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**The Ceremonial Development and Reuse of Neolithic and Bronze  
Age Landscapes**

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MPhil in Archaeology  
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## **Statement of Originality**

I declare this thesis is my own work.

Rachel Ford

February 2017

## **Acknowledgments**

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## **Abstract**

This thesis focuses on the development of ceremonial landscapes of Neolithic and Bronze Age Scotland, along with exploring the concept of ceremonial complexes within Scotland by looking at the patterns of development and reuse of sites and locations of ceremonial and funerary monuments built during the Neolithic through the Bronze Age. In order to accomplish this, three major ceremonial landscapes within Scotland, the Fife, southern Perth and Kinross regions; the Kilmartin Valley; and the Orkney Islands, are used as case studies. This study was conducted using site reports from the various excavations within the three case study areas, as well as using environmental studies, land use and soil maps, and topographical maps in order to understand what motivated the Neolithic communities to construct their funeral and ceremonial monuments where they did, and why the Bronze Age people either continued to use these areas or abandon them. Further, the methods of using various maps, such as land use, soil, and topographical maps, in understanding the reasons prehistoric communities had for the placement of monuments within the landscape are assessed with a discussion of the differences and similarities in the location of earlier cursus monuments and later henges. Of the sites studied within the three case studies, the majority of the Neolithic sites were found to be located on or near good arable farming land, usually near either lochs/waterways or valleys, which would have been used as routeways for travel across the landscape. During the Bronze Age, the sites follow a similar pattern with many monuments placed on or near Neolithic sites; however, several monuments were built away from earlier ones and found to be constructed on land less suited to agriculture and marginal land. These findings are mirrored within the discussion of the cursus monuments and henges, with the Early Neolithic cursus monuments located along or near waterways on arable farming land, while the later henges sited away from the cursus monuments were built in marginal locations. The positioning of these monuments along such travel routes would have made these sites important markers in the landscape for the transportation of goods and people for trade, migration, and pilgrimage as well as establishing a claim of the surrounding land for the communities who built and used them.

## Chapter 1: Introduction

Neolithic monuments in Britain have captured the interest and imagination of individuals for generations. Since the 17<sup>th</sup> century, scholars and archaeologists have studied and researched how the monuments were built, who built them, and what possible functions the monuments could have had (Scarre 2007, 6). Recently, more research has focused on how the megaliths functioned in themselves and vis á vis each other and developed within the context of the landscape and other surrounding features, including other monuments, thus creating ceremonial complexes. Ceremonial or monumental complexes, such as exists at Stonehenge, are defined as places with a variety of ceremonial and funerary sites and features, usually diachronic, located within the same landscape (Noble 2006, 140). Other such ceremonial complexes within Britain include the sites at the Balfarg/Balbirnie complex in Fife, Forteviot in Perthshire, the Kilmartin Valley and on the Orkney Islands. Each of these ceremonial complexes contain well known monuments such as the Balfarg Henge, the stone circle of Temple Wood and the rock art sites at Ardifuir, and the chambered tomb Maeshowe and the Ring of Brodgar stone circle in Orkney.

This thesis has evolved from an examination of ritual and ceremonial landscapes across the whole span of Scottish prehistory from the Neolithic through the Iron Age, to a study of the development of Neolithic and Bronze Age ceremonial sites and complexes within their immediate and contemporary landscape context (in so far as that can be reasonably reconstructed). The narrowing of the focus to only include sites from the Neolithic and the Bronze Age has allowed for a more thorough study of the reasons behind the placement and the development of ceremonial landscapes within the context of the prehistoric landscape and environment. In order to achieve this, the study includes a close examination of several types of maps, land use including the Land Utilization Survey Maps of 1931-35, the land use maps on the HLAmap website, soil types using the James Hutton Institute Soil Survey of Scotland maps of the 1950s-1980s, and topographical maps, as well as studying past vegetation, climate, and landscapes in order to better understand the motivations behind the placement and construction of Neolithic and Bronze Age monuments. It explores the concept of ceremonial complexes, previously referred to as ceremonial landscapes, within Scotland by looking at the patterns of development and reuse of sites and locations of ceremonial and funerary monuments built during the Neolithic through the Bronze Age. In order to accomplish this, I have focused on three major ceremonial complexes within Scotland, Fife, southern Perth and Kinross which includes the

Balfarg/Balbirnie Ceremonial Complex as well as the complex at Forteviot, the Kilmartin Valley, and the Orkney Islands, as case studies.

Although a multitude of research has been done on Orkney, the focus of the vast majority of research concerning megaliths and other monuments within Britain has been on those within Southern Britain, such as Avebury and Stonehenge. The monuments within Scotland have, perhaps, not been as extensively studied or examined within the context of the cultural landscape.

This research will address several questions concerning the development of monumental landscapes within the Neolithic and Bronze Age, such as what factors were involved in the placement and creation of ceremonial monuments and complexes? Why did Neolithic people build their ceremonial sites where they did? And why did Bronze Age people continue to build burial monuments within or near Neolithic sites creating landscapes with ceremonial monuments spanning thousands of years?

These questions have to be addressed within broader outlines. What makes a site or a landscape ‘ceremonial’? How as archaeologists do we define ‘ceremonial’ or ‘ritual’ versus ‘secular’ or ‘domestic’? And as archaeologists, can we truly distinguish between what was secular and sacred in prehistory?

Along with these questions, other main aims and objectives of this project will be dealt with. These aims include the improved understanding of the use of ritual landscapes and practices within early prehistoric Scotland and through this to understand the culture of the societies living in Scotland at that time. The more specific objectives of this thesis were to examine the patterns of the formation and reuse of Neolithic ritual landscapes during the Bronze Age, searching for evidence of continuous or discontinuous use of these landscapes as ritual centres, and to examine what distinguishes the secular from the sacred within this later period.

### *Chapter Summaries*

#### Chapter 2

The methodology section will not only discuss the methods for my data collection and analysis, but also will address the various issues involved in the use of land use maps, soil maps, and topographical maps from what criteria were used in placing values on specific aspects of the maps as well as what limitations using these maps present for this project and others.

Chapter 3 will briefly examine the earlier prehistoric societies in Scotland and provide

a background to the development of the ceremonial landscapes formed during the Neolithic and Bronze Age, including relevant Mesolithic sites found in Scotland that show a basis for continuity of construction on similar types of land as Neolithic monuments including a brief overview and critical assessment of the theories of the Mesolithic/Neolithic transition. For the Neolithic and Bronze Age further examinations of the types of domestic and ritual sites found within the individual time periods will be discussed, in order to establish links between the ceremonial landscapes of the Neolithic with the those of the Bronze Age. Finally, the formation of various ceremonial landscapes during the Neolithic in Scotland and their reuse during subsequent periods will be examined.

Chapter 4 will discuss the relevant developments of ritual and landscape theory. The first section will explore the developments of ritual theory within the field of anthropology and archaeology and very briefly discuss the various and conflicting theories and definitions of what is 'ritual'. The second section will address, again briefly, the establishment of landscape theory from the classical writers to antiquarians and modern archaeologists. One of the major theoretical frameworks for landscape theory that will be examined in detail is phenomenology, which has, historically, been heavily used in the study of prehistoric British landscapes. Finally, this section will examine sacred landscapes, a subdivision of landscape theory, which is greatly influenced by and is derived from the phenomenological approaches to landscape theory, and centres on monumental landscapes, such as the Neolithic and Bronze Age ceremonial landscapes of Britain.

Chapter 5 will explore the development and re-use of Neolithic sacred landscapes within individual case studies. These will comprise the Fife and southern Perth and Kinross region, which includes the Balfarg/Balbirnie and the Forteviot complexes; the Kilmartin Valley, which will centre on the rise of the ritual landscape of the Kilmartin Valley from the Neolithic ceremonial and funerary sites, to the Bronze Age cairns; and the Orkney Islands, which will focus on the creation and continued use of ceremonial landscapes there, such as the concentration of ceremonial and funerary sites of the Brodgar Peninsula. Within each of these sections in attempting to understand the nature of these sites, the site reports will be examined, looking for patterns in the types of architectural designs and features found as well as the types of small finds recovered. By comparing these patterns with the environment portrayed upon various land use maps noted above, I have attempted to address the questions of why the Neolithic people built their ceremonial sites where they did, and why the Bronze Age people would continue to build burial monuments within or near Neolithic sites creating landscapes with ceremonial monuments spanning thousands of years.

Chapter 6 will further explore the use of the different types of maps in understanding the placement of ceremonial monuments with a discussion of the differences and/or similarities in the location of cursus monuments and henges, where these do and do not exist in close juxtaposition.

Chapter 7 will summarise the individual patterns of development and reuse of the ceremonial landscapes in the three case studies. Second, it will compare the patterns found in the three case studies for similarities and differences in the formation and reuse of the ceremonial complexes discussing how these patterns fit into the wider context of Scottish prehistory and British prehistory.

## Chapter 2: Methodology

The primary objective of this thesis was to examine the development of Neolithic ritual landscapes and the patterns of reuse of these landscapes throughout the Bronze Age within Scotland. In order to explore this topic in more depth, the study was designed using case studies, focusing on three areas with some of the more well-known ceremonial complexes within Prehistoric Scotland, Fife, Southern Perthshire and Kinross, the Kilmartin Valley, and Orkney. Within Fife, Southern Perthshire and Kinross, which is located on the eastern side of Scotland, are several ceremonial complexes including Balfarg/Balbirnie and Forteviot. The Kilmartin Valley is a large multi-period site situated on the western side of Scotland. And finally, the Orkney Islands in the north contain incredibly complicated multi-site and multi-period ceremonial complexes. These three areas were chosen as case studies for several reasons. A large number of sites dating to the Neolithic and the Bronze Age have been recorded and excavated in these areas, along with research examining the prehistoric environments for each of the areas. This provided a large enough data pool for inferences to be drawn within each area. Further, due to the large and diverse areas of each of these case studies, the patterns inferred from these locations can be extrapolated outwith to the rest of Neolithic and Bronze Age Scottish sites.

### *Data Collection and Analysis*

This study was conducted using the site reports from the various excavations of the three case study areas as well as from the Canmore website. From these site reports, information about the features and small finds discovered at the sites were collected and organized within catalogues for each of the three ceremonial complexes. The information used to create the small finds catalogues and a features catalogue (see Appendix). For Orkney, only a representation of the sites, features, and small finds were included, as the material was too vast to cover in greater detail in this thesis, so the most well-known sites as well as a selection from each island and a few of the more recently excavated sites were chosen for inclusion.

Further, land use maps, notably the Land Utilisation Survey maps of 1931-35 for Scotland as well as maps on the HLAmap website, the James Hutton Institute Soil Survey of Scotland maps of the 1950s-1980s, and present topographical maps of Scotland from the Ordnance Survey (discussed below), along with research into past landscape and vegetation reconstruction were consulted in order to understand not only why the Neolithic communities built their ceremonial sites where they did, but also why the Bronze Age communities to

construct sites on or near these Neolithic sites.

### ***Map Discussion***

They all presented several challenges which had to be addressed, including what criteria were used in placing values on specific aspects of the maps, along with what limitations using these maps present for use in studying prehistoric land use patterns. All of the maps used were created during the modern era, thus reflecting modern land use and settlement patterns. Changes within the landscape have occurred since the prehistoric period; both naturally, for example with the formation of peat bogs, and man-made, with the use of modern farming techniques, such as irrigation and fertilisation, and clearances making land once unusable for agriculture suitable for farming (Simmons 1981, 291; The James Hutton Institute 2015; Tinsley and Grigson 1981, 210-249; Tipping 1994, 15).

Despite these changes to the landscape, the use of modern land use and soil maps in understanding how past people interacted and used the landscape is still possible, within certain parameters. The modern topography, land use, and soil maps examined for this project provide some degree of usefulness as long as the limitations of the maps are understood and other information can be used to support the assumptions taken from studying the maps. For all three areas of my case studies, the Fife, Perthshire, Kinross area; the Kilmartin Valley; and the Orkney Islands, I examined the not only various modern maps, but also research pertaining to changes in vegetation, climate, and topographical changes including sea level changes.

The limitations of the modern topographical maps vary between each of the three main case study regions, depending on how much change occurred across the landscape due to both modern settlements and agriculture and changes in climate, which would have affected sea levels, the locations and pathways of rivers, and the formation of lochs. Of the three case studies, Fife and Perth and Kinross along with the Kilmartin Valley appear to have had minimal topographical changes. For Fife and Perth and Kinross, developments during the later 20<sup>th</sup> to early 21<sup>st</sup> centuries, which led to increased urban developments as well as advances in modern farming techniques, would have affected the topography of the area, such as at the Balfarg complex with the widening of a roadway leading to the relocation of the Balbirnie stone circle and the construction of a housing project around the Balfarg henge (Mercer 1981, RCAHMS 1933, xxv; Ritchie 1974). It is possible the locations of rivers and waterways shifted sometime between the prehistoric and modern eras, due to various factors including changes in climate, vegetation, as well as increased settlement and agriculture in

these areas. This raised issues with how reliable a source the Ordnance Survey Maps, along with the other maps used, are for understanding the topography of the landscape in Fife and the surrounding areas during the Neolithic and Bronze Age.

The Kilmartin Valley and surrounding areas appear to have seen the least topographic change from the Neolithic through to the modern era, which allows for a wider use of the Ordnance Survey Maps along with the other maps examined during this project. However, this does not mean the landscape remained unchanged from the prehistoric to now, as it is quite probable the sea levels were also different affecting the coastal regions of the area, as well as the possibility of variations in the water levels within Loch Awe. Unfortunately, much of these potential changes in the landscape are not known, with the only evidence of possible altered sea levels during the Neolithic and Bronze Age is at Moine Mhor, a large area of raised peatland covering roughly 1600 ha at its maximum and located about 10 km north of Lochgilphead and 3 km from Kilmartin, which appears to have had a recorded sea level fall about 5500 years ago, allowing peat to form during the later periods (Haggart and Sutherland 1992, 143; 'Moine Mhor-Nature and Culture-Seaside Origins' Scotland's Natural Nature Reserves website; Scotland's Natural Nature Reserves 2009).

The use of the Ordnance Survey Maps website for topographical information on Orkney also is very problematic, but for different reasons. Sea levels changed drastically during the Later Neolithic significantly altering the landscape with the creation of the various islands from what was likely one island, as well as the formation of Loch Harray and the expansion and salinization of Loch Stenness (Rising Tides Project website). The size and shape of the single Orkney island from the Mesolithic through the Early Neolithic is unknown although models have been produced, with the most recent from the Rising Tides Project (Rising Tides Project website). This extreme shift in sea levels, which flooded large swaths of Orkney makes using any modern map difficult in studying land use during prehistory until the sea levels rose to near present day levels during the Later Neolithic. Although the use of these maps, including the Ordnance Survey Maps, is inherently difficult for the Neolithic, using them for understanding the land use patterns during the Bronze Age is less problematic as the rise in sea levels subsided creating coastlines for the various islands which are likely comparable to those found today (Rising Tides Project website). Thus, all of the maps used are limited in usefulness during the Early Neolithic but prove of more use during the Later Neolithic and Bronze Age periods due to the changes in landscape during the Neolithic.

Like the OS Maps, the Land Utilization Survey Maps of 1931-35 and the land use

maps on the HLAmmap website have several limitations to their usefulness in helping to understand how the Neolithic and Bronze Age people viewed and used the land. The Land Utilization Survey Maps of 1931-35 does not reflect prehistoric or even historic land use, but instead depicts how the land was in use during the period the maps were created. Although this is problematic, it does not mean the information presented in the maps cannot provide some insight into how the land was utilised in during the Neolithic and the Bronze Age. Despite the changes in topography and vegetation which occurred from the Later Neolithic to the present, many of the areas designated as freely draining arable land in the Fife regions, Orkney, and Kilmartin probably also had the potential for such use in prehistory. This is reflected by the maps on the HLAmmap website, which show land use for various time periods, including prehistoric land use (HLAmmap website). The maps on HLAmmap website, which were created by the RCAHMS and Historic Scotland, record the way the land is used today, as well as, where sufficient evidence exists, land use during the historic and prehistoric periods. Many of the areas marked as good arable land on The Land Utilization Survey Maps of 1931-35 are similar indicated on the prehistoric land use map on the HLAmmap website. Using both of these maps in conjunction allows for a clearer picture what the land may have been like during the Neolithic and Bronze Age.

Both maps have their limitations for use during the Neolithic as both show locations of peat growth within each of the three case study areas, which would not have formed until the climate changed during the Bronze Age (HLAmmap website; The Land Utilization Survey Maps of 1931-35; Tinsley and Grigson 1981). Also, the prehistoric map on the HLAmmap website uses a mix of evidence from at least the Neolithic through the Iron Age as to how the land was used, which makes it difficult to determine which evidence belongs to which period and what type of land use existed on the areas which were changed or developed during later periods. This can cause further difficulties such as in areas of Fife and Perthshire where it is probable that farming in the region intensified through the Bronze and Iron Ages as climate changes and increases in population put further stress on the land, leading to the creation of more farming land (HLAmmap website). Although this can cause problems in using the HLAmmaps for the Neolithic, applying the maps to the Bronze Age is slightly easier as the deterioration of the climate occurred during the Later Neolithic and into the Bronze Age causing the formation of peat, the loss of forested areas, and the rise of heath land, all of which is documented on the prehistoric map on the HLAmmap website (Tinsley and Grigson 1981).

As each of the case studies present their own issues with the use of modern day maps

as each has different topography, vegetation, and soils, several key factors have been used to determine what these values are for each of the three case study areas. One of these factors is identifying what types of soil the various Neolithic and Bronze Age sites and features were located on; is there any particular pattern that can be observed in the placement of settlements or ceremonial monuments on the types of soils found in the areas. In order to determine this, I had to examine the James Hutton Institute Soil Survey of Scotland maps of the 1950s-1980s for each of the three case studies, each of which showed similar and different patterns. The soil survey maps have similar limitations to the other three maps previously discussed, they are based on modern data, current soil composition, which may not have any bearing on the make-up of the soil during the Neolithic or the Bronze Age. The soil types present during the Neolithic may have been quite different from those found in the modern landscape, however this does not mean the soil survey maps should not be used as long as the limitations of the soil maps is understood for each of the areas studied.

Along with examining the placement of sites in relation to soil types, it is imperative to look at the sites and areas in a more broader context, using both the soil maps and the land use maps, as well as recent research into environmental and landscape changes, while understanding the limitations the maps present.

The Kilmartin Valley and surrounding areas were undoubtedly affected the least by modern changes in soil composition as the area has not been used for much intensive agriculture over the years, instead appears to have been used more for grazing sheep and cattle. This does not mean the soils have remained unchanged from the Neolithic onwards, as with the change in climate and vegetation during the Later Neolithic and Bronze Age, which caused the reduction in woodland and peat formation in the Kilmartin region, would have altered the composition of the soil (Tinsley and Grigson 1981). According to the modern soil profiles, the soils along the valleys and lower terraces of the hills consist of various podzols, alluvium, glacial soils, and some brown forest soils (The James Hutton Institute Soil Survey of Scotland maps South West Scotland Sheet 6; The James Hutton Institute Soil Survey of Scotland maps Western Scotland Sheet 4, 1981). If the soil profiles were similar during the Neolithic, the valleys and terraces would probably have been ideal locations within the Kilmartin Region for agricultural use. These areas were also where a large portion of the Neolithic and Bronze Age ceremonial sites were located. Also, according to the soils maps, the slopes of the hills consist of brown forest soils, gley soils, and peaty soils (The James Hutton Institute Soil Survey of Scotland maps South West Scotland Sheet 6; The James Hutton Institute Soil Survey of Scotland maps Western Scotland Sheet 4, 1981). Several of the

earliest Neolithic sites, chambered cairns, as well as the Later Neolithic/Early Bronze Age rock art sites were placed along the slopes and ridges of these hills. The placement of the many of the burial and ceremonial sites on soil types that indicate potential for good farming land is a common factor across all three case study areas, however for Kilmartin as of the present no known Neolithic or Bronze Age domestic sites have been uncovered.

While a few possible Neolithic enclosures and Bronze Age domestic sites have been found in Fife and Perth and Kinross, those that have, such as Forteviot, were found on freely draining brown forest soils, alluvial soils, and loamy soils all of which would be ideal for farming (The James Hutton Institute Soil Survey of Scotland maps Kinross, Elie and Edinburgh Sheets 40 and Part 41 and 32, 1975; The James Hutton Institute Soil Survey of Scotland maps Perth and Arbroath Sheets 48 and 49, 1968). Further, many of the Neolithic ceremonial and burial sites have also been found to have been constructed on or near various types of free draining soils, including Lundin Links, the Balfarg Ceremonial Complex and the ceremonial sites at Forteviot (The James Hutton Institute Soil Survey of Scotland maps Kinross, Elie and Edinburgh Sheets 40 and Part 41 and 32, 1975; The James Hutton Institute Soil Survey of Scotland maps Perth and Arbroath Sheets 48 and 49, 1968). Although these soils are of the modern period, it is possible they are indicative of relatively fertile and easily tilled soils present during the Neolithic and Bronze Age. The different soil types identified at the Balfarg Complex further indicate the area the ceremonial complex was constructed in may have consisted of marginal farming land, which was probably used for agricultural purposes. This area would not have been as productive farming land as the land surrounding Forteviot, and instead may have been used for grazing. However, the use of soil compositions in Fife and Perthshire recorded by the James Hutton Institute in understanding prehistoric land use patterns can be incredibly problematic as this area has been used heavily for farming during the modern era. Modern farming practices, equipment, and irrigation techniques will have caused many changes to the vegetation and soil, while urban developments such as at the Balfarg/Balbirnie Ceremonial Complex have changed not only the vegetation in the area, but also the topography of the land. These developments even altered some of the sites, such as at Balbirnie, the stone circle and cists were moved and reconstructed due to the construction of a roadway for a new development (Barclay and Russell-White 1993, 46-54). Although these modern changes makes using the maps difficult, it is not impossible to utilize them for identifying how Neolithic and Bronze Age societies would have potentially used the landscape, or the possible reason why they chose to build their settlements and ceremonial/burial monuments where they did. While it is quite plausible that the land within

Fife and Perthshire was used for agricultural purposes during the Neolithic and Bronze Age, it is unclear how intensely such use was during this period.

For Orkney, the most dramatic changes to the landscape were topographical and occurred during the Neolithic with the changes in sea level. According to The Rising Tides Project, which is run by Sue Dawson, Caroline Wickham-Jones and Professor Alastair Dawson and examines the changes in sea level on Orkney after the end of the last Ice Age, and the effects these changes had on the landscape and vegetation, the sea level was much lower than in the present, possibly 45 m less, with the majority of the islands joined together forming one landmass during the Mesolithic with sea level rise taking place during the Neolithic (Bates *et al.* 2011; Dawson and Wickham-Jones 2006a, 6-8; Rising Tides Project website; Wickham-Jones *et al.* n.d.). This creates a problem for using any maps in studying prehistoric land use as the topography was vastly different during the Neolithic, as well as possibly still undergoing significant changes to both topography and vegetation during the Bronze Age. Although this does generate several complications, using the modern topographical, land use, and soil maps is still possible for understanding how the Neolithic and Bronze Age communities viewed and used the landscape, when taken in conjunction with current findings of the past landscape, vegetation, and climate from projects such as the Rising Tides Project. The land and soils, especially on Mainland, have also probably been affected by modern farming techniques, ploughs, and irrigation. However, the extent to which this would have changed the composition of the soils is uncertain. This uncertainty does not mean this information cannot be used as a means of inferring past land use patterns, however it does mean the use of soil composition maps must be used carefully in understanding how past communities would have used the landscape.

On Mainland, nearly all of the Neolithic sites were located on or near freely draining soils, which would have been ideal for agricultural use, while areas on the western half of the island mostly avoided during the Neolithic but used during the Bronze Age appear to be a mixture of freely draining soils, poorly drained soils, and blanket peat (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheet 6, 1976). This pattern of site placement appears to follow for the whole of the Orkney Islands, with Neolithic sites of either domestic or ceremonial nature located on or near freely or imperfectly draining soils which would have been good for farming, while the Bronze Age sites appear to have been built across freely and poorly drained soils, and blanket peat soils (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7, 1976). Further, the islands with the more inhospitable soil of poorly drained soils and peat soils, such as South Ronaldsay, Stronsay,

Eday, and North Ronaldsay, have far fewer Neolithic sites than the islands with soils which have freely drained soils (The James Hutton Institute Soil Survey of Scotland maps Sheets Orkney 5, 6, and 7). The Neolithic sites of both domestic and ceremonial, which are found on these islands with large areas of poor soils, are nearly always located on or near freely draining soils (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7). Despite the fact these islands were formed during the Later Neolithic with the rising sea level, the pattern of situating the majority of Neolithic sites which have been found on good freely draining soils, which would have been ideal for agriculture, appears across the whole of the Orkney Islands and can be assumed to have been deliberately placed on these soils within the landscape (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7; Rising Tides website). This is countered by the placement of Bronze Age sites across Orkney, which appear to be located on freely draining, poorly draining, and peat soils, with many of those found on freely draining soils constructed near or within Neolithic sites, while those on poorly draining or peat soils do not appear to be associated with any Neolithic site (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7).

### Chapter 3: Cultural Historical Background: Scottish Prehistory

#### *Introduction*

This chapter explores and examines the prehistoric societies in Scotland and provides a background to the development of the ceremonial landscapes forming during the Neolithic and Bronze Age. An overview is given for each time period, including a brief discussion of a few Mesolithic sites. For the Neolithic and Bronze Age further examinations of the types of domestic and ritual sites found within the individual time periods are discussed, in order to establish links between the ceremonial sites of the Neolithic and the Bronze Age. Finally, the formation of various ceremonial landscapes during the Neolithic in Scotland and their reuse during subsequent periods is examined.

#### *Mesolithic*

Mesolithic hunter-gatherer societies in Scotland date from *c.* 9000 BC to 4000 BC (Noble 2006, 7). Unlike the Later Mesolithic cultures of Europe, such as the Ertebølle in Southern Scandinavia, the Scottish Mesolithic is completely aceramic, with pottery only evident in Scotland during the Early Neolithic. The types of sites found in Scotland dating to the Mesolithic include cave and rock shelters, shell middens, and lithic scatters (Saville and Wickham-Jones 2012, 48-54). A large portion of the research for the cave and rock shelter sites and the shell middens has centred on coastal regions especially in the Oban region of Western Scotland, with excavation in the area occurring from the late 19<sup>th</sup> century through to the present, such as the recent fieldwork at the cave site of Ulva Cave (Canmore ID 22022), Mull (Bonsall 1997, 27; Bonsall *et al.* 1991, 22-23; Bonsall *et al.* 1992, 7-9; Bonsall *et al.* 1994, 12; Saville and Wickham-Jones. 2012, 48-49). Cave sites also include small sites such as Jura, Glengarrisdale (Canmore ID 38667), with limpet and winkle shells found covering the cave floor along with a Mesolithic flint core, and Mains of Waterton, which contained various flint cores, tools, flakes, and arrowheads dating to the Mesolithic (Canmore ID 20496) (Brabin 1984, 46; Sneddon and Shepherd 1985, 17).

