc database (adapted from van de Fliert, 2025, pp. 6-7).*

Petrological analysis

Johnson carried out petrological analysis of all worked stone artefacts found at the NoB. Table 3.2 shows the codes and abbreviations for her designations. Her findings regarding rock type, colour, texture and nature of the rock were incorporated into my main dataset; Group 15 stone discs Maria van de Fliert (Appendix A).

Type of rock	Abbr.	Colour	Abbr.	Texture	Abbr.	Nature	Abbr.
Mud-siltstone rhythmic	MSST	Black	BK	Fine grained	F	Broken	BKN
Mudstone	MS	Brown	B	Very fine grained	VF	Broken on bedding	BOB
Shale	SH	Brown tan	BT			Visible bedding	VB
Siltstone	ST	Dark grey	DG			Well sorted	WS
		Grey	G				
		Grey tan	GT				
		Tan	T				

Table 3.2 *Explanation of codes used for the petrological assessment of the stone discs (Johnson, 2019, pp. 350 – 352).*

Metrics: estimation of completeness, diameter, and thickness

Appendices A, the dataset, and B, the stone disc catalogue, provide a complete overview of the disc collection as it was analysed. A first glance demonstrates that a large portion of the finds are incomplete. An estimation of their completeness was incorporated into the database. In addition, all pieces were measured to establish their diameter and thickness in millimeters. Measurements were taken along the longest possible diameter using a self-locking standard iron tape measure. The thickness was measured at its thickest point with a digital calliper. All broken discs with successful matches were measured together, as is shown in Figure 3.2 (left).

Figure 3.2 *Indication of the longest possible diameter of a broken stone disc SF 3837 (left) and indication of a notched disc SF 1520 (Photographs by Maria van de Fliert)*

Other observations

In addition to the petrological analysis and parameters such as thickness, diameter and completeness, other observations were recorded under 'comments' in the 'Group 15 stone discs' database. These included the presence of notches (Figure 3.2, right), possible heat treatment, surface discolouration and unusual variations in thickness.

Four stone discs were not included in the measurements, macro inspection and photographs (SF 10.439, SF10.876, SF18.190 and SF23.812) as these were stored elsewhere at the time. However, they were part of the context analysis.

3.3 Context methodology

The Ness of Brodgar saw Neolithic human activity for over a thousand years. Layers upon layers of buildings, occupation, expansions, demolition and abandonment form a site of profound complexity. During the 20-year excavation, thousands of context layers have been recorded. Because of this complexity and the scope of this bachelor's thesis, it was decided to divide the different contexts and phases into three distinct periods. Nick Card, in an email to the NoB Trust and other stakeholders,[1] stated that these simplified phases were based on marked changes in the building styles of the structures found at the Ness, in conjunction with changes in pottery styles.

Phase 1: before ± 3200 BCE. This phase is characterised by the early Neolithic style of using orthostats (large stone slabs) that divide the interior. Large vertical posts supported the roof; however, at this stage, no evidence for roof tiles has been found.

Phase 2: 3200 – 2900 cal BCE. Phase 2 exhibits a distinct architectural style, with a focus on angular and symmetrical forms. Opposing stone piers form recesses and provide corner buttressing. Stone tiles are now used to create roof structures.

Phase 3: 2900 – 2400 cal BCE. This period shows another departure from the earlier phases, which can be characterised by its sheer size of the 4-metre-thick walls. Built on a monumental scale, the buildings incorporate a square central chamber, rounded internal corners and a central hearth.

To establish which stone disc was found where, find coordinates were recorded from the All-Finds database in my dataset. Combining the find numbers, structure numbers and coordinates, Paul Durdin generated GIS maps showing the distribution of each phase.

3.4 Methodology literature study

A literature study was conducted to answer the final sub-question regarding other stone disc assemblages in the British Isles.

All sources were either found in the University of Highlands and Islands library in Kirkwall or accessed via online resources such as the Leiden University library, Archaeopress, Archaeological Reports Online, BAR publishing, the Portable Antiquities Scheme and Cotswold Archaeology: Archaeological and Heritage Services.

All reports were originally submitted to a content analysis; the frequency of concepts such as 'Neolithic worked stone', 'Neolithic stone discs' and 'pot lids' offered several sources, mainly originating from Orkney and England. Each source was subsequently analysed for interpretive data to find the authors' theories

[1] personal communication, 16 May 2024

regarding the purpose of the stone discs through a thematic analysis. Finally, both the location and type of the site were recorded.

Chapter 4 Results: Stone Disc Parameters

4.1 Introduction

My research into the purpose and meaning of Neolithic stone discs of the Ness of Brodgar is divided into three steps, as is reflected in the sub-questions. First, I looked at what defines a stone disc and what dimensions can be found in terms of completeness, diameter, and thickness. Second, I analysed the find contexts for these artefacts regarding their distribution and dating. Finally, I researched other stone disc collections found in the British Isles.

This chapter presents the results for the first research phase and reports on the findings regarding rock type, completeness, thickness, diameter and other observations such as the presence of notches and surface discolouration. Consequently, the ramifications of these outcomes in terms of what these discs were used for will be dealt with in Chapter 7, the discussion. The research for this part of the study was carried out at the Ness of Brodgar in early 2025.

4.2 Petrological analysis

Rock type

Analysis has shown that 214 of the 223 stone discs were made from shale. This type of rock is a finely grained sedimentary rock that belongs to the mudrock family, along with mudstone and slate. The difference between mudstone and shale lies in the fact that shale can be split into thin flakes, whereas mudstone generally breaks into small blocks (Merriman et al., 2003, pp. 2-3). Nine stone discs were classified as other closely related sedimentary rocks: siltstone (n=2), mud-siltstone rhythmic (n=2) and mudstone (n=5). The Ness of Brodgar can be found in an area dominated by the Upper and Lower Stromness flagstones. Johnson (2019, p. 89) describes these outcrops as formations of shale, mudstone, siltstone and sandstone blends. Although no research has been done into the exact source locations for the raw materials of the stone discs, the rock was likely sourced locally. 96% of the stone disc collection is made of shale; compared to the other stone tools found at the Ness, this is noteworthy.

Lloyd (2024), who did research into the NoB worked stone tools, created an overview of the tools and their raw materials, as is displayed in Figure 4.1. Where other tools show several different rock types used for their manufacture, stone discs are (almost) exclusively made of shale. The only other worked stone tools where shale is used frequently are the flaked stone bars. Although the exact function of these bars is yet unknown, Clarke (2006, p. 30) suggests they might have been used as tilling instruments to break up soils.

Colour, texture and nature

Although the colour assessment of the stone discs is mostly subjective, the outcome shows a combination of colours that vary within the shale palette of earth tones; most discs are brown tan (37%), dark grey (26%) and grey (19%) on both sides. The rest is made up of tan, grey tan, and grey brown hues.

All (but one) discs were categorised as having a 'very fine-grained' texture (VF), which ties in with the general properties of shale. Merriman et al. (2003, p. 5) explain that shale consists of quartz silt and clay minerals with grain diameters of less than 0.032 mm (<32 µm). The one disc marked as having a fine texture (F) is SF 41733 and is made of sandstone.

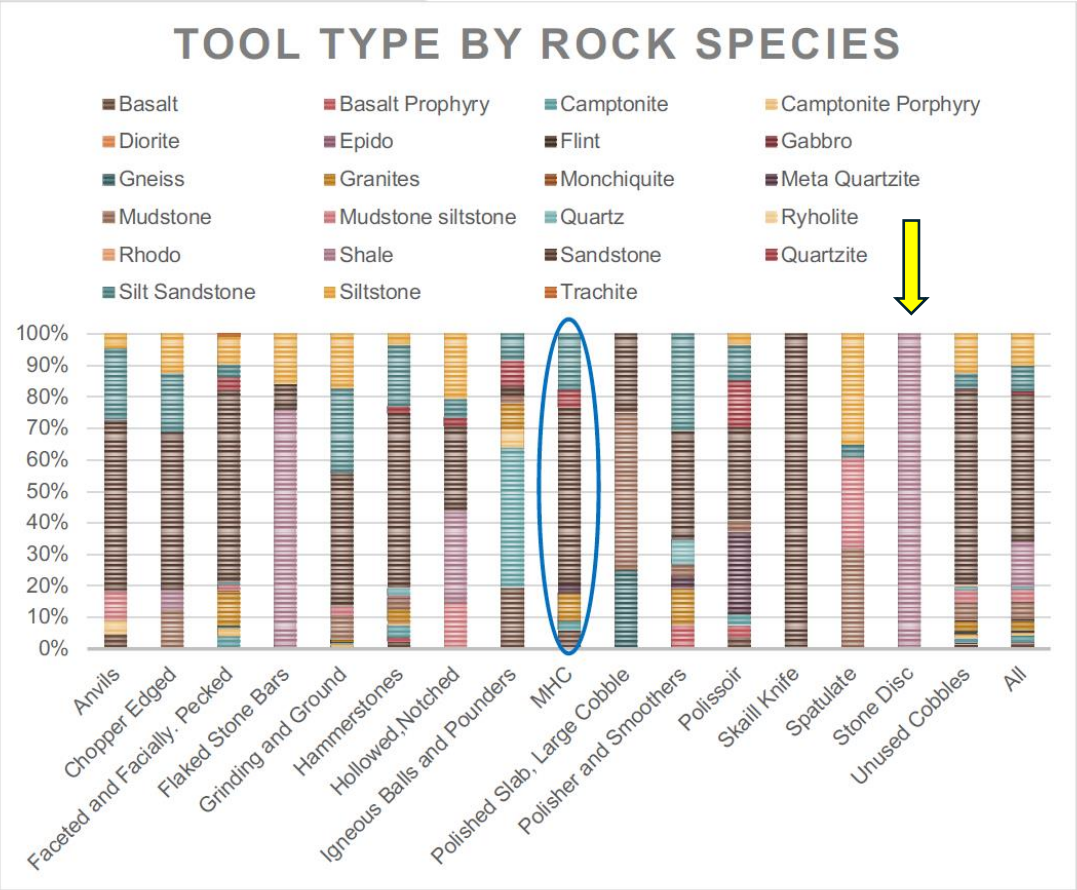

Figure 4.1 *The NoB's stone tools by rock species. The stone discs are almost exclusively shale. From Gary Lloyd's work on stone tools and multi-hollowed cobbles (Lloyd, 2024, p. 56, Figure 21).*

All stone discs show visible bedding (VB), referring to the thin layers of sedimentary deposits that formed the rock beds. In addition, all but eight discs showed a well-sorted nature (WS), indicating that the individual clasts are rounded and of roughly the same size (McGoldrick, 2020, pp. 128-129). Eight stone discs were designated as broken on bedding (BOB), and one simply as broken (BKN).

4.3 Estimation of completeness, diameter and thickness

Not all stone discs found at the Ness were 100% complete. During the inspection, I estimated the completeness of each disc; the results are presented in Figure 4.2. Three categories stand out: 100% completeness with 55 finds, 50% completeness with 55 finds and 33 discs that are 25% complete.

Figure 4.3 presents a wide variety of diameters; the stone discs measure between 40 and 460 millimetres, with an average of 137 mm and a median of 130 mm. With 26 discs, 100 mm was the most commonly found size.

The discs' thickness, presented in Figure 4.4, shows an equally varied range with measurements between 3,5 and 26 mm, with an average of 10,6 mm and a median of 10 mm. 26 discs were measured at 9 mm in thickness, making this the most common group.

Comparing the discs' diameter and thickness showed no positive correlation, indicating that an increase in diameter size does not mean an equal increase in thickness.

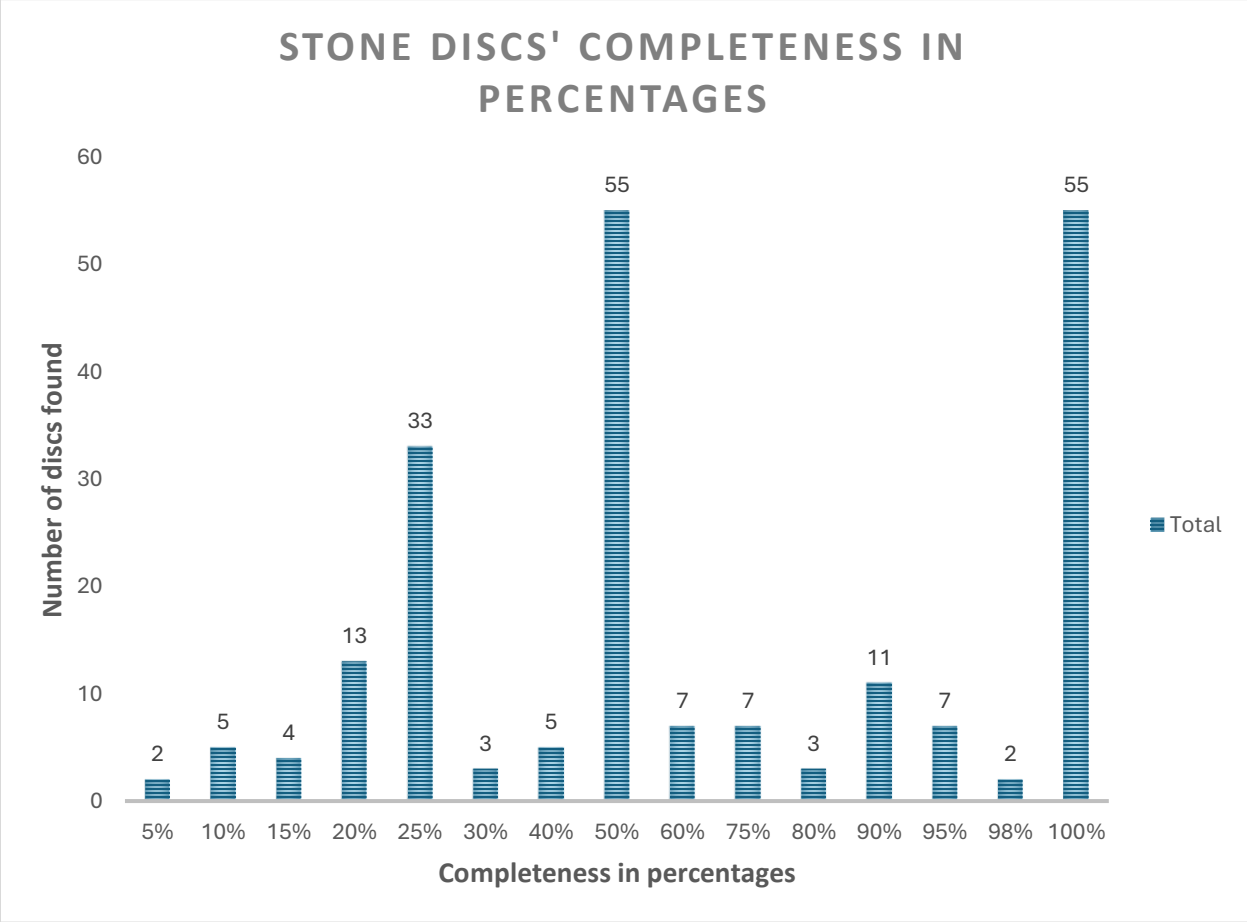

Figure 4.2 *Estimation of completeness of the individual stone discs from the Ness of Brodgar.*

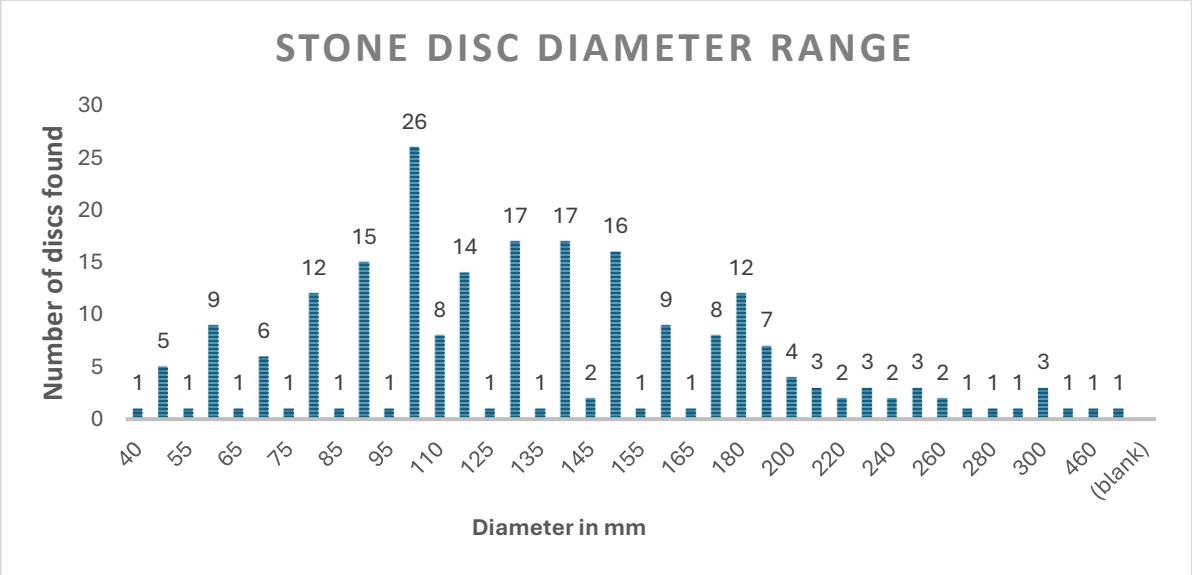

Figure 4.3 *Range of the stone discs' diameters in mm.*

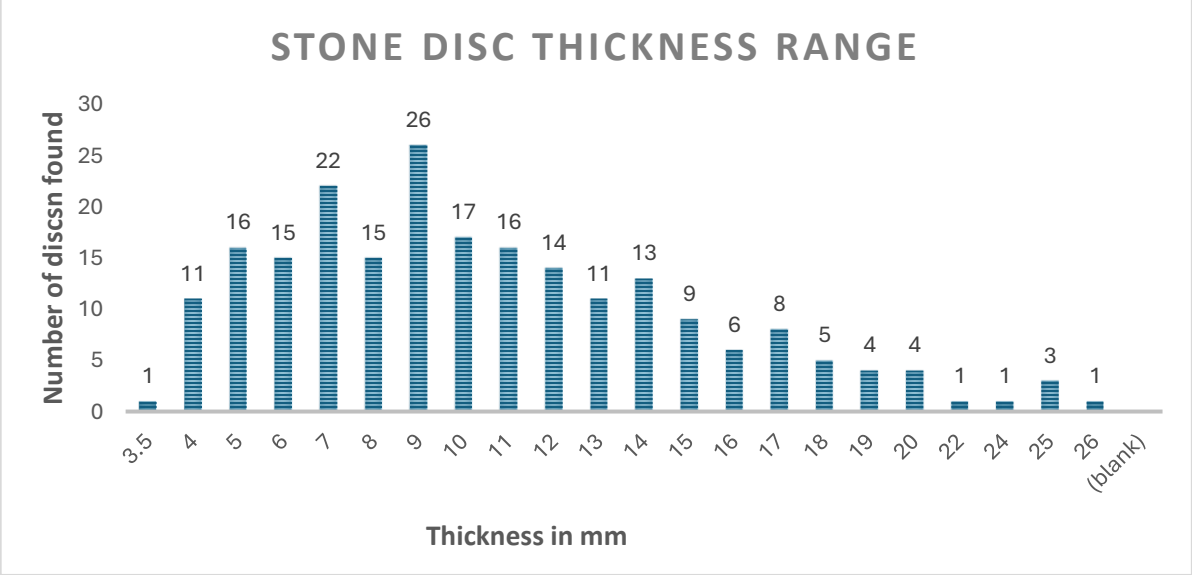

Figure 4.4 *Range of the stone discs' thickness in mm.*

4.4 Other observations

Table 4.1 gives an overview of observations made as listed under 'comments' in the database. Some discs showed distinct notches (indentations in the edges of the discs). Macroscopic analysis cannot establish whether these notches were intentionally made or whether they resulted from taphonomic processes; in the future, use-wear analysis through microscopic research may be able to shed more light on this matter.