Midden deposits have been found in the open and in cave sites, while the lithic scatters only occur in open air and are seldom stratified (Finlayson and Edwards 2003, 117). The middens belonging to the Mesolithic located in Scotland have been found to contain various faunal remains such as shells, the bones of fish, mammals, and birds (Finlayson and Edwards 2003, 116). Other artefacts such as antler and bone implements, barbed points, and chipped stone tools, have been recovered from several middens within Scotland (Finlayson

and Edwards 2003, 116). Several shell middens have been located in Oban, such as at Cnoc Sligeach (Canmore ID 37801) and at MacArthur Cave (Canmore ID 23066), with most measuring no more than 25 m across (Bonsall 1997, 31).

Sites of lithic scatters include sites such as Bolsay Farm, Islay (Canmore ID 37347) and Rink Farm (Canmore ID 54421) located on the River Tweed, in which large assemblages of lithic artefacts have been found; as well as smaller lithic scatter sites like those found at Daer Valley (Canmore ID 272020) Site 84 in South Lanarkshire (Saville and Wickham-Jones 2012, 53). Within Scotland, no burial sites or ritual sites dating to the Mesolithic have been uncovered (Finlayson and Edwards 2003, 122-23). A few human bones, mostly hand and foot bones, have been found within shell middens, such as middens on Oronosay, but there is no evidence for the ritual practices of the Mesolithic have been found (Saville and Wickham-Jones 2012, 95, 103). Of the artefacts recovered, microliths, small geometric blades, are found from mainly in lithic scatters, while scrapers as the second largest artefact type have been recorded from various site types (Finlayson and Edwards 2003, 115).

A number of Mesolithic sites have been recently discovered, which suggest Mesolithic communities constructed semi-permanent settlements as well as a possible continuity between Mesolithic and Neolithic communities. Two of these sites were discovered in Queensferry, one at Echline Fields, South Queensferry (Canmore ID 333438) and the other at Castlandhill, Rosyth, North Queensferry (Roberston *et al.* 2013, 73-136). Each of these sites consisted of several Mesolithic structures, with Neolithic and Bronze Age pits found at Echline Fields (Roberston *et al.* 2013, 73-136). The remains of at least three structures have been identified at Echline Fields, including the sunken floor of Structure 273, measuring 6.96 m by 5.92 m with a west-facing entrance which appears to have had two phases of occupation, the first dating between 8540 to 8240 cal BC, and the second with dates ranging from 7350 to 7050 cal BC; an oval ring of 11 post-holes comprising Oval Structure 519, which measures 2.95 m by 2.10 m, with two central hearths and dating to 8421-8233 cal BC and 8423-8244 cal BC; and Ring groove Structure 283, a C-shaped structure, which opened to the west, consisting of inter-cutting curvilinear ditches (Roberston *et al.* 2013, 73-136). The site at Castlandhill, which dates to later in the Mesolithic than Echline Fields, consists of two structures, Oval Structure 1280, which dates to the Later Mesolithic and measures 4.7 m by 3 m, has a north-east/south-west alignment and is made up of six post-holes grouped into three pairs; Structure 1179 is a sub-circular post-hole building, which measures 4.20 m by 3.30 m and is aligned north-east to south-west (Roberston *et al.* 2013, 73-136).

Another Mesolithic settlement was found at East Barns, East Lothian (Canmore ID 212799) (Gooder 2007, 49-59). An oval building, which measures 6.8 m by 6.2 m, with a sunken floor and central hearth was discovered dating to *c.* 8000 cal BC. The hut was constructed using timber posts, and would have been able to accommodate a family of up to seven individuals, and was potentially occupied year round (Gooder 2007, 49-59).

A pit alignment has been discovered at Warren Field, Crathes, Aberdeenshire, (Canmore ID 36670) (Figure 1) consisting of 12 pits running for *c.* 50 m, with dates ranging from 7970-7610 cal BC (SUERC-10077) for Pit 18 and 7940-7950 cal BC (SUERC-10076) for Pit 22 (Murray and Murray 2009, 5). It is possible this alignment was used as a ceremonial centre as two of the pits, 18 and 19, had deposits of charcoal placed deliberately in them (Murray and Fraser 2009, 20-22).

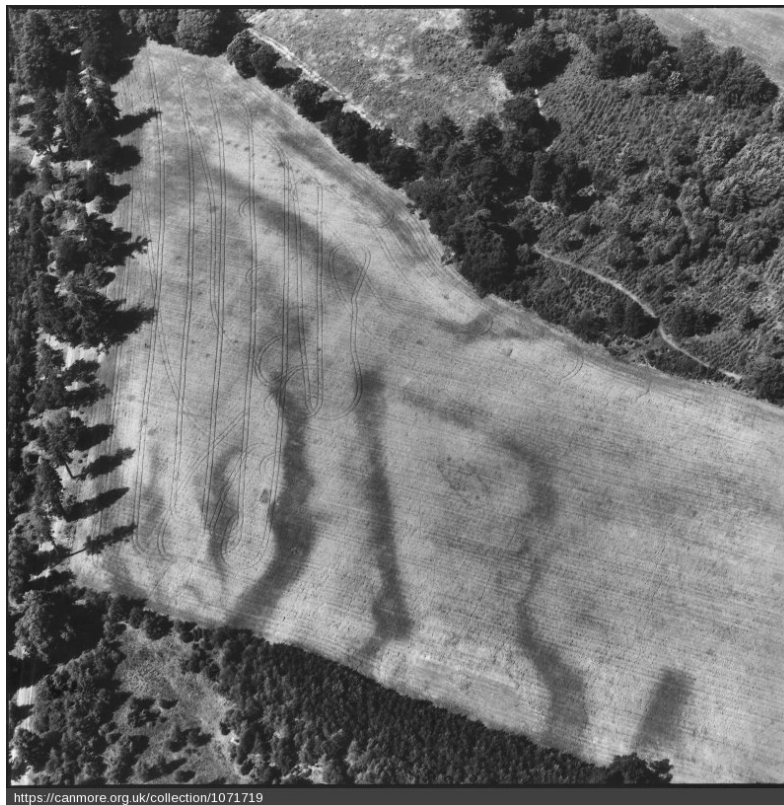


Figure 1: Aerial Photo of the Mesolithic Pit Alignment (top left) and the Neolithic Timber Structure (centre) (Canmore)

Mesolithic communities probably engaged in seasonal movement between and from various camp-sites within a defined territory, along with having sites for specific activities, including fishing camps, lithic manufacturing sites, and hunting sites (Finlayson and Edwards 2003, 120). An example of seasonal occupation are the middens on the islands of Oronsay and Colonsay on the coast of Western Scotland, where the faunal remains suggest seasonal occupation and settlement movement between the two islands (Saville and Wickham-Jones

2012, 94-95). The coastal site of Fiskary Bay (Canmore ID 299865) on the island of Coll provides an example of a specialised Mesolithic camp site used for fishing, with only the remains of fish bones, charcoal, charred hazelnut shells, and chipped stone recovered from the site (Saville and Wickham-Jones 2012, 96). Although the Mesolithic people usually exploited locally available resources, there is evidence for some movement of raw materials within the period (Saville and Wickham-Jones 2012, 46). However, this does not inherently indicate trade but may show the transportation of raw materials from one site to another, such as the Arran pitchstone obtained from a site at Bolsay on Islay (Saville and Wickham-Jones 2012, 101-102). Mesolithic subsistence consisted of hunting local fauna, such as red deer, wild boar, and marine birds; gathering wild flora; fishing; and collecting shellfish, such as periwinkles and limpets (Saville and Wickham-Jones 2012, 94-95).

### ***Mesolithic/Neolithic Transition***

According to recently revised dates from the Late Mesolithic and Early Neolithic, the transition time between the end of the Mesolithic and the start of the Neolithic was very short (Thomas 2007, 426). Various models have been developed concerning the spread of the Neolithic into Scotland ranging from a cultural diffusionist model to several demic diffusionist models focused on the migration of Neolithic groups, discussions of which can be found by Julian Thomas, Alison Sheridan, Clive Bonsall, and Alasdair Whittle (Bonsall *et al.* 2002; Brophy and Sheridan 2012, 18; Sheridan 2007; Sheridan 2010; Thomas 2003; Thomas 2004; Thomas 2007; Whittle 2007). One of the current areas of research into this transition focuses on Western Scotland and suggests a gradual adoption of the Neolithic culture by the indigenous Mesolithic communities, with a few groups on Oronsay and possibly other small islands continuing to utilise Mesolithic tools and coastal resources (Mithen *et al.* 2007, 536).

The Mesolithic/Neolithic transition was probably very complex, involving the movement of people, goods, and ideas, and likely had a profound effect on the way the Mesolithic people within Britain established cultural identities. The nature of the transition, whether by migration or acculturation, may vary between the different regions on Britain depending on various environmental and cultural factors. Further, the construction of semi-permanent circular domestic structures, such as those found at East Barns, East Lothian, Howick, Northumberland, and those found at North and South Queensferry during the later Mesolithic, may indicate a possible ancestry between these later Mesolithic communities and the Early Neolithic people who continued this building tradition in many of their ceremonial structures.

## *Neolithic*

### *General*

The Scottish Neolithic dates from *c.* 4300 BC to 2500 BC, and can be further subdivided into various phases, such as the Mesolithic/Neolithic transition dating about 4300 BC to 3800 cal BC, the Early to Middle Neolithic from about 3800 BC to 3000 cal BC, the Later Neolithic from 3000 BC to 2500 cal BC, with a Neolithic/Bronze Age transition period from 2500 BC to 2200 cal BC (Brophy and Sheridan 2012, 16). A simpler division of the Neolithic within Scotland divides the period into two time phases, each with their own material cultural and monumental constructions, the Early Neolithic, dating from 4000 BC to 3300 BC, and the Later Neolithic, 3300 BC to 2500 BC (Noble 2006, 14-15). The Neolithic saw the introduction of farming and the end to the mobile life styles of the Mesolithic hunter-gatherers. The gradual shift from a hunter-gatherer subsistence pattern into an agricultural way of life resulted in changes to the material culture, such as the introduction of pottery, and to the types of structures built, with greater numbers of permanent domestic buildings being constructed from those built during the Mesolithic, as well as the construction of megalithic monuments. The natural resources differ within the various geographical regions within Scotland, which affects the construction of domestic and ritual structures. In the south/lowland region of Scotland where timber was in abundance but stone was scarce, both domestic and ritual structures were built from timber (Noble 2006, 58). In western Scotland and the Highlands, where both stone and timber is plentiful ritual monuments were first built from timber and later reconstructed with stone (Noble 2006, 18; RCAHMS 2008). While in Orkney where timber is scarce, settlements and ritual monuments are made from stone (RCAHMS 1946).

The Neolithic farmers cultivated various cereals, such as a variety of wheat, oats, and barley; along with raising several domesticated species including sheep, cattle, goats, and pigs (Brophy and Sheridan 2012, 22-23). Lipids related to dairy product residues, which probably come from cattle, have been identified on pottery, such as carinated bowl sherds, from various sites including the timber hall at Warren Field and the Crathes Castle Overflow Car Park site (Canmore ID 339709) showing that dairying occurred from the early periods of the Neolithic (Brophy and Sheridan 2012, 23; Šoberl and Evershed 2009, 93-97). They probably supplemented their diet by hunting wild fauna, such as red deer, marine mammals, birds, fish, and shellfish (Brophy and Sheridan 2012, 81-84).

There are questions over how widespread consumption of domesticates was within Early Neolithic communities across Britain. According to isotopic analysis, the Neolithic

diet consisted of terrestrial plants and animals while avoiding marine resources (Schulting and Richards 2002, 155-159). It is assumed by several archaeologists that this switch coincided with the introduction of domesticated plants and animals into Britain, which quickly became the main source of food (Schulting and Richards 2002, 177; Sheridan 2010, 90). However, as Julian Thomas has pointed out, stable isotopic analysis cannot distinguish between domesticated and terrestrial wild food sources (2004, 119). Thomas argues for the continued consumption of wild resources as a part of the diet during the Neolithic, while cattle meat and cereals were eaten during ritual or ceremonial activities (2003, 72; 2004, 119-121).

The artefactual finds include several types of pottery and lithic objects. Early Neolithic pottery includes Late Castellar style pottery found on the Atlantic coastal areas of Scotland, such as at Achnacreebeag, and carinated bowl pottery from the south-east, south-west, and the north of Scotland (Brophy and Sheridan 2012, 21-22; Sheridan 2010, 92). Grooved Ware pottery, which dates to the Later Neolithic, was developed in Orkney spreading south into Scotland and the rest of Britain and across to Ireland (Brophy and Sheridan 2012, 30). This pottery type has been principally recovered from ritual contexts, such as the Maes Howe chambered tomb, and is further linked to ritual contexts by the rock art decoration found on several chambered tombs, such as at Maes Howe, Cuween Hill, Wideford Hill, Quoyness, and Holm of Papa Westray South, which emulates the decoration found on Grooved Ware pottery (Bradley *et al.* 2000, 45-67; Brophy and Sheridan 2012, 30). Lithic artefacts include various types of implements probably used for everyday domestic life, along with other stone implements and objects which appear to have a symbolic meaning for the Neolithic people. The earliest stone axes that date to the Early Neolithic were possibly brought into Scotland by immigrant farmers from the continent, were made from Alpine rock located on the continent (Sheridan 2010, 97). Stone objects, such as stone maceheads and stone balls dating to the Later Neolithic, were found in ritual contexts, for instance at the Ness of Brodgar, and were probably used during ceremonies as symbols of power (Brophy and Sheridan 2012, 30). More every day lithic tools include hammerstones, spearheads, scapers, flint and chert knives, pounders, querns, and various other ground stone tools and flint implements, have also been recovered.

There is evidence for the movement of objects and the transmission of ideas during the Neolithic with the spread of pottery such as the carinated bowl pottery and Grooved Ware pottery across areas of Scotland and Britain. Although locally available resources were used by the Neolithic communities, indications of trade between parts of Scotland and Northern

England have been recovered, for instance a necklace of amber and Whitby jet ‘monster beads’ and a flint axehead from Yorkshire were recovered from Greenbrae (Canmore ID 20871) near Peterhead (Brophy and Sheridan 2012, 51). The movement and exchange of goods may have been used as a means of maintaining contact with various kin groups and alliances, and may also have been seen as a means of demonstrating an individual’s or group’s status/power by having access to prestige goods, such as stone axes, many of which were found within the area of ceremonial monuments (Bradley and Edmonds 1993, 12; Noble 2006, 215-17). This deposition of such prestige goods at such monuments like the Ring of Brodgar would have probably occurred during a communal gathering and would have been used as an outward display of status by the individual or kin group who left these goods (Noble 2006, 215).

Along with the rise and spread of domestication during the Neolithic, the world views of those living in Neolithic Scotland changed throughout the period. Not only were physical objects, such as pottery and lithics exchanged during the spread of the Neolithic, but also ideological views. These views can be shown with the development of ritual and mortuary monuments, such as burial mounds, cairns, chambered cairns, henges, and stone circles. The societal and ideological views do not remain static throughout the period. During the Early Neolithic, communal ideals take precedent with large communal domestic buildings and mortuary practices which include laying out the dead in rectangular mortuary structures, possibly as a means of excarnation, and the use of cremation pyres with the remains of both types sealed by round or long burial mounds (Brophy and Sheridan 2012, 45-47). Possible totemism is seen in the Later Neolithic, with examples from the chambered tomb at Cuween in Orkney, where two dozen dog skulls were found during an excavation; and from the chambered tomb at Isbister in Orkney, also known as the Tomb of the Eagles, where a large quantity of eagle remains have been recovered from the interior of the tomb (Charleson 1902, 733-38; Hedges 1984). However, these large deposits of animal remains may reflect a secondary use as the revised dates for a long bone of a white-tailed sea eagle found on the floor of the chambered tomb at Isbister dates range from 2273-2141 cal BC to 2459-2337 cal BC (UB-6553) which is at most 1000 years younger than the estimated construction of the tomb (Sheridan 2005, 182). Samples of the dog remains found at Cuween, also appear to date later than the original construction of the chambered cairn, with dates of *c.* 2600-2450 cal BC (SUERC-4849, SUERC-4847, and SUERC-4848) (Sheridan 2005, 182). Astronomical alignments became important as well during the Later Neolithic, especially the solstices, for instance the winter solstice alignment at Maes Howe (Challands *et al.* 2005b,

246).

### *Settlements*

The possible Early Neolithic settlements differ from later settlements. These settlements tend to be large timber halls, probably used as communal housing for the Early Neolithic communities, either settlers who migrated into Scotland or indigenous groups (Sheridan 2010). The later settlements are smaller and may have been formed from the break-up of the earlier Neolithic groups (Brophy and Sheridan 2012, 23). Evidence for Neolithic domestic settlements has been found within lowland Scotland and within the Orkney Islands (RCAHMS 1946; Noble 2006, 58). The domestic structures found in lowland Scotland were constructed out of timber, while those found within Orkney were built using stones (RCAHMS 1946; Noble 2006, 58). The timber structures were often found along with pits and artefacts to form the remains of the Neolithic settlements of lowland Scotland (Noble 2006, 58-59). The remains of possible domestic timber structures have been found at a few sites, including Beckton Farm (Canmore ID 72681), Lockerbie, where a number of structures have been excavated dating to the Neolithic (Pollard 1997, 69-121).

The remains of an Earlier Neolithic domestic structure were found at the site of Biggar Common (Canmore ID 48700) during an excavation from 1987-1993 which consists of twelve stake and post holes forming one corner of part of the northern side of a rectangular structure (Johnston 1997, 191). A Neolithic timber structure located at Balbridie (Canmore ID 36669) was excavated in 1977-81 (Figure 2) (Fairweather and Ralston 1993, 313). The timber building, which measured 22 m by 12 m, is oriented on an east/west axis, and contains several internal features of pits, which run north to south and appear to have internally divided the structure into sections (Fairweather and Ralston 1993, 313-16, figure 1; Barclay *et al.* 2002, 106).

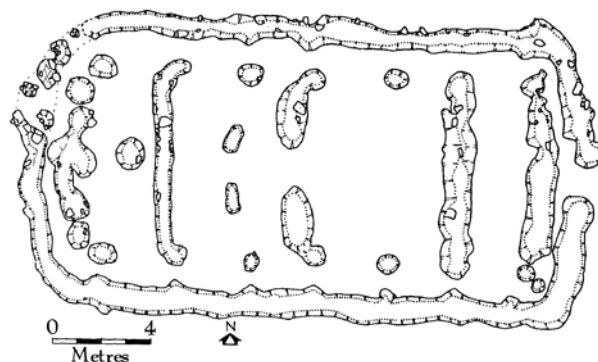


Figure 2: Neolithic Timber Structure at Balbridie Site Plan – Drawing by P. Glennie (Fairweather and Ralston 1993, 317)

Several recently discovered Neolithic domestic sites have been excavated including at Claish near Callander (Canmore ID 70272) Stirling; settlement at Chapel Field, Cowie, Stirling (Canmore ID 46883); and at Lamb's Nursery (Canmore ID 75750) in Dalkeith Midlothian; while possible domestic sites have been found at various locations across Scotland such as at Kinbeachie, Black Isle, Highland (Canmore ID 132693) and at Milton of Leys, Inverness (Canmore ID 184929) (Atkinson 2002, 139-192; Barclay *et al.* 2001, 57-85; Barclay *et al.* 2002, 65-137; Conolly and MacSween 2003, 35-45; Cook 2000, 93-113). At Claish, post holes, measuring roughly 24 m by 8.5 m and oriented along a north/south axis, were uncovered along with several features, belonging to an early Neolithic timber structure (Figure 3) (Barclay *et al.* 2002, 65-106). The post holes were found both inside and outside the timber structure (Barclay *et al.* 2002, 65-106). Two pits, which were excavated in the interior of the structure, contained pottery sherds along with burnt deposits of bone fragments and flora remains of hazel nutshells, barley, emmer wheat, bread wheat grains, and charcoal fragments (Barclay *et al.* 2002, 77-78). Samples of organic material were dated from the pits containing burnt material; three samples were taken from pit F15 with dates of 3770-3630 cal BC (AA-49639), 3790-3640 cal BC (AA-49640), and 3790-3620/3580-3530 cal BC (AA-49641); and two samples from pit F19 dating to 3710-3620/3600-3520 cal BC (AA-49642) and 3940-3870/3810-3640 cal BC (AA-43643) (Barclay *et al.* 2002, 77-78).

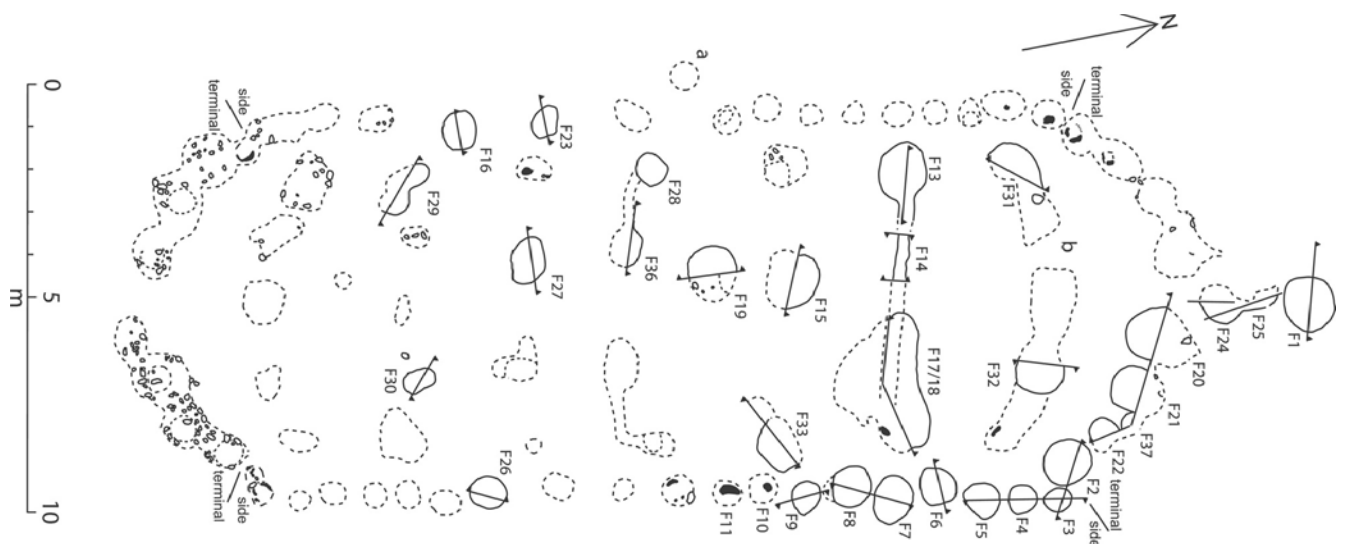


Figure 3: Timber Structure at Claish near Callander Plan (Barclay *et al.* 2001, 68)

Later Neolithic settlements appear to be oval or circular in shape, although not always smaller in size than earlier settlements, such as at Cowie where the earlier huts were smaller and more ephemeral than the later structures, B and H, which are the largest houses on the site (Atkinson 2002, 139-92). Another type of Later Neolithic housing is timber

roundhouses, which have a central four-post setting within a larger circular outer post setting (Brophy 2016a, 217-18). One site which includes two of these is Beckton Farm (Pollard 1997, 69-121).

For Orkney, Early and Later Neolithic settlements were stone built structures. Knap of Howar on Papa Westray, an Early Neolithic settlement, consisted of two oval stone structures (Fraser 1983, 144-46). House 1 was the larger structure, which was connected to House 2 by a small passage through an interior wall, with each house partitioned into two segments by a stone wall (Ritchie 1983, 42-44). The Later Neolithic settlements, such as Skara Brae and Rinyo, are more complicated in structure, with several houses and buildings used during a single occupation, which are connected by an exterior passageway that runs through the settlements (Fraser 1983, 140-44). The interior of these houses are partitioned off for various uses, included sleeping areas, and contain stone furniture (Fraser 1983, 140-44).

### *Ritual Structures*

An east-west division within the monumental architecture of the Early Neolithic has been identified, with the monuments in the eastern areas of Scotland constructed mainly of timber and earth including cursus monuments and long and round barrows, while those found within western areas were chambered cairns built from stone (Noble 2006, 15-17). However, earlier phases of some of the monuments in the north and west were probably constructed of wood, such as at Slewcairn (Canmore ID 65491) and Lochhill (Canmore ID 65428) situated in Galloway and west Dumfriesshire (Henshall 1972, 159). The excavation of the Lochhill long cairn, located 9 km south of Dumfries on the northern side of a low hill, found a mortuary structure and timber façade beneath the later cairn (Masters 1973a, 97). The structure, which had a border of granite boulders, comprised a rectangular area measuring 7.5 m in length and an average width of 1.4 m (Masters 1973a, 97). Within the mortuary structure were three pits, each with a depth of about 0.75 m, aligned on the main axis of the structure (Masters 1973a, 97). The outer pits, A and C, each contained a D-shaped post, measuring 0.9 m in diameter, while the middle pit B held two posts with diameters of 0.3 m for the northern post and 0.25 m for the southern post (Masters 1973a, 97). Perpendicular to the mortuary structure along the north-eastern end was concave façade consisting of a series of pits and a trench containing sixteen vertical posts (Masters 1973a, 97). The unchambered long cairn of Slewcairn, which is situated on the south-western slopes of Meikle Hard Hill 1.25 km north-northeast of Boreland of Southwick Farm, appears to follow a similar

construction sequence as the long cairn of Lochhill (Masters 1973b, 31; Masters 1981, 167). Underneath the northern section of the cairn, a rectangular mortuary structure similar to Lochhill was uncovered, measuring 8 m long and 1.25 m wide (Masters 1974, 43). The mortuary structure was found to be oriented north/south along the main axis of the cairn with three oval pits uncovered within the centre of the structure (Masters 1974, 43; Masters 1976, 39). The two outer pits would have held split posts as indicated by the D-shaped post-holes within the fill of the pits (Masters 1977, 20; Masters 1978, 5; Masters 1981, 168). While the fill of the central pit remains unclear, the pit may have contained two posts as the central post within the mortuary structure of Lochhill, with a similar occurrence at Slewcairn (Masters 1981, 168). Unlike at Lochhill, no evidence for a timber façade has been recovered so far at Slewcairn (Masters 1981, 168).

| <i>Types of Chambered Cairns of Scotland</i> |  |
|--|--|
| <b>Balnagowan Cairns</b>                     | Long Cairns without stone built chambers<br>Some are Tear-Drop in shape<br>Some have Horns on one side creating forecourts   |
| <b>Orkney-Cromarty Chambered Cairns</b>      | Passage Graves leading into the burial chamber<br>Three different variations of the central chamber:<br>Rectangular chamber, Polygonal chamber, and<br>Camster-type chamber  |
| <b>Maes Howe Chambered Cairns</b>            | Passage Graves leading into the central chamber<br>Burial chambers branching off from the central chamber<br>Two different types:<br>Group 1: Three to four chambers branch off from the central chamber<br>Group 2: At least six chambers arranged symmetrically off of the central chamber |
| <b>Zetland Cairns</b>                        | Five types of cairns:<br>'Heel-Shaped' Cairns with either a curved or flat façade<br>Square Cairns with edging by walling or kerbs of large stones<br>Round Cairns<br>Round Passage Graves with slabs set on their ends or edges with round or polygonal central chambers<br>A Long Cairn    |

|                          |   |
|--------------------------|---|
| <b>Bargrennan Cairns</b> | Round Cairns covering rectangular or wedge-shaped chambers<br>Long entrance passageways   |
| <b>Clyde Cairns</b>      | Chambered Cairns made of mounds of stone<br>Various shapes including rectangles or trapezoids<br>Central stone chamber divided into separate chambers by slabs of stone<br>Crescentic forecourts recorded at some of the cairns |
| <b>Hebridean Cairns</b>  | Round Cairns with a peristalith (a group of stones encircling the mound)<br>A recessed forecourt in the shape of a funnel<br>Large round or oval chamber  |
| <b>Long Cairn</b>        | Long Cairns without a central chamber<br>Most Cairns made from stone<br>Two different types:<br>Trapezoidal Cairns<br>Elongated Cairns  |

Table 1: Types of Chambered Cairns of Scotland

Several types of chambered cairns have been identified (as seen in Table 1); the Balnagown cairns, the Orkney-Cromarty chambered cairns, the Maes Howe chambered cairns, the Zetland cairns, the Bargrennan cairns, the Clyde cairns, the Hebridean cairns, and the Long cairns (Henshall 1963; 1972). The Balnagowan group consist of eleven long cairns and barrows along the east of Scotland, which include a cluster of ten sites found in Kincardineshire, Aberdeenshire, and Banffshire, and a possible outlier located in Invernessshire (Henshall 1963, 40). Six of the long cairns are situated along the coast, all of which are located on or near agricultural land (Henshall 1963, 40-41). Despite the differences in size, plan, and cairn materials of the sites, the eleven monuments are believed to belong to a specific group of cairns that does not contain central stone-built chambers, although this has yet to be verified through excavation (Henshall 1963, 41). The material used to build the sites varies with three of the sites constructed of stone forming bare cairns, two barrows made from earth and covered by turf, while the remaining sites were built from a mixture of earth and stones (Henshall 1963, 41). Of the eleven sites, four of the monuments constructed in the shape of an extended teardrop, in which the ends of the cairns were rounded and the sides were straight and tapering from the widest point located near the east or north end (Henshall 1963, 41). At three of the remaining sites, horns projecting out from the ends of one side of

the monuments creating forecourts were found similar to those found in the Orkney-Cromarty cairns (Henshall 1963, 41). Cists have been discovered at four sites, with at least one found at Longcairn (Canmore ID 19309), two uncovered at Hill of Foulzie (Canmore ID 19244), and an unknown amount from the sites at Cairn Catto (Canmore ID 21054) and Knapperty Hillock (Canmore ID 20758) (Figure 4) (Henshall 1963, 42).

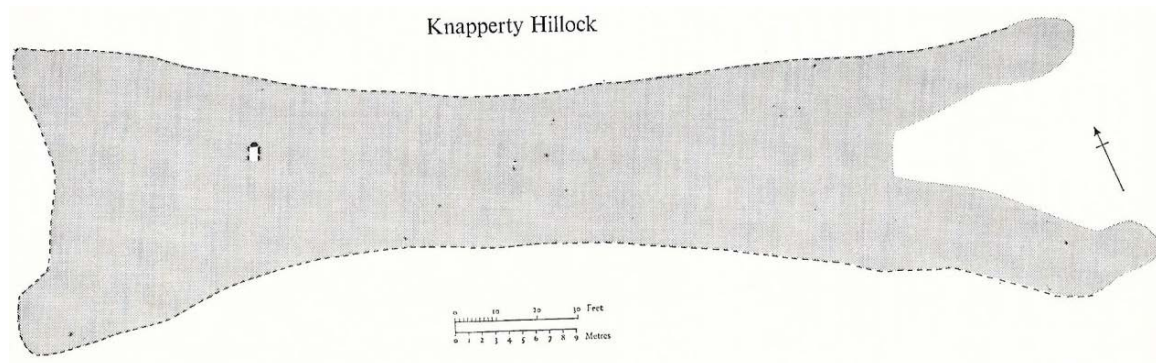


Figure 4: Plan of the Balnagowan Group Long Cairn Knapperty Hillock (Henshall 1963, 397)

The Orkney-Cromarty chambered cairns, which are passage graves with narrow passageways leading into the burial chamber, have been found in the north of Scotland in Inverness-shire, Ross-shire, Sutherland, Caithness, and Orkney (Henshall 1972, 49-57, map 8). The chambers of the cairns were found to be constructed from a combination of dry-stone walling and upright stone slabs, with portal stones marking the entrance and the chamber divided into compartments by pairs of stones protruding out from the side walls (Henshall 1963, 61). Three different plans for the chambers have been identified, rectangular chambers, polygonal chambers, and Camster-type chambers, which include the stalled and Bookan-type chambers found on Orkney (Henshall 1963, 61). Only nine sites are known to have rectangular chambers and are located in Inverness-shire and south Sutherland, including the site of Belmanduthy, Ross-shire (Figure 5) (Henshall 1963, 62, 338). The rectangular chambers measure between 5.18 m to 2.74 m in length and 2.43 m to 1.21 m in width (Henshall 1963, 62). The cairns with polygonal chambers, which usually consist of an ante-chamber and a chamber, can be further divided into three groups; those with both a chamber and an ante-chamber that are circular or polygonal; a circular or polygonal chamber and a rectangular ante-chamber; and an oval or polygonal chamber and no ante-chamber (Henshall 1963, 64; Fraser, 1983, 195). Polygonal chambered cairns include Belladrum South (Canmore ID 12750), Inverness and Leachkin (Canmore ID 13555), Inverness (Figure 6) (Henshall 1963, 366-82). The cairns with Camster-type chambers, such as Camster Long (Canmore ID 8686), Caithness and Dorrery (Figure 7) (Canmore ID 7637), Caithness are

mostly tripartite chambered cairns and range in dimensions from 4.34 m to 3.51 m in length and 2.39 m to 1.63 m in width (Henshall 1963, 69-70, 263-70; Fraser, 1983, 195).

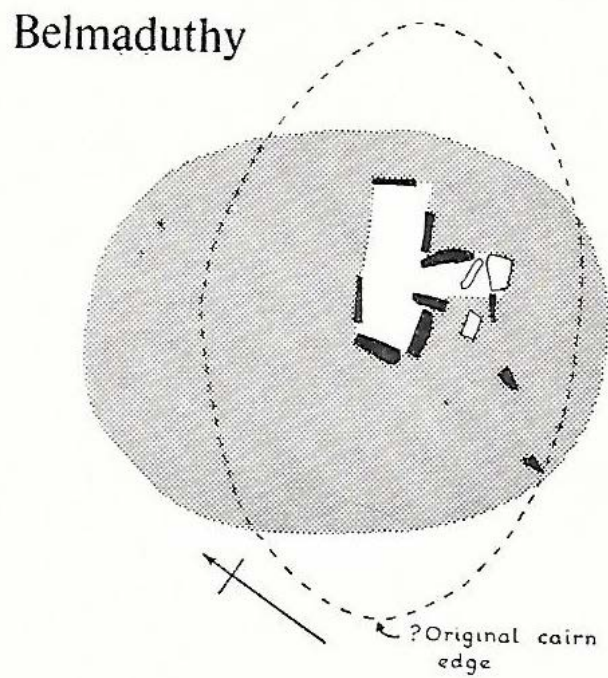


Figure 5: Orkney-Cromarty Rectangular Chambered Cairn Belmaduthy Site Plan (Henshall 1963, 339)

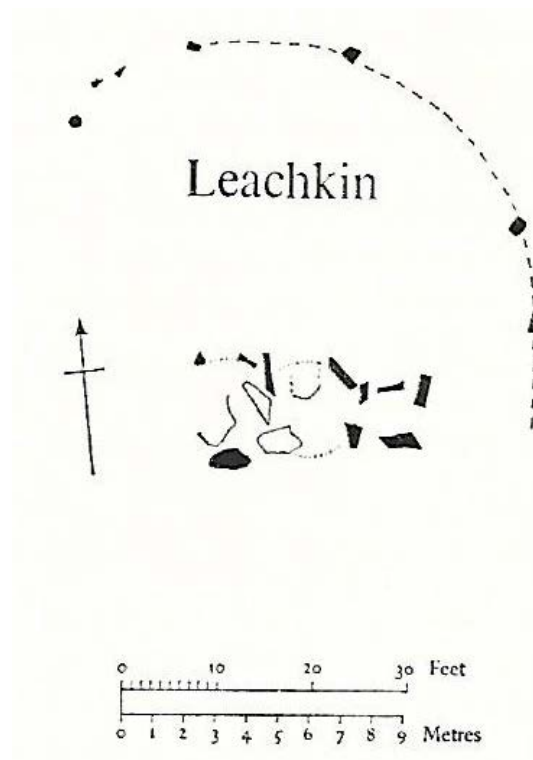


Figure 6: Orkney-Cromarty Polygonal Chambered Cairn Leachkin Site Plan (Henshall 1963, 381)

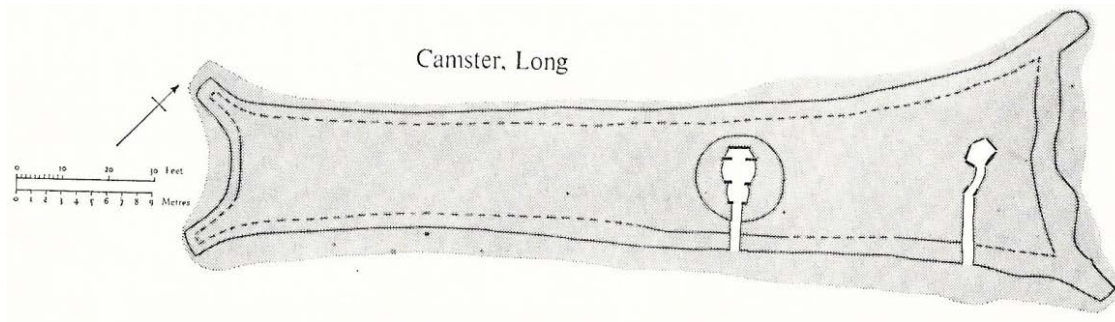


Figure 7: Orkney-Cromarty Camster-type Chambered Cairn Camster, Long Site Plan  
(Henshall 1963, 265)

The second type of cairns located on Orkney are the Maes Howe cairns, of which six have been found on Mainland, including Maes Howe (Canmore ID 2094), the Ring of Bookan (Canmore ID 1754), and Wideford Hill (Canmore ID 2483) (Figure 8); two on Eday; one on Sanday; and one on the Holm of Papa Westray (Henshall 1963, 122). These can be divided into two groups based on the number and configuration of the chambers (Henshall 1963, 123-124). In Group 1 cairns, the rectangular chambers contain between three to four cells, which are rectangular in shape and branch off from the central chamber (Henshall 1963, 124). The Group 2 cairns have at least six cells symmetrically arranged off the central chamber, such as at Quanterness (Figure 9) (Henshall 1963, 124). The entrance passages for all of the cairns are placed at right-angles to the main axis, while the length of the entranceway is related to the size of the mound (Henshall 1963, 124). Additional features were found at some of the cairns, including a ditch and platform at Maes Howe and a platform at Quoyness (Canmore ID 3395) (Henshall 1963, 126).

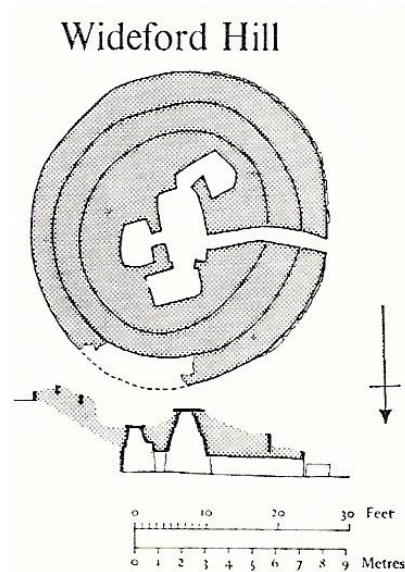


Figure 8: Maes Howe Type Chambered Cairn Group 1 Wideford Hill Site Plan (Henshall 1963, 245)

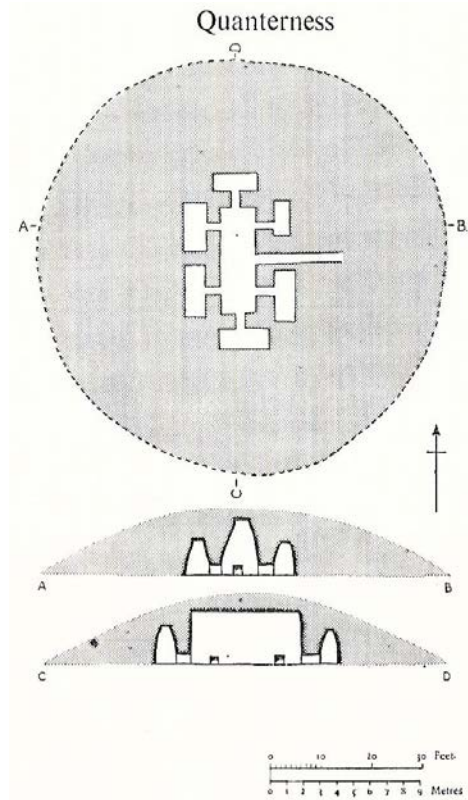


Figure 9: Maes Howe Type Chambered Cairn Group 2 Quanterness Site Plan and Section  
(Henshall 1963, 229)

The cairns located on Shetland can be divided into three groups, the Zetland cairns, the round passage-graves, and a single long cairn (Henshall 1963, 139-145). The Zetland group can be further sub-divided into three categories, including the ‘heel-shaped’ cairns, round cairns, and square cairns (Henshall 1963, 141-144). The ‘heel-shaped’ cairns, which make-up the largest group of cairns, with twenty-two identified sites as well as five possible sites, can be separated into two types based on their width and length, the narrow group and the wide group (Henshall 1963, 141-142). These cairns include a façade consisting of tall upright stones marking the end points with either a gentle curve running between the ends or a flat façade with the tips turned out or the end point uprights placed forwards (Henshall 1963, 141-142). At some of the cairns, the entrances were located behind the façades, such as at Vementry (Canmore ID 458) (Figure 10) and Hansie’s Crooie (Canmore ID 332602), while others have entrances which run through the centre of the façades, including Craw Knowe (Canmore ID 285) and Islesburgh (Canmore ID 785) (Henshall 1963, 143-165). Three sites have been recorded as round cairns, Ronas Hill (Canmore ID 863), Vivilie Loch (Canmore ID 274) (Figure 11), and Swart-houll (Canmore ID 716); although this identification is uncertain until further excavations are carried out as round cairns appear to be significant parts within some of the ‘heel-shaped’ cairns such as Vementry (Henshall

1963, 141). Six of the Zetland sites have so far been classified as square cairns, which are edged by walling or kerbs made from large stones, including Grista (Canmore ID 1113), Holm of Melby, South (Canmore ID 206), and March Cairn (Canmore ID 496) (Figure 12) (Henshall 1963, 144, 161-68).

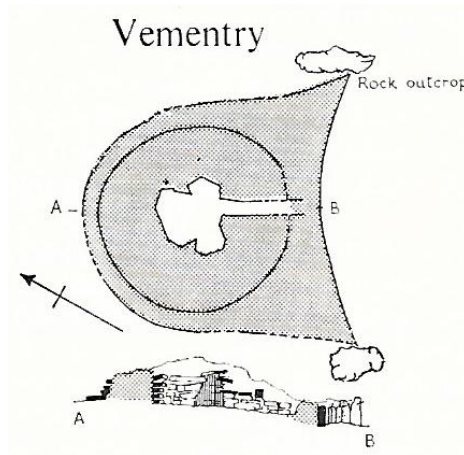


Figure 10: Zetland 'Heel-Shaped' Cairn at Vementry Site Plan (Henshall 1963, 177)

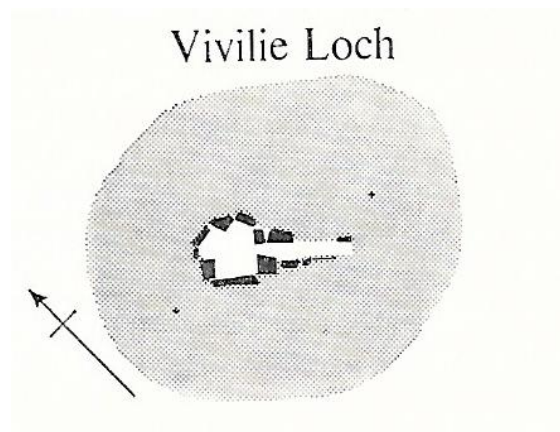


Figure 11: Zetland Round Cairn at Vivilie Loch Site Plan (Henshall 1963, 179)

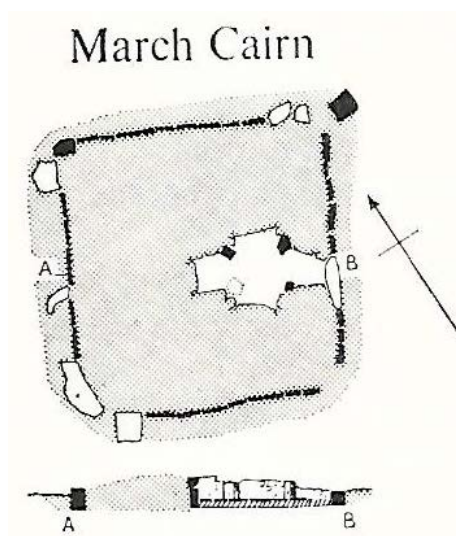


Figure 12: Zetland Square Cairn at March Cairn Site Plan (Henshall 1963, 169)

The second category of cairns located on Shetland is the round passage-graves (Henshall 1963, 145). The passage graves, which are made from slabs set either on their ends or edges, comprise round cairns and round or polygonal central chambers (Henshall 1963, 145). Due to the ruinous nature of the cairns, only two sites can be placed into this grouping with any certainty, Hill of Caldback (Canmore ID 101) and Uyea (Canmore ID 889), though several other possible sites have also been included into this group (Henshall 1963, 145). The final category of cairns in Shetland is the long cairn located at Cattapund Knowe (Canmore ID 449), which is the only recorded long cairn found within Shetland (Henshall 1963, 145). The remains of the long cairn measured 42.67 m in length with a maximum width of 14.32 m and was constructed of irregular stone slabs with no noticeable 'structural arrangement', such as Cattapund Knowe (Figure 13) (Henshall 1963, 145-56).

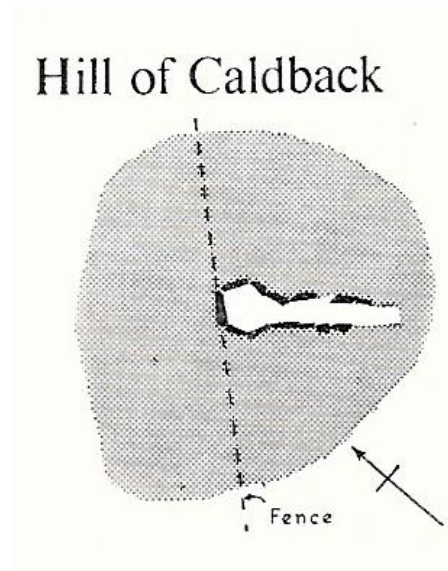


Figure 13: Shetland Round Passage Grave at Hill of Caldback Site Plan (Henshall 1963, 163)

The Bargrennan group of twelve possible cairns are located in the counties of Ayrshire, Wigtownshire, and Kirkcudbrightshire in the southwest of Scotland (Henshall 1972, 2-3). The main cluster of cairns, consisting of eight sites, is situated within a 22.53 by 6.43 kilometer area within the north of Wigtownshire, the northwest of Kirkcudbrightshire, and the south of Ayrshire (Henshall 1972, 3). The tombs comprise round cairns covering small rectangular or wedge-shaped chambers, which have long entrance passageways (Henshall 1972, 6). Nine of the sites have been positively identified as belonging to this group, with three probable sites also belonging to the Bargrennan cairns, Balmalloch (Canmore ID 62520), Cave Cairn (Canmore ID 61776) (Figure 14), and Cairn Kenny (Canmore ID 61771) (Henshall 1972, 6-7).

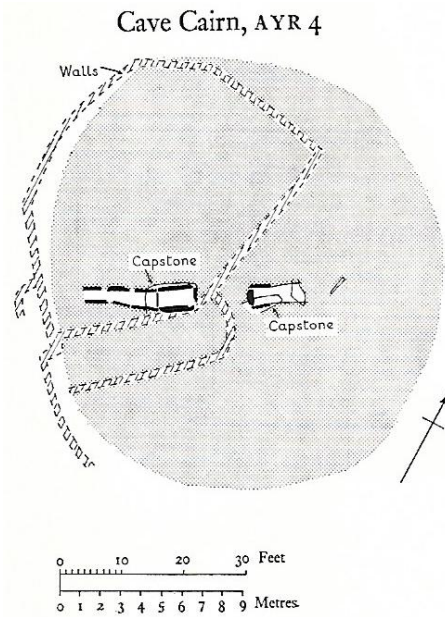


Figure 14: Bargrennan Type Chambered Cairn Cave Cairn Site Plan (Henshall 1972, 603)

The Clyde cairns are located along the southern area of the western coast of Scotland, from the Solway Firth in the south to Loch Etive in the north (Henshall 1972, 19). At least ninety-five Clyde cairns have been identified so far, with many located around the Clyde, with concentrations on Arran and in Kintyre, several found in Dumfries and Galloway, and a few in the Western Isles and Perthshire (Henshall 1972, 19-32). The Clyde cairns are chambered cairns consisting of mounds of stone in various shapes, including rectangles or trapezoids, which cover a stone made chamber, with the inner chambers which were subdivided by stone slabs, used for burials (Henshall 1972, 32; RCAHMS 2008, 5). The trapezoidal cairns and elongated cairns, of which at least forty-five have been identified, range in length from 12.19 m to 57.91 m and vary in width from 9.14 m to about 21.94 m (Henshall 1972, 35). Crescentic forecourts were found at some of the seventeen known trapezoidal cairns with horns projecting from some of the cairns (Henshall 1972, 36). The round and oval cairns, which includes the site of Nether Largie South (Canmore ID 39460), consist of circular cairns, measuring between 3.35 m to about 23.77 m in diameter, covering small chambers (Henshall 1972, 36). Over half of the cairns contain façades or forecourts, which can be divided into three types, deep crescentic façades revetting into semi-circular forecourt; shallow crescentic façades revetting to shallow forecourts; and façades that are flat or extend for about a foot at the ends (Henshall 1972, 38). At least seventy chambers have been found within the cairns, which vary in size from 10.52 m to 1.21 m in length and 2.29 m to 0.43 m in width (Henshall 1972, 47). The number of compartments also differs between

sites, ranging from one to five, and measuring from 1.83 m to 1.07 m long (Henshall 1972, 47). A small number of Clyde cairns have been recorded at the monument complex of Kilmartin in Argyll, including Nether Largie South and Auchoish (Figure 15) (RCAHMS 2008).

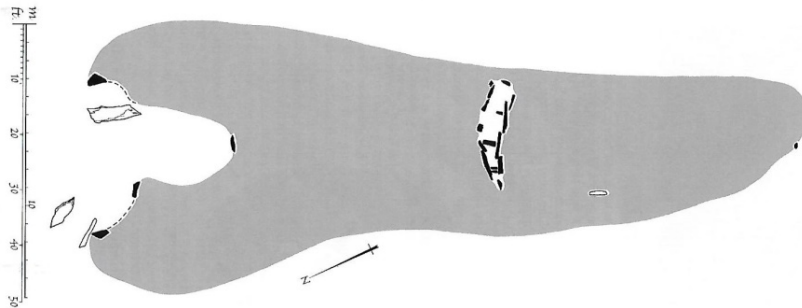


Figure 15: Clyde Type Chambered Cairn Auchoish Site Plan (RCAHMS 2008, 19)

The central concentration of cairns belonging to the Hebridean group is situated in the southern half of the Outer Hebrides, along with a few sites found on Lewis, Harris, Skye, and the west coast of the mainland (Henshall 1972, 113). At least forty-five sites have been classified within the Hebridean group, which consist of a round cairn, with a peristalith and in some a recessed forecourt in the shape of a funnel, covering a large round or oval chamber (Henshall 1972, 124-125). The round cairns, which are comprised of large stones, measure between 27.43 m to 15.24 m in diameter and range in height from 3.65 m to 6.09 m (Henshall 1972, 126). The peristaliths, a group of stones encircling a mound, were constructed from rectangular slabs of stones placed on their ends or sides set around the cairns at intervals (Henshall 1972, 127). Along with the round cairns, four square cairns and six long cairns have also been identified within the Hebrides (Henshall 1972, 129-130). The passageways of the Hebridean cairns are generally short, measuring between 1.52 m to 3.04 m in length, but can range from 0.99 m at the site of Rudh' an Dunain (Canmore ID 11022) (Figure 16) to 8.53 m at Achnacree (Canmore ID 23223), with widths varying between 0.69 m and 1.52 m (Henshall 1972, 132). The plans of the central chambers of the tombs can be roughly divided into two groups, the round or polygonal chambers and the elongated chambers (Henshall 1972, 134). Sixteen cairns were found to contain polygonal central chambers that measured on average 3.51 m by 2.9 m, including Barpa Langass, North Uist (Canmore ID 10236) (Figure 17) (Henshall 1972, 135). The elongated chambers, of which there have been six to seven sites recorded, are greater in size to the polygonal chambers and consist of a long chamber which merges with the passageway (Henshall 1972, 136).