Red, black and/or white discolouration was recorded in some instances. Merriman et al. (2003, p. 7) note that redness in shale can be due to the presence of oxidised iron minerals, and a black discolouration might refer to a high organic content. At the same time, these findings might not be natural and could be

indications of, e.g. the use of paint. In two instances, the stone discs showed signs of heat treatment. As is the case with the presence of notches and discolouration, further research into the nature of these observations is recommended.

11 artefacts were recorded to have a distinct variation in thickness, i.e. one or more parts were markedly thicker than others in the same disc. Although this variation can be expected due to the nature of shale, taphonomic processes or intentional purposes are also feasible.

Type of observation	Number of discs
Notched	17
Possibly heat-treated	2
Red discolouration on surface	10
Black discolouration on surface	19
White discolouration on surface	2
Variation in thickness	11

Table 4.1 *Overview of remaining macroscopic observations made regarding the NoB's stone-disc collection.*

4.5 Conclusion

To answer the research question of how stone discs can be defined in terms of rock type, completeness, diameter, thickness and surface treatment, research was carried out at the Ness of Brodgar from the 6th until the 24th of January 2025.

The findings indicate the NoB stone-disc collection is uniform in only one aspect: the fact that shale was predominantly used to manufacture them. In all other facets, there is a great variety regarding the macroscopic findings.

Shale is a sedimentary rock type that was formed by many depositions of silt and clay, resulting in a finely grained rock consisting of laminating layers. This rock can be easily split and worked, and it was likely sourced from the local Lower and Upper Stromness flagstone outcrops. The colour distribution reflects the sedimentary nature of shale with a mix of browns, greys and tans.

Approximately 25% of the discs are fully intact, and another 25% of the collection is halved. The other remaining discs show a great variety in stages of completeness. The diameters range from 40 to 460 mm, with a median value of 130mm. Thickness fluctuated between 3,5 and 26 mm, with a median of 10 mm.

Other observations included the presence of notches (n=17), possible heat treatment (n=2), red discolouration (n=10), black discolouration (n=19) and white patina (n=2). Some finds (n=11) showed a distinct difference in surface thickness.

Chapter 5 Results: Context Analysis

5.1 Introduction

This chapter presents the results of the research's second leg of the investigation into the purpose and meaning of the NoB's stone disc collection. Figure 5.1 shows an overview of all the cut trenches during the 20+ years of excavating the Ness. The following paragraphs will discuss the relationship between the location of the stone discs with the structures in predominantly Trenches J, P and T.

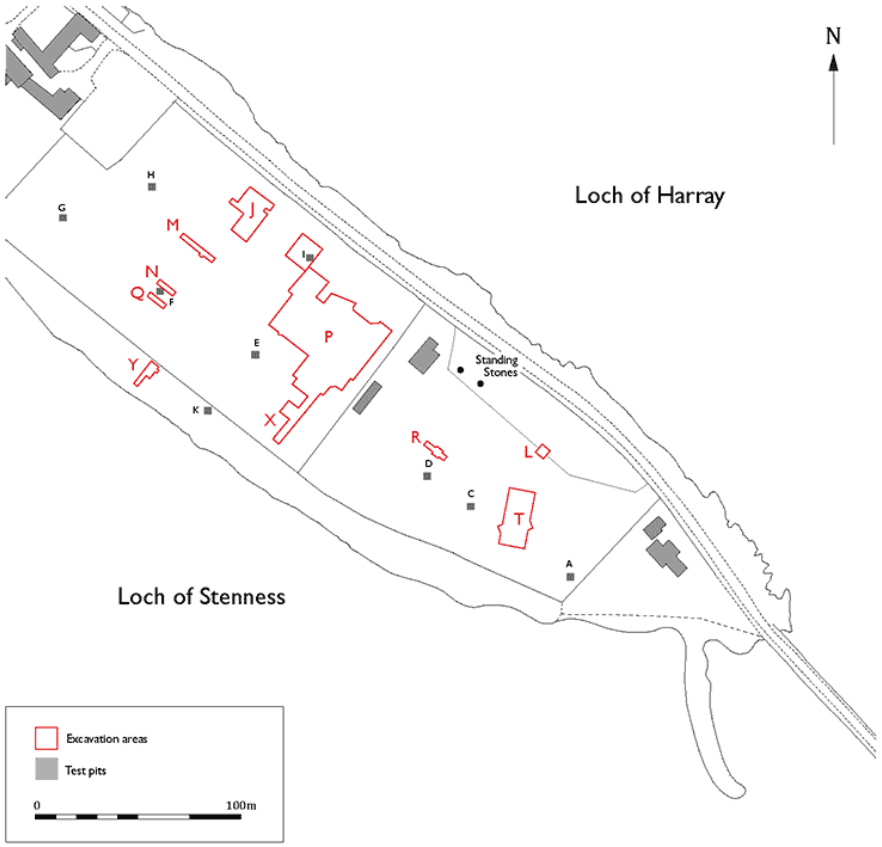

Figure 5.1 *Overview of all trenches at NoB in 2023 (Trench Plans, 2017/2023)* https://www.nessofbrodgar.co.uk/trench-plan/

Examining the Ness' contexts is no easy feat, as more than a thousand years of human activity resulted in countless different layers that superimpose, undercut, and overlap each other. It is for that reason, three simplified phases were constructed to create a rough sequence of the Ness' periods of human activity:[2]

- Phase 1: before ± 3200 BCE
- Phase 2: 3200 – 2900 cal BCE
- Phase 3: 2900 – 2400 cal BCE

[2] Card, personal communication, 16 May 2024

Although these phases are based on distinct differences in architectural features, the key to understanding the Ness is to be aware of the fact that, in most cases, buildings did not suddenly change from one style to another. New buildings were erected amidst older ones, old structures were remodelled, and even the purpose of structures would have changed regularly. Transitioning from one phase to another most likely involved an ongoing relationship with the structures that were already there at the time (Card et al., 2020, p. 102).

5.2 Phase 1 stone discs

A total of 12 stone discs (5.4% of the collection) were found in Trench J, dating to the earliest phase of the NoB: before ± 3200 BCE. This phase is characterised by a building style that divides the interior with the use of orthostats (large stone slabs), also found in other early Neolithic settlements such as the Knap of Howar in Papa Westray (Card & Edmonds, 2020a, p. 56). Figure 5.2 shows the outline of Structure 5; an elongated oval stone building measuring at least 15 by 6,5 metres. The dating of this structure is supported by (unpublished) radiocarbon dating in combination with the architectural style and the discovery of carinated round-based ceramics. This pottery style is considered to be the precursor to Grooved Ware ceramics, a type of pottery that emerged around 3200 BCE and is characterised by flat bottoms and geometrically incised decoration (Copper et al., 2021, p. 82).

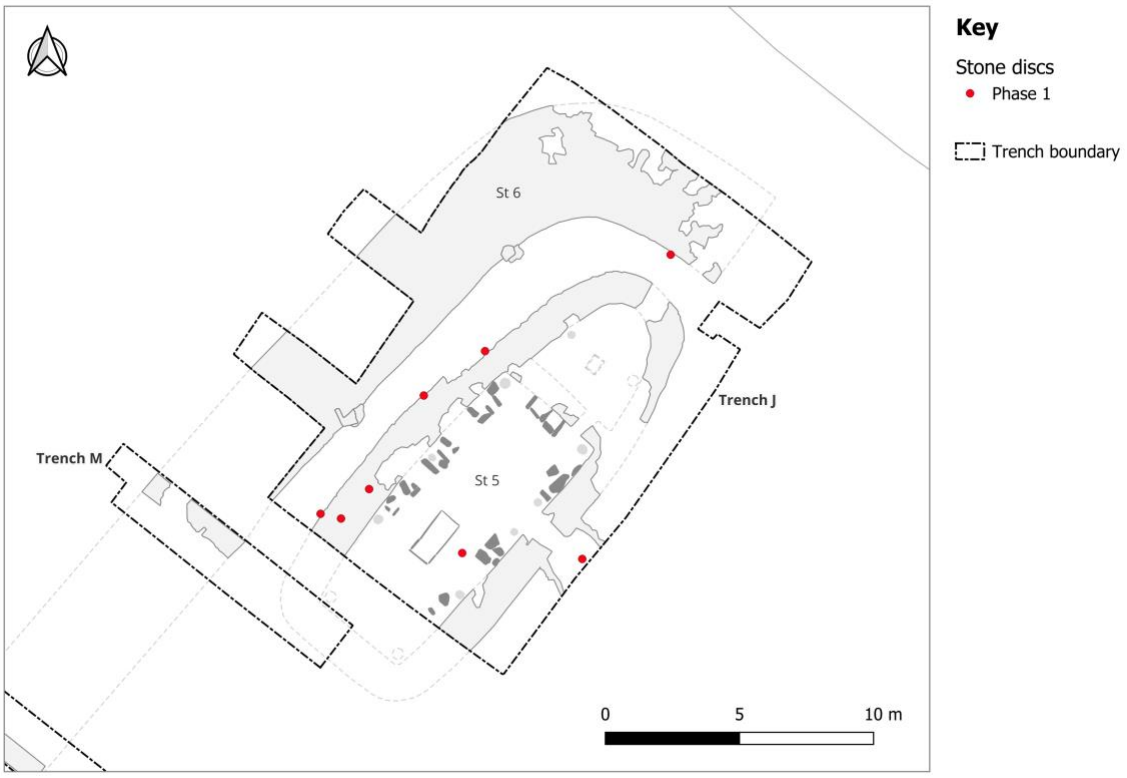

Figure 5.2 *Distribution of phase 1 stone discs in Trench J, structures 5 and 6 (Image by Paul Durdin, used with permission).*

To the northeast of Structure 5 lies Structure 6, a monumental wall that is ± 4 metres wide with a surviving height of 0,65 metres. It was initially thought to have enclosed the entire site, especially when a southern

wall also presented itself. However, further excavation proved that the wall might have formed a coherent boundary only for a small timespan (Card & Edmonds, 2020b, pp. 66-71).

The Phase 1 stone discs do not show a significant deviation in diameter and thickness compared to the collection as a whole (100 mm diameter median and 9 mm thickness median), however, six of the nine discs that are not made of shale were found here: four mudstone, one siltstone and one mud-siltstone rhythmic disc.

5.3 Phase 2 stone discs

Phase 2 covers the period between 3200 – 2900 BCE and is known for the emergence of piered buildings. The structures show distinct opposing internal piers that form recesses and corner buttressing. Later structures, such as 1, 8 and 12 (Figure 5.3), are elongated and can be interpreted as halls, demonstrating a high level of architectural skill (Card & Edmonds, 2020c, pp. 72, 74). Phase 2 also shows the introduction of stone roof tiles, making this a clear departure from the early building style of Phase 1.

Figure 5.3 shows the distribution of Phase 2 discs and their proximity to the structures in Trench P and R. A total of 24 stone discs (10,8 % of the entire collection) are associated with Phase 2; 21 of which are shown in Figure 5.3. Three discs have no recorded coordinates (SF 24904, SF 40395 and SF 41 475) and are therefore not included in the map.

Figure 5.3 *Distribution of phase 2 stone discs in relation to the structures (image by Paul Durdin, used with permission).*

All but one of the 24 discs are made of shale; SF 41475 is a mudstone disc. They match the median thickness of 10 mm with the collection as a whole but show a significant difference in diameter. With a median diameter of 185 mm, there is a 55 mm deviation from the entire assembly.

Within Structure 8, a total of 9 stone discs were detected. This structure is the longest of its kind found at the Ness, measuring between ± 18 m by 9,5 m. It has known two phases of occupation; during the second phase, only the north half seemed to have been occupied, as evidence shows a much larger number of roof tiles were found here. At some point, the roof in the southern half collapsed, and the roof tiles were reused for a different structure (Card & Edmonds, 2020c, p. 79). In its early phase, Structure 8 had four opposing pairs of piers and four hearths. The authors mention the deliberate placement of artefacts such as polished stone spatulas and igneous stones near the piers and recesses of Structure 8 (p. 80); however, analysis has not shown any special finds together with the stone discs in Phase 2.

8 stone discs were found in Structure 1, the first building found in Trench P. It measures ± 15m by 10 m and has seen at least three different phases (p. 73). The original phase showed four corner buttresses, one pair of opposing stone piers and two hearths. As with Structure 8, most finds were located near the recesses; one piece, however, was found between the hearth and the wall.

Structure 14 yielded 5 stone discs. This building was erected shortly after structure 1 and measures ± 11m by 9 m. Unlike the other structures discussed, number 14 is not as well preserved and was the victim of stone robbing during the late Neolithic. It saw two phases of occupation with a reconfiguration of the interior during the second phase (p. 87).

In between structures 1, 8, 12 and 29 lies a paved area, with a single, decorated standing stone at its centre, aligned north-south with the southern entrance of Structure 1. Although there seems to be a natural connection between these buildings, only one stone disc was found near Structures 12 and 29 for Phase 2. Structure 12 has three opposing pairs of piers and two large hearths; two stone discs were found in and near this structure. Card & Edmonds (2020c, p. 82) note that there is ample evidence for large-scale food preparation activities; over 8000 pieces of pottery were retrieved from Structure 12 alone. This building saw a second phase when the primary southern wall collapsed; the reconstruction was of lesser quality and is contemporary with Simplified Phase 3.

5.4 Phase 3 stone discs

The vast majority of stone discs, 178 pieces (79,8%), were found in contexts associated with Phase 3, dating from ± 2900 BCE to 2400 BCE. The Phase 3 median diameter of 130 mm and a thickness of 10 mm equals the measurements of the collection as a whole.

Around 2900 BCE, piered buildings fell out of fashion, and a new architectural style appeared, as is most prominent in Structure 10 (Figure 5.4). It was built on the ruins of several piered buildings, one of which was the southern end of phase 2's Structure 8. As one of the largest buildings found at the Ness, Structure 10 was built on a monumental scale with an architectural style that is roughly similar to Late Neolithic settlements such as Barnhouse and Skara Brae (Card & Edmonds, 2020d, p. 103). The main building measures ± 15 m by 15 m, it has 4-metre-thick walls and incorporates a square central chamber with a

large central hearth. During its lifetime, it suffered from subsidence and saw several phases of rebuilding of lower quality. The later rebuilding and activity of Structure 10 is suspected to have had a more domestic function (p. 107). Figure 5.4 shows the distribution of the Phase 3 stone discs; Structure 10 yielded 52 pieces, making this the largest concentration within a single structure.

Within Structure 12, 24 stone discs were excavated. As was the case in its earlier phase, structure 12 was presumably the main hub for cooking activity. However, unlike Phase 2, which only yielded 2 discs, the later activity layers of Phase 3 uncovered 22 discs.

The demise of Structures 10 and 12 was marked by the event of a large feast that happened around 2400 BCE. More than 400 cattle were slaughtered, and the bones, together with broken pots and stone tools, were deposited in and around these buildings, marking the end of the Ness' Neolithic era (Card & Edmonds, 2020d, p. 85).

Figure 5.4 *Distribution of phase 3 stone discs in relation to the structures (image by Paul Durdin, used with permission).*

Phase 3 includes many finds in Trench P, with most finds concentrated in and around structures 10 and 12. However, small numbers of stone discs were also found in Trenches L (n=5), N (n=1) and T (n=15). The only structure associated with these trenches is number 27 in T. Like Structure 10, 27 is a large, sub-rectangular building that measures 17 m by 11 m with an inner chamber of 11 m by 7,5 m (Edmonds, 2024, p. 130).

Although some of its architectural features, such as capped draining systems and slightly obtuse corners, mirror those of other Phase-3 constructions, structure 27 stands out for its unique features. The ancient builders deliberately chose to use orthostats to divide the interior, a style that is reminiscent of the early Neolithic building style as seen in Phase 1's Structure 5. However, some of these can also be interpreted as parts of corner buttressing similar to the late Neolithic Maeshowe chambered cairn (Card & Edmonds, 2020, p. 118). The quality of masonry demonstrated in its outer walls reveals a skill that is unique to number 27.

With this combination of early, late and unique Neolithic features, it is currently still unclear where this building can be placed in the sequence of structures at the Ness; the radiocarbon dates have not been published yet. However, most architectural features suggest a timespan similar to that of Structure 10, Phase 3 (Edmonds, 2024, p. 130). 27's role in its time of occupation remains equally elusive, whether it was a largely monumental building or meant for domestic purposes, needs further investigation.

5.5 Middens

Having looked at the distribution of stone discs in relation to the structures, the fact that many discs were found in midden deposits in and among the buildings is noteworthy. Middens are commonly regarded as heaps of 'rubbish'; a collection of anthropic sediments of e.g. ash, dung, pot sherds and artefacts (Card & Edmonds, 2020e, p.92). Although ubiquitous throughout the site, two main areas stand out: the Central Midden Area (CMA) in Trench P, and the large midden mound of Trench T. Generally, these middens were used as levelling foundations, wall fillers, pits, or rubbish mounds at the edge of settlements, and their existence was not unique to Brodgar. At the Links of Noltland and Rinyo in Rousay, similar anthropic sediments have also been found (pp. 92-93). Whether or not these middens were regarded as ways to discard unwanted things or perhaps had a deeper meaning of engaging with past remnants is still widely debated. Chapter 7, the discussion, will look at what this could mean for the interpretation of the meaning and function of the stone discs.

5.6 Conclusion

Although the vast majority of stone discs (n=178) were found in Phase 3, dating from 2900 BCE to 2400 BCE, stone discs were used throughout the Neolithic at the Ness, including its preceding periods, Phase 1, < 3200 BCE (n=12) and Phase 2, 3200 BCE to 2900 BCE (n=24). Although the structures mentioned in this chapter were fully excavated, it should be noted that only about 10% of the site has been explored in the past 20 years, and possible future excavations could show a different picture.

The biggest group of stone discs, 52 pieces, are associated with Structure 10 in Phase 3. This building is one of the biggest and has seen several phases of restructuring after its initial collapse. Especially the second phase is thought to have been a domestic setting, rather than a general place of gathering.

Structure 12 saw human activity in both phases 2 and 3 and is suspected to be an area of food preparation. Like most buildings at the Ness, it saw more than one primary building phase. Most noticeable is that only two discs were excavated from phase 2, and phase 3 yielded 24 items; the second biggest group associated with a single structure.

Analysing the parameters per find location, the phase 1 disc collection shows that 6 out of the 12 discs were made from a sedimentary rock type other than shale. In addition, phase 2 revealed a significant deviation in diameter from the complete assemblage; at 185 mm, the median diameter is 55 mm larger. What this could mean for the interpretation of the discs' use will be discussed in Chapter 7.