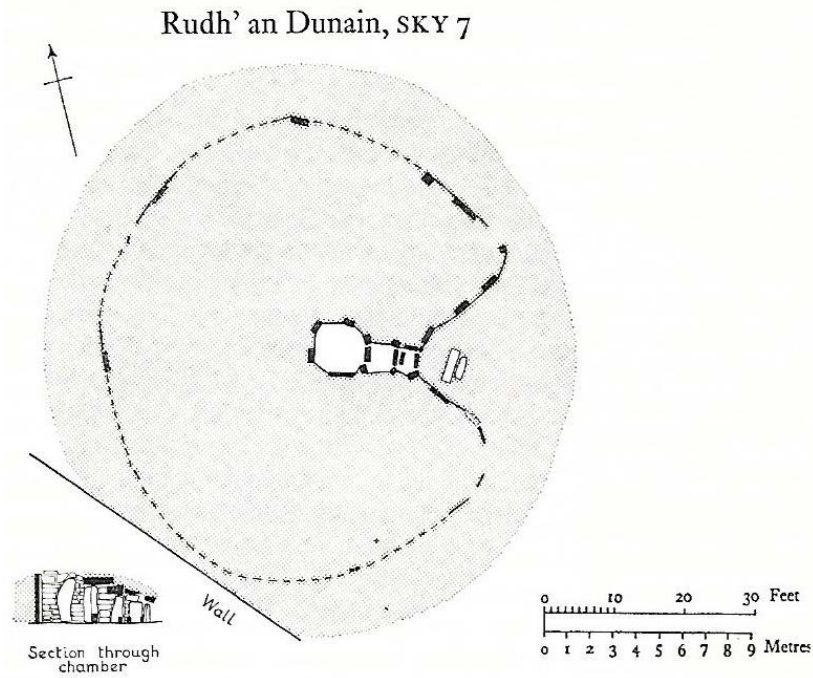


Figure 16: Hebridean Chambered Cairn with a Polygonal Chamber Rudh' an Dunain  
(Henshall 1972, 485)

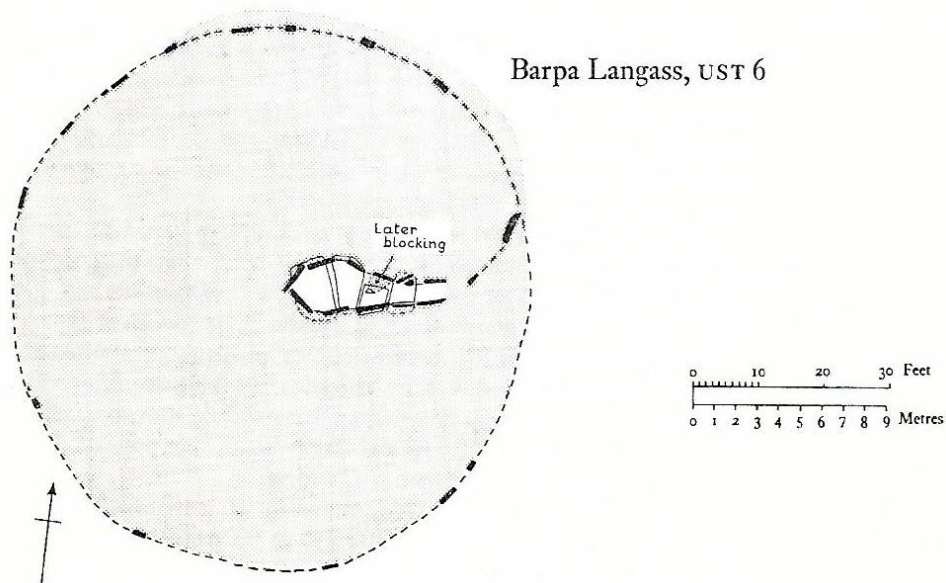


Figure 17: Hebridean Chambered Cairn with an Elongated Chamber Barpa Langass Site Plan  
(Henshall 1972, 501)

The long cairns, which include Lochhill and Slewcairn (Figure 18), are the final classification of cairns within Scotland, which are found scattered across Scotland as well as in groups in the south and northeast along with a small cluster near the western coast of Mid Argyll (Henshall 1972, 158). The long cairns, which do not contain central chambers, are made from stone except for the cairns at Fortingall (Canmore ID 24987) and Caverton Hillhead (Canmore ID 58269), which are constructed from a combination of earth and stones

(Henshall 1972, 159). The cairns are further divided into two groups, trapezoidal cairns and elongated cairns (Henshall 1972, 160). Nearly all of the trapezoidal cairns are located in Galloway and Dumfriesshire, as well as three sites in Cumberland and Westmorland (Henshall 1972, 160). The trapezoidal cairns have a maximum width to length ratio of 1:1 ½ to 1: 2, with a maximum height of 2.43 m to 3.65 m at the wider end of the cairn, except at the site of Slewcairn which is smaller than the rest of the cairns (Henshall 1972, 160). The elongated cairns, which are distributed in more easterly and northerly areas than the trapezoidal cairns, have a length to width proportion ranging from 1:3 to 1:6, with the lengths of the cairns varying between 104.24 m and 32 m, such as Langknowe, Roxburghshire (Canmore ID 67938) (Figure 19) (Henshall 1972, 160). The cairns measure 0.91 m to 1.52 m in height, although the low heights might be due to past robbing of the cairn materials (Henshall 1972, 160).

Slewcairn, KRK 12

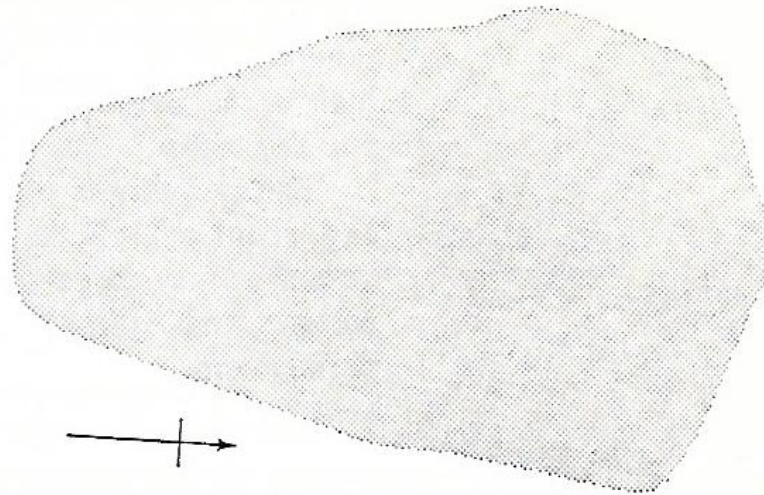


Figure 18: Trapezoidal Long Cairn Type at Slewcairn Site Plan (Henshall 1972, 455)

Langknowe, ROX 1

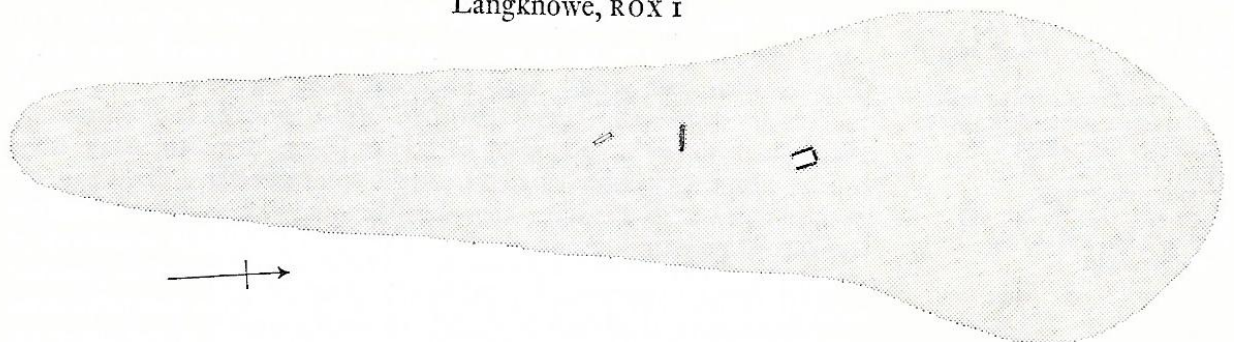


Figure 19: Elongated Long Cairn Type at Langknowe (Henshall 1972, 479)

One of the earliest Neolithic monuments is the cursus monument, of which there are two types, ditch-defined, and pit-defined (Brophy 1999, 119; Harding and Barclay 1999, 2). The ditch-defined sites make-up only a small portion of the cursus monuments located in Scotland found largely within south-western and eastern Scotland, such as at Myreton (Canmore ID 150126), Aberdeenshire (Brophy 1999, 122). The pit-defined sites, which have only been found within Scotland, are located across the majority of the known distribution of cursus monuments except for Lothian and Ayrshire, including such sites as Dunragit (Canmore ID 78918) and Kirmabreck in Dumfries and Galloway (Brophy 1999, 122-27). 'Bank barrows', which are usually narrower than cursus monuments, are found distributed across the known areas where cursus monuments have been identified, such as at Raeburnfoot (Canmore ID 97647) in Dumfries and Galloway (Brophy 1999, 123-124). (These monuments are further discussed in Chapter 5.)

The earthen long barrows and round barrows dating to the Early Neolithic consisted of mounds of earth laid on top of timber structures, with post holes found beneath the mounds of the majority of the barrows excavated (Noble 2006, 17). Examples include the sites of Ninewells Mains (Canmore ID 171245) in the Scottish Borders, Thorn (Canmore ID 84931) in Perth and Kinross, and the long barrows found at Pass of Keltie (Canmore ID 24914) in Perth and Kinross.

The monumental architecture found within Scotland dating to the Later Neolithic consists of various circular enclosures, such as timber and stone circles, and palisade enclosures, which are timber circular walls enclosing large areas of land (Noble 2006, 17-18). Although a few henges have been located within western Scotland, such as at Ballymeanoch (Canmore ID 39458) in the Kilmartin Valley, the majority have been found within eastern Scotland, such as the henge identified at the ceremonial complex of Balfarg/Balbirnie (Mercer 1981, 63-171; Mercer *et al.* 1988, 61-67; Noble 2006, 18; RCAHMS 2008, 24). Timber and stone circles occur across Scotland, with examples of timber circles at the Balfarg/Balbirnie ceremonial complex and at Temple Wood in the Kilmartin Valley. Stone circles have been found on Orkney, such as the Ring of Brodgar and the Stones of Stenness on Mainland, at Temple Wood in Kilmartin, as well as other locations within Scotland including the site of Calanais (Canmore ID 4156) in the Outer Hebrides (Bradley 2007, 118-119). Along with the stone circles and alignments, stones decorated with various markings, such as cup-and-ring marks and incised axes, dating to the Neolithic have been discovered in Scotland. These stones decorated with cup-and-ring markings have been found on rock outcrops, such as at the Kilmartin Valley, as well as on several stones used in the construction

of stone circles (RCAHMS 2008).

Henges, which are oval or circular earthworks with an inner ditch and outer bank interrupted by one or more entrance causeways, can date from the Later Neolithic through the Early Bronze Age (Gibson 2012, 13). Although a few henges have been located within western Scotland, such as the henge at Ballymeanoch in the Kilmartin Valley, the majority have been found within eastern Scotland, such as the henge dating to the Bronze Age identified at the ceremonial complex of Balfarg/Balbirnie (Gibson 2010; Mercer 1981, 63-171; Mercer *et al.* 1988, 61-67; Noble 2006, 18; RCAHMS 2008, 24).

## ***Bronze Age***

### *General*

The Bronze Age in Scotland, which dates from the mid-third millennium cal BC to the eighth/seventh century cal BC, brought changes in burial and monument traditions and introduced metal implements and metalworking into Scotland (Cowie and Shepherd 2003, 151). During the Bronze Age, a new technology, metallurgy, arrived in Scotland with metal implements being made such as copper and bronze axes, halberds, knives, swords and spears, and objects made from gold (Downes 2012, 14). The Beaker culture originates in Europe, and is typified by a specific artefactual package found in burials, including the funnel beakers from which the name of the culture derives (Harrison 1980, 73-76). The Beaker Culture dates to the Early Bronze Age, which ends in 1550 BC (Downes 2012, 5). The Bronze Age dates from 2200-800 BC, and is divided into the Early Bronze Age 2200-1550 BC, the Middle Bronze Age 1550-1150 BC, and the Later Bronze Age 1150-800 BC (Downes 2012, 14). The artefacts dating to the Beaker Culture and Bronze Age include several different types of pottery such as Beaker pottery, Food Vessels, Vase Urns, Collared Urns, Cordoned Urns, Bucket Urns, and 'Flat-rimmed ware' vessels (Downes 2012, 14). Other artefacts were jewellery and objects of personal adornment which were recovered from burials and ritual sites, including gold discs, amber and glass beads, and jet necklaces (RCAHMS 2008).

### *Settlements*

Despite the large quantity of ritual monuments identified dating to the Bronze Age in Scotland, few domestic structures and settlements have been found (Cowie and Shepherd 2003, 158). There are several gaps in the knowledge that archaeologists have concerning the domestic life of the Bronze Age people. Only a small number of settlements have been found, especially for the Early Bronze Age, compared to the number of ritual sites dating to

the Bronze Age (Downes 2012, 16-17). The types of domestic sites found dating to the Bronze Age include hut circle groups, unenclosed platform settlements, clustered settlements, such as those at Jarlshof Shetland, and burnt mounds, with over 800 located within Scotland (Cowie and Shepherd 2003, 158-59). Over the course of the Bronze Age, the earliest domestic settlements were found to be unenclosed/undefended, while by the first millennium enclosed/defended settlements appeared to be prevalent (Cowie and Shepherd 2003, 161-62). The disparity between burial sites and domestic structures is probably due to bias within the archaeological record.

Roundhouses dating to the Bronze Age, which are located across Scotland on marginal and arable land, are usually circular in shape and vary in size, including height and wall thickness (Ashmore 2001, 4).

The hut circle settlements were located within the mainland of Scotland (Ashmore 2001, 4). Three types of groupings of hut circles have been identified by Cowley including isolated houses with no signs of cultivation related to the structures, small clusters of two to six buildings near small cairns and the remains of field banks, and clusters of four to thirteen houses found within field systems, which are defined by banks and lynchets (Ashmore 2001, 4). A cluster of houses and field systems, near Allt na Fearnna (Canmore ID 5076), has been excavated, which were built and occupied over several phases (Ashmore 2001, 4). The first phase consisted of two houses, which date between 1800 and 1600 cal BC, with House 2 potentially measuring 10 m in internal diameter (Ashmore 2001, 4). The subsequent phases of construction and occupation include the enclosure of the farming land by the middle of the second millennium BC (Ashmore 2001, 4). During a middle phase of occupation, the settlement comprised a large structure, House 4, which was a circular house measuring 11-12 m in diameter, along with smaller houses adjacent to the building (Ashmore 2001, 4). The site was occupied through the Iron Age, with the latest building, House 7, dating from 520-170 cal BC to 360 cal BC-130 cal AD (Ashmore 2001, 5).

During the Middle and Late Bronze Age, clusters of platform settlements were constructed located in the south-east of Scotland (Ashmore 2001, 5-6). Lintshie Gutter (Canmore ID 47436), the largest of the platform settlements found in the Clyde valley, consists of 30 circular platforms, varied in size and shape based on the placement of the platform on the slope (Ashmore 2001, 5). Eight of the platforms were excavated, with ring-grooved houses found to have been supported on five of the platforms (Ashmore 2001, 5). The occupation for this settlement dates between 1900 and 1400 BC, and shows signs of multiple phases of construction, although the duration of occupation of each structure and the

contemporaneous use of any of the houses is unknown (Ashmore 2001, 6).

The subsistence of the Bronze Age communities of Scotland was based on more intensive farming, using enclosed cleared fieldsystems and agricultural innovations such as the use of animals in ploughing with wood yokes, such as those found at White Moss, Shapinsay, Orkney which date roughly between 1516-1253 cal BC (Cowie and Shepherd 2003, 162-64). There appears to have been a mixed economy of agriculture, with barley being the main cereal crop grown, and animal husbandry of several domesticated animals such as pigs, sheep, goats, and cattle (Cowie and Shepherd 2003, 164). Both the use of agriculture and the rearing of animals seem to have occurred together across Scotland, in both the lowlands and the highlands (Downes 2012, 42).

### *Ritual Structures*

The Bronze Age burial monuments include barrows and cairns containing cist burials, and cist cemeteries. Several types of cairns have been identified dating to the Bronze Age, including ring-cairns which were found within the Clava area of Inverness-shire, including the site of Balnuaran of Clava, Northeast (Canmore ID 14257), and Milton of Clava North (Canmore ID 14281) (Ritchie and MacLaren 1972, 1). Ring-cairns consist of a bank of cairn material enclosing an open space used for burials (Ritchie and MacLaren 1972, 1). These burials usually contained one individual per cist, and were probably constructed for a single burial, unlike the communal burial monuments of the Neolithic (RCAHMS 1946; RCAHMS 2008; Ritchie 1997b, 84-87). A large concentration of Bronze Age barrows, cairns, and cist cemeteries has been identified at Kilmartin, in Argyll, which included Kilmartin Glebe (Canmore ID 39537) and Nether Largie North (Canmore ID 39482) as well as across the Orkney Islands (RCAHMS 1946; RCAHMS 2008). Bronze Age cist burials have been found inserted into Neolithic ritual sites, such as at Kilmartin (RCAHMS 2008). Several Neolithic ritual sites were reused during the Bronze Age, with Bronze Age cairns, cist, barrows, and stone circles built in and around the Neolithic sites, such as Temple Wood and Balfarg (Barclay and Russell-White 1993; RCAHMS 1946; RCAHMS 2008). Both the Bronze Age cairns and barrows usually were built over an individual cist burial, such as at the Knowes of Trotty (Canmore ID 2035), although, in some instances, other burial cists were placed into the cairn material or the side of the barrow, as at Bairnie Hillock, Aberdeenshire (Canmore ID 20288) (Ritchie 1997b, 80-82). The burials found dating to this period consist of both inhumation burials, such as the Beaker Burials, and cremation burials, including urn burials (Jones 2008, 179-187). Groups of urn burials have been found in Bronze Age cemeteries,

such as at Brackmont Mill, Fife (Canmore ID 33239) (Parker-Pearson 1993, 50).

Beaker burials consist of a single burial interred with a Beaker vessel, as at Cairnaapple (Canmore ID 47919), as well as other possible grave goods including stone wrist guards, daggers of copper or bronze, bronze awls, barbed and tanged flint arrowheads, and jet buttons (Jones 2008, 186). The individuals placed in Beaker burials with wrist guards and arrowheads may have been skilled archers in life (Harrison 1980, 93).

Early Bronze Age burials consist of individual cist burials found with grave goods and were covered by either a barrow or a cairn, such as at the site of Doons Law, Leetside (Canmore ID 59740) in the Borders (Brück 2004, 179). It has been assumed that the grave goods placed within the burial may have reflected the social status of the individual, such as objects made from gold or amber indicating possible wealth or status of the deceased (Brück 2004, 179; Thomas 1999, 159). Instead the grave goods could have been gifts left by mourners and signify other features of the individual's identity and the relationship the mourners had with the dead (Brück 2004, 179). Several of the grave goods, such as some of the objects made from jet, show no evidence of wear and were probably made specifically for funerary purposes (Brück 2004, 179). Both inhumation and cremation burial practices occurred during the Early Bronze Age, with cremation burials becoming dominant towards the end of the Early Bronze Age (Brück 2004, 181; Jones 2008, 179). There have been various reasons presented by archaeologists for the presence of both inhumation and cremation mortuary treatments during this period, such as the role of status, gender, or even the circumstances surrounding the death of the individual, as factors in choosing which burial practice to use (Brück 2004, 181).

Clava cairns, which date to the Bronze Age, consist of two types, the passage-graves, and the ring-cairns (Bradley 2000, 5, 213). The passage-grave type consists of a circular cairn, with a corbelled central chamber, surrounded by a kerb, and low passage leading into the cairn, such as at Balnuaran of Clava, South-west (Canmore ID 14279) (Bradley 2000, 5). The ring-cairns appear to be sealed cairns, which have broad rubble walls defined by an internal kerb and a more substantial outer kerb, such as at Balnuaran of Clava, Centre (Canmore ID 14277) (Figure 20) (Barclay 2000, 5). Both of the types of Clava cairns share certain characteristics, such as being built on rubble platforms and surrounded by stone circles, which are graded in height with the tallest located on the southwest side of the circle and the shortest on the northeast side (Barclay 2000, 6). Cup-and-Ring marks appear to hold some significance for the construction and use of these cairns, with these markings appearing on different parts of the cairns, such as on the kerbstones and on the monoliths (Bradley

2000, 6).

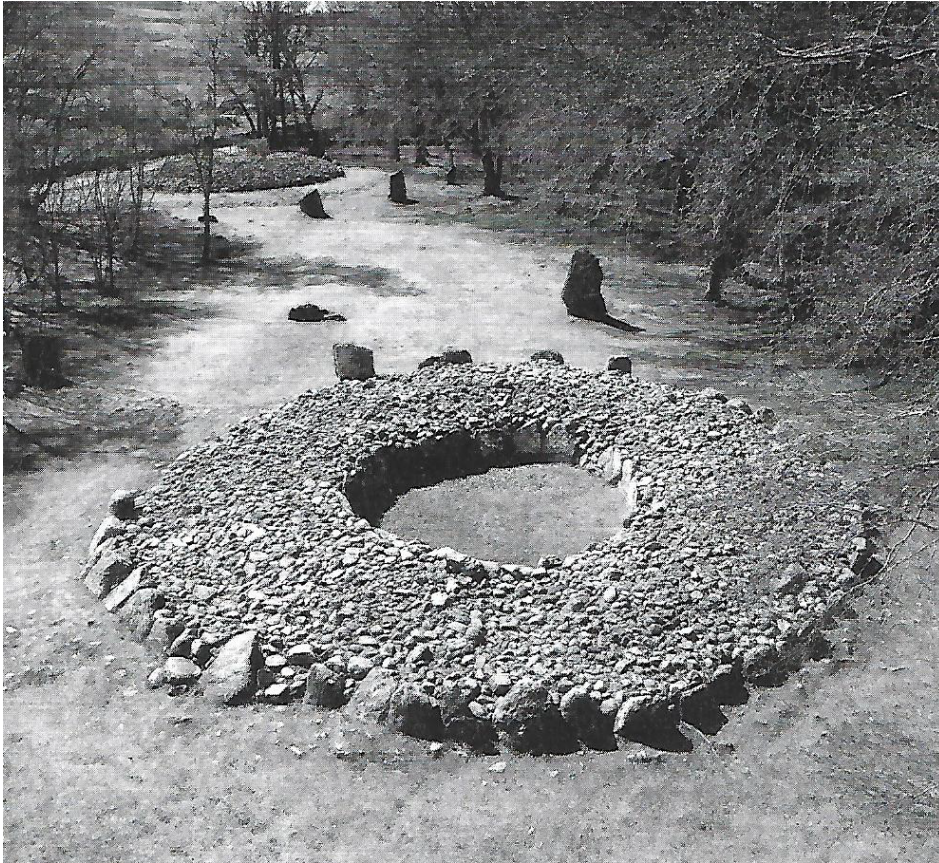


Figure 20: Clava Cairn Balnuaran of Clava Central Ring-Cairn showing the kerbstones towards the northeast and the monoliths on the opposite side of the cairn (Barclay 2000, 18)

Recumbent Stone Circles, located in the northeast of Scotland, consist of a usually circular ring of graded stones with a recumbent stone placed between two tall orthostats on the southern section of the circle and an internal cairn, such as at Eslie the Greater (Canmore ID 36714) (Figure 21) (Welfare 2011, 1,100). They are usually situated on the tops of ridges, hills, escarpments, and spurs within Aberdeenshire, although some have been found part way down slopes (Welfare 2011, 69). The diameters of most of the circles range from 15 m to 25 m, while the site of Cairn Riv (Canmore ID 18323), Inverkeithny, is the largest to have been identified measuring roughly 30 m in diameter (Welfare 2011, 100). The type of cairn found within the centre of the circle varies, including ring-cairns with outer and inner kerbs (Welfare 2011, 73). Several theories have been presented concerning the function of the recumbent stone circles, including being used as temples of worship and sacrifice; places of burial; astronomical alignments and observatories; the erection of stone circles for a cremation with a ring-cairn built to house the remains; locations for a cremation marked by a ring-cairn, cairn, or enclosure encircled by a recumbent stone circle; and monuments sealing areas used for cremations (Welfare 2011, 138, table 4.1).