Chapter 6 Results Literature Study

6.1 Introduction

This chapter analyses the outcome of the literature study to find out what other stone disc assemblages have been found in the British Isles. The study focused on the number of discs found per location and the interpretations offered by the authors. The results, together with Chapter 4's disc parameters and Chapter 5's context research, will contribute to a better understanding of the purpose and meaning of the NoB's stone disc collection.

The literature sources were collected from the University of the Highlands and Islands' library and several online repositories and resources such as the Leiden University library, Archaeopress, Archaeological Reports Online, BAR publishing, the Portable Antiquities Scheme and Cotswolds Archaeology: Archaeological and Heritage Services. The chapter will conclude with a short account of Bronze Age and Iron Age finds. Although this thesis focuses on Neolithic discs, parallels should be drawn to later periods, as ideas and concepts do not necessarily cease to exist when the (modern concept of the) Neolithic ends.

6.2 Neolithic stone discs in the British Isles

Neolithic artefacts such as flint tools, pottery and stone axes have been widely studied, and both academic studies and archaeology reports are ubiquitous regarding these finds. Neolithic stone discs, however, have generally not been a main focus, apart from Clarke's (1995; 2006; 2007; 2016; 2020) and Edwards' work (2012). Where Clarke's work is centred around worked course stone in Orkney and Shetland, Edwards focused on stone discs from the fourth and third millennia in Britain. Building on their work, my research has yielded 30 records where stone discs were found, culminating in a total number of 649 Neolithic stone discs (see Appendix C: Results of the Literature Study).

Locations and types of sites

There are three locations where large collections were found: The Ness of Brodgar, Orkney (n=237, including the finds from the 2023 and 2024 excavations), Skara Brae, Orkney (n=190, 1970s excavation), and Stonehenge, Wiltshire (n=49, 2008 excavation). Figure 6.1 depicts the percentages of the stone-disc find locations in Britain and shows that the vast majority, 84%, were found in Orkney. Stone discs were also encountered in other Neolithic sites from England, Wales, Scotland, Shetland, Ireland and Northern Ireland; however, the numbers are small and fluctuate between 1 and 12 finds per location.

In addition to the locations, I have also analysed the nature of the sites to see if a difference between domestic and ritual purposes can be established. Table 6.1 shows the three broad categories that can be distinguished: settlement sites, ritual sites, and places for which the function is still largely unknown.

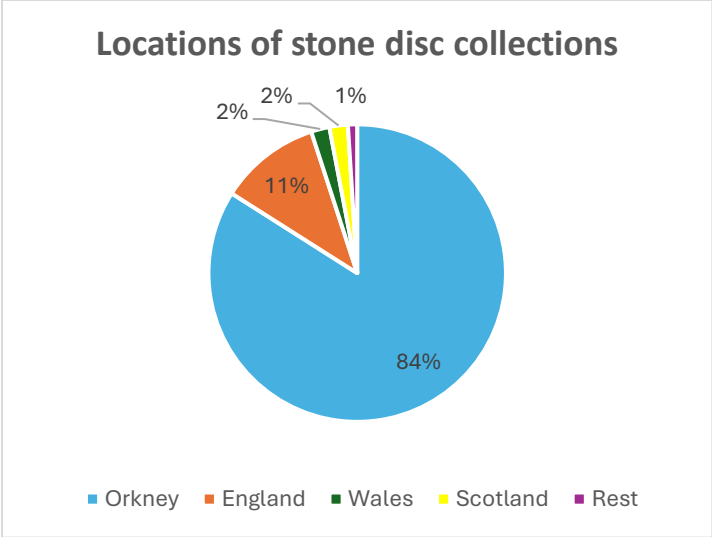

Figure 6.1 *Locations of stone disc collections in percentages.*

Purpose of the site	Examples	Number of stone discs
Domestic	Settlement, axe factory, dwelling	322
Ritual	Long cairn, portal dolmen, chambered cairn, long barrow, stone circle	72
Unknown	Enclosure, causewayed enclosure, place of gathering, channel infill	255

Table 6.1 *Total number of stone discs per domestic, ritual and unknown-purpose site.*

Stone discs are found in both what are deemed domestic and ritual sites, with more finds in domestic settings than in ritual ones. It should be noted, however, that these site purposes are modern-day interpretations and that everyday activities and ritual purposes could very well have co-existed in Neolithic life; more of this and what this means for the purpose and meaning of the stone discs will be explained in Chapter 7.

In 2012, Edwards conducted a similar literature study in which she made the distinction between funerary and non-funerary sites. The results show that out of 280 stone discs in Britain (this includes Bronze Age and Iron Age finds), 191 (68%) were found in non-funerary settings. She included 78 discs from the Ness of Brodgar and noted that the understanding of the site's purpose was still ongoing at the time. If the site's interpretation were to switch from a domestic purpose to one of religious importance, the results would show more discs at funerary/monumental sites with a percentage of 56% (Edwards, 2012, pp. 20-21).

In this study, the Ness of Brodgar collection falls into the 'unknown' category, as a place of gathering could serve both domestic and ritual purposes. Nevertheless, the results still show that the largest number of

discs are found in a domestic setting, carried heavily by the number of Skara Brae discs and fragments found during the 1970s excavations.

Interpretations

Table 6.2 gives an account of the interpretations that were given in the sources. The majority of finds were recorded without any assigned purpose or meaning, which clearly shows the enigmatic nature of the stone discs. Pot lids were mentioned 13 times, but a clear association with pottery was only mentioned twice: first in Crossiecrown, Orkney: two pieces were heat damaged and found with pottery (Clarke, 2016, p. 462), and Woodcock Corner, Cornwall: a decorated disc was found with Grooved Ware (Thomas, 2016, p. 22). Heat damage was also detected in Tofts Ness (Clarke, 2007b, p. 295) and Pool, which yielded 13 discs with evidence of burning (Clarke, 2007a, p. 368).

Other interpretations, such as weights, symbols, paint palettes or pavement slabs, are only mentioned sporadically. The notion of paint palettes is derived from Edwards' work on 47 stone discs that were found in the 2008 excavation of Stonehenge. 20 of these showed traces of a white chalk deposit, and Edwards (2012, p. 56) argues these discs were possibly palettes for skin paint. Two instances of white patina were recorded for my analysis of the NoB's stone disc collection: SF 15995 and SF 20916; future use-wear analysis on these two pieces should analyse the surface in more detail to see if similar chalk deposits can be found.

Interpretation	Times mentioned
Charm stones/amulets/talismans	2
Game counters	1
No interpretation given	14
Paint palettes	1
Pavement pieces	2
Personal adornment/jewellery	1
Pot lids	13
Symbols of celestial bodies	2
Weapons for hunting small game	1
Weights	3

Table 6.2 *Overview of stone disc interpretations mentioned.*

6.3 Bronze Age and Iron Age discs

Discs kept playing a role in ancient people's lives during the Bronze Age and Iron Age. Although many were still made from sedimentary rock types, other raw materials like metals and different types of stone were introduced.

Bronze Age discs have been found, but are relatively rare compared to Neolithic and Iron Age finds. At Orcadian sites such as Pool, Tofts Ness, and the Knowes of Trotty, a small number of Bronze Age stone discs were found (Clarke, 1995, pp. 91-95). At the Bronze Age burial site of the Knowes of Trotty, four very thin golden discs were uncovered, Sheridan (n.d.) suggests they were most likely used as personal adornments.

Figure 6.2 *Gold discs found at the Knowes of Trotty - left, and an artist's impression of their possible function - right (Sheridan, n.d.)* https://www.nms.ac.uk/collections/departments/scottish-history-archaeology/projects/prehistoric-gold-in-britain/the-knowes-of-trotty-discs

Iron Age excavations have yielded many more stone discs for both Orkney and Shetland. Sites where these artefacts were found are Tofts Ness, Bu, Pool and Howe in Orkney and Mavis Grind, Unst, Kebister and the Upper Scalloway broch in Shetland. Clarke (1995, p. 37) compared the stone disc collection from the multi-period site of Pool in Sanday, Orkney and noticed a distinct difference in size between Neolithic and Iron Age discs; Neolithic discs tend to be larger than 80 mm, compared to the Iron Age samples. She suggests that these smaller stone discs would have fit inside storage vessels (p. 39). The smallest discs are generally considered to be game counters.

Polished stone discs were used as burial gifts, as was shown in an Iron Age burial at Milla Skerra in Unst, Shetland, as depicted in Figure 6.3. These artefacts, although seemingly similar to the Neolithic discs discussed here, are different in choice of raw material (garnetiferous schist) and careful grinding and polishing (Goldberg & Hunter, 2019, pp. 116-117). Clarke (1995, p. 88) mentions that these ground discs are mostly associated with Iron Age contexts.

Figure 6.3 *Iron Age burial with a polished stone disc at Milla Skerra in Shetland (Goldberg & Hunter, 2019, p. 114, Figure 7.3).*

6.4 Conclusion

The literature study has yielded 30 locations in Britain where Neolithic stone discs were found, with a total number of 649 stone discs listed.[3] 84% of all discs were found in Orkney, 11 % in England, and the remaining finds are divided between Scotland, Wales, Shetland, Ireland and Northern Ireland.

The biggest collection of discs is held by the Ness of Brodgar, with 237 items; this includes the finds from the 2023 and 2024 excavations. The second biggest stems from the 1970s excavations of Skara Brae with 190 artefacts. The third biggest collection was found at the 2008 excavations of Stonehenge with 49 Neolithic stone discs. Most discs were found in domestic settings; however, a distinction between domestic and ritual places might be a modern-day interpretation, as domestic and ritual activities could have occurred side by side in Neolithic times.

The interpretations given by the authors have also been recorded. Most sources do not give any interpretation (n=14), which demonstrates how little is known about the discs. 13 records mention pot lids as the most likely use for the artefacts; however, only two instances are described where Neolithic discs and pottery vessels were found in the same context. Other less common interpretations given are game counters, jewellery pieces, amulets or talismans, paint palettes, pavement slabs and weapons for hunting small game.

During the Bronze Age and Iron Age, people continued to use discs, although other raw materials such as gold and different types of stone were also introduced. The Bronze Age discs are relatively rare compared to Neolithic and Iron Age finds.

[3] This present list should not be regarded as exhaustive; certain archaeological reports and records are not publicly accessible.

Chapter 7 Discussion

7.1 Introduction

In this chapter, the findings from the Neolithic stone disc parameters, the context analysis of the structures in combination with the three major phases of human activity and the literature study regarding other stone disc assemblages in Britain will be combined to find a potential purpose or meaning of these artefacts. Three main potential purposes will be discussed in detail: pot lids, structural elements and symbolic items. In addition, their use as game counters or paint palettes will also be examined.

7.2 Pot lids

Stone discs are most often referred to as pot lids in the literature, yet clear evidence is few and far between. Taking all outcomes of this study into account regarding the stone disc parameters, the find contexts, and the other disc finds throughout Britain, the following lists the arguments in favour and against the possibility of the Brodgar discs being lids.

At the NoB, almost all stone discs were manufactured from shale, a sedimentary rock type that easily splits into layers. Although research has not been done into the source of the shale (Clarke, 2006, p. 30), the Stromness flagstones would offer an abundant and easily workable raw material for ancient people seeking to chip a quick and mundane tool such as a pot lid.

The ± 90,000 sherds of pottery found at the Ness are mostly Grooved Ware, which was first used there from around 3200 BCE (Towers & MacSween, 2020, pp. 255, 257). The rim diameters vary, but the Ness has frequently revealed giant pots with diameters from 220 mm to 280 mm (Blatchford, 2025), possibly accounting for the larger discs of the collection. Clarke (2006, p. 38) argues that the stone discs exceeding 120 mm could have been used as overhanging potlids. This would have made the lid easier to handle when a pot was placed on a fire. However, as Towers and MacSween (2020, p. 262) note, one would expect signs of heat treatment at the discs' edges. As it stands, only two discs were marked as potentially heat-treated, suggesting the NoB stone discs were not generally used on pots in direct fire.

***Figure 7.1**. SF 16865 and SF 16869, stone discs showing signs of possible heat treatment (photograph by Maria van de Fliert).*

Clarke (2020, p. 230) describes the possibility of discs used as container lids: these would have been carefully shaped artefacts to seal off smaller vessels or baskets. The Ness collection holds several of these intricately shaped and perfectly round discs that would fit the description. Notches could serve as easy

access for removing the lid; however, due to the laminating nature of shale, these features could also be natural.

The find locations could offer additional insight into their use as potlids. Structure 12 is of particular interest because it is generally deemed to be an area of food preparation. Not only did it yield countless stone tools, but more than 8000 pieces of Grooved Ware were found here (Towers et al., 2017, p. 28). When it was newly built, a lot of work had gone into the carving and shaping of the rocks that formed the walls. The second phase, unfortunately, saw a more haphazard approach with an annexe to the north and walls that were badly joined. It was in this later phase that 24 stone discs were found. It could be that the purpose of the building changed from a ceremonial to a more domestic one. Another possibility would be that the stone discs were simply taken from the earlier collapsed part and reused as pot lids. The largest group of discs were found in and around Structure 10, which saw a similar process of an intricately built building that was remodelled with less care and technique and could have seen a change in purpose from the ritual to the domestic.

Distinguishing between domestic and ritual or ceremonial purposes for artefacts and structures might not be as straightforward as it seems. The results of the literature study showed that most stone discs are found in domestic settlements. However, the ideas of 'domestic' and 'ceremonial' might be opposites only in our modern minds. Younger (2017, p. 335) noted that although hearths are nowadays mostly associated with domestic settings, the Stones of Stenness hold the remains of a hearth in its centre. She argues that ritual and domestic tasks were intertwined and that the use of fire could have been an act of official place-making.

This makes assigning a purpose to the stone discs especially difficult. Nevertheless, although very rare, there have been instances where pot and lid were found together in situ. At Crossiecrown, Orkney: two pieces were heat-damaged and found with pottery (Clarke, 2016, p. 462), and Woodcock Corner, Cornwall: a decorated disc was found with Grooved Ware with matching patterns of triangles and lozenges (Thomas, 2016, p. 22; Jones et al., 2019, p. 61). A third record describing a pot and lid found together is from an Iron Age roundhouse of the Knowe of Swandro in Rousay, Orkney. Although it is an early Iron Age find, it could indicate that customs and knowledge were passed on through generations, see Figure 7.2.

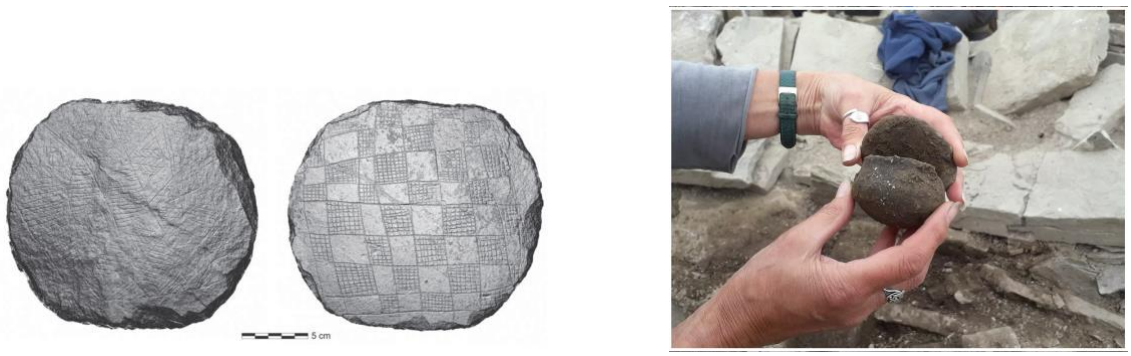

Figure 7.2 *Two lids found together with their vessels. Left: decorated disc from Woodcock corner (Jones et al., 2019, p. 61, Figure e 3.20). Right: An early Iron Age pot found with its lid in situ (Orkney Coastal Archaeology Trust, n.d.) https://www.swandro.co.uk/2022-dig).*

In conclusion, evidence shows that the use of stone discs as lids is plausible. For the NoB's collection, given its great diversity in size and finish, some of these could certainly have functioned as such. However, if potters had the skill to make pots, why not make a ceramic lid that fits the vessel perfectly? Jan Blatchford adds that pot covers could take on any shape or form; carefully shaping a disc from rock would not have been necessary.[4] In addition, macroscopic analysis has not found any traces of contact with a pot; something that would be expected if a disc were placed on top for some time. In the future, use-wear analysis should be carried out to find any microscopic evidence for the discs' use as pot lids. Although some of the discs could have functioned as lids at the Ness, the diversity of the collection justifies research into other purposes.

7.3 Structural elements

Some stone discs show rounded edges but are not fully circular or oval, and have protruding angular edges. Figure 7.3 shows four examples of these types of stone discs; all are larger than average, measuring at least 150 mm in diameter. Childe and Grant (1938, p. 29), reporting on the excavations carried out at the Braes of Rinyo on Rousay, describe a large collection of stone discs, some of which are similarly large and angular. They suggest that these artefacts might have been used for paving, as they were found among the paving slabs in Chamber D. Ann Clarke (1995, p. 102) also mentions their potential use as paving slabs in Skara Brae and adds they may have started life as pot lids and were re-purposed as structural elements.

Figure 7.3 *Stone discs with rounded edges and unusual angles. Top left: SF 42867 and top right: SF 20917, bottom left: SF 9905 and bottom right: SF 4619 (Photographs by Maria van de Fliert).*

Looking at the contexts of the four discs above, SF 9905 yielded a find location that supports the pavement hypothesis. This piece was found in the paved central area between structures 1, 8, 12 & 29, a

[4] Personal communication, 14 February 2025.

place with a standing stone in its midst, as is depicted in Figure 7.4. The area holds several rounded and angular slabs surrounding the standing stone, here supported by a wooden frame, near structure 29.

It seems likely that some of the larger pieces of the NoB's stone-disc collection were used as paving stones, or even as wall fillers. Whether these discs were shaped especially for this purpose or were initially intended for other tasks would be difficult to establish.