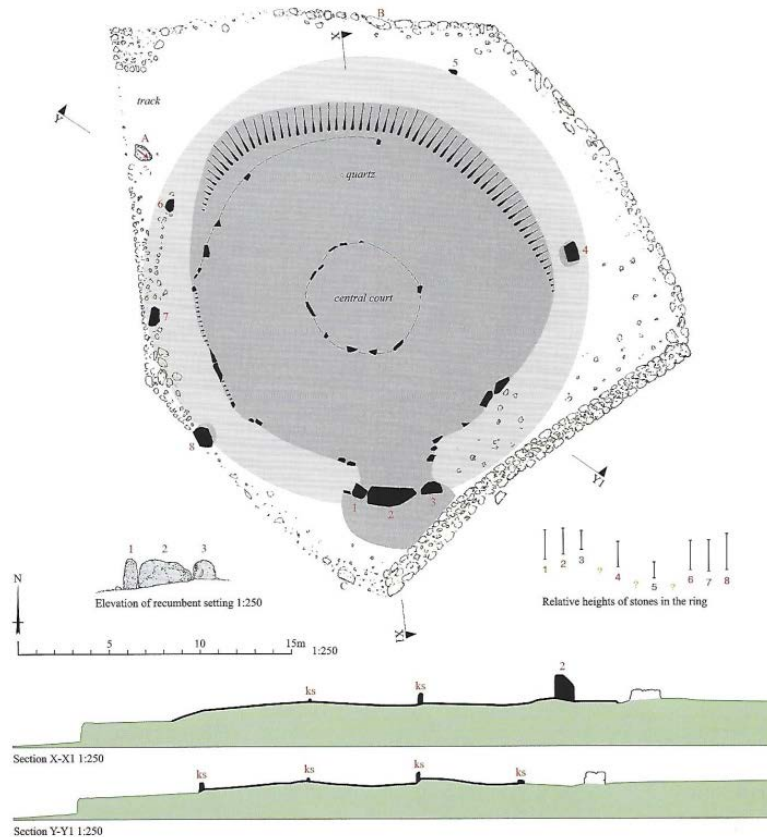


Figure 21: Eslie the Greater Recumbent Stone Circle Site Plan (Welfare 2011, 249)

### *Prehistoric Ceremonial Complexes*

Ceremonial Complexes are defined here as places with a variety of structures and features, where various gatherings occur outwith everyday life where ceremonies were conducted to honour the dead, the ancestors, or the power of nature, such as with celestial alignments, spanning multiple periods, from the Neolithic through the Bronze Age, and are found within the same or close to the same location (Noble 2006, 140). The complexes were first founded during the Neolithic, with several clusters of ceremonial/ritual sites across the Scottish landscape. Later, Bronze Age structures were added to some of the complexes (Noble 2006, 140). Many of the complexes have been found along various routes either by land, river, or sea that connected several regions of Scotland (Noble 2006, 184-190). Some of the most well-known of these complexes are Balfarg/Balbirnie, Forteviot, the Kilmartin Valley, and the grouping of sites on the Orkney Islands called the Heart of Neolithic Orkney, which are discussed in Chapter 4; several other examples of ceremonial complexes have also been found (Barclay and Russell-White 1993; Noble 2006, 146-193; RCAHMS 1946; RCAHMS 1998). Other ritual complexes include two sites which mirror the Balfarg complex; the henge complex at North Mains in Perthshire, which contained Early Neolithic

pits, Later Neolithic timber circular settings, and the henge, which may have been built in the Early Bronze Age (discussed in Chapter 4); and the complex at Cairnpapple Hill in West Lothian containing Early Neolithic deposits of pottery and stone axes in pits, Later Neolithic timber settings enclosed by a ditch and bank, six hearths, and a henge (Barclay 1983c, 122-281; Noble 2006, 146-147; Piggott 1947-48, 79). Many of the ceremonial complexes share similar features during the Neolithic phases of construction, including Early Neolithic pits, Later Neolithic timber enclosures, and henges or ditch-enclosures; while a few complexes contain other features and sites (Noble 2006, 149-159). The complex at Machrie Moor (Canmore ID 39703), located on the west coast of the island of Arran, consists of similar features found at the other complexes such as Early Neolithic pits and a possible ditch-enclosure, as well as different features including a series of small stone circles, nearly half of the known Clyde-type chambered cairns (Haggarty 1991, 51-94; Henshall 1972; Noble 2006, 160-162). Another ceremonial complex has been identified at Broomend of Crichton (Canmore ID 18621), with Neolithic activity found near the later henge monument, along with a cist cemetery, cremation burials within the henge, the erection of portal stones, and timber circles (Bradley and Clarke 2011, 74).

All of these sites show a need from later groups or communities to return and reclaim older sites, claiming the power, status, or prestige along with the monuments of old. However, each new grouping exerts their own claim and world view on the land and the older monuments, with the placement of each new monument and burial.

## Chapter 4: Ritual and Landscape Theory

### Introduction

This chapter discusses the development of ritual and landscape theory, from the beginnings of each theoretical outlook to the various modern approaches as a means of establishing a context for the use of the terms ritual and ceremonial in describing the types of features and landscapes as well as the potential purpose of these sites. The first section explores the developments of ritual theory within the field of anthropology and archaeology, discussing the various and conflicting theories and definitions of what is ritual. The approaches between the two fields vary greatly between defining what is ritual, how to identify ritual within different societies, and even how ritual developed within human societies. The divide has become even greater due to the current trend within archaeology that views ritual and domestic life as not separate entities within prehistoric societies (Bradley 2005, 30, 210). Along with this examination of ritual, the second section addresses the creation and expansion of landscape theory from the classical writers to antiquarians and modern archaeologists. Although landscape was studied by antiquarians, the methods of exploration and the theory of landscape archaeology is still relatively new, containing various approaches discussed in this section. One of the major theoretical frameworks for landscape theory examined in detail is phenomenology, which is heavily used in the study of prehistoric British landscapes. Further, this section examines a subdivision of landscape theory, sacred landscapes, which is heavily influenced and is derived from the phenomenological approaches to landscape theory, centres on monumental landscapes, such as the Neolithic and Bronze Age ceremonial landscapes of Britain.

## **Ritual Theory**

The concept of ritual has been explored within various academic fields, such as sociology, anthropology, and archaeology. Throughout this exploration within archaeology, the definitions ascribed to ritual have shifted, and that shift has caused the very existence of rituals to be questioned. The term ritual has been continually redefined by both anthropologists and archaeologists. For instance, the definitions span from the view of ritual as having both sacred and secular connotations (Insoll 2004, 10), to ritual seen as action which separates it from the abstract portions of a religion, including the beliefs, symbols and iconography, and mythology (Bell 1992, 19). Due to these shifting definitions of ritual and the continual expansions and contractions of what should be included within the realm of ritual, it is imperative to address the past definitions and trends of ritual theory in both anthropological and archaeological literature, in order to understand if archaeologists are ever able to distinguish between ritual and domestic, or whether this distinction is even valid.

The term ritual itself has come to be viewed to be highly problematic within archaeological contexts, due to objects and sites being labelled as ritual when their use/function was unknown as well as the inclusion of ritualised acts within the overarching idea of ritual.

Instead of using the term ritual to discuss artefacts and sites perhaps it would be better to address the idea of ritual as a means of expressing power within a community. This expression of power would use ceremonies, rituals, and religion to establish, reinforce, or redefine the authority within a community of an individual or group. The construction of burial monuments, standing stones and stone circles, and henges, along with other types of ceremonial and funerary monuments can be seen as a means of displaying power, particularly if the monuments are situated within or near areas of importance within the landscape such as arable land, waterways, and valleys.

Many of the Neolithic 'ceremonial complexes' appear to be located on the edges of good arable land, usually near waterways and along natural pathways, such as the Balfarg/Balbirnie Complex. The placement of such sites appears to be a deliberate expression of power, possibly as a means of establishing a claim on the land by an individual or a group, with rituals used at the sites as a means of framing the expression of power.

In order to better understand how people in the past utilized rituals and ritual complexes, archaeologists first need to critically examine their own preconceived notions about ritual. This includes an exploration into the development of ritual theory from the earliest theories within anthropology to the current theories within archaeology, as well as

critically assessing both how the theories of ritual have developed within the two fields and the theories themselves.

### *Anthropological Theories*

Many of the theories and definitions of ritual within anthropology are tied into a broader framework of theories about the development of religion, where ritual is viewed as a part of religion and not a separate entity. In order to better understand the theories of ritual within anthropology, the concept of religion must be defined. The term religion simply can be used to indicate the practices and actions, rituals and beliefs, and material culture occurring within a cultural group (Insoll 2004, 6). However, the application of this basic definition proves to be far more complicated within both anthropology and archaeology, for where does secular end and sacred begin, and is it even possible to tell the difference. There is no one overarching definition of religion for either field; each definition is tied to a specific theory of religion and ritual, which will be discussed and critiqued below. Along with the definitions of religion, anthropologists have devoted time to classifying the various types of religions. Several classifications exist; however most divide religions into two main categories, world religions and traditional/primal religions (Insoll 2004, 8-9). One classification system described by Bowie defines world religions as constructed from written scriptures, which comprises the concept of salvation, usually from the outside; is universal, or has the potential to be universal; has the ability to either incorporate or replace the primal religion of a society; and frequently contains a distinct area of activity (2000, 6). Bowie also defines traditional/primal religions as based on oral traditions, with an absence of any formal scriptures if the society is literate; centred on this world; often restricted to one language, ethnic, or cultural group; with the religious and social aspects of life often indivisible from one another; and frequently formed the basis from which many of the world religions have arisen (2000, 26). As many of the major theorists of anthropology studied the origins of religion, most of their work revolves round religions that would fall under the category of traditional/primitive religions, such as animism and totemism.

Within the field of anthropology, most of the theories of ritual are tied into the different theories of religion and focus not on the existence of rituals but the nature and forms of ritual present within different societies. This focus within anthropology began with the earliest theories of religion which addressed the definition and nature of ritual within different cultures. Theorists, during the nineteenth century, first developed the concept of ritual as a recognised method of identifying universal categories of the human experience

(Bell 1992, 14).

### *Phenomenological Approach*

Phenomenology is the study of human experiences within the contexts of daily life, ranging from the everyday events to religious incidents (Johnson 1999, 114). The Phenomenological approach to religion and ritual developed from a school of thought on the continent during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, known in German as *Religionswissenschaft*, ‘the science of religion’ or the ‘phenomenology of religion’ (Bell 1997, 8). This term was used by Müller to indicate an approach to study religion in a ‘nontheological and nonphilosophical’ way (Bell 1997, 8; Müller 1867). For Müller the emphasis of this approach was on myth instead of ritual and focused on examining religion using methodical comparisons, with the aim to reaffirm Christianity’s place in the world (Bell 1997, 8-9; Müller 1867, 13-15). This comparison would be completed once the major texts of the various religions were collected and translated, allowing for researchers to find the foundations of the ‘Civitas Dei’, the city of God, across the world (Müller 1867, 12-13). According to Müller, many of the key elements, such as an intuition of a god or gods, a faith in a divine world government, an acknowledgement of the frailty and dependency of man, a division between good and evil, and the hope of a better future, can be found in many religions throughout history (1867, 7-8). For Müller, all religions, including Christianity, should be rigorously tested within his comparison framework, with the goal of looking for commonalities between religions (1867, 14).

The phenomenological approach also heavily focused on the experience of the rites as a phenomenon to be studied. Rudolf Otto, an early scholar of phenomenology, believed that religious experiences were real and complex occurrences, which were not rational, and advised other scholars to investigate the parts of such occurrences of ‘the holy’ as a part of something distinct (Bell 1997, 9; Otto 1950, 1-4). For Otto, the religious moments, or the holy, must be experienced, not imparted, by the individual in order to be understood (1950, 7). He further instructs that these experiences be examined not for their similarities but for the differences which make them unique incidents of the holy (Otto 1950, 8). In his work, Otto developed a few terms in order to describe aspects of these religious experiences, the central of which is the ‘numinous’ (1950, 6-7). The ‘numinous’ denotes the facet of a god or gods that escapes understanding within a logical and rational framework, and is an objective experience, which takes place separate from the person (Harvey 1950, xvi; Otto 1950, 11). A further aspect of the religious phenomenon, or numen, is the ‘creature-consciousness’ or

‘creature-feeling’, which is the encompassing impression of ‘nothingness’ an individual feels in comparison to the absolute power of god or gods (Otto 1950, 10). During the numen, the ‘creature-feeling’ in combination with an impression of dependency are felt which in turn help to create the ‘numinous’ (Otto 1950, 11). The ‘numinous’ is not able to be imparted by religious teachings and scriptures, but is instead roused from within by experience of the verbal and non-verbal elements of a religious phenomenon (Otto 1950, 60).

Phenomenologists rejected part of Edward Tylor’s theories of the rationalistic approach to religion that viewed religions as forms of primitive explanations that are subjective experiences and superstitions as well as erroneous interpretations, while they built upon his idea that the myths of a society are ways of making sense and understanding the world (Bell 1997, 9; Otto 1950, 26-27). Mircea Eliade, one of the most well-known proponents of the phenomenological approach to religion, treated ritual as a ‘secondary reworking of mythic symbols’ (Bell 1997, 10). Eliade theorized that since symbols and rites exist on different levels, the rites cannot divulge what the symbols divulge (Bell 1997, 10). Thus Eliade, along with most phenomenologists, saw greater stability within the structures underlying myths (Bell 1997, 10). Although Eliade’s theories lie within the phenomenological approach, he makes a distinction between a historian of religions and a phenomenologist. For Eliade, the work of understanding the profound meanings of ‘religious phenomena’ belongs to the historians of religions (Eliade 2004, xxi). The historians of religions will thus be able to produce the largest quantity of compelling assertions on various religious phenomenon as ‘*religious phenomenon*’, instead of as viewing the phenomenon within an ethnic, theological, psychological, philosophical, or social framework (Eliade 2004 xxi). The main difference between the historians of religions and the phenomenologists is the rejection of any comparisons of religious phenomena by the phenomenologists while the historians of religions do not reach an understanding of a phenomenon until it has been compared with countless comparable or different phenomena (Eliade 2004, xxi). Thus the historian of religions

makes use of all the historical manifestations of a religious phenomenon in order to discover what such a phenomenon “has to say”; on the other hand, he holds to the historically concrete, but on the other, he attempts to decipher whatever transhistorical content a religious datum reveals through history (Eliade 2004, xxi).

Of these early Phenomenological approaches to religion, both Müller’s and Otto’s works were completely shaped by their own world views, which placed the Christianity as the focus of their studies, using it as a means of understanding ancient forms of religion and

ritual. Müller solely focused on religions which had written texts, thus excluding prehistoric religions and rituals from his studies, while Otto's studies centred on explaining and defining the religious experiences during rituals, which he felt a phenomenologist must experience for oneself. As phenomenology uses an individual's personal experience of a rite, religion, or a place as a means of understanding how others in the past would have experienced these things, there is an inherent personal bias in how each modern individual frames such events. Even Eliade's work contradicts Müller's, as Eliade disagrees with the notion of comparing religious phenomena as a part of the study of phenomenology, whereas for Müller the comparison of religious texts was a vital part of his approach.

### *Modern Anthropological Approaches to Ritual*

The view of anthropologists that ritual is a performance, has been a part of the earliest theories of religion and ritual, such as Arnold van Gennep, whose work in the early twentieth century focused on ritual acts that focus on the change from one phase of being to another, including travel rites, house construction, and rites of passage such as pregnancy and birth, initiation rites, marriage, and death (1960). The view of ritual as performance has become more prominent within the current theories of religion and ritual to the point where many anthropologists have distanced ritual from religion and focused on the performance aspect of ritual. Of these theories, one group, which has been dominant in anthropological literature, sees ritual activity as a part of all aspects of life (Bell 1992, 72). For instance, Roy Rappaport suggests that the formal characteristics within rituals are a part of a range of formal behaviour found within all facets of life, and Mary Douglas notes that rituals, which are predominantly means of communicating, consist of customary behaviours and acts that are made special and receive mystic value when performed within specific events (Bell 1992, 72-73; Douglas 1982; Rappaport 1979).

This performance approach came from various ideas within the anthropological field during the 1970s, such as Kenneth Burke's examinations of dramatism, J. L. Austin's theory of performative expressions, Erving Goffman's analysis of the ritual components that shape the acts and behaviours of societal interactions, and Bloch's examination of the effects of prescribed speech and song patterns (Austin 1975; Bell 1997, 73; Bloch 2007; Burke 1941; Goffman 2005). One of the anthropologists to examine the performance of ritual is Victor Turner, who studied the rituals of the Ndembu people in West and Central Africa (2008, 4). Within his work, Turner came to describe ritual performances as social dramas (Bell 1997, 73). These performance 'metaphors and analogies' allow anthropologists to focus on the acts

and behaviours of ritual activity instead of trying to determine its meaning (Bell 1997, 73). Although the early theories and schools of thought concerning religion and ritual have continued to influence the current anthropological theories of religion and ritual, the more recent theories of ritual as performance have had a profound impact on the archaeological schools of thought.

This focus on the performance of rituals has led to viewing any events with set patterns of behaviour and interaction, such as sporting events, as rituals. This expansion of what the term ritual includes can be problematic as it dilutes the term to include activities which are not attached or connected to a set of religious or spiritual beliefs. Events that have a proscribed set of behaviours and activities associated with them are considered rituals by these approaches. This can cause confusion when applying these approaches to past and current cultures, as what one anthropologist defines as a ritualised event or activity may conflict with another anthropologist, whether one would consider everyday routines as rituals, or only special events such as public performances and sporting events.

For Bell, ritual action is tied to the interaction people or communities have with their world, to varying degrees of ritual activity depending on the social and cultural traditions of the communities (1997, 266). Also according to Bell, the various theories and contexts one comes into contact with can affect what is actually viewed as ritual (1997, 267). Further, as the term 'ritual' is relatively still new especially within academic work, it is easy to allow the term to explain various cultural and social differences, and has become one of the ways academics view and structure the world, despite how the term can distort the way academics interpret and see the world (Bell 1997, 267).

### *Archaeological Theories*

Within the field of archaeology, archaeologists have had a similar struggle as anthropologists to clearly define the concept of ritual; however the debate within archaeological theory concerns not just the nature of religion and ritual, but also whether rituals were truly separated from the secular life of people within a society. In the past, the term ritual has been used by archaeologists as a category to identify any unusual or uncomprehending conduct concerning artefacts and structures, such as artefacts which seem to have no identifiable function or use (Insoll 2004, 1-2). In trying to expand the definition of ritual within archaeological contexts, archaeologists have borrowed various ideas and definitions from anthropology, which usually stress the 'symbolic, non-technical, formal, prescribed, structured and repetitive nature' of ritual (Brück 1999, 314). Past anthropological

definitions of ritual incorporated by archaeologists include a major emphasis on patterned activities and symbolic elements to describe rituals (Brück 1999, 314-315). Besides the more classic definitions of ritual, archaeologists have also integrated more modern anthropological concepts of ritual. The two main anthropological concepts of ritual used currently by archaeologists consist of one idea that rituals were used to convey essential world concepts which are linked to religious ideas and beliefs; the other concept places focus on the features of rites while stressing that the rituals were acts performed within a specific set of customs (Bradley 2005, 32). However, biases exist within whichever way ritual is defined by an archaeologist, such as whether the archaeologist views the sacred and secular as separate aspects of life, or whether there is no differentiation between the two where ritual is viewed as everyday routine activities with no religious or spiritual meanings attached.

These anthropological concepts of ritual have helped archaeologists come up with various definitions and characteristics for identifying rituals and ritual artefacts within the archaeological record. For some archaeologists, there exists an obvious distinction between the secular and sacred realms within most prehistoric societies, with 'special people, special places' and a particular material culture package used for rituals (Bradley 2005, 35). In order to identify this division within the archaeological record several archaeologists have developed various rigid standards for defining the separation between ritual and secular. For instance, Colin Renfrew (1994) set forth a list of indicators grouped into four categories for recognising the presence of ritual practice within the archaeological record. One of these groups of indicators of ritual is the focusing of attention on the ritual, which can consist of particular locations where rituals may occur in a place with 'special or natural associations' such as in caves, groves of trees, springs, or mountain-tops, as well as in specific buildings dedicated for sacred or ritual purposes as in a temple or church (Renfrew 1994, 51). The rituals may also employ means of focusing attention within the structure the ritual takes place in and equipment used during the rite, such as an altar, a bench or benches, and hearths; in addition to other ritual items and equipment including 'lamps, gongs and bells, ritual vessels, censers,' and 'altar cloths', which can create a sacred space that contains 'repeated symbols' (Renfrew 1994, 51). Another group of indicators focuses on the boundary zones that exist in between this realm and other ones, where rituals may include both public displays and secreted and restricted 'mysteries' as well as involve ideas concerning 'cleanliness and pollution' (Renfrew 1994, 51). The third group of indicators is the presence of a higher power, where a connection to a god or gods is displayed through an image or an abstract depiction of the god (Renfrew 1994, 51). The symbols usually are associated

representatively to the gods venerated, and may also be associated with those used in various rites of passage including funerary rituals (Renfrew 1994, 51-52). The final group of indicators of ritual is participation and offering, which involves acts of 'prayer and special movements,' and the use of several methods of stimulating religious experiences, such as through 'dance, music, drugs and the infliction of pain' (Renfrew 1994, 52). Offerings of human or animal sacrifice, feasting, votive objects, and an 'investment of wealth' reflected in the equipment, offerings, structures, and facilities are also associated with this group of indicators (Renfrew 1994, 52).

Although these lists of indicators and criteria make distinctive divisions between ritual and secular, in practical archaeological applications identifying artefacts and features that fit within these frameworks or any others proves to be more difficult. How do archaeologists make distinctions between a ritual feast and an ordinary meal, or between votive figurines and toys (Brück 1999, 315)? Due to the inability to fully recognize the evidence within the archaeological record for a rigid separation of ritual and secular, the current trend within archaeology is that ritual and domestic life cannot be clearly separated and must both be taken into consideration. The problem with using a set of standard inflexible characteristics to identify ritual within the archaeological record has been shown by many archaeologists that several of the purported signifiers of ritual activity are also found within secular and domestic actions (Brück 1999, 315).

One attempt to resolve this problem proposes that ritual behaviour, which is not a separate type of action, can be seen as 'the expressive, symbolic or communicative' characteristic of all human actions and interactions; and thus recognising that many artefacts and behaviours contain sensitive and sensible characteristics (Brück 1999, 315). Rituals have also been noted to be able to encompass both private and public areas as well as from the individual to a large group of people, which results in a continuum between ritual and domestic life, where rituals are not separated from other aspects of life (Bradley 2005, 34). Ritual and domestic life within the archaeological record are seen by many archaeologists as forming two sections of society that appear to be completely overlaid, instead of being viewed as two parts of an individual phenomenon (Bradley 2005, 120). For instance, within various rituals practiced in prehistoric Europe, some aspects of domestic life were performed with special importance within specific contexts in front of an exclusive audience of people (Bradley 2005, 120). Another view of the place of ritual and religion in society is taken by Timothy Insoll, who states

the more we look, the more we can see religion as a critical element in many areas of life above and beyond those usually considered—technology, diet, refuse patterning, housing. All can be influenced by religion; they are today, why not in the past? Religion can be of primary importance in structuring life into which secular concerns are fitted, the reverse of the often-positing framework (2004, 22)

Thus the distinction between ritual and secular life has shifted from a series of rigid characteristics into a more fluid and vague division.

### *Conclusion*

In considering whether archaeologists are able to identify ritual within the archaeological record, I examined various approaches within the anthropological and archaeological literature on how they defined and approach ritual and religion. Although all of the approaches on how to define and identify religion and ritual make valid points and arguments, each theory has its own sets of problems and biases which need to be understood before the theories can be used within the field. The past anthropology theories were usually limited in scope to literate societies and were heavily theoretical in nature; while the current theories of ritual within archaeology and anthropology appear to oversimplify that there is no separation between the ritual and the domestic life. There is no doubt that ritual behaviour and activities occur outside of the religious context, however, that does not negate the existence of religious rituals that did and do occur within past and present societies. Both anthropologists and archaeologist need to acknowledge the complex nature of ritual/ceremonial existing within both the secular and sacred spheres.

## **Landscape Archaeology Theory**

### ***General Landscape Theory***

#### *Introduction*

The examination and significance of landscapes has fascinated early scholars, from classical writers to antiquarians, as well as archaeologists. During the course of study and understanding of the land by various scholars across time, several approaches have developed to better understand the nature of an area within a particular environment and cultural background. The approaches of early scholars helped to form the beginnings of landscape theory within archaeology. Although landscape has been explored by early archaeologists, the methods of study and theory of landscape archaeology are still fairly new and contain various diverse approaches. The manner in which an archaeologist chooses to define landscape and develop a theoretical approach depends on several factors including the area of landscape archaeology being examined, the location of the land, and the background of the archaeologist. Within British archaeology, phenomenology is the main theoretical approach to studying prehistoric landscapes. A subdivision of landscape theory within archaeology, which is heavily influenced and is derived from the phenomenological approaches to landscape theory, centres on sacred landscapes, such as the Neolithic and Bronze Age ceremonial landscapes of Britain.

In order to better comprehend how societies in the past viewed, used, and exploited the landscape; archaeologists must critically examine their own ideas about what defines a landscape and what that landscape meant to past societies. This entails an exploration into the development of landscape theory from the earliest theorists, William Stukeley, who was instrumental to the development of phenomenological theories to landscape archaeology to the current theories within archaeology, as well as critically assessing the current theories of landscape.

#### *William Stukeley*

The eighteenth century antiquarian William Stukeley, who was born in 1687 and died in 1765, was influential to the development of the phenomenological approach to landscape archaeology (Peterson 2003; Piggott 1986, 115). The details of his life, which have been examined in great detail by several archaeologists, the most notable of whom are Stuart Piggott and David Haycock, will not be expounded upon here but will instead focus on his contributions to the field of landscape archaeology (Haycock 2002; Piggott 1985; Piggott

1986). During his life, Stukeley studied and recorded the prehistoric sites of Stonehenge and Avebury located in Wiltshire, southwest England (Stukeley 1740; Stukeley 1743). He conducted fieldwork at Avebury and Stonehenge between 1719 and 1724 examining the remaining parts of the monuments and the landscape they were set in (Haycock 1999, 68; Peterson 2003, 395). One of the methods Stukeley used was recording his observations of his fieldwork by drawing ‘prospect’ of the monuments within their landscape (Peterson 2003, 395). Within his field notes, he also included ‘circular view’ sketches of the monuments, which showed the uninterrupted circular views from particular points within the monumental complexes displaying the views of the landscape and all possible alignments (Peterson 2003, 396). In studying Avebury, Stukeley observed that the monuments had been placed within a specific landscape in order to invoke a distinctive experience (Peterson 2003, 397).

Several factors influenced the way Stukeley interacted and recorded the prehistoric monuments of Avebury and Stonehenge, including the contemporary fashion of landscape gardening in the eighteenth century and his fascination with British Druids (Hutton 2005; Haycock 1999, 67). Stukeley, who was an avid gardener, was interested in the current trend within gardening design during his lifetime and even created an elaborate garden on his property, which included a Druids Temple, comprising concentric rings of hazel and evergreen trees based on Stonehenge, a ‘tumulus’, and a ‘chapel’ containing a Roman altar (Haycock 1999, 68-69; Hutton 2005, 388). Although never openly conveyed, his interest in gardening affected not only his perception of prehistoric landscapes, but also the layout and design of the illustrations in his works as well as in his use of the terms ‘tours’ and ‘pictures’ within his interpretations of ancient monuments (Haycock 1999, 67-68).

Stukeley’s fascination with the Druids affected how he saw and interpreted prehistoric monuments, even after his appointment to the clergy later in his life (Hutton 2005). His earlier interpretations of Avebury revolved around the idea that there was a single prehistoric religion which was shared by all ancient societies, not through missionary work but through independent revelations related to a shared human consciousness (Hutton 2005, 385). Stukeley’s first interpretation of Avebury suggested the stone circles of Avebury and other monuments depicted by continuous circles the ‘infinite’ and ‘eternal’ nature of the omnipotent god, which is shared by all early religions (Hutton 2005, 385). Further, for Avebury, the monument embodied ‘sacred truths’ found within the scientific fields of mathematics, chemistry, and astronomy as well as within music and classical literature including Pythagoras (Hutton 2005, 386). While at Stonehenge, Stukeley saw the monument embodying the Neoplatonic cosmological view of the universe consisting of groups of

spheres and through them the divine affect the world (Hutton 2005, 386).