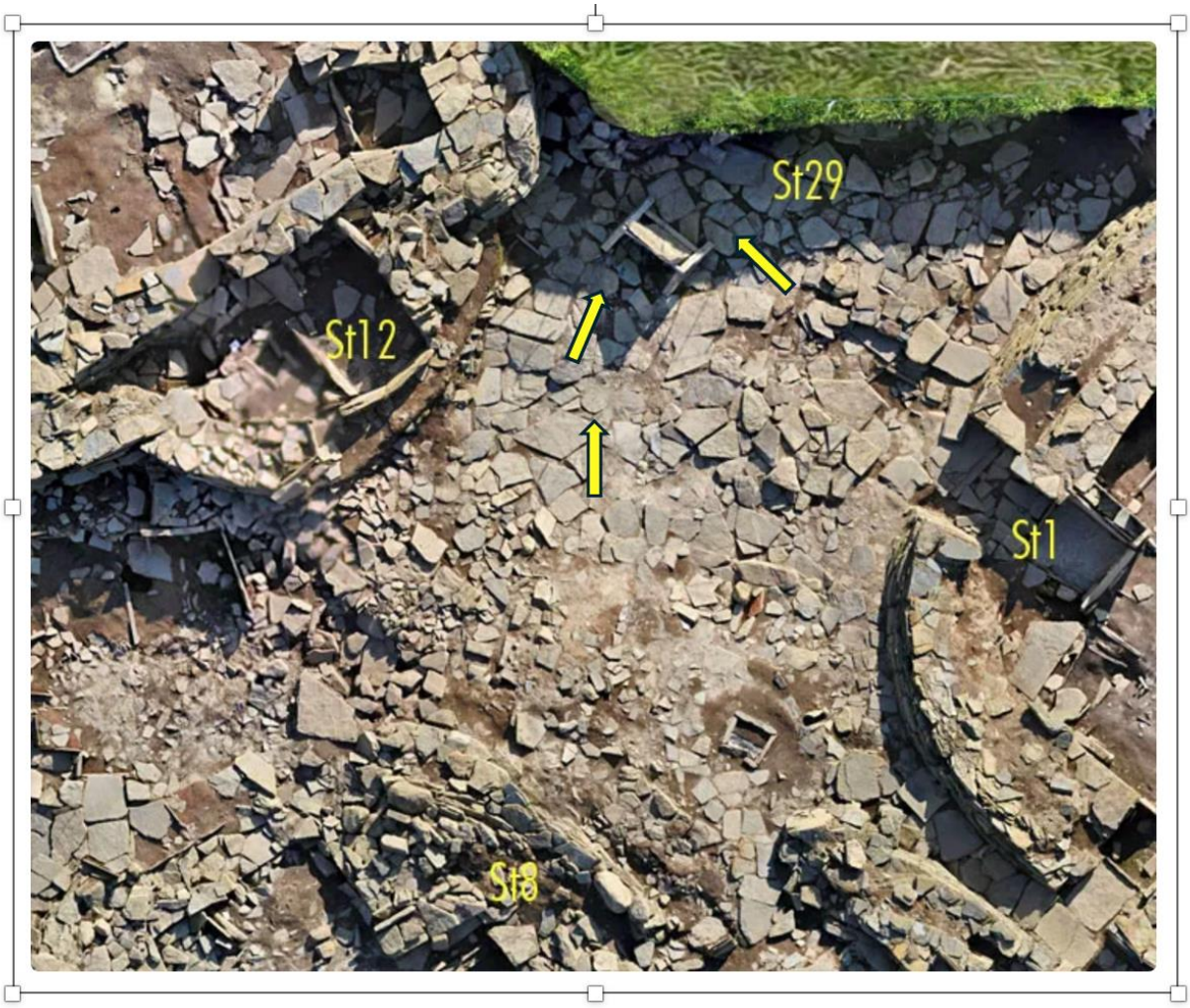

Figure 7.4 *The central paved area between structures 1,8,12, and 29. Some stone slabs show rounded edges, the yellow arrows mark out some examples (Adapted from Pike, 2022).* *https://www.nessofbrodgar.co.uk/about/the-central-paved-area-and-standing-stone/*

7.4 Symbolic objects

The literature study found at least 72 stone discs at sites associated with ritual activities, such as dolmens, long cairns, chambered cairns and the henge monument of Stonehenge. This indicates that these artefacts were also used as objects with a deeper meaning. Jones (2005, p. 245) describes that within chambered tombs, items associated with the individual's daily life and identity are often found, thus turning the

mundane into symbols of remembrance. Although rare, some discs have indeed been found with human remains (e.g. in Kintyre, Scotland: Scott et al., 1958, p.32).

The Ness of Brodgar, however, is not generally seen as a funerary site, although over the many years, some human remains, including an adult humerus, two infants' remains, some skull fragments and several teeth, were found (Boyar, 2020, p. 290). Analysing the contexts of the stone discs, the largest group is associated with Structure 10. Built around the start of phase 3, ± 2900 BCE, it heralded the dawn of a new age, with walls of 4 metres thick and 2 metres high; Structure 10 was built to impress. With the addition of decorated and dressed stone, and deliberate deposits of cattle bone, the aforementioned adult humerus and a sea-eagle's wing bone underneath the buttresses, this building most likely had a monumental or ceremonial purpose. Just why so many stone discs were found here, and what their purpose could have been, remains unclear.

Many stone discs were found in middens in, around and on top of the structures at the Ness. Downes & Richards (2021, p. 31) refer to them as heaps of tough soil full of broken bones, pot sherds, artefacts, dung or ash. Although most would regard these as mere piles of rubbish, middens had several purposes in ancient times. Next to a way of discarding unwanted things, they functioned as structural foundations for buildings and towards the late Neolithic, material from middens was also used as wall fillers. In addition, they were cultivated, either in situ or spread out on fields as fertiliser (p. 37). Finally, Card & Edmonds (2020e, p. 94) mention that the presence of fine polished stone artefacts could have been an act of deliberate deposition, making the midden an area where important items were laid to rest. The analysis of clusters of stone discs found with identical context numbers, does occasionally yield other worked stone tools, e.g. SF 22,660 and SF 23,245 were found with an axe, a stone ball, a spatulate tool and other broken and complete stone items. However, whether these were deliberately placed or removed and later discarded is difficult to tell due to the many centuries of occupation, remodelling and stone robbing.

Analysing the discs in their broader landscape context, the circular shapes could symbolise an attachment to a special place, such as the two stone circles of the Ring of Brodgar and the Stones of Stenness, on either side of the Ness. Although the exact purpose of the two monuments would have changed over the centuries, they must have played a pivotal role in the lives of the people living nearby. On the other hand, both monuments date from the late Neolithic, and evidence has shown that the Phase 1 and 2 discs predate this.

Further thoughts on the circular shapes have prompted Edwards (2012, p. 54) to suggest that the discs could symbolise celestial bodies, like the sun and the moon. Representations of the sun, moon and stars have been widely publicised regarding Bronze Age finds such as the German Nebra disc and the Danish Trundholm sun chariot. Mary Cahill (2015, p. 28), in her research into early Bronze Age discs in Ireland, mentions that the gold discs found at the Knowes of Trotty in Orkney (see Chapter 6) might represent the movement of the sun, symbolised by the concentric circles. Some stone discs in the NoB collection are perfectly round and very thin; these could be interpreted as earlier versions of the Bronze Age sun discs.

In 2025, a study was published that could add more weight to the hypothesis that (at least some) stone discs were meant to represent the sun. Iversen et al. (2025, p. 1)) report that 614 stone 'plaques' were uncovered at two Danish late Neolithic sites in Vasagård, on the island of Bornholm. The finds are unique

to Denmark, and the authors mention that similar rare pieces were only found in Iberia (not mentioned in this thesis because the plaques are not circular), Orkney and southern England (p. 2). Many of these artefacts show engravings depicting sun rays, as is shown in Figure 7.5.

Figure 7.5 *Left: stone discs from Bornholm, Denmark with sun motif decorations (adapted from Iversen et al., 2025, p. 11. Figure 7. Photograph by John Lee, The National Museum of Denmark). Right: SF 2550 decorated stone disc from the Ness of Brodgar (van de Fliert & Card, 2025) Photograph by Antonia Thomas, https://www.nessofbrodgar.co.uk/stone-discs/.*

95% of the Bornholm collection was made of shale, and six distinct typologies were created (Iversen et al., 2025, pp. 8-11):

- Type 1: sun motifs – 131 pieces
- Type 2: bands -74 pieces
- Type 3: lines and line groups – 102 pieces
- Type 4: plant motifs – 38 pieces
- Type 5: blank items – 38 pieces
- Type 6: other – 5 pieces
- Residual group: - 226 pieces (too fragmented to be categorised)

The authors continue to explain that the sun would have played a pivotal role in the lives of Neolithic farmers and that these discs might have been offerings to ensure a better harvest. All Danish discs were found in layers dating to ± 2900 BCE. Subsequent research into the climatic conditions of the time revealed a significant cold spell caused by a volcanic eruption that happened in 2910 cal BCE (p. 13).

Looking at the Ness collection, only one decorated disc was found (Figure 7.5, right); unfortunately, SF 2550 was not available to be fully included in this study. The decorations depicted are known as the 'Brodgar butterfly motif', a collection of zigzag lines, chevrons, and lozenges commonly found at the NoB. Antonia Thomas (2020, p. 141) notes they are found on both architectural stones and portable stone artefacts such as knives and this disc, indicating a sense of communal identity. Even though the decorations on 2550 cannot be directly linked to the Danish sun discs, Iversen et al. (2025, p. 10) have uncovered a good number of blank discs, begging the question whether the NoB's specimens were also intended as votive offerings.

Looking at the climatic conditions of late Neolithic Scotland, Tipping et al. (2012, pp. 12, 14) mark the beginning of ± 3000/2900 BCE as a moment of crisis regarding poor crop growth due to wet soil conditions. Bunting et al. (2022, pp. 101-102) zoom in on the Stenness–Brodgar area and refer to an increase of disturbed land at the wider edges of the core settlement. Whether this is in any way linked to the disappearance of the sun, as mentioned by Iversen et al., is yet unclear. It is possible that some of the discs from the NoB collection had a similar votive function; after all, the biggest group of discs was found in and near Structure 10, a monumental building that was built around 2900 BCE. Analysing the group's parameters, however, diameters range from the very small (60 mm) to the very large (460 mm), pointing more towards the possibility of discs having had different purposes depending on size.

Taking the trouble of carefully chipping a piece of stone into a fine disc suggests these artefacts had a deeper meaning. Whether they were made to represent a special place or were laid to rest in a midden to mark an occasion, or even to represent the sun for a better harvest, understanding purpose revolves around context. Although many of the structures at the Ness possibly had a ceremonial purpose, the demolition, repurposing, and refurbishing done by the many generations make it difficult to elicit exact intentions.

7.5 Other purposes

Besides the discs' potential purpose as potlids, structural pieces or symbolic objects, two more suggestions from the literature study could apply to the NoB discs: their use as game counters and paint palettes.

24 stone discs are found to have diameters smaller than 75 mm. Half of these are fully intact, and almost all are delicately made. Although their use as potlids, for small thumb pots, for example, or symbolic items cannot be discounted, several sources have mentioned their use as game counters. Ann Clarke (1995, pp. 39, 74, 129) reports on small discs found at Iron Age sites of Pool, Sanday and Upper Scalloway in Shetland as being finely shaped and ground and most likely used as game counters. Because ground edges are generally associated with the Iron Age (p. 134), it comes as no surprise that none of the Ness' small discs have this finish. Clarke also suggests these discs could have been used to seal off small containers; however, microscopic inspection of the discs' edges will have to shed more light on this hypothesis.

The macroscopic surface analysis of the stone discs resulted in 28 pieces with black, red or white discolouration present. Four of these date from phase 2, but the vast majority were found in phase 3 contexts. Only two pieces share the same context: SF 20916 (white and red discolouration) and SF 20917 (black discolouration), but do not share the same colour. Interestingly, Jones & Bradley (1999, p. 112) name black, red and white as the key colours used in Neolithic Europe and suggest certain symbolic meanings attached, e.g. white stands for barrenness or bone, red for blood or life and black for darkness or death. Edwards (2012, p. 56) found evidence for the use of chalk on the Stonehenge discs with white discolouration. Future microscopic research and (potential) residue analysis should show if the NoB discs were used as a means of colour application.

7.6 Conclusion

This chapter combined the results from the disc parameters' analysis, the find contexts and the literature study to explore the discs' potential purposes and meanings.

The most common explanation given for these artefacts in the literature is that they were used as pot lids. With a median diameter of 130 mm, many of them could have functioned as overhanging pot covers; however, no discs were found with distinct burning marks at the edges. The smaller discs could have been seals for storage vessels or baskets, but more in-depth use-wear analysis must be carried out to find traces of contact between pot and lid. 24 discs were found near Structure 12, a building with two large hearths and in which thousands of pottery sherds were found. These all date from phase 3, a time when this building had lost its grandeur and was rebuilt with less care and precision. Nevertheless, it is thought that this building saw food preparation activities in both phases 2 and 3. Although the literature study revealed that the designation of 'pot lid' occurs often, the discs' parameters and context analyses only offer circumstantial evidence.

Some of the larger stone discs show both rounded and angular edges; these could have been used as paving slabs or wall fillers. Other interpretations, especially regarding the smaller discs, are that they were used as game counters or paint palettes. Although game counters are more abundant during the Iron Age and show carefully ground edges, there is no reason to think Neolithic people did not engage in similar activities. Inspection of the discs has resulted in the occurrence of three distinct colours: red, white and black. Microscopic and surface residue analysis should be carried out to see if paints were used.

Having looked at the potential functional purposes, the special nature of the Ness of Brodgar site justifies the idea that these stone discs might have had a ritual designation. Their circular shapes are reminiscent of the, albeit late Neolithic, two stone circles that flank the Ness, and simultaneously, the discs could be associated with celestial bodies such as the sun and moon. In Vasagård on Bornholm in Denmark, a large collection of shale discs was found with depictions of sun rays and plant motifs. The depositional layers were dated to ± 2900 BCE, a time when the sun was obscured by volcanic activity. These discs were likely votive offerings to the sun from ancestors looking for a better harvest. Although the majority of NoB stone discs (nearly 80% of the collection) date from this time, and paleo climate studies confirm the onset of wetter weather in Orkney, the find contexts cannot confirm a definite votive purpose.

Given the great variety in stone disc sizes, their distribution throughout the three phases and the many building phases of the structures they are associated with, the Neolithic stone discs most likely served different purposes at different times.

Chapter 8 Conclusion

After 20+ years of excavations at the Ness of Brodgar, 2024 saw the closing of a Neolithic site that is unique in the British Isles. With human occupation stretching for over a thousand years, the buildings have seen many phases of construction, occupation, refurbishing, demolition and abandonment, leaving archaeologists with a gigantic palimpsest of a site. Surrounded by late Neolithic monuments such as the Ring of Brodgar, the Stones of Stenness, and the chambered cairn of Maeshowe, the site must have been of monumental importance. Now generally seen as a place of gathering, archaeologists have uncovered many thousands of artefacts over the years. This thesis aimed to contribute to the enormous task of the post-excavation research of all the finds, with a special focus on the stone disc collection.

The main research question centred around finding the meaning and purpose of the stone discs, and three main areas of interest, as reflected in the sub-questions, were identified to assist the research:

- How are stone discs defined, and what are the main characteristics regarding diameter, thickness, completeness and surface treatment?
- What can be said about the distribution and dating of the stone discs in relation to the structures of the Ness?
- What other disc assemblages can be found in the British Isles, and how do they compare to the Ness collection?

The results show that a stone disc is difficult to describe with a fixed definition. Measurements of diameters ranged from 40 mm to 460 mm, with a median diameter of 130 mm. The thickness of the discs ranged from 3,5 mm to 26 mm, with a median of 10 mm. The collection consists of both fully intact specimens (25% of the whole assemblage) and broken bits of stone disc, of which those that are halved make up another 25%. The remaining 50% ranges from 5% to 98% complete. Other macroscopic observations noted that 17 pieces were notched, 2 were possibly heat-treated, 31 discs showed either red, white or black discolouration (or a combination of the three), and 11 items showed an abnormal distribution in thickness. The only common trait shared by 95% of the collection is the fact that they were constructed from shale, a sedimentary rock type.

Due to the extremely complex stratigraphy of the NoB, three main contextual phases were established:

Phase 1: before 3200 BCE (12 stone discs)
Phase 2: 3200 BCE to 2900 BCE (24 stone discs)
Phase 3: 2900 BCE to 2400 BCE (178 stone discs)

Stone discs were found in all phases, but the vast majority date from the late Neolithic, Phase 3. This could mean that the discs were used more intensely towards the later period or possibly changed purpose. However, it is also plausible that discs were reused and repurposed for longer periods, perhaps in a way

to honour the ancestors. Moreover, it should be kept in mind that not all three phases are of equal length and that only 10% of the site has been excavated; this could also skew the outcome of the results.

Zooming in on the structures associated with the find locations, most discs (n=52) were found in and around Structure 10 in phase 3. Built around 2900 BCE, 10 began its life as a truly monumental building, measuring ± 20 m (including the forecourt) by 19 m and with walls that were 4 meters thick. Because of subsidence, it saw several cycles of rebuilding, and the results were less impressive than the original construction had shown. Structure 12 yielded 24 stone discs that, apart from two, all originated from the later phase of this building. With two large hearths when it was newly built and the discovery of thousands of pot sherds, structure 12 is thought to have been a place of food preparation.

The final phase of this research involved a literature study into other stone disc assemblages in the British Isles. This resulted in 30 sources with a total number of 649 Neolithic stone discs found. Looking at the geographical find locations, 84% of stone discs were found in Orkney, 11% in England, and the remaining 5% came from Shetland, Scotland, Wales, Northern Ireland and Ireland. The Ness of Brodgar holds the biggest collection to date; other sizeable collections were found at Rinyo in Rousay (an unknown number of discs), Skara Brae with 170 discs and Stonehenge with at least 49 discs reported. Although the majority of the finds were reported to come from domestic settings, I believe that a clear distinction between domestic and ritual purposes might be a modern way of thinking.

Concerning the purposes listed by the authors, almost half gave no interpretation at all, emphasising how little is known about the discs' nature. Pot lids were mentioned 13 times, and other interpretations, such as jewellery pieces, amulets/talismans, pavement slabs, paint palettes or weapons, were only mentioned sporadically.

Bringing together all these findings shows a large and varied collection of stone discs. Direct evidence for their use as pot lids is lacking; no structural signs of burning or marks of pot/lid contact have been detected. This, however, is based on macroscopic evaluation only and more research is needed. Larger examples of stone discs that show rounded and angular edges could have been used as pavement slabs, but whether or not they started life as such is not immediately clear. Smaller discs could have been used to seal off containers or could have been gaming counters, but no immediate visible traces have remained.

Because the stone discs were found near structures such as number 10, which showed a remarkable architectural skill and because the Ness is surrounded by (late Neolithic) monuments, a deeper meaning was also considered. Circular shapes must have had a special resonance with the ancestors; not only did they build stone circles, in Denmark, stone discs showed sunray images and were deemed to have been sun offerings from a people in need of a good harvest. Although studies into the Orcadian paleoclimate confirmed wet conditions starting at ± 2900 BCE, the scattered and multi-layered find contexts at the Ness cannot confirm a ritual mass offering of sun discs.

In conclusion, this study has aimed to combine both the physical properties of the stone discs with the potentially deeper relationships between people and their objects. Revisiting Mark Edmonds' (2001, p. 18) point: objects would have been intricately linked to the surrounding landscape, resources, manufacturing traditions and their ideas of kinship and identity. Therefore, the most likely interpretation

for the form, purpose and meaning of the Neolithic stone discs of the Ness of Brodgar is that the pieces were used for different reasons at different times.

My recommendations for future research are threefold: first, the analysis of the remaining discs from the 2023 and 2024 excavations could be added to the findings of this study. Second, a microwear analysis can be carried out with attention to Adams et al.'s reference to tribological mechanisms such as adhesive, fatigue, abrasive and tribochemical (polish or sheen) wear (2009, p. 46). Finally, experimental archaeology could shed light on which marks are left behind on discs for which purposes.

Abstract

Following over two decades of excavations, the Ness of Brodgar in Orkney has yielded the largest known assemblage of Neolithic stone discs in the British Isles. This thesis contributes to the post-excavation study of the site by examining 223 discs recovered between 2003 and 2022, focusing on their physical characteristics, spatial distribution, chronology, and comparisons with other assemblages.