Stukeley initially believed the monument of Avebury consisted of a northern and a southern stone circle, with the northern circle constructed as a temple to the moon, and the southern circle built as a temple to the sun, with a larger outer stone circle encircling both stone circles (Peterson 2003, 395). Two symmetrical avenues of stone connected the larger circle to two further stone circles, a temple of the earth located at the Sanctuary and a temple of Mercury at the bottom of the Beckhampton Avenue (Peterson 2003, 395). However, no stone circle was found at the end of the Beckhampton Avenue by Stukeley, which probably led to Stukeley developing his final interpretation for the site (Hutton 2005, 387). His second interpretation was probably influenced by his conversion to Christianity and his ordination into the clergy later in his life (Hutton 2005, 390-391). Stukeley saw the stone circles at Avebury as a representation of the existence of God, which was traversed by the two avenues forming a serpent, which signifies the forces of creation, with the head located at the Sanctuary (Peterson 2003, 395).

Stukeley's work contributed greatly to the methods for studying landscape, archaeologists currently still use versions of the 'circular view' sketches, now using panoramic cameras in order to see the views encircling the site. Although his studies of Avebury and Stonehenge were and still are quite impressive, ultimately many of his conclusions proved false. His work was also heavily shaped by two main factors including how the past cultures were viewed during his time, such as the belief the druids built the stone circles and the romanticised and fictional accounts of their practises; as well as later his conversion to Christianity.

### *Current Approaches to Landscape Theory*

Although the study and importance of landscapes within the archaeological record has been explored by early archaeologists, the field of landscape archaeology is still relatively new and diverse in approaches. How archaeologists chose to define landscape and approach it theoretically depends greatly on which area of landscape archaeology is examined. The study of landscape within archaeology is rather less than straightforward with the various meanings ascribed to the concept. When discussing landscape an archaeologist can mean various things, including the topographic features within a particular area, the land where a group of people reside, or even a small segment of land that is visible from a specific spot in the terrain (Thomas 2001, 166). Or the archaeologist could be referring to a specific ways elite groups and communities as a whole view the world around them (Thomas 2001, 166).

Research within landscape archaeology spans a wide breadth of focuses, which can be grouped into roughly two categories; those with a more scientific and quantitative approach; and those concerned with qualitative information. These include the phenomenological approach of various archaeologists including Tilley and Bender, and the landscape archaeology approach of other archaeologists such as Ashmore and Barnard (Fisher and Thurston 1999, 630).

### *Phenomenological Landscape Theory*

The approaches of landscape theory that focus on qualitative data are those based on phenomenology. Phenomenology is the study of everyday human experiences, ranging from mundane incidents to religious phenomena and for archaeology focuses on the researchers experience in the landscape (Johnson 1999, 114). It also explores the effects of human senses, such as sight and sound, had on the experiences of people in the past (Hamilton *et al.* 2006, 32). Phenomenological approaches to landscape focus on the experiences of the researcher as he walks through the land and tries to understand how people in the past interacted and interpreted the area. Although the phenomenological approach to landscape has developed into a recognised theoretical approach within archaeology, it has been relatively restricted in application to Neolithic sites within the north-west of Europe and Britain, such as studies of megalithic monuments (Hamilton *et al.* 2006, 33). These studies have focused on the sense of vision, for instance identifying what is visible from particular locations within a monument and observing discrepancies in the visibility of parts of the landscape when traveling to certain monuments as well as between various monuments (Hamilton *et al.* 2006, 33). Various sites have been studied using techniques to study visual connections within the landscape including the site of Leskernick, Bodmin Moor, where researchers observed the landscape walking to and from the sites they were excavating, noting what sites were visible and to what degree compared with others within the landscape (Bender *et al.* 1997, 147-78). Other studies examined the phenomena of sound within a landscape, which includes the surrounding sounds and ambient noise around a particular location, and the influence of topographic and archaeological structures have on the magnification and reduction in sound (Hamilton *et al.* 2006, 33). Acoustical tests were conducted at two sites the recumbent stone circle at Easter Aquorthies and the cairn of Camster Round using an audio amplifier, as well as at the Neolithic ditch enclosures at the Italian site of Tavoliere by studying the phenomena relating to the sounds and visuals of communication between people within the site (Hamilton *et al.* 2006, 46-49; Watson and

Keating 1999, 325-36). This approach has various proponents including Christopher Tilley (1994; 1996), Julian Thomas (2001), and Barbara Bender (1993), each with their own take on how to utilize phenomenology within landscape studies.

Despite the widespread use of this approach for landscape archaeology within Britain, a number of problems and concerns with parts of the phenomenological approach and its implementation have been addressed by various archaeologists (Brück 2005). Many of the concerns of this approach are centred on the practice of using the archaeologist's experience of the landscape as a stand-in for the prehistoric individual, such as Christopher Tilley's work (Brück 2005). Another problem with the use of phenomenology within landscape archaeology is whether the relationships archaeologists find between what they experience with their senses, visually, aurally, and tactilely, and the landscape were important or meaningful in the prehistoric (Brück 2005, 51). Although it is highly probable monuments were located within a landscape in relation to other features in the area, the intervisibility of features and monuments experienced by an archaeologist does not designate that any or all of these visible features in the landscape held any importance for people from the past (Brück 2005, 51). Also, the phenomenological approaches to landscape are impossible to truly quantify as they rely solely on the archaeologist's extrapolation of their own experiences of the landscape onto those from the past. Despite these problems, phenomenological approaches remain central to the study of landscape archaeology in Britain.

Christopher Tilley developed an approach to the study of landscape which examined the relationships between archaeology and landscape. Firstly, he defined landscape as a holistic term which can be defined as a series of interactions that occur between specific places, which are particular physical locations designated for social relationships and interaction, including natural environments such as forests, and human structures, such as monuments and settlements (Tilley 1996, 161). These named locations within an area exist as parts of the whole of the landscape (Tilley 1996, 161). These locales, which possess distinctive fixed meanings, play an important role in the development of identity, whereas the concept of landscape, which goes beyond the specific meanings designated by these locales, denotes the ways in which people create and understand the world socially and culturally (Tilley 1996, 161). Secondly, according to Tilley, landscapes consist of fixed groups of time and space relationships, which in the course of the passage of individuals in space and time are lived and understood (1996, 162). The significant places within a landscape are shaped through historical events, such as ancient acts, occurrences, mythology, and folklore, which form the methods for and consequences concerning the passage and remembrance of a people

through a landscape (Tilley 1996, 162). The experience of the landscape is influenced by whether the observations were directly or indirectly felt, which includes well-known, everyday places as well as locations that are only visited during specific times and locales that only exist within the imagination of a society (Tilley 1996, 162). Thirdly, landscapes can act as a major method of socialisation within a group through the process of discovering the individual's identity and their place within society (Tilley 1996, 162). This can be achieved by understanding how to comprehend the landscape through a proficiency of the space within the landscape (Tilley 1996, 162). For Tilley, people not only create and shape their landscape but also are shaped by the landscape (1996, 162). Finally, for Tilley, due to the landscape having a vital role in shaping self-identity, establishing control of the knowledge of the landscape and its meaning can influence the formation and replication of powerful and oppressive social hierarchies (1996, 162). The meanings and importance of a landscape have to be taught by specific knowledgeable individuals to novices (Tilley 1996, 162). While the meanings of landscapes are produced within a culture, the experiences they create are usually understood to be the product of something non-human (Tilley 1996, 162).

Aspects and application of Tilley's approach have been criticised by several archaeologists, including Andrew Fleming (Fleming 1999; 2005). Fleming's critique of Tilley concerns the use of Welsh megalithic tombs across western and south-western Wales as examples of Tilley's approach to landscape, in which he suggested there were several important relationships between the tombs and particular features in the landscape such as hill, rivers, and distinctive rock outcrops (Fleming 1999; Fleming 2005; Tilley 1994, 76-142). Within South-west Wales, Tilley claimed the megalithic tombs were purposely linked to rock outcrops within the landscape, ranging from outcrops directly next to the tomb to outcrops located on the summits of distant hills (Fleming 2005, 921; Tilley 1994, 76-110). Although Fleming agrees there is probably a deliberate connection between megalithic tombs and nearby rock outcrops, he dismisses the idea that Neolithic people in south-western Wales were intentionally constructing tombs in relation to distant rock outcrops (2005, 922-927). Fleming further criticised Tilley's use of the megaliths in south-west Wales due to the small number of tombs within Tilley's sample, only twenty-six, which includes five outliers located outside the central distribution in north Pembrokeshire (1999, 120). This small sampling size used by Tilley may present a bias in the record as the less visible tombs and those located on less valuable land would have a better chance of survival than Neolithic tombs located elsewhere in the landscape (Fleming 1999, 120). Thus, the surviving monuments are also those found near rock outcrops, which calls into doubt the importance of the relationship

between the tombs and outcrops (Fleming 1999, 120). Additional associations between hills or water-ways and tombs located in Wales have also been questioned by Fleming (1999; 2005). Within Tilley's approach, there was no standardisation concerning how close to a monument one must be in distance to a particular feature, such as rivers, or from which point of the monument an alignment with a hill or other part of the landscape was formed in order for a meaningful association to exist (Fleming 2005, 924-929). For Tilley, the alignment of a tomb to a particular hill in the distance could be based on the axis of the long cairn, the lateral chambers, or central chamber (Fleming 2005, 929). Unfortunately for Tilley, only three out of nine cairns in the Black Mountains of Wales 'point' to specific hill-tops in the landscape, while only four cairns have any significant alignment with a river or water-way (Fleming 1999, 122-123).

Joanna Brück offers further criticism of Tilley's phenomenological approach concerning several features of his approach (2005). Brück disagrees with several of Tilley's positions on the shared commonality of experiences between prehistoric people and those of the modern era (2005, 54-56). For instance, Tilley assumes that due to the notion that past and modern people's physical bodies have shared commonalities in how they move and function within a landscape, his own personal bodily experience within a landscape will be similar to those from the Neolithic or Bronze Age, which offers a starting point in understanding past people's readings of the prehistoric landscape (2005, 54). However, for Brück, the differences in physical characteristics within the human body, such as age, gender, able-bodied, and the disabled or infirm, can affect how an individual experiences the landscape (2005, 55). Further, certain activities, including kneeling, stooping, running, or walking, may have specific cultural meanings, which may influence the experiences of individuals from different cultural backgrounds, such as those from the past or present (Brück 2005, 55). A second commonality assumption for experiencing the land by Tilley between the past and the present is the landscape itself, which according to him is practically unchanged in Britain since later prehistory (Brück 2005, 55; Tilley 1994, 74). The character and features within a landscape, such as the vegetation, though, are unlikely to have remained unchanged from the Neolithic to the modern era, and may have appeared quite different at particular times within a day or in a year (Brück 2005, 56; Tilley 1994, 74). However, specific social and ideological meanings may be attributed to particular features in the landscape influencing how people interact and experience the land (Brück 2005, 56).

Julian Thomas's approach views landscape as a series of interconnected locales, which are exposed through several ways, including everyday events and connections, the

feelings of attachment that grew within groups of people for particular locations, and the significant experiences, celebrations, wonders, and tragedies, which are associated to locations in the landscape causing the places and events to be integrated into the myths and folklore of a people (2001, 173). For Thomas, landscapes are constructed through the overlapping activities and experiences of a group of people, who are also created in and spread out through their familiar environment (Thomas 2001, 173). The landscape is constructed by a series of related locations connected by people, and these locales will exhibit the qualities and features inhabited by 'places' (Thomas 2001, 173). A place, according to Thomas, is a personal idea and not just an object (2001, 173). His approach to landscape also examines the sacred nature landscapes can possess, through embedded and multiple landscapes. Landscapes can have embedded meanings from the people who live on or travel through various terrains (Thomas 2001, 174). The embedded nature of landscape provides a sense of interdependence between people and the land usually through a relationship with a group's ancestors and offers constant reminders of the connection between living people and their ancestral generations as well as a people's lineage and legacy (Thomas 2001, 175). For instance, the Australian Yolngu people believe 'ancestral beings', which moved across the landscape in 'the Dreaming', became integrated into the landscape, supplying the unique qualities to meaningful places across the area (Thomas 2001, 174). Along with the embedded nature of landscapes, locations can be divided where the same place can be experienced completely differently by different people, essentially becoming different places for each person (Thomas 2001, 176). This can occur as each person inhabits a specific place within their cultural landscape, which is attributed to an individual's standing within society based on their gender and sexuality, class and ethnicity, personal history, and their traditional cultural practices (Thomas 2001, 176). Thus, the experience of the lived and embedded landscapes varies for each person, which for an archaeologist makes understanding these landscapes difficult as the lived experience of a modern individual will probably not be the same or even similar to that of an individual from the past. This part of Thomas's approach was heavily influenced by the theories of another archaeologist, Barbara Bender.

A different theoretical approach to landscape theory using phenomenology was devised by Barbara Bender. According to Bender, landscapes are fashioned by people's experiences and encounters with the world (1993, 1). How people comprehend and connect to their specific worlds is dependent on the particular time, location, and historical contexts of the individuals (Bender 1993, 2). The landscapes can function on distinctive spatial levels, such as running horizontally over the world or vertically up and down from the heavens in the

sky to the depths of the earth, different for each person (Bender 1993, 2). Landscapes may also work on separate time scales by connecting to and engaging past or future events differently (Bender 1993, 2). This engagement will sometimes be an extremely deliberate means of claiming and legitimising a certain location, and sometimes will be a relatively unconscious action within regular daily life (Bender 1993, 2). For Bender, landscapes are in no way inactive and lifeless, but instead are dynamic and functional (1993, 3). People are constantly involved with the landscape, re-working it, adopting it, and challenging it as ways to create and dispute identities of individuals, groups, or nation-states (Bender 1993, 3). As with Julian Thomas's model and other phenomenological approaches, Bender's approach to landscape is centred on the individual experiences of the land. This inevitably leads to problems of the archaeologist possibly projecting their own experience onto individuals of the past, viewing how the modern individual sees and experiences the landscape as equivalent to how those in prehistoric times would understand and interact with specific places in the land.

Timothy Ingold further explored the idea that how one viewed the landscape and the world depends on the culture one comes from (Ingold 2000). He did so by studying several hunter-gather groups, such as the Cree people of Muskrat Dam Lake in northern Ontario, Canada (Ingold 2000). However, he noted that for some of the groups, like the Cree, their cultural view point could hinder just as much as it could help (Ingold 2000, 31-32). Ingold's ideas were a critique of evolutionary archaeology ideas that a groups' world view evolved to help them survive, such as developing optimal foraging (Ingold 2000, 36).

### ***Ceremonial Landscape Theory***

From the various landscape theories, which focus on the use and experience of the land in a more general fashion, other theoretical approaches have developed centred on specific types or aspects of landscape, such as sacred landscapes. The subsection of landscape theory, which centres on sacred landscapes, was inspired and derived from the phenomenological approaches. These sacred landscapes are usually linked to or are parts of features within the landscape, including the peaks of mountains, bodies of water, such as rivers or spring, forests, and underground caverns and caves (Carmichael *et al.* 1994, 1). The approaches to and definitions of sacred landscape vary for each archaeologist studying sacred places. These include the approaches presented in the edited volumes by Ashmore and Knapp (1999), and Carmichael, Hubert, and Reeves. (1994).

Central to the many approaches to sacred landscapes is what defines a sacred place. In

order to do this, archaeologists must not only define what a sacred place consists of, but also what they mean by sacred. The idea of sacred entails the placing of constraints and bans on people's behaviour (Hubert 1994, 11). This means that for an object, a place, or a person to be sacred, specific rules have to be followed and performed, and it is essential that the sacred object is not set among commonplace objects or locations (Hubert 1994, 11). Within archaeology, there is currently debate concerning defining and using the term sacred within prehistoric context (see Ritual Theory Section, 53). For some archaeologists, sacred and secular are intrinsically connected facets of an individual's life, with the sacred motivating and inspiring every part of daily life (Cooney 1994, 33). Although the sacred and secular can be linked together, some archaeologists recognize for the sacred there are distinctive locations in the landscape, times, and occasions in which the sacred parts of life take precedence (Cooney 1994, 33). This notion of some separation of sacred landscapes from a secular one is paramount to the identification and study of sacred landscapes.

Various criteria for the identification of sacred/ceremonial places have been proposed by archaeologists. For Paul S. C. Taçon, sacred places usually exist across landscapes that inspire a sense of reverence, authority, and awe-inspiring splendour (1999, 36-37). Taçon identified four types of locations that would invoke these emotions. One includes places in which events of tremendous natural transformations ensue, including mountains, gorges, valleys, and volcanoes (Taçon 1999, 36). Another of these types of places are located where changes within and between the geology, the hydrology, and the vegetation of a place occur, for instance abrupt shifts in elevation or waterfalls (Taçon 1999, 36). The third type of place identified consists of uncommon features in the landscape, like prominent peaks (Taçon 1999, 36). The final type of emotive places distinguished by Taçon provide panoramic outlooks of diverse features across a landscape (1999, 36). The types of natural places listed by Taçon coincide with the views of other archaeologists who examine sacred landscapes. Along with these natural places, sacred places can also be permanent structures, such as the megalithic monuments of Northern Europe and Britain, set into the landscape (Cooney 1994, 35). These man made features are usually built in what would already be naturally emotive locations and could be used to show a clear distinction between the everyday domestic secular landscape and the ceremonial landscape (Cooney 1994, 33). Of the various features constructed across different landscapes, burial sites and tombs are frequently viewed by archaeologists and diverse cultures as sacred locations in and of themselves (Hubert 1994, 15). For instance, Gabriel Cooney examined the burial monuments of Neolithic Ireland and observed that passage tombs, which can be grouped into clusters or cemeteries, form a

separate sacred landscape from the secular landscape of the Irish Neolithic (1994, 35-36). Monuments used to construct a sacred landscape can also form monument complexes, also known as ceremonial complexes. These complexes are defined as places in which an assortment of structures, such as henges, stone circles, and tombs, from different time periods are located in the same area (Noble 2006, 140). Several ceremonial complexes have been identified and examined within Britain, such as Milfield Basin, Balfarg, Kilmartin Valley, and Orkney (Bradley 1993, 108).

Jan Harding presents another view of ceremonial landscapes, which includes his views concerning the idea of pilgrimages to ceremonial monuments that may have taken place during prehistoric Britain (2013a). Many of the sites Harding looked at were located near water, such as Thornborough, North Yorkshire, which to according to Harding meant these sites themselves had a spiritual nature by being associated with a powerful aspect of nature (2013a, 206-207). Further, for Harding a pilgrimage helps to establish or reinforce social identity, through the acts of travel, interactions with others, and the exchange of goods journeying to the ceremonial site (2013a, 217). The ceremonial sites and landscape held meaning not just because of where they were located, along waterways, but also through the journey individuals took to get to the site (Harding 2013a, 217).

There are a few theoretical approaches of how rock art interacts with ceremonial landscapes and how individuals interact with both. For Andrew Jones, he envisioned the rock outcrops around Kilmartin as living rocks, whether decorated or not (Freedman *et al.* 2011, 248). What this meant was the rocks were viewed by the prehistoric people as living components of the land, which influenced how people interacted with the rocks (Freedman *et al.* 2011, 248). Thus, the relationships of individuals and communities become sketched out across the landscape with each new rock art added and each new interaction with them, people's stories were told across the landscape through this art, marking the land for their descendants to witness (Freedman *et al.* 2011, 242-44).

The construction of ceremonial complex, which can include burial monuments, standing stones and stone circles, and henges, along with other types of ceremonial and funerary monuments can be seen as not only sacred landscapes but also as a means of displaying power, particularly if the monuments are situated within or near areas of importance within the landscape such as arable land, waterways, and valleys. Many of the Neolithic 'ceremonial complexes' appear to be located on the edges of good arable land, usually near waterways and along natural pathways. The placement of such sites appears to be a deliberate expression of power, possibly as a means of establishing a claim on the land

by an individual or a group, with rituals used at the sites as a means of framing the expression of power.

The approaches to sacred landscapes differ between archaeologists with regards to how sacred places and landscape are defined and whether the focus of study is on prehistoric or contemporary cultures. For Knapp and Ashmore, landscapes, including sacred landscapes, can be divided into three categories; constructed landscapes, conceptualized landscapes, and ideational landscapes (1999, 9). Constructed landscapes are created by the alteration of the visible landscape with the building of monuments and structures (Knapp and Ashmore 1999, 10). These structures, usually erected by sedentary cultures, are often built near distinguishing characteristics in the landscape and are used to define the landscape (Knapp and Ashmore 1999, 10). Both sacred and secular landscapes can be classified as constructed landscapes, such as the prehistoric burial sites of Britain and the modern spoil heaps and ancient slag heaps of the Troodos foothills of Cyprus (Knapp and Ashmore 1999, 10). The second category of landscape identified by Knapp and Ashmore is the conceptualized landscape, which through regional cultural customs and experiences can be bestowed meaning (Knapp and Ashmore 1999, 11). Conceptualized landscapes are distinguished by natural features in the landscape which invoke strong cultural significance, such as spiritually or creatively, such as the Maoris sacred mountain site of Tongariro, New Zealand, and the Aboriginal dreaming tracks across Australia (Knapp and Ashmore, 1999, 11). Ideational landscapes are Knapp and Ashmore's third type of landscape (1999, 12). These landscapes, which are also viewed as 'mental landscapes', invoke imaginative and emotional responses from an emic, or insider, perspective and can provide messages of morality, mythical histories, and genealogical records (Knapp and Ashmore 1999, 12).

From these types of landscape, research within landscape archaeology can be broken down into various themes, of which four were the focus of the approaches presented by the archaeologists in Knapp and Ashmore (Knapp and Ashmore 1999, 13). The first thematic approach identified by Knapp and Ashmore is the use of landscape as an expression of memory (1999, 13). These landscapes are often viewed as the manifestation of memories by establishing individual and social histories in set places (Knapp and Ashmore 1999, 13). The thematic approach of memory across the landscape examines various aspects of the use of memory in the landscape. The concept of memory, both of a community and an individual, across the landscape can encompass mythological or cosmological ideas, as well as the remembrance of traditional places of burial or meetings, along with places in the landscape such as mountains and valleys which are located in special historical and temporal contexts

(Knapp and Ashmore 1999, 14). Landscapes, in which the idea of memory is emphasized, are regularly re-used, restored, and reconstructed and used to create identities for the communities and individuals living across the land (Knapp and Ashmore 1999, 14). An example of a study of landscape as memory comes from Paul S. C. Taçon's examination of aboriginal landscapes in Australia (Taçon 1999, 33-57).

The second theme identified by Knapp and Ashmore that appears within sacred landscape approaches is landscape used as a means of identity (1999, 14). Many communities identify and maintain specific locations in terms of ritual, ceremonial, or symbolic aspects and in turn these locations are used to establish and articulate social and cultural identity (Knapp and Ashmore 1999, 14-15). The places used for marking social identity usually are pronounced landmarks across the landscape or places of transition between ecological zones, which can have distinctive indicators used to explicitly point out the social significance of the landscape (Knapp and Ashmore 1999, 15). Such special markers can include rock art, votive deposits of artefacts, and shrine/temple constructions, or they can be oral traditions which link significant experiences and occasions with specific places in the landscape (Knapp and Ashmore 1999, 15). Landscape can be both used as a marker of social and individual identity and viewed as a place of memory for communities (Knapp and Ashmore 1999, 16). These two themes can work in tandem to each other as social identities are reinforced by the communal histories marked in the landscape.

Along with the previous themes in sacred landscape studies, landscape can be used to identify and emphasize the social order of a society (Knapp and Ashmore 1999, 16). This is achieved by viewing the landscape as a whole, not simply the organisation of domestic, community, and other actions across the land, as a means of displaying the social and cultural order of a community (Knapp and Ashmore 1999, 16). A problem in identifying social order in past landscapes is the possibility of the archaeologists studying the landscape to impose their own biased interpretation of social order based on a hierarchal system (Knapp and Ashmore 1999, 16). For prehistoric landscapes, a means of approaching this problem of interpretation is the notion of 'nested landscapes' (Knapp and Ashmore 1999, 16-17). These are landscapes of a more heterarchical nature in which families, kin groups, and communities, along with an individual's gender and age have links to places, homes, and ritual spaces (Knapp and Ashmore 1999, 16-17). In order to identify nested landscapes, archaeologists must recognize the diversity which exists in social and individual identity, such as distinctions within society in people's gender and sex, age, family and kin group, and class and ethnicity (Knapp and Ashmore 1999, 17).

The final theme identified by Knapp and Ashmore within sacred landscape approaches is the viewing of landscape as a place of transformation (1999, 18). This transformation is linked to the modification and change of a landscape and usually connected with 'cyclical time' and interpreted as the continuation or altering of the current order within society (Knapp and Ashmore 1999, 17). In examining the transformation of a place, archaeologists usually concentrate on monuments in a landscape, which may have been used by past communities to represent continuity within the society (Knapp and Ashmore 1999, 18). The whole lifecycle of monuments in a landscape can be important in how people create and re-create social histories and identities, from the building and use of the monument to the abandonment and possible re-use of the site (Knapp and Ashmore 1999, 18-19). There are various forms landscape transformations may take, such as conquests which often involve the eradication and ruin of the history of the society vanquished with the demolition of the local monuments, resisting or rebellious forces can transform the land through the destruction of monumental structures, and the abandonment of once important and socially significant monuments can be seen as a major shift in how the landscape, the past, and society are viewed (Knapp and Ashmore 1999, 19).

Although these themes identify four separate ideas within the study of sacred landscape, they can be used in conjunction with one or more of the themes recognized by an archaeologist. Landscapes can be places of memory and transformation which can be used to give individual and group identity and maintain or establish social order. The difficulty for archaeologists is to be able to distinguish which themes are present across the landscape. The identification of a theme or themes within the landscape can also depend on whether the archaeologist is studying past or contemporary landscapes. With past landscapes, archaeologists generally have less concrete information about the way past societies viewed the landscape. Thus although a past landscape may be seen by archaeologists as places of transformation which can create or reinforce social order and identity or power, it may be unclear how a location within the landscape is used as a place of memory.

### *Conclusion*

In considering how archaeologists are able to identify ritual/sacred landscapes within the archaeological record, I examined the various approaches to landscape theory developed within archaeology, from the origins of the field of study to the current approaches used. Although all of the modern approaches on how to define and identify landscapes all make valid points and arguments, each theory has its own sets of problems and biases which need

to be understood before the theories can be used within the field. The development of landscape theory within early academic fields including archaeology has led to various definitions and interpretations being attributed to aspects and features of a landscape within a particular area. What an archaeologist means when discussing a landscape can vary from the topography within a specific area, the place where a group of people live, a small piece of land visible only from a particular location in the land, or the distinctive ways a culture views and understands the world (Thomas 2001, 166).