The discs, predominantly made of shale, range widely in size (40–460 mm diameter; 3.5–26 mm thickness) and condition, with varying surface treatments, notches, and discolourations. Contextual analysis identified three main occupation phases (pre-3200 BCE, 3200–2900 BCE, and 2900–2400 BCE), with most discs dating to the late Neolithic Phase 3. Spatially, they are found predominantly in Trenches J, P and T, and the largest cluster was found near Structure 10, a monumental building, and Structure 12, likely linked to food preparation. Comparative research shows that 84% of British Isles stone discs were found in Orkney, with the Ness holding the largest collection.

Functional interpretations remain speculative; possible uses include pot lids, pavement slabs, container seals, gaming pieces, or objects of symbolic or ritual significance. The findings suggest that stone discs likely served multiple purposes over time, reflecting both practical functions and broader social or symbolic meanings.

Bibliography

Adams, J., Delgado-Raack, S., Dubreuil, L., Hamon, C., Plisson, H., & Risch, R. (2009). Functional analysis of macro-lithic artefacts. In F. Sternke, L. Eigeland, L.J. Costa (Eds.) *Non-flint raw material use in prehistory, old prejudices and new direction, 1^{5T}H UISPP Congress, Lisbon-September 2006*, BAR International Series 1939. Archaeopress, 43-66.

Ballin, T. B., & Bjerck, H. B. (2016). Lost and found twice: Discussion of an early post-glacial single-edged tanged point from Brodgar on Orkney, Scotland. *Journal of Lithic Studies*, *3*(1), 31–50. https://doi.org/10.2218/jls.v3i1.1393

Bates, C. R., Bates, M. R., Dawson, S., Huws, D., Whittaker, J. E., & Wickham-Jones, C. R. (2016). The environmental context of the Neolithic monuments on the Brodgar Isthmus, Mainland, Orkney. *Journal of Archaeological Science: Reports*, *7*, 394–407. https://doi.org/10.1016/j.jasrep.2016.05.032

Bayliss, A., Marshall, P., Richards, C., & Whittle, A. (2017). Islands of history: the Late Neolithic timescape of Orkney. *Antiquity: A Quarterly Review of Archaeology*, *91*(359), 1171–1188. https://doi.org/10.15184/aqy.2017.140

Blair, A.H., Alldritt, D., Ballin, T.B., Smith, B.B., Byledbal, A., Cruickshanks, G., McNicol, D., Murdoch, R., Rennie, C., Smith, C, Villis, E. (2021). *Hirta, St. Kilda: Archaeological investigations.* ARO42. Guard Archaeology, Archaeology Report Online. https://www.archaeologyreportsonline.com/reports/2021/ARO42.html

Blatchford, J. (2025, February 20). A pot is for storage and cooking…right? *The Ness of Brodgar Project*. https://www.nessofbrodgar.co.uk/internal-cordon/

Brend, A., Card, N., Downes, J., Edmonds, M., Moore, J. (2020). Threads and tapestries. In A. Brend, N. Card, J. Downes, M. Edmonds, J. Moore (Eds.), *Landscapes revealed* (pp. 227-239). Oxbow Books. https://doi.org/10.2307/j.ctv13pk7b5.10

Boyar, A. (2020). The human remains. In N. Card, M. Edmonds, & A. Mitchell (Eds.), *The Ness of Brodgar, as it stands.* (pp. 290-298). Kirkwall, The Orcadian.

Bunting, M. J., Farrell, M., Dunbar, E., Reimer, P., Bayliss, A., Marshall, P., & Whittle, A. (2022). Landscapes for Neolithic people in Mainland, Orkney. *Journal of World Prehistory*, *35*(1), 87–107. https://doi.org/10.1007/s10963-022-09166-y

Cahill, M. (2015). Here comes the sun. *Archaeology Ireland*, *29*(1), 26–33.

Card, N., Mainland, I., Timpany, S., Towers, R., Batt, C., Ramsey, C. B., Dunbar, E., Reimer, P., Bayliss, A., Marshall, P., & Whittle, A. (2018). To cut a long story short: Formal chronological modelling for the Late Neolithic Site of Ness of Brodgar, Orkney. *European Journal of Archaeology*, 21(2), 217–263. https://doi.org/10.1017/eaa.2016.29

Card, N., Edmonds, M., & Mitchell, A. (Eds.), (2020) *The Ness of Brodgar, as it stands*. Kirkwall, The Orcadian. https://www.nessofbrodgar.co.uk/product-category/books/

Card, N., & Edmonds, M. (2020a). Early buildings. In N. Card, M. Edmonds, & A. Mitchell (Eds.), *The Ness of Brodgar, as it stands.* (pp. 56 – 63). Kirkwall, The Orcadian.

Card, N. & Edmonds, M. (2020b). Setting boundaries. In N. Card, M. Edmonds, and A. Mitchell (Eds.), *The Ness of Brodgar, as it stands*. (pp. 64 -71). Kirkwall, the Orcadian.

Card, N., & Edmonds, M. (2020c). Later piered buildings. In N. Card, M. Edmonds, & A. Mitchell (Eds.), *The Ness of Brodgar, as it stands.* (pp. 72 – 91). Kirkwall, The Orcadian.

Card, N., & Edmonds, M. (2020d). Late buildings. In N. Card, M. Edmonds, & A. Mitchell (Eds.), *The Ness of Brodgar, as it stands.* (pp. 102 – 121). Kirkwall, The Orcadian.

Card, N., & Edmonds, M. (2020e). Middens and mounds. In N. Card, M. Edmonds, & A. Mitchell (Eds.), *The Ness of Brodgar, as it stands.* (pp. 92 – 101). Kirkwall, The Orcadian.

Childe, V. G. (1931). Skara Brae: a 'Stone Age' village in Orkney. *Antiquity*, *5*(17), 47-59. https://doi.org/10.1017/S0003598X00005597

Childe, V. G., & Grant, W. (1939). A Stone-Age settlement at the Braes of Rinyo, Rousay, Orkney. (First Report). *Proceedings of the Society of Antiquaries of Scotland* (Vol. 73, pp. 6-31). https://doi.org/10.9750/PSAS.073.6.31

Clarke, A. (1995). *Observations of social change in prehistoric Orkney and Shetland based on a study of the types and context of coarse stone artefacts* [Unpublished master's thesis]. University of Glasgow. https://theses.gla.ac.uk/75584/1/13833364.pdf

Clarke, A. (2006). *Stone tools and the prehistory of the Northern Isles.* BAR British Series 406. Archaeopress.

Clarke, A. (2007a). Course stone. In J. Hunter, J.M. Bond & A.N. Smith (Eds.). *Investigations in Sanday, Orkney, vol. 1: Excavations at Pool, Sanday. A multi-period settlement from Neolithic to late Norse times* (pp. 353-369). Oxbow Books in association with Historic Scotland.

Clarke, A. (2007b). The course stone. In S.J. Dockrill, J.M. Bond, A.N. Smith, R.A. Nicholson (Eds.). *Investigations in Sanday, Orkney, vol. 2: Tofts Ness, Sanday. An island landscape through three thousand years of prehistory* (pp. 292-316). Oxbow Books in association with Historic Scotland.

Clarke, A. (2016). The coarse stone from Neolithic sites around the Bay of Firth: Stonehall, Wideford Hill, Crossiecrown, Knowes of Trotty and Brae of Smerquoy. In C. Richards & R. Jones (Eds.), *The development of Neolithic house societies in Orkney: investigations in the Bay of Firth, Mainland, Orkney (1994-2014)*. (pp. 445 – 472). Windgather Press. https://doi.org/10.2307/j.ctv13gvg8m.18

Clarke, A. (2020). Stone tools from Ness of Brodgar. In N. Card, M. Edmonds, & A. Mitchell (Eds.), *The Ness of Brodgar, As It Stands.* (pp. 224 – 243). Kirkwall, The Orcadian.

Copper, M., Hamilton, D., & Gibson, A. (2021). Tracing the lines: Scottish Grooved Ware trajectories beyond Orkney. *Proceedings of the Society of Antiquaries of Scotland*, *150*, 81–117. https://doi.org/10.9750/PSAS.150.1307

Cummings, L. B. (2019). *Rethinking the henge monuments of the British Isles* [unpublished doctoral thesis]. Newcastle University. http://theses.ncl.ac.uk/jspui/handle/10443/4713

Darvill, T., Bayliss, A., Costen, D., Hambleton, E., Healy, F., Housley, R. A., O'Connell, L., Pollard, M., Snashall, N., & Whittle, A. (2011). Excavations at a Neolithic enclosure on The Peak, near Birdlip, Gloucestershire. *Proceedings of the Prehistoric Society*, *77*, 139–204. http://eprints.bournemouth.ac.uk/20588/3/PPS%202011%20%28Peak%20Camp%29.pdf

Downes, J., Richards, C., Brown, B., Cresswell, A.J., Ellen, R., Davies, A.D., Hall, A. McCulloch, R., Sanderson, D.C.W. & Simpson, I.A. (2013). Investigating the great Ring of Brodgar, Orkney. In C. Richards (Ed.) *Building the great stone circles of the north* (pp. 90-118). Windgather Press. https://doi.org/10.2307/j.ctv13gvfvx.9

Downes, J., & Richards, C. (2021). The late Neolithic midden in Orkney: Decay, assemblages and the efficacy of unwanted things. In M.J. Boyd & R.C.P. Doonan (Eds.). *Far from equilibrium: An archaeology of energy, life and humanity: A response to the archaeology of John C. Barrett*, (pp. 27-40). Oxbow Books. https://doi.org/10.2307/j.ctv24q4z1z.9

Edmonds, M. (2001). *Stone tools and society. Working stone in Neolithic and Bronze Age Britain.* Routledge (original work published 1995).

Edmonds, M. (2024). *Ness of Brodgar: Past, present & future*. Think Digital Books Ltd

Edwards, Z. (2012). *Stone discs of the fourth and third millennia BC in Britain*, [unpublished bachelor

dissertation]. Bournemouth University.

Farrell, M., & Bunting, M. J. (2025). Beyond decline: Heathland and the dynamics of cultural and environmental change in Bronze Age Orkney. In M. Løvschal, K. Grønneberg, M. Haughton, Z. A. Caple, M. Farrel (Eds.). *A place for the heathlands?: Human-heath relations in deep-time and contemporary perspectives*. Jutland Archaeological Society.

Goldberg, M., & Hunter, F. (2019). Technologies of the self: painted pebbles, ornaments and the burial. In O. Lelong (Ed). *Excavations at Milla Skerra Sandwick, Unst* (1st ed., p. 112). Oxbow Books. https://doi.org/10.2307/j.ctvjsf40n

Herity, M. (1964). The finds from the Irish portal dolmens. *The Journal of the Royal Society of Antiquaries of Ireland*, *94*(2), 123–144.

Iversen, R., Nielsen, P. O., Sørensen, L. V., Svensson, A., Steffensen, J. P., Land, A., Thorsen, M. S., & Nielsen, F. O. S. (2025). Sun stones and the darkened sun: Neolithic miniature art from the island of Bornholm, Denmark. *Antiquity*, 1–17. https://doi.org/10.15184/aqy.2024.217

Johnson, M. J. (2019). *Rock matters: a geological basis for understanding the rock at the Ness of Brodgar, Orkney* [Unpublished doctoral dissertation]. University of Aberdeen. https://pure.uhi.ac.uk/en/studentTheses/rock-matters

Jones, A. & Bradley, R. (1999). The significance of colour in European archaeology. *Cambridge Archaeological Journal*, 9 (1), pp. 112-117.

Jones, A. (2005). Natural histories and social identities in Neolithic Orkney. In E.C. Casella & C. Fowler, (Eds.). *The archaeology of plural and changing identities: Beyond identification* (pp. 233-259). Kluwer Academic/Plenum Publishers.

Jones, A. M., Diaz-Guardamino, M., & Dawson, I. (2019). *Making a mark: Image and process in Neolithic Britain and Ireland*. Oxbow Books.

Kent, T. (1925). *The Brodgar Stone* [photograph]. Orkney Library & Archives. https://www.nessofbrodgar.co.uk/brodgar-stone-centenary/

Kilpatrick, M.C, Ballin, T., Smith, B.B., Hunter, F., Ramsay, S., Rennie, C., Smith, C. (2024). *Prehistoric activity and an early medieval smelting workshop at Coultersay, Islay.* ARO58. Guard Archaeology, archaeologyreportsonline. https://www.archaeologyreportsonline.com/reports/2024/ARO58.html

Lloyd, G. (2024). *Coarse stone tools from the Ness of Brodgar: Investigating the function and significance*

of Orcadian Neolithic multi-hollowed cobbles. [Unpublished master's dissertation]. University of the Highlands and Islands. https://pureadmin.uhi.ac.uk/ws/portalfiles/portal/54739302/Gary_Lloyd_thesis.pdf

Mainland, I., Blanz, M., Ayres, J., Webster, C. (2020). Cattle and other animals: Human-animal relationships at the Ness of Brodgar. In N. Card, M. Edmonds, & A. Mitchell (Eds.), *The Ness of Brodgar, As It Stands.* (pp. 266 – 276). Kirkwall, The Orcadian.

Mamwell, C. J. (2018). '*It rained a lot and nothing much happened': Settlement and society in Bronze Age Orkney.* [Unpublished doctoral dissertation]. University of Edinburgh.

McGoldrick, S. (2020). *A practical guide to introductory geology.* Mount Royal University Library. https://openeducationalberta.ca/practicalgeology.

Merriman, R.J., Highley, D. E. & Cameron, D.G. (2003). *Definition and characteristics of very-fine-grained sedimentary rocks: clay, mudstone, shale and slate.* British Geological Survey Commissioned Report, CR/03/281N. British Geological Survey. https://nora.nerc.ac.uk/id/eprint/527458/1/CR03281N.pdf

Moore, H. & Wilson, G. (2011). Shifting sands, Links of Noltland, Westray: Interim report on Neolithic and Bronze Age excavations, 2007—2009 *(Archaeology Report, 4).* Historic Scotland.

Ness of Brodgar Timeline. (2020, May 5). *The Ness of Brodgar Project*. https://www.nessofbrodgar.co.uk/the-discovery/timeline/

Ó h-Iceadha, G. (1946). The Moylisha Megalith, Co. Wicklow. *The Journal of the Royal Society of Antiquaries of Ireland*, *76*(3), 119–128. http://www.jstor.org/stable/25510567

Orkney Coastal Archaeology Trust. (n.d.). [Photograph]. *2022 Knowe of Swandro excavation*. https://www.swandro.co.uk/2022-dig

Piggott, S., Powell, T. G. E., Anderson, F. W., & Orr, M. Y. (1951, November). The excavation of three Neolithic chambered tombs in Galloway, 1949. In *Proceedings of the Society of Antiquaries of Scotland* (Vol. 83, pp. 103-161).

Pike, S. (2020, May 18). Ness flanked by lochs in prehistory? Surveys suggest otherwise [Aerial photograph] *The Ness of Brodgar Project.* https://www.nessofbrodgar.co.uk/ness-flanked-by-lochs-in-prehistory-surveys-suggest-otherwise/

Pike, S. (2022, April 21). The central paved area and the standing stone. [Aerial Photograph] *The Ness of*

Brodgar Project. https://www.nessofbrodgar.co.uk/about/the-central-paved-area-and-standing-stone/

Richards, C. (2013). Wrapping the hearth: Constructing house societies and the tall stones of Stenness, Orkney. In C. Richards (Ed.), *Building the great stone circles of the north (pp. 60-118)*. Windgather Press. https://doi.org/10.2307/j.ctv13gvfvx

Roe, F. (2006). Worked stone objects. In A. Whittle (Ed.), *Building memories: the Neolithic Cotswold long barrow at Ascott-under-Wychwood, Oxfordshire*. (pp. 315-318). Historic England.

Rosenberg, D., Assaf, A., Getzov, N., & Gopher, A. (2008). Flaked stone discs of the Neolithic and Chalcolithic periods in the Southern Levant. *Paléorient*, *34*(2), 137–151. https://doi.org/10.3406/paleo.2008.5259

Scott, J. G., Young, A., Miles, A. E. W., Johnson, A. H., & Orr, M. Y. (1958, November). The excavation of the chambered cairn at Brackley, Kintyre, and Argyll. In *Proceedings of the Society of Antiquaries of Scotland* (Vol. 89, pp. 22-54).

Sheridan, A. (n.d.). [Photograph and illustration) *The Knowes of Trotty discs*. National Museums Scotland. https://www.nms.ac.uk/collections/departments/scottish-history-archaeology/projects/prehistoric-gold-in-britain/the-knowes-of-trotty-discs

Thomas, A. (2016). *Art and architecture in Neolithic Orkney: Process, temporality and context*. Archaeopress Publishing Ltd.

Thomas, A. (2020). Art in context: The decorated stone assemblage. In N. Card, M. Edmonds, & A. Mitchell, (Eds.), *The Ness of Brodgar, As It Stands.* (pp. 132 – 149). Kirkwall, The Orcadian.

Tipping, R., Bradley, R., Sanders, J., McCulloch, R., & Wilson, R. (2012). Moments of crisis: Climate change in Scottish prehistory. *Proceedings of the Society of Antiquaries of Scotland*, *142*, 9–25.

Tisdall, E. W., McCulloch, R. D., Sanderson, D. C. W., Simpson, I. A., & Woodward, N. L. (2013). Living with sand: A record of landscape change and storminess during the Bronze and Iron Ages Orkney, Scotland. *Quaternary International*, *308–309*, 205–215. https://doi.org/10.1016/j.quaint.2013.05.016

Towers, R., Card, N., & Edmonds, M. (2017). *The Ness of Brodgar, digging deeper.* The Ness of Brodgar Trust. Orkney Media Group.

Towers, R., & MacSween, A. (2020). The age of clay: Pottery by another name. In N. Card, M. Edmonds, & A. Mitchell, (Eds.), *The Ness of Brodgar, As It Stands.* (pp. 254 – 265). Kirkwall, The Orcadian.

Towrie, S. (2020a, August 9). Iron Age. *The Ness of Brodgar Project*. https://www.nessofbrodgar.co.uk/orkney-prehistory/iron-age/

Towrie, S. (2020b, November 23). Maeshowe. *The Ness of Brodgar Project*. https://www.nessofbrodgar.co.uk/maeshowe/

Towrie, S. (2020c, December 12). The Ring of Brodgar. *The Ness of Brodgar Project*. https://www.nessofbrodgar.co.uk/ring-of-brodgar/

Towrie, S. (2025, April 25). Was there more to Neolithic 'dressers' than just a set of shelves? – The Ness of Brodgar Project. *Around the Ness/Further Afield*. https://www.nessofbrodgar.co.uk/dressers/

Trench Plans. (2017/2023). *The Ness of Brodgar Project*. https://www.nessofbrodgar.co.uk/trench-plan/

UNESCO World Heritage Centre (1999, December 2). *Heart of Neolithic Orkney.* https://whc.unesco.org/en/list/514/

van de Fliert, M., & Card, N. (2025, February 24). Three-week internship examining the Ness of Brodgar's stone discs. *The Ness of Brodgar Project*. https://www.nessofbrodgar.co.uk/stone-discs/

van de Fliert, M. (2025). *BA3 internship report* [Unpublished assignment for 24-25 HS Internship]. Leiden University.

Younger, R. (2017). Fire and memory: Transforming place using fire at henge monuments. *Archaeological Journal*, *174*(2), 335–362. https://doi.org/10.1080/00665983.2017.1295752

Appendix A: The Ness of Brodgar's Stone Discs Database (Group 15 Stone Discs Maria van de Fliert)

Year	SF#	Context	TR	STR	X_coordinates	Y_coordinates	Z_coordinates	Phase	Simplified phase	Rock	Colour	Texture	Nature	Completeness %	Diameter in mm	Thickness in mm	Maria's comments/queries	Notched?	Heat?	Box#
2006	182	192	L	na	0	0	0	Topsoil	3	SH	G	VF	VB,WS	90%	140	10			n	15A
2006	227	197	L	na	0	0	0	Late	3	SH	DG	VF	VB,WS	25%	100	7			n	15A
2006	231	199	L	na	0	0	0	0	3	SH	DG	VF	VB,WS	25%	130	8			n	15A
2006	241	194	L	na	0	0	0	Late	3	SH	DG	VF	VB, WS, mica	100%	100	7	Beautifully round		n	15A
2006	242	194	L	na	0	0	0	Late	3	SH	DG	VF	VB, WS	50%	160	11			n	15A
2007	714	387	J	na	86.24	227.624	5.059	5.G/32.C/6.C	3	SH	DG	VF	VB,WS	50%	70	8			n	15A
2007	1,095	1007	P	na	76.473	189.773	6.164	M5/1.J	3	SH	GT	VF	VB,WS	50%	150	10	Black on surface		n	15A
2007	1,322	1108	P	na	68.033	190.086	6.284	1.J	3	SH	DG	VF	VB, WS	95%	125	7			n	15A
2007	1,337	955	N	na	65.499	239.964	5.516	0	3	SH	BT	VF	VB,WS	60%	170	17			n	15A
2007	1,484	1117	P	na	68.032	190.681	6.245	1.I	3	SH	DG	VF	VB,WS	98%	140	6	Small, loose piece included		n	15E
2007	1,517	1121	P	na	68.747	192.575	6.075	1.I	3	SH	BT	VF	VB,WS	100%	110	5	Very thin		n	15D
2007	1,520	1121	P	na	68.963	192.475	6.069	1.I	3	SH	GT	VF	VB,WS	100%	100	4	Notch	y	n	15D*
2007	1,520	1121	P	na	68.963	192.475	6.069	1.I	3					100%	110	5	1520 and 1520.1 turned out not to be a match and are now separate Find Numbers. 1520.1 not included in Paul's distribution.		n	15D
2007	1,643	1101	P	na	85.454	231.134	4.916	0	3	SH	BT	VF	VB,WS	100%	80	8			n	15A
2007	1,692	411	J	na	84.072	224.488	5.064	5.G/32.C/6.C	1	SH	BT	VF	VB,WS	50%	100	7			n	15A
2008	1,896	1071	P	1	68.07	189.77	6.17	1.I	3	SH	G	VF	VB. WS	100%	80	7			n	15A
2008	1,929	1104	P	na	71.47	192.95	5.97	0	3	SH	BT	VF	VB,WS	80%	100	14			n	15E
2008	1,987	1071	P	1	65.68	191.44	6.05	1.I	3	SH	GB	VF	VB,WS	25%	50	4			n	15E
2008	1,996	1071	P	1	68.04	190.72	6.07	1.I	3					20%	120	8	Edge too smooth to be worked? Not seen by Martha		n	15E
2008	2,024	1071	P	1	69.1	190.12	6.13	1.I	3	SH	GB	VF	VB,WS	30%	70	5			n	15E
2008	2,026	1071	P	1	68.71	190.32	6.01	1.I	3	SH	T	VF	VB,WS	10%	80	5			n	15E
2008	2,027	1071	P	1	68.75	190.16	6.03	1.I	3	SH	BT	VF	VB,WS	100%	80	5			n	15D
2008	2,031	1071	P	1	68.76	190.02	6.04	1.I	3	SH	G	VF	VB, WS, mica	100%	80	5			n	15A
2008	2,032	1071	P	1	68.6	190.01	6.07	1.I	3	SH	GB	VF	VB,WS	30%	100	6	Small notch? Two inclusions in rock	y	n	15E

Year	SF#	Context	TR	STR	X_coordinates	Y_coordinates	Z_coordinates	Phase	Simplified phase	Rock	Colour	Texture	Nature	Completeness %	Diameter in mm	Thickness in mm	Maria's comments/queries	Notched?	Heat?	Box#
2008	2,033	1071	P	1	68.51	190.13	6.04	1.I	3	SH	GB	VF	VB,WS	20%	60	5			n	15E
2008	2,046	1121	P	na	69	193.5	6.01	1.I	3	SH	BT	VF	VB,WS	100%	110	7	Notched?	y	n	15E
2008	2,640	1172	P	1	0	0	0	1.J	3	SH	GT	VF	VB,WS	100%	130	13			n	15E
2008	2,696	1206	P	10	84.13	166.84	6.49	10.H.4	3	SH	GB	VF	VB,WS	100%	180	17			n	15E
2008	2,832	1172	P	1	0	0	0	1.J	3	SH	GT	VF	VB,WS	50%	120	17			n	15E
2009	3,552	1351	P	10	81.74	158.93	6.39	10.H.4	3	SH	BT	VF	VB,WS	100%	90	12	95%		n	15A
2009	3,673	1371	P	10	81.12	158.76	6.28	10.F	3	SH	BT	VF	VB,Ws	100%	80	12			n	15A
2008	3,771	1203	P	8; 10	83.42	167.57	6.23	8.F	3	SH	BT	VF	VB,WS	100%	160	9			n	15E
2009	3,837	1412	P	7	71.39	183.38	6.32	7.B	3	SH	DG	VF	VB,WS	50%	180	25	Two pieces		n	15A
2009	4,134	1377	P	10	78.89	166.8	6.47	10.G	3	SH	BT	VF	VB, WS	25%	90	9			n	15A
2009	4,526	1377	P	10	80.04	166.6	6.59	10.G	3	SH	BT	VF	VB,WS	50%	140	14			n	15A
2009	4,578	2007	P	1;11	77.51	164.02	6.16	10.H.2	3	SH	BT	VF	VB,WS	90%	150	13	90%?		n	15A
2009	4,619	2012	P	1;11	77.85	179.09	6.09	8.F	3	SH	DG	VF	VB,WS	50%	180	12			n	15A
2009	4,690	2012	P	1;11	77.42	177.22	6.17	8.F	3	SH	BT	VF	VB, WS	100%	70	7	Notched? Very thin		n	15A
2009	4,801	1394	P	10	84.89	160.84	6.05	10.E.3	3	SH	BT	VF	VB,WS	50%	220	14			n	15A
2009	4,830	1394	P	10	85.39	161.07	6.03	10.E.3	3	SH	BT	VF	VB,WS	100%	90	9			n	15A
2009	4,831	1394	P	1	0	0	0	10.E.3	3	SH	BT	VF	VB,WS	75%	100	6	Very thin		n	15A
2009	4,869	1241	P	10	64.61	163.71	7.13	10.G or10.H.2	3	SH	BT	VF	VB,WS	50%	250	20			n	15A
2010	5,236	2801	P	12	64.58	167.87	6.98	12.G	3	SH	BT	VF	VB,WS	50%	150	11			n	15A
2010	5,259	2209	P	8	79.05	174.77	5.72	8.E	2	SH	BT	VF	VB,WS	25%	140	10			n	15A
2010	5,431	spoil	na	na	0	0	0	0	na	SH	BT	VF	VB,WS	50%	200	20	Very thick		n	15A
2010	5,626	2816	P	12	0	0	0	12.G.x	3	SH	BT	VF	VB,WS	20%	130	14			n	15A
2010	5,627	2816	P	12	64.75	175.87	6.81	12.G.x	3	SH	BT	VF	VB,WS	25%	80	7			n	15A
2010	5,633	2216	P	8	81.79	178.88	5.9	8.F	3	SH	BT	VF	VB,WS	100%	80	6	Two pieces		n	15A
2010	5,812	2819	P	12	59.56	169.69	6.9	12.E.2	3	SH	BT	VF	VB,WS	100%	100	9			n	15A
2010	5,824	2819	P	12	57.71	175.86	6.78	12.E.2	3	SH	BT	VF	VB,WS	50%	180	10			n	15A
2010	5,836	2431	P	10	76.11	164.55	6.11	10.H.2	3	SH	DG	VF	VB,WS	50%	180	14			n	15A

Year	SF#	Context	TR	STR	X_coordinates	Y_coordinates	Z_coordinates	Phase	Simplified phase	Rock	Colour	Texture	Nature	Completeness %	Diameter in mm	Thickness in mm	Maria's comments/queries	Notched?	Heat?	Box#
2010	5,936	2215	P	8	79.41	178.25	5.88	8.F	3	SH	BT	VF	VB,WS	25%	100	9			n	15A
2010	6,379	2470	P	10	76.74	166.28	6.15	10.H.2	3	SH	GT	VF	VB,WS	100%	260	19	Black specks		n	15D
2010	6,407	2462	P	10	82.99	159.86	5.71	10.B.1?10.D2/10H3	3	SH	BT	VF	VB,WS	50%	180	17			n	15A
2010	6,507	2833	P	12	0	0	0	12.2.2	3	SH	G	VF	VB,WS	50%	90	4			n	15A
2010	6,587	2454	P	10	75.85	163.74	6.13	10.H.2	3	SH	BT	VF	VB,Ws	50%	290	18	Large stone disc, thick		n	15A
2010	6,643	2141	P	1;11	67.27	178.75	6.42	11.E	3	SH	DG	VF	VB,WS	50%	230	9			n	15A
2010	6,705	1377	P	10	77.78	163.24	6.24	10.G	3	SH	DG	VF	VB, WS	100%	60	6	Small, oval		n	15A
2010	6,730	1377	P	10	74.51	160.42	6.53	10.G	3	SH	BT	VF	VB,WS	50%	100	11			n	15A
2010	6,753	2489	P	10	73.59	167.34	6.55	10.H.2	3	SH	BT	VF	VB,WS	50%	140	15	Two pieces, odd shape		n	15A
2010	6,813	3021	P	na	0	0	0	0		SH	G	VF	VB,WS	50%	160	7			n	15A
2010	6,869	2833	P	12	55.33	169.53	6.91	12.E.2	3	SH	BT	VF	VB,WS	90%	170	13			n	15A
2010	6,923	2487	P	10	76.12	165.01	6.14	10.E.1	3	SH	G	VF	VB,WS	25%	120	8			n	15 A
2010	6,927	2487	P	10	75.9	164.58	6.07	10.E.1	3	SH	BT	VF	VB,WS	100%	90	6			n	15D
2010	6,953	2141	P	10	0	0	0	11.E	3	SH	DG	VF	VB,WS	40%	140	8	Variation in thickness		n	15B
2010	7,025	3023	R	1;11	60.51	113.23	5.38	0	2	SH	DG	VF	VB, WS	50%	180	14			n	15B
2010	7,075	2857	P	12	0	0	0	12.D.x	3	SH	BT	VF	VB,WS	50%	280	13			n	15B
2010	7,104	2487	P	10	75.7	164.19	6.08	10.E.1	3	SH	BT	VF	Vb, WS	50%	180	17	Variation in thickness		n	15B
2010	7,218	2487	P	10	74.64	164.14	6.14	10.E.1	3	SH	BT	VF	VB,WS	25%	100	12			n	15B
2010	7,235	2857	P	12	53.58	170.32	6.82	12.D.x	3	SH	BT	VF	VB,WS	50%	200	12			n	15B
2010	7,596	2191	P	1; 7	64.92	184.78	5.81	1.G.2	2	SH	BT	VF	VB, WS	50%	140	9	Not 100%? 50%?		n	15B
2011	8,031	1377	P	10	75.89	159.92	6.3299	10.G	3	SH	BT	VF	VB,WS	25%	90	4	Very thin, only larger piece measured		n	15B
2011	8,039	1377	P	10	78.08	160.43	6.54	10.G	3					100%	120	11	Notched?	y		15B
2011	8,088	2248	P	8	82.83	175.63	6.0561	8.F	3	SH	BT	VF	VB,WS	20%	50	9			n	15B
2011	8,255	2247	P	8	83.08	182.99	5.64262	8.E	2	SH	GT	VF	VB,WS	10%	100	10			n	15B
2011	8,494	2279	P	12	54.93	165.76	7.08	12.G to 12.H	3	SH	G	VF	VB,WS	20%	120	10	Now two pieces		n	15B
2011	8,697	1377	P	10	74.97	169.38	6.65	10.G	3	SH	G	VF	VB,WS	100%	90	5	Very thin		n	15B
2011	9,278	2278	P	12	61.16	175.93	6.23	12.E.1	3	SH	G	VF	VB,WS		110	10	Not a disc?		n	15B

Year	SF#	Context	TR	STR	X_coordinates	Y_coordinates	Z_coordinates	Phase	Simplified phase	Rock	Colour	Texture	Nature	Completeness %	Diameter in mm	Thickness in mm	Maria's comments/queries	Notched?	Heat?	Box#
2011	9,719	3046	P	na	68.82	171.91	6.8	M4-5	3	SH	G	VF	VB,WS		Too fragmented	5	7 pieces		n	15B
2011	9,749	1052	P	7	76.07	184.65	6.13	7	3	SH	GT	VF	VB,WS	100%	50	5			n	15B
2011	9,905	2245	P	8	79.75	179.87	5.71	8.E	2	SH	BT	VF	VB,WS	50%	210	10			n	15B
2011	10,006	2896	P	na	78.36	160.19	5.94	10.A.5	3	SH	G	VF	VB,WS	100%	90	4	Very thin. Small notch	y	n	15B
2011	10,380	3321	P	14	73.64	190.91	5.82	0	3	SH	G	VF	VB,WS		170	14	Very odd shape		n	15B
2011	10,439	3072	P	CMA	70.52	174.15	6.17	0	3					100%	60	4	Not in Box 15B, not seen			
2011	10,514	2896	P	na	0	0	0	10.A.5	3	SH	G	VF	VB,WS	75%	190	19			n	15B
2011	10,603	1377	P	10	0	0	0	10.G	3	SH	G	VF	VB,WS	25%	150	15	Black on edge and sides, natural?		n	15B
2011	10,656	2529	P	10	72.26	166.9	6.47	10.H.2	3	SH	G	VF	VB,WS	90%	140	16	Notched?	y	n	15B
2011	10,875	1377	P	10	77.67	166.51	6.12	10.G	3	SH	G	VF	VB,WS	25%	190	14			n	15B
2011	10,876	1496	P	na	78.5	166.12	6.23	10.H.2	3	FS					240	14	Possible disc or tile fragment, not seen			Stone shed
2011	10,907	3301	P	14	78.88	187.14	5.81	16/14D	3	SH	G	VF	VB,WS	95%	140	9			n	15B
2011	10,908	1377	P	10	72.08	167.55	6.69	10.G	3	SH	G	VF	VB,WS	95%	170	16	Variation in thickness		n	15B
2011	11,178	1377	P	10	74.03	169.95	6.67	10.G	3	SH	G	VF	VB,WS	100%	160	26	Variation in thickness		n	15B
2012	11,492	2531	P	10	73.8	166.49	6.35	10.E.3	3	SH	GB	VF	VB,WS	100%	140	11	Variation in thickness		n	15B
2012	11,702	2531	P	10	74.92	166.29	6.21	10.E.3	3	SH	BT	VF	VB,WS	100%	100	7	Black specks, beautifully round		n	15B
2012	12,593	4101	P	14	84.19	190.68	5.72	14.F	3	SH	GT	VF	VB, WS	50%	130	7	Black specks, red		n	15B
2012	12,737	3629	P	1	62.42	193.74	6.13	TBD	na	SH	G	VF	VB,WS	100%	90	6	Oval		n	15B
2012	12,966	1479	P	10	77.68	163.52	6.02	10.C	3	SH	G	VF	VB,WS	50%	140	9			n	15B
2012	13,421	4114	P	14	86.01	195.54	5.43	14.E	3	SH	G	VF	VB,WS	75%	130	14			n	15B
2012	13,441	4217	P	12	73.71	175.4	6.4	M3	3	SH	DG	VF	VB,WS	25%	150	9			n	15B
2012	13,479	3962	P	10	72.56	163.85	6.05	10.E.1	3	SH	G	VF	VB,WS	25%	110	14	Variation in thickness		n	15B
2012	13,963	3969	P	10	74.51	161.95	6.06	10.C	3	SH	DG	VF	VB,WS	100%	100	5	Oval, 10 x 7, very thin		n	15B
2012	14,320	3979	P	10	78.25	161.86	6.06	10.C	3	SH	DG	VF	VB,WS	100%	60	5	Black		n	15B
2012	14,754	4106	P	14	82.72	199.31	5.55	22	3	SH	GB	VF	VB,WS	95%	180	16			n	15B
2012	15,119	4156	P	14	82.99	195.02	5.5	14.D	3	SH	GB	VF	VB,WS	100%	140	11			n	15B
2012	15,150	4156	P	14	80.04	196.85	5.47	14.D	2	SH	BT	VF	VB,WS	95%	140	6	2 small pieces and one large, one piece not a match?		n	15B

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2012	15,150	4156	P	14	0	0	0	14.D	3					5%	70	4	Piece found with 15150, not a match with other pieces			15B
2013	15,995	4370	P	10	0	0	0	10.D	3	SH	DG	VF	VB,WS	75%	80	5	White patina on one side?		n	15B
2012	16,364	4063	P	12	51.08	169.86	6.15	12.E.1	3	SH	DG	VF	VB,WS	50%	140	13	14 x 6 cm		n	15C
2013	16,534	unstra	spoil	na	0	0	0	0	na	SH	BT	VF	VB,WS	25%	150	13	Black		n	15C
2013	16,723	4213	P	8; CMA	0	0	0	M3	3	0	DG	VF	VB,WS	50%	60	3.5			n	15C
2013	16,865	3617	P	1; 11	63.53	186.85	5.55	1.E.2	2					25%	190	13	Strong black discoloration in middle		YES?	15C
2013	16,869	3617	P	1; 11	63.34	186.91	5.58	1.E.2	2	SH	BT	VF	VB,WS	50%	200	15	Black		YES?	15C*
2013	17,608	4448	P	1; 11	61.73	183.52	6.03	M5	3	SH	BT	VF	VB,WS	100%	130	9	Perfectly round, black specks		n	15D
2013	18,190	4562	P	12	62.85	175.20	5.90	12.E.1	3						410	25	Not seen			Stone shed
2013	18,285	4830	T	na	66.00	76.68	4.85	T7	3	SH	DG	VF	VB,WS	100%	60	8			n	15C
2014	18,769	4447	P	1; 11	60.68	182.70	6.19	0	3	SH	DG	VF	VB,WS	100%	160	20	Black, variation in thickness		n	15C
2014	18,821	4264	P	8	74.33	179.12	6.08	8.D	2	SH	DG	VF	VB,WS	50%	300	9			n	15C
2014	18,882	2143	P	1	69.73	187.55	5.81	1.E.3	2	SH	BT	VF	VB,WS	100%	120	11	Well worked		n	15D
2014	19,022	4957	P	10	77.86	158.36	6.50	0	3	SH	DG	VF	VB,WS	90%	100	7			n	15C
2014	19,295	1377	P	10	71.30	167.69	6.39	10.G	3	SH	DG	VF	VB,WS	100%	150	15	Notched?	y	n	15C
2014	19,619	4455	P	CMA	61.27	178.84	5.97	M3	3	SH	DG	VF	VB,WS	25%	130	12	Intense black discoloration, evidence of heating?		n	15C
2014	19,629	4740	P	CMA	66.07	173.94	6.06	M3	3	SH	DG	VF	VB,WS	95%	140	11	Red	y	n	15C*
2014	19,798	4981	P	10	78.90	158.40	6.27	0	3	SH	GT	VF	VB,WS	25%	90	13			n	15C
2014	19,985	1207	P	10	70.64	167.73	6.53	10.A.5	3	SH	BT	VF	VB,WS	50%	130	9			n	15C
2014	19,991	4271	P	CMA	66.19	170.89	6.40	M3	3	SH	BT	VF	VB,WS	50%	170	10			n	15C
2014	20,428	4968	P	10	79.11	158.53	6.03	0	3	SH	BT	VF	VB,WS	60%	160	13	Variation in thickness		n	15C*
2014	20,510	4454	P	1; 11	65.17	178.18	5.93	M3	3	SH	G	VF	VB,WS	50%	190	12	Notched?	y	n	15C*
2014	20,520	5094	P	14	81.70	196.40	5.33	14.C	2	SH	DG	VF	VB,WS	90%	190	12	Black specks		n	15C
2014	20,599	4455	P	12	60.85	178.26	5.92	M3	3	SH	BT	VF	VB,WS	25%	160	19	2 pieces, grooves in large piece		n	15C
2014	20,692	5500	P	14	80.11	192.75	5.46	14.B	2	SH	BT	VF	VB,WS	75%	190	12	red and black discoloration?		n	15C
2014	20,785	5224	P	1; 11	63.12	183.57	6.00	M4	3	SH	G	VF	VB,WS	30%	150	8	Red discoloration?		n	15C
2014	20,916	5254	P	1; 11	60.40	180.65	6.20	0	na	SH	G	VF	VB,WS	75%	160	12	White, red discoloration		n	15C
2014	20,917	5254	P	1; 11	60.85	180.99	6.14	0	na	SH	DG	VF	VB,WS	50%	150	7	Black residue?		n	15C
2014	21,350	3824	P	8	75.37	179.18	5.80	8.B	2	SH	BT	VF	VB,WS, mica	90%	210	9			n	15C