The phenomenological approaches to landscape archaeology discussed in this chapter possess some similarities, as well as differences in how one examines and views the land. As all of these approaches, including those concerned with sacred landscapes, are shaped within a phenomenological framework, they all focus around how all the components of the landscape, including the land and the monuments, were experienced by both the archaeologist and by people in the past. How each archaeologist frames this experience differs between each approach. According to Tilly, the landscape is a holistic entity encompassing all interactions within and between set places in the land. These landscapes have set meanings, which can be shaped through historical events, mythology, and folklore, as well as fixed time and space relationships, which affects how an individual experiences the landscape. This experience is further influenced by direct and indirect observations where individuals not only create and shape the landscape, but are also shaped by it (Tilley 1996, 161-162). For Tilley, the experiences within a landscape of those from the past and people in the modern era share commonalities (Brück 2005, 54-56). While, for Bender, how people understand and experience the landscape is based on the specific time, location, and historical context of the individuals. People are constantly involved with the landscape by reworking and adapting it. Further, landscapes can function on different spatial levels and on separate time scales (Bender 1993, 1-3). In Thomas's approach, landscape is seen as a series of interconnected locales, which are joined together by everyday events and connections, with feelings of attachment placed on the locales by groups of people. Locations can be experienced completely differently, becoming a different place with a separate meaning for every individual (Thomas 2001, 173-176). Although each approach differs in how landscape is dealt with, each phenomenological theory centres on the idea that an individual's experiences shape the landscape. This can lead to problems of the archaeologists possibly projecting their own experiences within a landscape onto those of the past, and potentially viewing how the modern individual experiences the landscape as same to how those in the past times would.

Even though all of the sacred landscape approaches use a phenomenological framework to study the land, each approach has a different way of looking at sacred places. For Taçon, sacred landscapes are natural places that inspire reverence and awe, while for Knapp and Ashmore, sacred landscapes can be used as a means of creating social and cultural identities (Knapp and Ashmore 1999, 9-19; Taçon 1996, 36). Knapp and Ashmore also classified landscape into three categories, constructed landscapes, which contain built monuments; conceptualised landscapes, consisting of natural features across an area; and ideational landscapes, which invoke emotional responses (1999, 9-19).

Within Britain, the most influential of landscape theories is the phenomenological approach, which examines the experiences of the individual within a specific landscape. This approach to landscape further shaped the study of prehistoric British sacred landscapes, with archaeologists using phenomenology to create several different approaches to and definitions of sacred landscape, including the approaches outlined and explained by Ashmore and Knapp and Carmichael. However, the terms sacred landscape and ceremonial complexes are somewhat problematic as they rely on framing the landscape in terms of ritual, which itself is inherently difficult as ritual even within modern societies is hard to define and separate from everyday life. Instead of viewing parts of the landscape as sacred places perhaps archaeologists should see them as places of power where individuals or groups used the trappings of ceremony, ritual, and religion to establish or reinforce their own power, especially as many of these sites are situated within or near areas of importance within the landscape such as arable land, waterways, and valleys.

## Chapter 5: Case Studies

### Introduction

This chapter explores the development and reuse of Neolithic sacred landscapes in Scotland within individual cases studies, the Fife, Southern Perthshire and Kinross region, the Kilmartin Valley, and the various ceremonial complexes which appear across the Orkney Islands. The first case study examines the various sites in the Fife, Southern Perthshire and Kinross area, including the complexes of the Balfarg/Balbirnie and Forteviot, from the earliest Neolithic sites and features, including pits dating to the Early Neolithic from the Balfarg/Balbirnie complex and the palisade enclosure at Forteviot, to Bronze Age funerary sites. The second case study centres on the rise of the ritual landscape of the Kilmartin Valley, from the Neolithic ceremonial and funerary sites, such as the Temple Wood and Nether Largie South, to the Bronze Age cairns, including those of the linear cemetery along the Kilmartin Burn. Finally, the third case study focuses on, the creation and continued use of ceremonial landscapes of the Orkney Islands, such as the concentration of ceremonial and funerary sites of the Brodgar Peninsula, including Maeshowe, the Stones of Stenness, and the Ring of Brodgar (For a list of sites and their characteristics used for each Case Study see Features Catalogues in the Appendix).

### *Fife, Perthshire and Kinross Case Study*

Within the counties of Fife, Kinross, and southern Perthshire there exists a large concentration Neolithic and Bronze Age sites, often of what appears to be a mortuary or ceremonial nature. This area is bounded by water on three sides, the Firth of Tay, to the north, the Firth of Forth, to the south, and the North Sea to the east, with the Ochil Hills acting as a natural boundary to the southwest and the hills of Lurghan Hill, Dunruchan Hill and Cambushinnie Hill to the northwest (See Map 1).



Map 1: Map of Fife, Southern Perth and Kinross (OSmaps Website)

The main types of sites prevalent during the Neolithic through the Bronze Age consist of ritual and mortuary sites, although several potential domestic sites have been discovered as well. The types of Neolithic monuments found in Fife and southern Perth and Kinross region include cursus monuments, which are divided into two types ditch-defined and pit-defined, Neolithic pits, timber structures and enclosures, including the palisade enclosure at Forteviot and Leadketty. Standing stones and stone circles usually date to the Later Neolithic or Early Bronze Age, while recent research has shown henges date to the Early Bronze Age. Henges are defined by their oval or circular enclosing earthworks with an inner ditch and outer bank

interrupted by one or more entrance causeways. Cup and ring markings appear appended to these sites from the Neolithic through the Bronze Age. The markings which resemble circular indentations sometimes with concentric rings carved around them, have been located on rock outcrops, large boulders, small portable stones, and a number of prehistoric monuments, including standing stones and cist covers. Other monuments identified in the region include Bronze Age cairns and barrows, burials and cists, which have been found with grave goods similar to those found in cairn covered cist burials. Some of the cist burials are found grouped together, apparently forming cemeteries. A few possible domestic sites have also been found, including some hut circles, which may relate to any period from the Neolithic through the historic period, only to be elucidated by excavation, and the Bronze Age cooking pits found at the Balfarg Complex.

| <i>Site</i>                     | <i>Calibrated C14 Date</i>   |
|---------------------------------|--|
| Group 1 Neolithic Pits, Balfarg | 3645-3505 cal BC to 3685-3380 cal BC (GU-1903), 4035-3830 cal BC to 4225-3780 cal BC (GU-2604), and 3790-3650 cal BC to 3955-3625 cal BC (GU-2605)                                       |
| Group 2 Neolithic Pits, Balfarg | 3605-3385 cal BC to 3670-3345 cal BC (GU-2606) for Pit F2050 and 3675-3545 cal BC to 3710-3510 cal BC (UtC-1302)   |
| Balfarg                         | 3350 to 2600 cal BC (GU-1163), 2130 to 1880 cal BC (OxA-13215), 3050 to 2450 cal BC (GU-1160), 2900 to 2200 cal BC (GU-1161), 3350 to 2500 cal BC (GU-1162)                              |
| Timber Structure 2 BRS          | 3350 to 2650 cal BC (GU-1907), 2900 to 2500 cal BC (GU-1906), 3090 to 2680 cal BC (GU-1905)  |
| BRS                             | 3340 to 2910 cal BC (GU-1670), 3020 to 2620 cal BC (GU-1902), 3700 to 3360 cal BC (GU-1902), 3330 to 2880 cal BC (GU-1904), 1600 to 1310 cal BC (GU-3264), 1690 to 1420 cal BC (GU-3263) |
| Palisade Enclosure, Forteviot   | 3000-2200 cal BC   |
| Timber Circle, Forteviot        | 2850-2467 cal BC   |
| Ditch-Enclosure, BRS            | 3100-2915 cal BC to 3300-2915 cal BC (GU-1670) and 3045-2905 cal BC to 3275-2900 cal BC (GU-1904)  |
| Stone Circle, Balbirnie         | 2300 to 800 cal BC (GaK-3425), 1740 to 1520 cal BC (GrA-24860), 1740 to 1510 cal BC (GrA-26151)  |
| Cairn, Balbirnie                | 1600 to 400 cal BC (GaK-3426)  |
| Cist 2, Balbirnie               | 2929-2088 cal BC to 2048-1892 cal BC (SUERC-   |

|                                       |   |
|---------------------------------------|---|
|                                       | 18301)  |
| Late Bronze Age Cooking Pits, BRS     | 1680-1430 cal BC (GU-3263) and 1585-1320 cal BC (GU-3264)   |
| Gask Hill                             | 2210 to 1940 cal BC (GrA-19054), 2350 to 1750 cal BC (OxA-4510)   |
| Ashgrove                              | 1800 to 500 cal BC (Q-764)  |
| Easter Kinnear                        | 2020 to 1690 cal BC (GU-3036)   |
| Henge, North Mains, Strathallan       | 3350 to 2500 cal BC (GU-1352), 2950 to 2300 cal BC (GU-1353), 2900 to 2000 cal BC (GU-1354), 2900 to 2200 cal BC (GU-1435), 2950 to 2350 cal BC (GU-1436), 1400 to 800 cal BC (GU-1437) |
| Cist Burial, North Mains, Strathallan | 2150 to 1500 cal BC (GU-1381)   |
| Burial A, North Mains, Strathallan    | 2200 to 1910 cal BC (GrA-24007)   |

Table 2: Calibrated C14 Dates for Fife, Southern Perth and Kinross (Canmore)

## Features

### *Cursus Monuments*

At least three cursus monuments have been identified within Fife and southern Perth and Kinross (see Map 2). Cursus monuments are one of the oldest known sites dating to the Early Neolithic. These monuments occur as linear earthworks which vary in size, of which there are three types of cursus monuments, ditch-defined, ‘bank barrows’, and pit-defined (Brophy 1999, 119; Harding and Barclay 1999, 2). A possible cursus monument is located at the site of Burleigh (Canmore ID 205782) in Perth and Kinross (Figure 22), while the other two are located in Fife, including a pit-defined cursus at Reedleleys (Canmore ID 252218) and a possible cursus at Kilmany (Canmore ID 31787). The cursus at Kilmany, which was identified by aerial photography, is located to the southwest of several ring-ditches within arable farmland running east-northeast by west-southwest and measures 100 m in length by 8 m in width. However, the nature of this site is now under dispute, with Historic Scotland as of November 2013 considering this monument to be a bank barrow instead of a cursus monument. Bank barrows are long linear parallel-sided monuments with a central mound and usually do not have an enclosing ditch at either end, appear to have a close relationship with cursus monuments in Scotland (Brophy 1999, 123-24).



Feature 22: Possible Cursus Monument at Burleigh – Aerial Photo taken from the West-Northwest (Canmore)

### *Neolithic Pits*

Other Early Neolithic features found within Fife and southern Perthshire and Kinross are located at the Balfarg/Balbirnie ceremonial complex, which are the Early Neolithic Pits. These pits, which date to *c.* 3000 BC, were identified at the Balfarg Riding School (Canmore ID 29959) and an area to the west of the Balfarg Henge (Canmore ID 29990) and excavated by Barclay and Russell-White (1993, 57-60). There appears to be no distinguishable characteristics for the Early Neolithic pits found at Balfarg as some pits found in Area A of the site could have been viewed as natural in origin if not for the artefacts found during excavation (Barclay and Russell-White 1993, 60). These pits were divided into two groups based on the pottery found within them, Group 1 and Group 2 (Barclay and Russell-White 1993, 60). The Neolithic pits located in Area C of the Balfarg Riding School site, with a few found in Area A of the Balfarg Henge (Figure 23), were found to contain Group 1 pottery sherds of Carinated bowls, shoulder bowls, and several miscellaneous sherds from 'plain bowl style' pots (Barclay and Russell-White 1993, 60). Of the possible ten Group 1 pits within Area C, only two, pits F8016 and F8017, were found to contain any substantial amounts of pottery (Barclay and Russell-White 1993, 60).

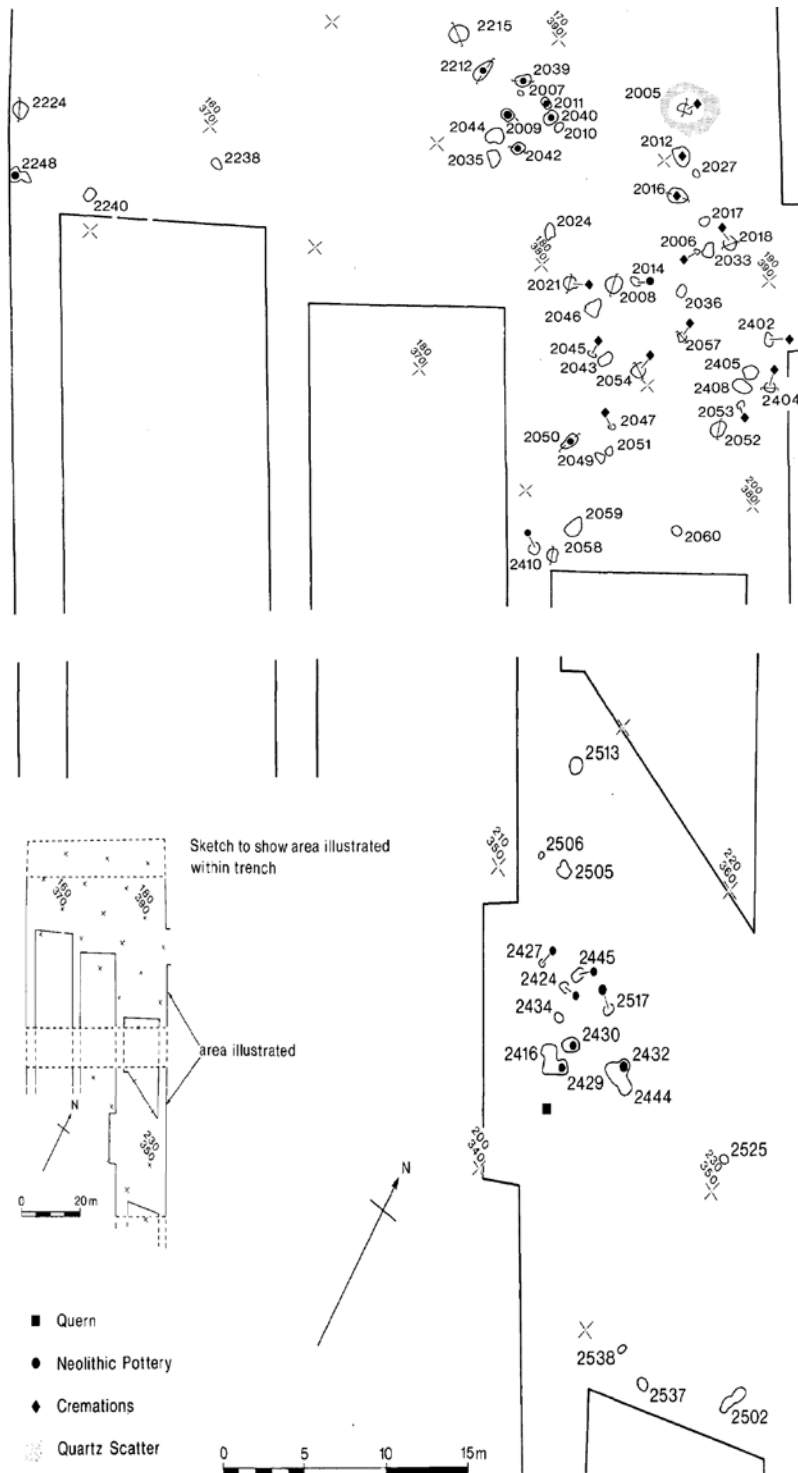


Figure 23: Features in Area A Located to the West of the Balfarg Henge – Includes Placement of Neolithic Pits (Barclay and Russell-White 1993, 58-59)

The other notable Group 1 Early Neolithic pit located in Area C of the Balfarg Riding School, F8017, was found to be of a similar shape to F8016 and had dimensions of 1.2 m by 0.7 m and 0.3 m deep (Barclay and Russell-White 1993, 62). Pit F8017 was shown to be

large, shallow, and stone filled and consisted of only two layers in which sherds of pottery and burnt bone were discovered (Barclay and Russell-White 1993, 62). Other Group 1 pits were identified in Area A of the Balfarg site, including pits F2410 and F2429, with pits F2445, F2424, and F2430 containing pottery sherds of Group 1 and 2 (Barclay and Russell-White 1993, 63). The remaining Early Neolithic pits identified in Area A were found to contain pieces of Group 2 pottery (Barclay and Russell-White 1993, 63). Of these 15 pits, Pit 2430 contained a large quantity of carefully deposited pottery, including a complete Neolithic pot and sherds from at least 11 other vessels (Barclay and Russell-White 1993, 63-64) The remaining pits containing Group 2 pottery were also usually found in association with ‘deposits of charcoal or charcoal stained soil’ (Barclay and Russell-White 1993, 63).

### *Neolithic Burials*

A Neolithic cremation burial was uncovered at North Mains, Strathallan in Perth and Kinross, found underneath the henge monument dating to the third millennium BC (Figure 24) (Barclay 1983c, 126). Two further burials were also discovered that may be contemporary to the cremation burial (Barclay 1983c, 126).

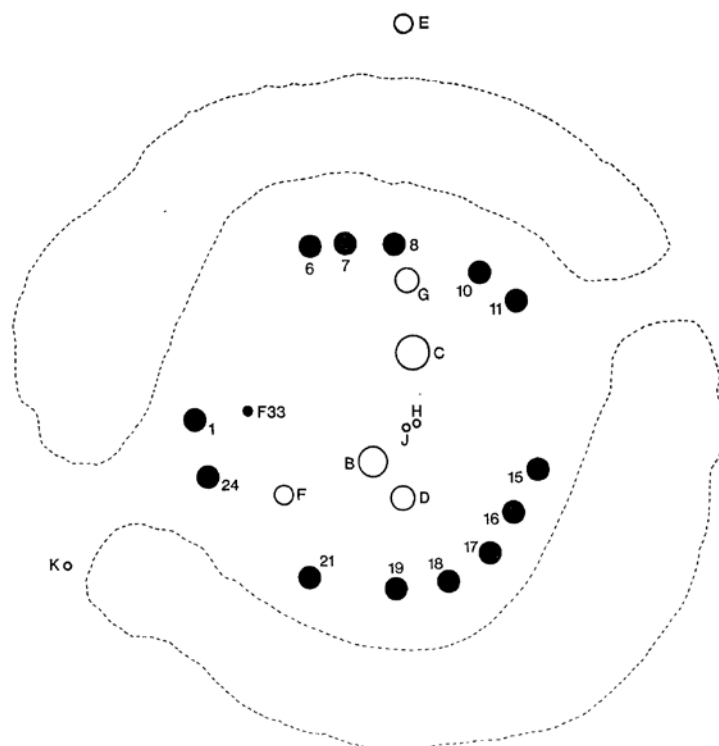


Figure 24: Plan of Features during Period III of the Henge at North Mains – Including Burials, F33, and Deposits in the Tops of Ring A Pits (Barclay 1983c, 135)

At Forteviot, a Neolithic cremation cemetery (Figure 25), appears to be the first phase of occupation at the site and covers an area of 15 m by 9 m, was excavated with nine burial deposits identified consisting of adults and children (Noble and Brophy 2011, 790). The cemetery dates to the beginning of the third millennium BC, with dates of 3090-2638 cal BC (Noble and Brophy 2011, 790). The cremation deposits were probably placed within flat-based wooden vessels (Noble and Brophy 2011, 790). A few of the deposits contained small finds such as a bone pin, a sherd of pottery, or a leaf-shaped arrowhead (Noble and Brophy 2011, 790).

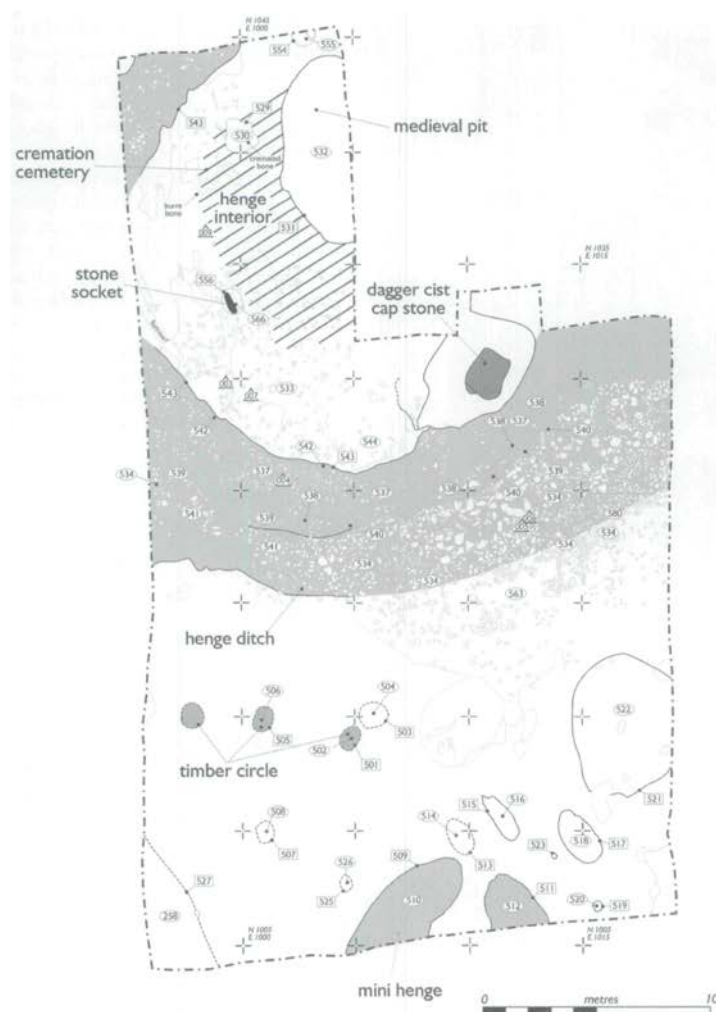


Figure 25: 2009 Excavation Plan of the Henge at Forteviot – Showing the position of the Exterior Timber Circle, the Dagger Burial, and the Cremation Cemetery (Noble and Brophy 2011, 797)

### *Neolithic Settlements*

The possible remains of timber buildings, perhaps similar to the Neolithic timber building at Balbridie, have been found at three sites in Fife at Shiells (Canmore ID 29780), Kirkwood (Canmore ID 33101), and at Kirktonbarns (Canmore ID 68158). These sites may

date to the Neolithic, however as none of them have been excavated the actual dates of construction and use are as yet unknown.

A possible Neolithic domestic site has been located at Scotstarvit Covert (Canmore ID 31510). Three sherds of pottery possibly dating to the Later Neolithic/Early Bronze Age were found from a hearth and a hollow which pre-dates the existing house during the excavation of a later structure (Bersu 1948, 262; Cowie 1993, 30).

A further possible settlement is located at Tentsmuir, Fife (Canmore ID 33194), within an area of sand dunes. Artefacts ranging from the Mesolithic through the Medieval period have been discovered in the area over the course of many years, with Neolithic pottery, such as Grooved Ware, and lithics, like leaf-shaped flint arrowheads and polished stone axes; and Bronze Age artefacts including Beakers, Food Vessels, Collarded Urns, and Cordoned Urns, barbed-and-tanged flint arrowheads, and bronze objects such as pins (Longworth *et al.* 1966-67, 60-92; Robert 1904-05, 345-49). As well, the remains of early structures were identified by Hutcheson, consisting of circular depressions measuring 3.04 m to 4.57 m in diameter, with the structures potentially standing at a height of 1.52 m (Hutcheson 1908, 180-81). However, these remains are no longer identifiable, and the potential dating of them to the Neolithic or Bronze Age is unable to be verified.

### ***Timber Structures***

Timber structures ranging from rectangular structures to timber circles have been found at least seven sites, three sites in Fife, a timber circle at Morendy Wood (Canmore ID 33285), the remains of timber circles at Gateside (Canmore ID 27793) and a series of timber structures were located at Balfarg complex, which included two structures found at the Balfarg Riding School (BRS) dating from the Early Neolithic and a sequence of timber circles dating from the Later Neolithic found at the Balfarg Henge (Mercer 1981, 80-113; Barclay and Russell-White 1993, 76). While four sites have been located in Perth and Kinross, including a timber circle at North Mains (Canmore ID 26006), Kincladie (Canmore ID 129352), Moncreiffe House (Canmore ID 28012), a palisade enclosure and a four poster timber setting at Leadketty (Canmore ID 26637), and a palisade enclosure and timber circle located at the ceremonial complex at Forteviot (For dates see Table 2) (Barclay 1983c, 127-33; Noble and Brophy 2011, 787-804).

The two timber structures at the BRS excavated by Barclay and Russell-White were discovered in Area C within the Balfarg complex with Structure 1 possibly being erected first and followed by Structure 2 (Figure 26) (1993, 76).