Year	SF#	Context	TR	STR	X_coordinates	Y_coordinates	Z_coordinates	Phase	Simplified phase	Rock	Colour	Texture	Nature	Completeness %	Diameter in mm	Thickness in mm	Maria's comments/queries	Notched?	Heat?	Box#
2014	21,351	3824	P	8	75.15	179.16	5.73	8.B	2	SH	G	VF	VB,WS	75%	220	9	Well worked		n	15C
2014	21,592	4818	T	na	70.86	79.10	5.63	T3	3	SH	DG	VF	VB,WS	50%	190	11	Black residue?		n	15C
2014	21,850	4740	P	CMA	66.34	172.46	6.10	M3	3	SH	GB	VF	VB,WS	25%	90	12	Red discoloration or part of rock?	y	n	15C*
2014	22,660	4808	T	na	0.00	0.00	0.00	T10	3	SH	BT	VF	VB,WS	25%	100	9			n	15C
2015	22,792	4743	P	CMA	65.03	173.59	6.33	M3	3	SH	BT	VF	VB,WS	100%	80	5			n	15C
2015	22,826	4761	P	8	73.40	173.13	6.45	10.F	3	SH	BT	VF	VB,WS	100%	60	6			n	15C
2015	22,956	4596	P	12	0	0	0	12.A.2 (& 12.C?)	3	SH	BT	VF	VB,WS	100%	120	15	Variation in thickness		n	15C
2015	22,987	4751	P	CMA	66.99	174.79	5.92	M3	3	SH	BT	VF	VB,WS	20%	150	12			n	15C
2015	22,997	4751	P	CMA	67.30	174.56	6.03	M3	3	SH	GT	VF	VB,WS	25%	250	10	25x21 cm, no disc?		n	15D
2015	23,201	4751	P	CMA	66.78	174.16	5.99	M3	3	SH	DG	VF	VB,WS	20%	130	13			n	15C
2015	23,245	4808	T	na	60.21	77.06	4.60	T10	3	SH	DG	VF	VB,WS	100%	100	8	oval		n	15C
2015	23,303	4508	P	12	60.91	173.66	6.00	12.E.1	3	SH	BT	VF	VB,WS	90%	230	18	23cm		n	15D
2015	23,391	4761	P	8	73.03	172.57	6.46	10.F	3	SH	DG	VF	VB,WS	100%	70	9	Variation in thickness		n	15C
2015	23,781	4859	T	na	54.52	72.54	3.66	T5	3	SH	BT	VF	VB,WS	95%	110	10	Texture course? Black specks		n	15C
2015	23,805	3819	P	19	0	0	0	M3/8.F	3	SH	BT	VF	VB,WS	50%	110	16			n	15C
215	23,812	6134	P	12	60.43	172.19	5.96	12.E.1	3						300	17	Not seen, no box listed			?
2015	23,828	4768	P	CMA	65.01	171.88	6.20	M3	3	SH	BT	VF	VB,WS	25%	110	7	Red and black discoloration		n	15C
2015	24,238	5497	P	10	75.35	160.32	6.07	10.C	3	SH	BT	VF	VB,WS	50%	210	15	21cm		n	15D
2015	24,535	4269	P	8;CMA;10	73.40	172.25	6.21	10.F	3	SH	GT	VF	VB,WS	100%	120	9	Possible notch?		n	15D
2015	24,618	5810	T	na	71.47	79.34	5.45	T3	3	SH	DG	VF	VB,WS	25%	130	16	Red discoloration or part of rock?		n	15D
2015	24,904	2119	P	1	0	0	0	1.D.3	2	SH	T	VF	VB,WS	50%	300	8	Not a disc?		n	15D
2015	25,626	6185	P	12	49.02	167.86	6.35	12.C.x or 12.D.x	3	SH	GT	VF	VB,WS	50%	270	22			n	15D
2015	25,651	4209	P	8; CMA	77.13	175.02	5.71	M3	3	SH	BT	VF	VB,WS	25%	85	7			n	15D
2015	25,688	1486	P	10	66.04	159.60	6.94	0	na	SH	GT	VF	Vb,WS	50%	120	6			n	15D
2015	26,167	5648	P	12	49.04	166.58	6.51	12.E.2.x	3	SH	G	VF	VB,WS	50%	250	12			n	15D
2016	27,233	5810	T	na	0	0	0	T3	3	SH	DG	VF	VB,WS	20%	160	8	Edge of disc		n	15D
2016	27,367	5987	P	10	70.87	164.94	6.05	0	3	SH	G	VF	VB,WS	50%	150	12			n	15D
2016	27,507	7103	X	na	46.00	167.15	6.70	0	na	SH	GT	VF	VB,WS	20%	130	16			n	15D
Year	SF#	Context	TR	STR	X_coordinates	Y_coordinates	Z_coordinates	Phase	Simplified phase	Rock	Colour	Texture	Nature	Completeness %	Diameter in mm	Thickness in mm	Maria's comments/queries		Notched?	Heat?

Year	SF#	Context	TR	STR	X_coordinates	Y_coordinates	Z_coordinates	Phase	Simplified phase	Rock	Colour	Texture	Nature	Completeness %	Diameter in mm	Thickness in mm	Maria's comments/queries		Notched?	Heat?
2016	28,536	7241	P	12;26	62.26	164.76	7.06	12.G to 12.H	3	SH	G	VF	VB,WS	100%	90	10	Red discoloration or part of rock?		n	15D
2016	28,673	7241	P	12;26	63.23	163.38	7.02	12.G to 12.H	3	SH	GB	VF	VB,WS	100%	100	10	10x9 cm		n	15D
2016	28,731	7241	P	12;26	62.04	163.08	6.97	12.G to 12.H	3	SH	BT	VF	VB,WS	25%	180	7	Black		n	15D
2016	28,798	7241	P	12;26	62.93	162.28	6.90	12.G to 12.H	3	SH	DG	VF	VB,WS	25%	180	7	Ann Clarke: possibly part of 28731, structure 10 on bag, should be 12,26. This was originally listed in Martha's database as 27798			15D
2016	28,957	7244	P	26	62.80	165.42	6.86	12.G	3	SH	G	VF	VB,WS	20%	165	10	Notched?	y	n	15D*
2017	30,021	7243	P	26	62.38	161.54	7.20	12.G	3	SH	DG	VF	VB,WS	100%	40	6	4 cm dia		n	15D
2017	30,105	7087	P	14	82.12	193.14	5.40	14.B/C	2	SH	DG	VF	VB,WS	60%	120	14	12 cm dia		n	15D*
2017	30,173	6401	P	12	50.06	166.45	6.40	12.B.1.x to 12.B.2.x	2	SH	DG	VF	VB,WS	50%	230	9	scratches on surface		n	15D
2017	30,408	4829	T	na	66.37	74.33	5.10	T7	3	SH	GT	VF	VB,WS	100%	135	20			n	15E
2017	30,472	8010	P	10	67.74	168.66	6.94	10.B	3	SH	GT	VF	VB,WS	50%	120	8			n	15E*
2017	30,531	7007	P	14	82.39	192.88	5.34	14.A	2	SH	BT	VF	VB,WS	40%	200	10	Black specks		n	15E
2017	30,538	7243	P	26	57.59	164.68	7.07	12.G	3	SH	BT	VF	VB,WS	40%	240	18	Black residue? Notch		n	15E
2017	30,608	4859	T	na	0	0	0	T5	3	SH	G	VF	VB,WS	50%	150	19	Coordinates need checking SF db		n	15E
2017	30,689	7243	P	26	59.74	163.84	7.08	12.G	3	SH	BT	VF	VB,WS	80%	100	7	Oval		n	15E
2017	31,646	7412	T	27	0	0	0	T4	3	SH	BT	VF	VB,WS	5%	60	6	Very small edge		n	15E
2017	31,671	7252	P	26	59.78	160.09	7.06	26.C	3	SH	BT	VF	VB,WS	25%	130	15			n	15E
2017	31,823	1224	P	1	69.54	189.58	6.09	1.D.3	2	SH	DG	VF	VB,WS	100%	130	10	Oval, black residue?		n	15E
2017	32,079	7442	T	27	0	0	0	T4	3	SH	G	VF	VB,WS	25%	120	18			n	15E
2017	32,083	7823	P	12	48.82	176.18	5.99	12.D x to12.E.2.x	3	SH	DG	VF	VB,WS	50%	170	15	Black		n	15D
2017	32,084	7823	P	12	47.58	176.29	6.11	12.D x to12.E.2.x	3	SH	G	VF	VB,WS	60%	90	15	Fragment of disc - Ann Clarke, small notch?	y	n	15E*
2017	33,019	7271	P	26	60.22	159.53	6.90	26.E	3	SH	DG	VF	VB,WS	50%	140	11	14 cm dia		n	15D
2017	33,043	4728	P	8	72.30	173.65	5.69	8.B	2	SH	G	VF	VB,WS	90%	70	6			n	15E
2017	33,047	7241	P	10	54.80	163.58	7.02	12.G to 12.H	3	SH	G	VF	VB,WS	50%	130	13	13 cm		n	15D
2017	33,576	6634	T	na	0	0	0	T4	3	SH	BT	VF	VB,WS	25%	120	9			n	15E
2017	33,635	7271	P	26	66.26	159.03	6.84	26.E	3	SH	G	VF	VB,WS				Probably not a stone disc		n	15E
2018	34,019	7287	P	26	60.13	162.88	6.48	26.D	3	SH	DG	VF	VB,WS	90%	140	10			n	15E
2018	34,141	7290	P	26	0	0	0	12.E.2.x or 12.G.x	3	SH	DG	VF	VB,WS	15%	100	7	Black and red discoloration		n	15E
2018	34,144	8154	J	5	0	0	0	5.G/32.C/6.C	1	SH	GB	VF	VB,WS	40%	170	17			n	15E

Year	SF#	Context	TR	STR	X_coordinates	Y_coordinates	Z_coordinates	Phase	Simplified phase	Rock	Colour	Texture	Nature	Completeness %	Diameter in mm	Thickness in mm	Maria's comments/queries	Notched?	Heat?	Box#
2018	34,947	8169	J	5	0	0	0	5.G/32.C/6.C	1	SH	BT	VF	VB,WS	10%	80	7			n	15E
2018	35,110	7290	P	26	0	0	0	12.E.2.x or 12.G.x	3	SH	BT	VF	VB,WS	70%	95	12	Only slightly worked, not a stone disc?		n	15E
2018	35,273	7406	T	na	0	0	0	T3	3	SH	GT	VF	VB,WS	60%	90	11			n	15E
2018	35,277	8702	T	na	0	0	0	T6	3	SH	BT	VF	VB,WS	25%	155	11			n	15E
2018	35,569	7440	T	na	0	0	0	T4	3	SH	BT	VF	VB,WS	100%	150	8	Notched?	y	n	15E
2018	35,649	8056	P	10	75.60	166.02	5.88	5.G/32.C/6.C	3	SH	G	VF	VB,WS	20%	130	9			n	15E
2018	36,264	8193	J	na	81.49	228.15	5.13	5.G/32.C/6.C	1	SH	BT	VF	VB,WS	80%	150	25			n	15E
2018	36,538	8094	P	10	75.22	165.79	5.91	0	3	SH	G	VF	VB,WS	15%	100	8	Two small pieces, part of edge		n	15E
2018	36,642	8554	P	1	65.51	185.02	5.61	1.D.3	2	SH	G	VF	VB,WS	50%	260	17	Variation in thickness, three pieces		n	15E
2018	36,939	8094	P	10	75.35	165.54	5.90	0	3	SH	BT	VF	VB,WS	25%	180	4			n	15E
2018	37,488	8773	T	na	0	0	0	T6	3	SH	GB	VF	VB,WS	100%	65	7	Some scratches, red and black residue?		n	15E
2018	37,758	8859	J	na	95.03	228.87	4.19	5.D	1	SH	GB	VF	VB,WS	98%	100	8	Notched?	y	n	15E
2018	37,793	7265	P	30	56.11	159.70	7.19	late midden infill	3	SH	GB	VF	VB,WS	20%	100	5			n	15E
2018	37,829	7265	P	30	56.32	159.29	7.16	late midden infill	3	SH	DG	VF	VB,WS	20%	100	9			n	15E
2019	37,858	8639	P	30	56.77	159.82	7.14	30 late	3	SH	DG	VF	VB,WS	40%	150	9			n	15E
2019	37,881	8639	P	30	56.54	158.65	7.13	30 late	3	SH	DG	VF	VB,WS	15%	80	5	Black residue?		n	15E
2019	38,507	6413	P	na	330290.11	1012838.22	5.90	12.D or 12. E.1	3	SH	T	VF	VB,WS	25%	145	11	Two pieces, worked to fit stone pillar?		n	15E
2019	38,623	8797	T	na	0	0	0	0	3	SH	DG	VF	VB,WS	10%	145	11	Black residue?		n	15E
2019	39,523	9104	T	na	55.36	77.75	3.96	0	3	SH	GT	VF	Vb,WS	100%	55	6	Small notch?	y	n	15E
2019	39,653	8656	P	12;26	57.58	164.76	6.23	12.D.x	3					100%	50	4	Not seen by Martha		n	15E
2019	40,036	6369	P	8	81.29	181.75	5.74	8.A	2	SH	BT	VF	VB, WS	100%	90	7	Notched? Black specks		n	15E
2019	40,395	3147	P	8	0	0	0	8.D	2	SH	BT	VF	VB,WS	50%	170	14			n	15E
2021	41,037	U/S	P	10	0	0	0	0	na	ST	T	VF	VB,BOB	60%	130	18				15E
2021	41,047	8148	J	na	81.23	232.35	5.16	5.G/32.C/6.C	1	SH	DG,B	VF	VB,BOB				Too fragmented, 4 larger pieces and small bits			15E
2021	41,049	8188	J	5	87.94	232.11	4.46	5.D	1	MS	DG,T,BK	VF	VB, mica, BOB	100%	100	6				15E
2021	41,283	9519	J	na	85.23	232.89	5.14	5.G/32.C/6.C	1	MS	DG	VF	VB, mica, BOB	60%	120	11	Notched?	y	n	15E
2021	41,457	99	J	na	79.39	233.21	5.50	5.H/6.D/32.D	1	MS	DG	VF	vb, rough faces	50%	75	10				15E
2021	41,475	9715	P	12	0	0	0	12.B.1 or 12.B.2	2	MS	DG	VF	VB,BOB,WS	15%	50	4				15E
Year	SF#	Context	TR	STR	X_coordinates	Y_coordinates	Z_coordinates	Phase	Simplified phase	Rock	Colour	Texture	Nature	Completeness %	Diameter in mm	Thickness in mm	Maria's comments/queries		Notched?	Heat?

Year	SF#	Context	TR	STR	X_coordinates	Y_coordinates	Z_coordinates	Phase	Simplified phase	Rock	Colour	Texture	Nature	Completeness %	Diameter in mm	Thickness in mm	Maria's comments/queries	Notched?	Heat?
2021	41,733	9242	J	na	0	0	0	5.E	1	ST	DG	F	BOB, thin bedding	10%	130	9	Sloping edge, worked stone, possibly stone disc	n	15E
2021	41,768	9586	J	na	79.72	232.50	4.81	5.A	1	MS	DG	VF	BOB, ws,vb		60	4	Unworked, possible stone disc - Ann Clarke		15E
2021	41,810	9563	J	5	0	0	0	5.E	1	MSST	DG/T	VF	bob on MS, vb		100	9			15E
2021	41,877	9698	P	10	76.36	160.78	6.05	0	3	MSST	T/DG	VF	vb,bkn	90%	150	11			15E
2022	42,867	8999	P	10	330307.724	1012845.13	5.8888	0	3					50%	460	24	Large stone disc, possibly notched	y	Lochview stone room

Appendix B: Catalogue of Stone Discs of the Ness of Brodgar

SF = Small Find number, D = diameter in mm, T = thickness in mm, Ph = simplified phase. All photographs by Maria van de Fliert

Figure B.1 *SF 182, D=140, T=10, Ph=3*

Figure B.2 *SF 227, D=100, T=7, Ph=3*

Figure B.3 *SF 231, D=130, T=8, Ph=3*

Figure B.4 *SF 241, D=100, T=7, Ph=3*

Figure B.5 *SF 242, D=160, T=11, Ph=3*

Figure B.6 *SF 714, D=70, T=8, Ph=3*

Figure B.7 *SF 1095, D=150, T=10, Ph=3*

Figure B.8 *SF 1322, D=125, T=7, Ph=3*

Figure B.9 *SF 1337, D=170, T=17, Ph=3*

Figure B.10 *SF 1484, D=140, T=6, Ph=3*

Figure B.11 *SF 1517, D= 110, T=5, Ph=3*

Figure B.12 *SF 1520.1, D=110, T=5, Ph=3*

Figure B.13 *SF 1520, D= 100, T=4, Ph=3*

Figure B.14 *SF 1643, D=80, T=8, Ph=3*

Figure B.15 *SF 1692, D=100, T=7, Ph=1*

Figure B.16 *SF 1896, D=80, T=7, Ph=1*

Figure B.17 *SF 1929, D=100, T=14, Ph=3*

Figure B.18 *SF 1987, D= 50, T=4, Ph=3*

Figure B.19 *SF 1996, D=120, T=8, Ph=3*

Figure B.20 *SF 2024, D=70, T=5, Ph=3*

Figure B.21 *SF 2026, D=80, T=5, Ph=3*

Figure B.22 *SF 2027, D=80, T=5, Ph=3*

Figure B.23 *SF 2031, D=80, T=5, Ph=3*

Figure B.24 *SF 2032, D=100, T=6, Ph=3*

Figure B.25 *SF 2033, D=60, T=5, Ph=3*

Figure B.26 *SF 2046, D=110, T=7, Ph=3*

Figure B.27 *SF 2640, D=130, T=13, Ph=3*

Figure B.28 *SF 2696, D=180, T=17, Ph=3*

Figure B.29 *SF 2832, D=120, T=17, Ph=3*

Figure B.30 *SF 3552, D=90, T=12, Ph=3*

Figure B.31 *SF 3673, D=80, T=12, Ph=3*

Figure B.32 *SF 3771, D=160, T=9, Ph=3§*

Figure B.33 *SF 3837, D=180, T=25, Ph=3*

Figure B.34 *SF 4134, D=90, T=9, Ph=3*

Figure B 35 *SF 4526, D=140, T=14, Ph=3*

Figure B.36 *SF 4578, D=150, T=13, Ph=3*

Figure B.37 *SF 4619, D=180, T=12, Ph=3*

Figure B.38 *SF 4690, D=70, T=7, Ph=3*

Figure B.39 *SF 4801, D=220, T=14, Ph=3*

Figure B.40 *SF 4830, D=90, T=9, Ph=3*

Figure B.41 *SF 4831, D=100, T=6, Ph=3*

Figure B.42 *SF 4869, D=250, T=20, Ph=3*

Figure B.43 *SF 5236, D=150, T=11, Ph=3*

Figure B.44 *SF 5259, D=140, T=10, Ph=2*

Figure B.45 *SF 5431, D=200, T=20, Ph= n.a.*

Figure B.46 *SF 5626, D=130, T=14, Ph=3*

Figure B.47 *SF 5627, D=80, T=7, Ph=3*

Figure B.48 *SF 5633, D=80, T=6, Ph=3*

Figure B.49 *SF 5812, D=100, T=9, Ph=3*

Figure B.50 *SF 5824, D=180, T=10, Ph=3*

Figure B.51 *SF 5836, D=180, T=14, Ph=3*

Figure B.52 *SF 5936, D=100, T=9, Ph=3*

Figure B.53 *SF 6379, D=260, T=19, Ph=3*

Figure B.54 *SF 6407, D=180, T=17, Ph=3*

Figure B.55 *SF 6507, D=90, T=4, Ph=3*

Figure B.56 *SF 6587, D=290, T=18, Ph=3*

Figure B.57 *SF 6643, D=230, T=9, Ph=3*

Figure B.58 *SF 6705, D=60, T=6, Ph=3*

Figure B.59 *SF 6730, D=100, T=11, Ph=3*

Figure B.60 *SF 6753, D=140, T=15, Ph=3*

Figure B.61 *SF 6813, D=160, T=7, Ph= n.a.*

Figure B.62 *SF 6869 D=170, T=13, Ph=3*

Figure B.63 *SF 6923, D=120, T=8, Ph=3*

Figure B.64 *SF 6927, D=90, T=6, Ph=3*

Figure B.65 *SF 6953, D=140, T=8, Ph=3*

Figure B.66 *SF 7025, D=180, T=14, Ph=2*

Figure B.67 *SF 7075, D=280, T=13, Ph=3*

Figure B.68 *SF 7104, D=180, T=17, Ph=3*

Figure B.69 *SF 7218, D=100, T=12, Ph=3*

Figure B.70 *SF 7235, D=200, T=12 Ph=3*

Figure B.71 *SF 7596, D=140, T=9, Ph=2*

Figure B.72 *SF 8031, D=90, T=4, `Ph=3*

Figure B.73 *SF 8039, D=120, T=11, Ph=3*

Figure B.74*, SF 8088, D=50, T=9, Ph=3*

Figure B.75 *SF 8255, D=100, T=10, Ph=2*

Figure B.76 *SF 8494, D=120, T=10, Ph=3*

Figure B.77 *SF 8697, D=90, T=5, Ph=3*

Figure B.78 *SF 9278, D=110, T=10, Ph=3*

Figure B.79 *SF 9719, D=?, T=5, Ph=3*

Figure B.80 *SF 9749, D=50, T=5, Ph=3*

Figure B.81 *SF 9905, D=210, T=10, Ph=2*

Figure B.82 *SF 10006, D=90, T=4, Ph=3*

Figure B.83 *SF 10380, D=170, T=14, Ph=3*

Figure B.84 *SF 10439, D=60, T=4, Ph=3*

Figure B.85 *SF 10514, D=190, T=19, Ph=3*

Figure B.86 *SF 10603, D=150, T=15, Ph=3*

Figure B.87 *SF 10656, D=140, T=16, Ph=3*

Figure B.88 *SF 10875, D=190, T=14, Ph=3*

Figure B.89 *SF 10876, D=240, T=14, Ph=3*

Figure B.90 *SF 10907, D=140, T=9, Ph=3*

Figure B.91 *SF 10908, D=170, T=16, Ph=3*

Figure B.92 *SF 11178, D=160, T=26, Ph=3*

Figure B.93 *SF 11492, D=140, T=11, Ph=3*

Figure B.94 *SF 11702, D=100, T=7, Ph=3*

Figure B.95 *SF 12593, D=130, T=7, Ph=3*

Figure B.96 *SF 12737, D=90, T=6, Ph= n.a.*

Figure B.97 *SF 12966, D=140, T=9, Ph=3*

Figure B.98 *SF 13421, D=130, T=14, Ph=3*

Figure B.99 *SF 13441, D=150, T=9, Ph=3*

Figure B.100 *SF 13479, D=110, T=14, Ph=3*

Figure B.101 *SF 13963, D=100, T=5, Ph=3*

Figure B.102 *SF 14320, D=60, T=5, Ph=3*

Figure B.103 *SF 14754, D=180, T=16, Ph=3*

Figure B.104 *SF 15119, D=140, T=11, Ph=3*

Figure B.105 *SF 15150, D=140, T=6, Ph=2*

Figure B.106 *SF 15150.1, D=70, T=4, Ph=2*

Figure B.107 *SF 15995, D=80, T=5, Ph=3*

Figure B.108 *SF 16364, D=140, T=13, Ph=3*

Figure B.109 *SF 16534, D=150, T=13, Ph= n.a.*

Figure B.110 *SF 16723, D=60, T=3.5, Ph=3*

Figure B.111 *SF 16865, D=190, T=13, Ph=2*

Figure B.112 *SF 16869, D=200, T=15, Ph=2*

Figure B.113 *SF 17608, D=130, T=9, Ph=3*

Figure B.114 *SF 18190, D=410, T=25, Ph=3*

Figure B.115 *SF 18285, D=60, T=8, Ph=3*

Figure B.116 *SF 18769, D=160, T=20, Ph=3*

Figure B.117 *SF18821, D=300, T=9, Ph=2*

Figure B.118 *SF 18882, D=120, T=11, Ph=2*

Figure B.119 *SF 19022, D=100, T=7, Ph=3*

Figure B.120 *SF 19295, D=150, T=15, Ph=3*

Figure B.121 *SF 19619, D=130, T=12, Ph=3*

Figure B.122 *SF 19629, D=140, T=11, Ph=3*

Figure B.123 *SF 19798, D=90, T=13, Ph=3*

Figure B.124 *SF 19984, D=130, T=9, Ph=3*

Figure B.125 *SF 19991, D=170, T=10, Ph=3*

Figure B.126 *SF 20428, D=160, T=13, Ph=3*

Figure B.127 *SF 20510, D=190, T=12, Ph=3*

Figure B.128 *SF 20520, D=190, T=12, Ph=2*

Figure B.129 *SF 20599, D=160, T=19, Ph=3*

Figure B.130 *SF 20692, D=190, T=12, Ph=2*

Figure B.131 *SF 20785, D=150, T=8, Ph=2*

Figure B.132 *SF 20916, D=160, T=12, Ph= n.a.*

Figure B.133 *SF 20917, D=150, T=7, Ph= n.a.*

Figure B.134 *SF 21350, D=210, T=9, Ph=2*

Figure B.135 *SF 21351, D=220, T=9, Ph=9*

Figure B.136 *SF 21592, D=190, T=11, Ph=3*

Figure B.137 *SF 21850, D=90, T=12, Ph=3*

Figure B.138 *SF 22660, D=100, T=9, Ph=3*

Figure B.139 *SF 22792, D=80, T=5, Ph=3*

Figure B.140 *SF 22826, D=60, T=6, Ph=3*

Figure B.141 *SF 22956, D=120, T=15, Ph=3*

Figure B.142 *SF 22987, D=150, T=12, Ph=3*

Figure B.143 *SF 22997, D=250, T=10, Ph=3*

Figure B.144 *SF 23201, D=130, T=13, Ph=3*

Figure B.145 *SF 23245, D=100, T=8, Ph=3*

Figure B.146 *SF 23303, D=230, T=18, Ph=3*

Figure B.147 *SF 23391, D=70, T=9, Ph=3*

Figure B.148 *SF 23781, D=110, T=10, Ph=3*

Figure B.149 *SF 23805, D=110, T=16, Ph=3*

Figure B.150 *SF 23812, D=300, T=17, Ph=3*

Figure B.151 *SF 23828, D=110, T=7, Ph=3*

Figure B.152 *SF 24238, D=210, T=15, Ph=3*

Figure B.153 *SF 24535, D=120, T=9, Ph=3*

Figure B.154 *SF 24618, D=130, T=16, Ph=3*

Figure B.155 *SF 24904, D=300, T=8, Ph=2*

Figure B.156 *SF 25626, D=270, T=22, Ph=3*

Figure B.157 *SF 25651, D=85, T=7, Ph=3*

Figure B.158 *SF 25688, D=120, T=6, Ph= n.a.*

Figure B.159 *SF 26167, D=250, T=12, Ph=3*

Figure B.160 *SF 27233, D=160, T=8, Ph=3*

Figure B.161 *SF 27367, D=150, T=12, Ph=3*

Figure B.162 *SF 27507, D=130, T=16, Ph= n.a.*

Figure B.163 *SF 28536, D=90, T=10, Ph=3*

Figure B.164 *SF 28673, D=100, T=10, Ph=3*

Figure B.165 *SF 28731, D=100, T=7, Ph=3*

Figure B.166 *SF 28798, D=180, T=7, Ph=3*

Figure B.167 *SF 28957, D=165, T=10, Ph=3*

Figure B.168 *SF 30021, D=40, T=6, Ph=3*

Figure B.169 *SF 30105, D=120, T=14, Ph=2*

Figure B.170 *SF 30173, D=230, T=9, Ph=2*

Figure B.171 *SF 30408, D=135, T=20, Ph=3*

Figure B.172 *SF 30472, D=120, T=8, Ph=3*

Figure B.173 *SF 30531, D=200, T=10, Ph=2*

Figure B.174 *SF 30538, D=240, T=18, Ph=3*

Figure B.175 *SF 30608, D=150, T=19, Ph=3*

Figure B.176 *SF 30689, D=100, T=7, Ph=3*

Figure B.177 *SF 31646, D=60, T=6, Ph=3*

Figure B.178 *SF 31671, D=130, T=15, Ph=3*

Figure B.179 *SF 31823, D=130, T=10, Ph=2*

Figure B.180 *SF 32079, D=120, T=18, Ph=3*

Figure B.181 *SF 32083, D=170, T=15, Ph=3*

Figure B.182 *SF 32084, D=90, T=15, Ph=3*

Figure B.183 *SF 33019, D=140, T=11, Ph=3*

Figure B.184 *SF 33043, D=70, T=6, Ph=2*

Figure B.185 *SF 33047, D=130, T=13, Ph=3*

Figure B.186 *SF 33567, D=120, T=9, Ph=3*

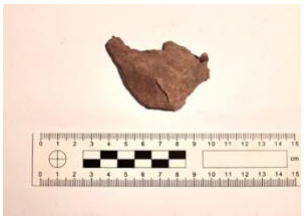

Figure B.187 *SF 33653, D=?, T=?, Ph=3*

Figure B.188 *SF 34019, D=140, T=10, Ph=3*

Figure B.189 *SF 34141, D=100, T=7, Ph=3*

Figure B.190 *SF 34144, D=170, T=17, Ph=1*

Figure B.191 *SF 34947, D=80, T=7, Ph=1*

Figure B.192 *SF 35110, D=95, T=12, Ph=3*

Figure B.193 *SF 35273, D=90, T=11, Ph=3*

Figure B.194 *SF 35277, D=155, T=11, Ph=3*

Figure B.195 *SF 35569, D=150, T=8, Ph=3*

Figure B.196 *SF 35649, D=130, T=9, Ph=3*

Figure B.197 *SF 36264, D=150, T=25, Ph=1*

Figure B.198 *SF 36538, D=100, T=8, Ph=3*

Figure B.199 *SF 36642, D=260, T=17, Ph=2*

Figure B.200 *SF 36939, D=180, T=4, Ph=3*

Figure B.201 *SF 37488, D=65, T=7, Ph=3*

Figure B.202 *SF 37758, D=100, T=8, Ph=1*

Figure B.203 *SF 37793, D=100, T=5, Ph=3*

Figure B.204 *SF 37829, D=100, T=9, Ph=3*

Figure B.205 *SF 37858, D=150, T=9, Ph=3*

Figure B.206 *SF 37881, D=80, T=5, Ph=3*

Figure B.207 *SF 38507, D=145, T=11, Ph=3*

Figure B.208 *SF 38623, D=145, T=11, Ph=3*

Figure B.209 *SF 39523, D=55, T=6, Ph=3*

Figure B.210 *SF 39653, D=50, T=4, Ph=3*

Figure B.211 *SF 40036, D=90, T=7, Ph=2*

Figure B.212 *SF 40395, D=170, T=14, Ph=2*

Figure B.213 *SF 41037, D=130, T=18, Ph= n.a.*

Figure B.214 *SF 41047, D=?, T=? Ph=1*

Figure B.215 *SF 41049, D=100, T=6, Ph=1*

Figure B.216 *SF 41283, D=120, T=11, Ph=1*

Figure B.217 *SF 41457, D=75, T=10, Ph=1*

Figure B.218 *SF 41475, D=50, T=4, Ph=2*

Figure B.219 *SF 41733, D=130, T=9, Ph=1*

Figure B.220 *SF 41768, D=60, T=4, Ph=1*

Figure B.221 *SF 41810, D=100, T=9, Ph=1*

Figure B.222 *SF 41877, D=150, T=11, Ph=3*

Figure B.223 *SF 42867, D=460, T=24, Ph=3*

Appendix C: Results of the Literature Study

Location	Site name	Type of site	Stone discs	Interpretation	Source
Black Mountains, Wales	Penywyrold	Long cairn	1	-	Edwards, 2012, Appendix 2, database 1.
Brecknockshire, Wales	Ty-Isaf	Long cairn	10	Weights, but with unsupported evidence	Grimes, 1939 in Edwards, 2012, p. 17
Co. Down, Northern Ireland	Greengraves	Portal dolmen	2	-	Herity, 1964, p. 137
Cornwall, England	Woodcock Corner	Enclosure	1	A decorated disc, possibly a potlid, found in pit with Grooved Ware	Thomas, 2016, p. 22
Dorset, England	Hambledon Hill	Enclosure	3	-	In Edwards, 2012, Appendix 2, database 1.
Gloucestershire, England	The Peak	Enclosure	1	Unknown but could be weights, lids, weapons for hunting small animals, charm stones, amulets, representations of sun and moon.	Darvill et al., 2011, pp. 178-179.
Islay, Scotland	Coultersay	Settlement	12	Possibly potlids or weights, the smaller ones are possibly game counters	Kilpatrick et al., 2024, pp. 36 – 38.
Kintyre, Scotland	Brackley	Chambered cairn	1	-	Scott et al., 1958, p. 42.
St. Kilda, Scotland	Hirta	Channel infill	1	Potlid	Blair et al., 2021, p. 39.
Kirkcudbrightshire, Scotland	Cairnholy	Chambered cairn	2	-	Piggott et al., 1951, pp. 121-122.
Mainland, Orkney	Stonehall	Settlement	5	-	Clarke, 2016, p. 449.
Mainland, Orkney	Wideford Hill	Settlement	2	Dumped in working area	Clarke, 2016, p. 455.
Mainland, Orkney	Crossiecrown	Settlement	12 Neolithic (of total 30)	7 discs were found with heat damage, 2 together with pottery; potlids	Clarke, 2016, p. 462.
Mainland, Orkney	The Knowes of Trotty	Dwelling	3	-	Clarke, 2016, p. 465.
Mainland, Orkney	Brae of Smerquoy	Settlement	3	-	Clarke, 2016, p. 468.
Mainland, Orkney	Skara Brae (1970s excavation)	Settlement	190 (worked laminated material)	75% was broken, most were probably stone discs used as potlids, lids for large, buried pots or pavement pieces.	Clarke, A., 1995, p. 223
Mainland, Orkney	Skara Brae (1930s excavation)	Settlement	18	Potlids	Childe, V. G., 1931, p. 51; Clarke, A., 1995, p. 235
Mainland, Orkney	Ness of Brodgar	Place of gathering	200+ (**237** in 2025, including	A purpose has not yet been found; they could have been	Clarke, 2020, pp. 230-231

			the '23/24' finds)	potlids or personal adornments (smaller discs).	
Oxfordshire, England	Ascott under Wychwood	Long barrow	5	-	Roe, 2006, p. 315.
Papa Westray, Orkney	Knap of Howar	Settlement	1	-	Clarke, A., 1995, p. 586 (Table 6.1)
Penmaenmawr, North Wales	Graig Lwyd	Neolithic axe factory	1	Oval plaque, incised. No interpretation given.	Thomas, 2016, p. 22
Rousay, Orkney	Rinyo	Settlement	"Very common all over the site" Childe & Grant, 1939, p. 29	Paving slabs found in situ. The smaller one could have been a potlid for a buried pot. It was found next to a hole in the ground.	Childe & Grant, 1939, p. 29
Sanday, Orkney	Tofts Ness	Settlement	14	2 discs showed evidence of burning: pot covers	Clarke, 2007b, pp. 294-295.
Sanday, Orkney	Pool	Settlement	35	13 discs show evidence of heat treatment (red/brown discolouration). The larger discs are presumably overhanging potlids, the smaller ones could have been used for sealing storage pots. 2 small discs from the Norse period could have been used as game counters.	Clarke, 2007a, pp. 368-369.
Shetland	Scord of Brouster	Settlement	3	-	Clarke, A., 1995, p. 590 (Table 6.5)
Westray, Orkney	The Links of Noltland	Settlement	23	Potlids	Moore & Wilson, 2011, p. 100
Wicklow, Ireland	Moylisha Megalith	Long cairn	2	-	Ó h-Iceadha, 1946, p. 124.
Wilthshire, England	Stonehenge	Stone circle monument	49	Potentially potlids, ritual objects like talismans, symbols of celestial bodies, paint palettes	Edwards, 2012, pp. 48-58
Wiltshire, England	Windmill Hill	Causewayed Enclosure	10	-	Edwards, 2012, Appendix 2, database 1.
Yorkshire, England	Great Ayton Moor	Enclosure	2	-	Edwards, 2012, Appendix 2, database 1.