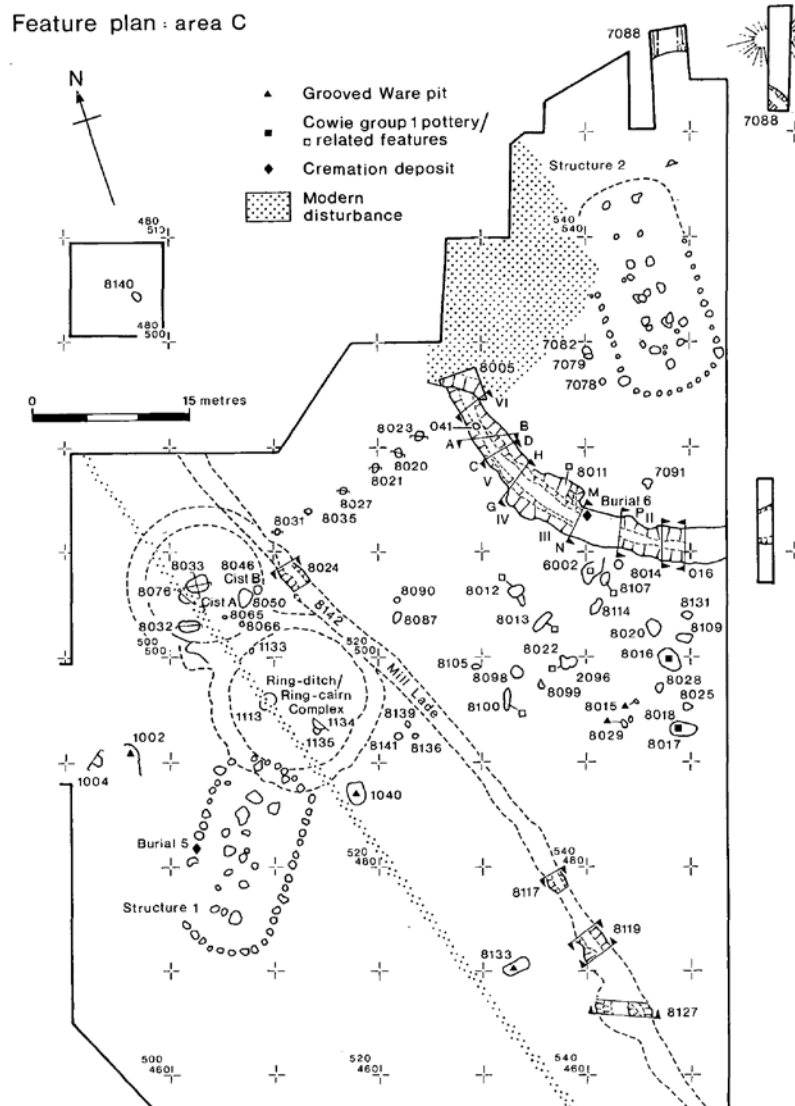
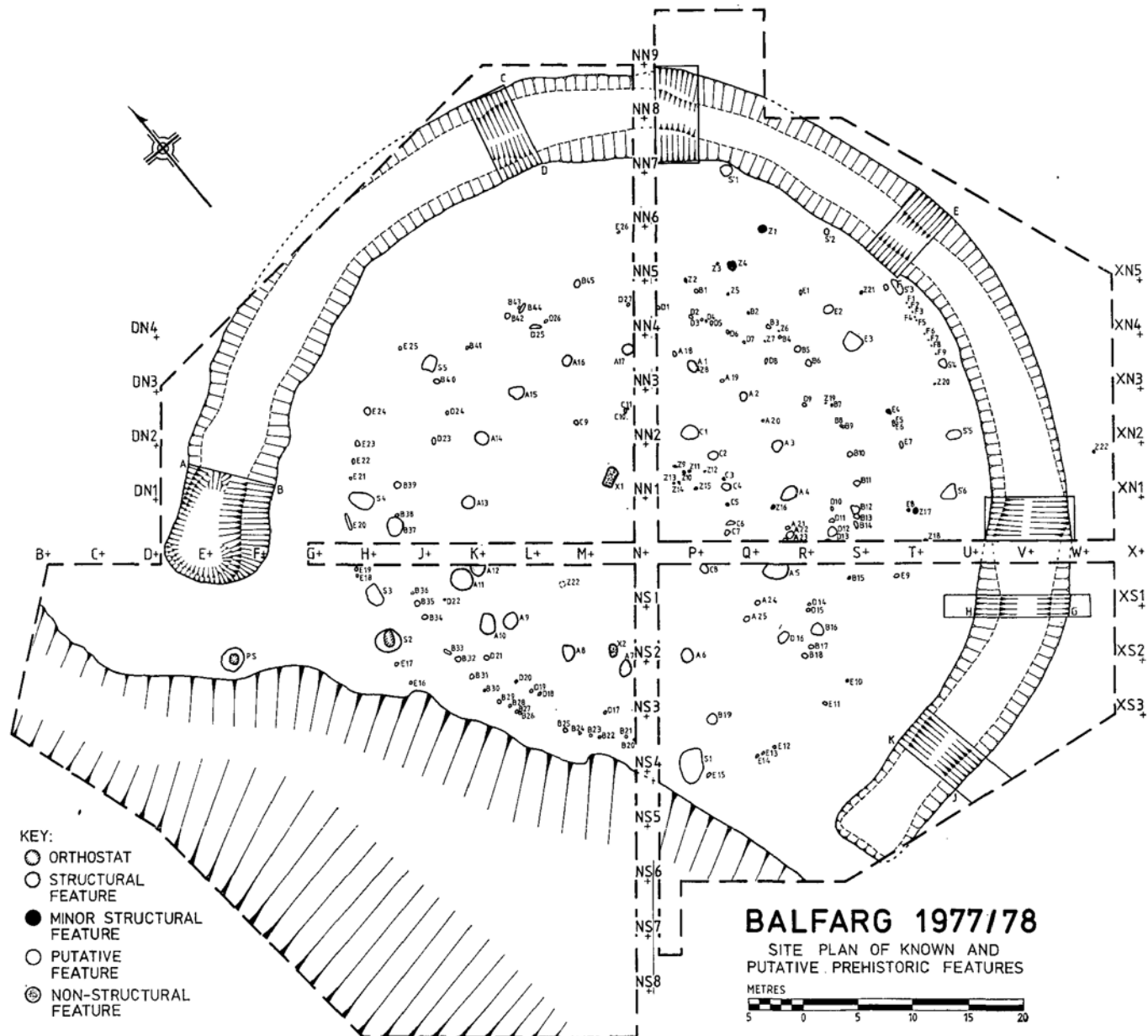


Figure 26: Feature Site Plan for Area C at BRS (Barclay and Russell-White 1993, 53 illus 6)

Both structures have a post defined boundary and several pits, some of which may be postholes, located within the interior of the boundary (Barclay and Russell-White 1993, 76). Structure 1 consists of a rectangular shaped boundary wall with curved ends, made up of regularly spaced postholes numbering probably 44 with all but five of the postholes found during the excavation (Barclay and Russell-White 1993, 76-77). Along with the boundary walls, 16 pits, most of which were identified as postholes, were found within the interior of the structure (Barclay and Russell-White 1993, 76-77). Various artefacts were uncovered within this structure, including a cremation deposit that appeared to be deliberately placed in the fill of the post-pipe of pit F1228 (Barclay and Russell-White 1993, 77). Other artefacts identified in this structure include sherds of Grooved Ware pottery discovered in pits F1104/1131, F1111, and F1121 (Barclay and Russell-White 1993, 77).

Timber Structure 2, most probably built after Structure 1, comprises a boundary wall with 26 pits within the interior of the structure (Barclay and Russell-White 1993, 84-85). The surviving boundary wall of Structure 2 is made up of 10 postholes along the east wall, eight post holes in the west wall, and nine posts along the southern wall (Barclay and Russell-White 1993, 85). A small amount of artefacts were recovered from some of the post holes, including lithic fragments from postholes F7041 and F7036, and fragments of cremated bone from post hole F7063 (Barclay and Russell-White 1993, 85). Of the 26 pits excavated within the interior of the boundary wall, the majority of them have been identified as postholes, which were found to fall into roughly two lines (Barclay and Russell-White 1993, 85). Several artefacts were found in these pits including Grooved Ware pottery sherds in pits F7023, F021, and F7054; lithic fragments in F7019 and F7053, F7024, and F7023; and burnt animal bones in F7023 and F009 (Barclay and Russell-White 1993, 85-88). According to Barclay and Russell-White, these two structures were not roofed buildings, but consisted of boundary walls enclosing an open area that contained a series of 'two-post constructions' arranged perpendicular to the central axis of each structure (Barclay and Russell-White 1993, 175-76). There is no clear evidence of any domestic use for these structures (Barclay and Russell-White 1993, 176).

A series of potential timber circles, A through F, dating to the Later Neolithic were uncovered at the Balfarg Henge by Mercer (1981, 80-113). Of these timber circles, Circle A, is located near the ditch on the north and east sides of the Balfarg Henge, and consisted of 15 timber posts with a diameter of about 25 m (Figure 27) (Mercer 1981, 80). Along the west side of the circle, the post holes were found to be placed deeper into the ground than along the other sections of the circle (Mercer 1981, 81). Also, two postholes were found on the west side of the circle arranged in a 'portal' setting in a tangent to the circle (Mercer 1981, 80). Among the timber postholes, several artefacts were found in the fill, including pottery sherds in A6, A7, A8, A11, A12, and A13; lithic fragments in A7, A9, A10, A11, A13, A14, A15, and A17; and burnt bones in A6, A7, and A11 (Mercer 1981, 82-84). Various other finds were found across timber circle A, such as a group of uncontexted lithic fragments found on the southwest side of the circle, and an assemblage of pottery sherds, which included fragments of 16 Grooved Ware vessels, located in layer U2 to the west-northwest of the circle (Mercer 1981, 84-90). A bowl shaped pit, Feature X2, was found in association with timber circle A on the south-southwest side of the circle (Mercer 1981, 97). This pit contained unidentified burnt bone fragments, Grooved Ware sherds, sherds of other pottery vessels, and evidence of *in situ* burning (Mercer 1981, 97).



Feature 27: Site Plan of the Balfarg Henge – Including the Postholes of the Possible Timber Circle (Mercer 1981, 112)

The palisade enclosure, excavated by Noble and Brophy, dating to the Later Neolithic, around 3000-2200 cal BC enclosed an earlier cremation cemetery (Figure 28) (Noble 2009, 12-19; Noble and Brophy 2011, 787-804). The palisade at Forteviot consists of a large enclosure and an entrance avenue on the northwest side, comprising at least 18 posts and measuring 35 m in length by 4-5 m wide (Noble and Brophy 2011, 791). The boundary of the enclosure, including the entrance avenue, runs roughly 600-700 m in length and would have required 200 timbers, measuring up to 6 m high, to construct it. Fragments of cremated bones were found in the upper fill of some of the avenue posts (Noble and Brophy 2011, 793).

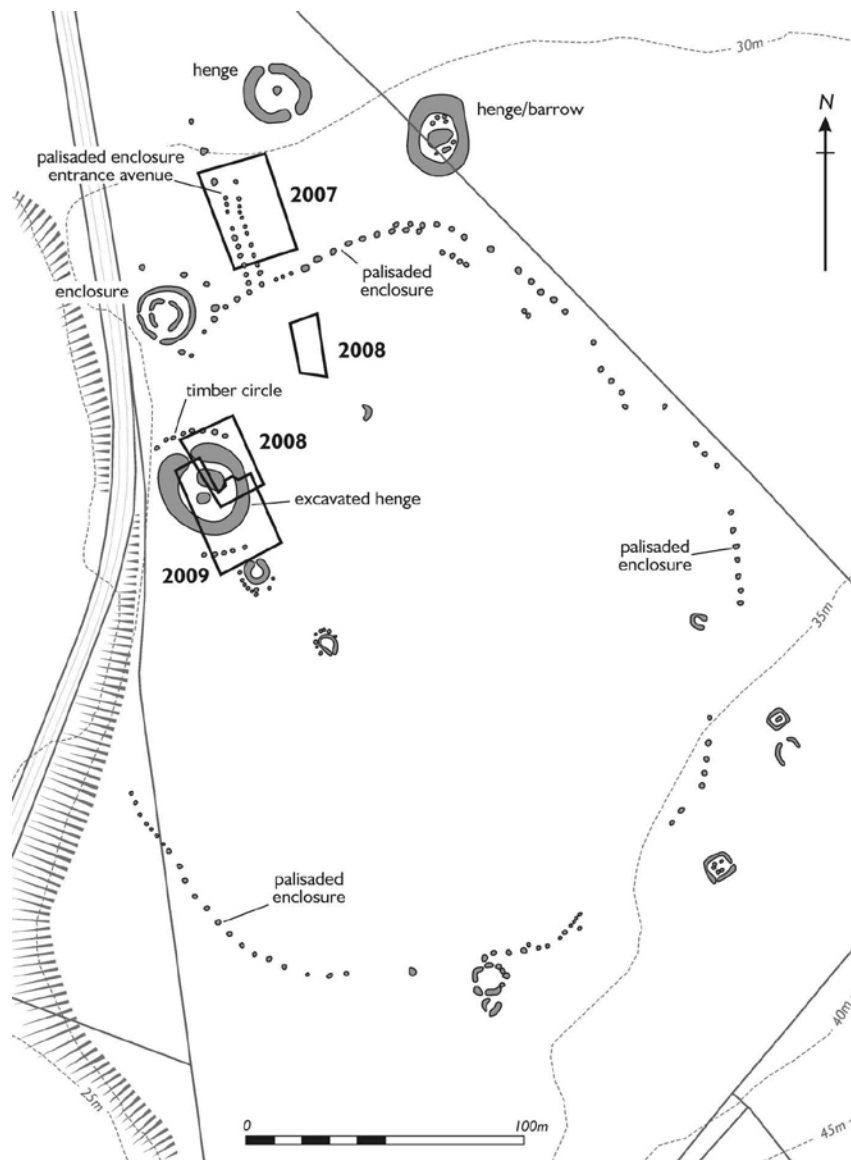


Figure 28: Forteviot Site Plan – Including the Palisade Enclosure, a Timber Circle, and Excavated Henges (Noble and Brophy 2011, 789)

The timber circle, which measured 45 m in diameter, was also constructed at Forteviot during the Later Neolithic, dating to 2850-2467 cal BC, further enclosing the cremation cemetery (Figure 28) (Noble and Brophy 2011, 795). Five of the postholes were excavated on the north and south side of the circle, which surrounds a later henge monument (Noble and Brophy 2011, 795). The postholes had held large oak posts measuring 0.5 m in diameter (Noble and Brophy 2011, 795).

At North Mains, a timber circle Ring A was excavated dating to the late third/early second millennium BC and belongs to the second period of occupation of the area surrounding the henge monument (Figure 29) (Barclay 1983c, 126). The timber circle consisted of pits forming an uneven circle with a diameter of 25 m to 27 m, with the pits

arranged in straight sections of three to four pits (Barclay 1983c, 127). Some of the pits show signs of deliberate filling before the erection of the post, with the posts measuring up to 0.6 m in diameter (Barclay 1983c, 127-33). Several of the pits have evidence of post rotting *in situ* (Barclay 1983c, 133). Some burnt bones and two pottery finds were located in the pit fills (Barclay 1983c, 133).

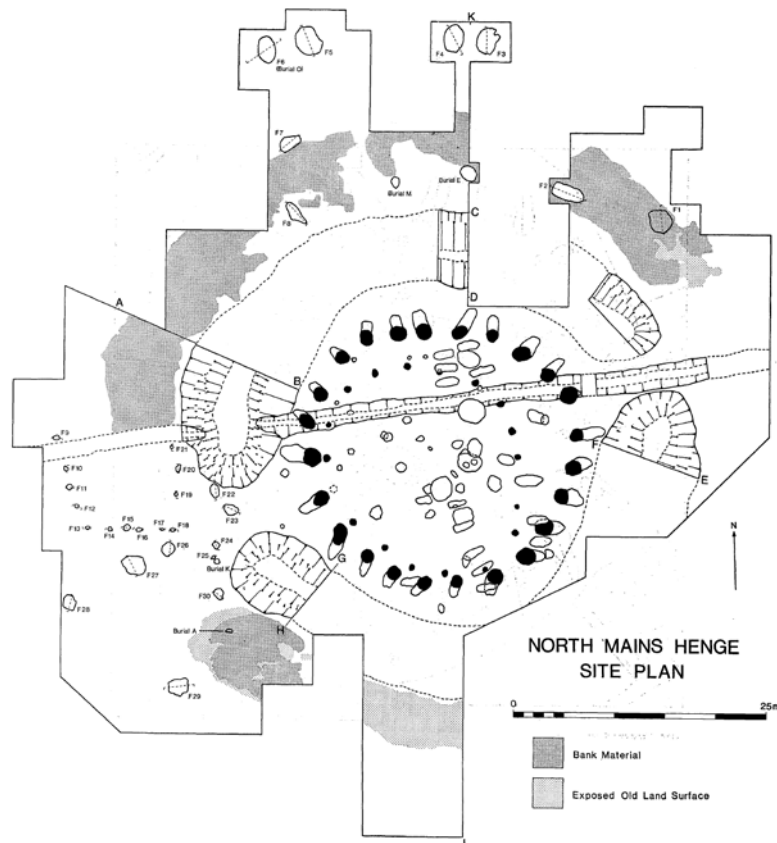


Figure 29: North Mains Henge Site Plan – Including Timber Circle (Ring A) (Barclay 1983c, fig 3)

### ***Henges and Ditch-Enclosures***

Of the Later Neolithic and Early Bronze Age earthen structures located in Fife and southern Perth and Kinross include at least seventeen henges and a ditch enclosure. The sites within Fife include the henges at Lumphinnans (Canmore ID 51098), Balmalcolm Farm (Canmore ID 31291), Pitlessie (Canmore ID 88369), Kilmany, Grange (Canmore ID 31770), the henge located at Balfarg and the ditch enclosure at the Balfarg Riding School. While the sites found within southern Perth and Kinross include the henges at Moncreiffe House, Leadketty, Belhie (Canmore ID 25964), North Mains, and the three possible henges and possible ditch-enclosure at Forteviot (Canmore ID 26565) (Noble and Brophy 2011, 789, figure 2).

The features at Balfarg and BRS were constructed after the two timber structures were built at the BRS but before the erection of the timber circles of the Balfarg Henge (Barclay and Russell-White 1993, 47). The ditch enclosure, which was found incomplete, formed an arc around the south and west sides of timber structure 2 at the BRS, while along the east and north sides the ditch was destroyed or removed by modern construction (Barclay and Russell-White 1993, 90). The excavated sections of the ditch measured between 0.5 m and 1.1 m deep and between 2.2 m and 4.5 m wide, with the fill divided into three distinct layers, the upper, middle, and lower layers (Barclay and Russell-White 1993, 90). The Upper layer contained the greatest concentrations of Beaker pottery, while Grooved Ware pottery was found in the Middle layer (Barclay and Russell-White 1993, 92-93). Other artefacts uncovered within the ditch include lithic fragments, burnt animal bones, and charcoal residue (Barclay and Russell-White 1993, 93). The deposits of both Grooved Ware and Beaker pottery sherds reveal that the ditch, which was constructed during the later Neolithic, was used through the Bronze Age.

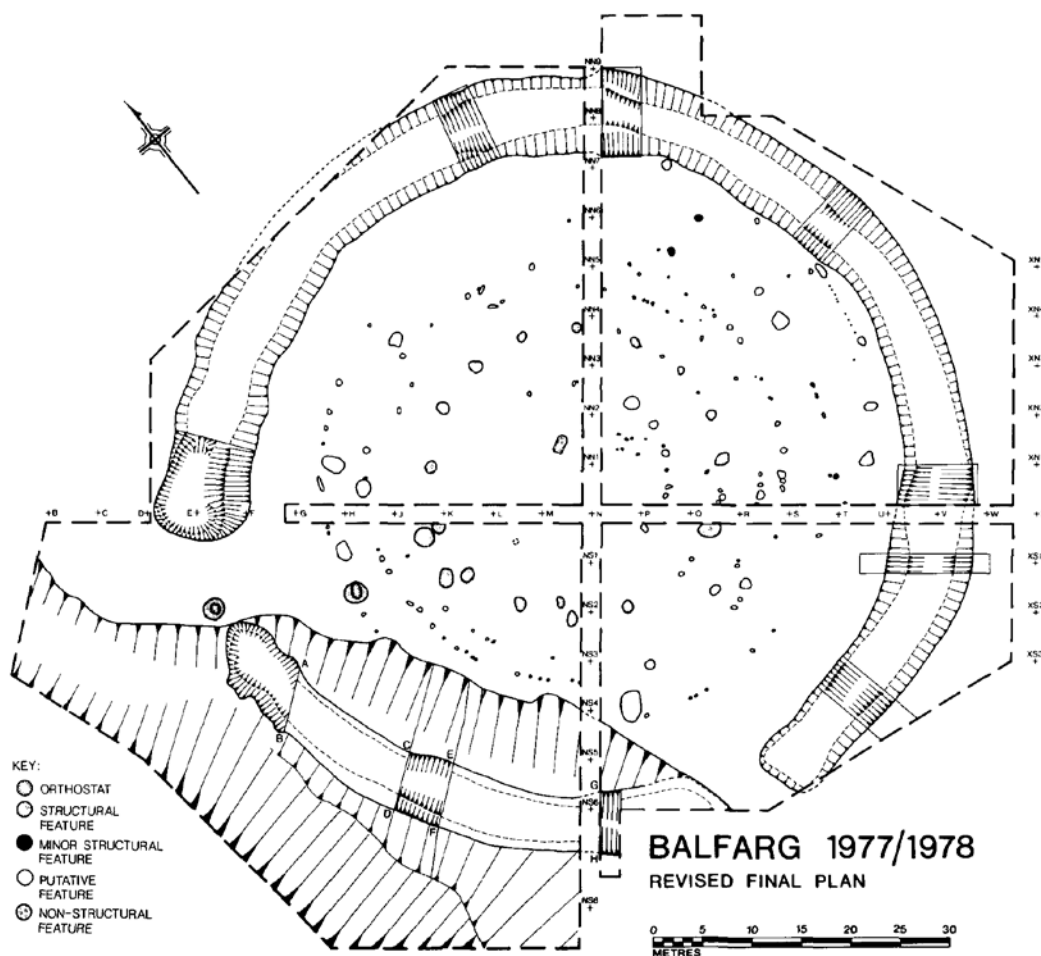


Figure 30: Balfarg Henge Site Plan (Mercer *et al.* 1988, 66 illus 3)

The Balfarg henge (Figure 30), which dates to the Bronze Age, was first identified by Dr. Kenneth Steer in 1947 using aerial photography (Gibson 2010, 65-74; Mercer 1981, 64). It is located within a depression on top of a slight natural rise in the landscape and looks out on to the 'eminence of East Lomond' from the west side of the site and Clatto Hill from the northeast (Mercer 1981, 149). The henge was found to be an incomplete ditch and bank shaped in a circular arc with a 60 m gap on the southern side where the ditch was obscured by a gully (Mercer 1981, 148; Mercer *et al.* 1988, 61-67). The ditch was excavated to a depth of 2.5 m and was found to measure about 8 m in width (Mercer 1981, 64-66). The henge was comprised of two components; a U-shaped ditch, which contained several layers of fill, and an embankment, which is no longer identifiable and was composed of the displaced soil of the ditch (Mercer 1981, 66-149). Within the fill of the ditch, there were no artefacts recovered from the primary silt, layers 5 and 6 (Mercer 1981, 66). However, from layer 4 on, a build-up of material eroded from the surface begins to collect within the ditch, including flecks of charcoal (Mercer 1981, 66).

The main henge at Forteviot, which was constructed at least a century after the timber circle, is located within the palisade enclosure and the timber circle, with the henge belonging to the Early Bronze Age with dates of 2468-1938 cal BC (Figure 25) (Noble and Brophy 2011, 795). The henge measures 22 m in diameter and a possible external diameter of 55 m to 65 m, with the ditch measuring a maximum of 10 m wide and ranging from 1.8 m to 2.8 m deep (Noble and Brophy 2011, 796). The entrance to the henge runs north-northwest, which is the same alignment as the entrance avenue of the palisade enclosure (Noble and Brophy 2011, 796). Only traces of the embankment remain, which may have stood 3 m or more. Burnt deposits and some beaker sherds have been recovered from the henge ditch, while a Bronze Age dagger burial was inserted into the interior of the henge (Noble and Brophy 2011, 796).

The henge at North Mains was one of three sites excavated at this site (Figure 29) (Barclay 1983c, 122). The henge was constructed during the second period of occupation at the site, after the erection of the timber circle during the late third to early second millennium BC (Barclay 1983c, 126). The henge was located on the edge of a steep sided gully with the Machany Water running through the gully (Barclay 1983c, 123). The henge, which had an external diameter of 60 m to 65 m, had two entrances on the east and west sides of the henge (Barclay 1983c, 123). The terminals of the ditch measured 11 m at the northwest terminal, 7 m at the northeast terminal, 7 m at the southeast, and 6 m at the southwest terminal and varied from 2.2 to 3 m in depth (Barclay 1983c, 133). The ditch had a diameter of 32 m to 35 m

(Barclay 1983c, 133). Only small areas of the embankment survived, measuring from 0.1 m to 0.3 m high and 9 m wide (Barclay 1983c, 133). Two burials were later inserted into the henge, burial E and F2 (Barclay 1983c, 133).

At Leadketty, three mini-henges have been excavated, with the largest measuring between 12 m to 13 m in diameter, with a ditch the width of about 2 m (Figure 31) (Brophy *et al.* 2012, 20-25). The henge dates from the Later Neolithic to the Early Bronze Age, and had an entrance on the southeast side of the ditch-embankment (Brophy *et al.* 2012, 20). The henge has an internal measurements of 8 m northwest to southeast by 5.8 m, with the entrance measuring 0.9 m wide (Brophy *et al.* 2012, 25). The ditch appears to have had two phases, with the original measuring 3.5 m to 4 m wide and 0.7 m deep, while the second phase was smaller with a width between 2 m to 2.4 m and a maximum depth of 0.8 m (Brophy *et al.* 2012, 25). No remains of the embankment were found during the excavations (Brophy *et al.* 2012, 25).



Figure 31: Aerial Image of the Three Mini Henges located at Leadketty (Brophy *et al.* 2012, 21)

### *Stone Circles and Standing Stones*

Within Fife and Southern Perth and Kinross about 29 standing stones have been identified along with the remains of twelve stone circles. All but two of the standing stone sites are located in Fife, while the stone circles are evenly split between the two areas.

The remains of a stone circle at Balbirnie (Figure 32) and the Balfarg Henge were excavated, along with the two standing stones that were found at the Balfarg Henge dating to the Later Neolithic/Early Bronze Age (Barclay and Russell-White 1993, 47; Mercer 1981, 63-70; Ritchie 1974, 1-32). The stone circle at Balbirnie was first documented during a small excavation by John Balfour in December 1883 (Ritchie 1974, 1). Balfour identified what appeared to be three rings of stones, which make up the stone circle (John Balfour in Ritchie 1974, 1). Although there is no evidence to corroborate the existence of the inner and outer circles, Balfour claimed the inner circle of stones, which had a radius of 4.5 m, consisted of small round stones, and the outer circle, with a radius of 13.7 m, was constructed with small stones (John Balfour in Ritchie 1974, 1). The middle circle, also known as 'the Druid Circle', had a radius of 9.1 m and contained both small stones and several large stones set at irregular intervals (John Balfour in Ritchie 1974, 1). Later work on the stone circle at the site of Balbirnie was undertaken by J. N. Graham Ritchie in 1970 through 1971, only finding evidence for one of the stone circles identified by John Balfour (1974, 1-32). During the excavation, 10 standing stones were found in an elliptical shape that measured 15 m by 14 m, of which five whole stones and one stump were visible from the topsoil (Ritchie 1974, 3). Of the 10 stones, the tallest were found to be set along the southern arc of the stone circle with stones 2 and 4 originally standing to 2.1 m and 2 m above the ground (Ritchie 1974, 3). Among the fill of four stone holes, 1, 2, 9, and 10, cremated bone fragments were uncovered along with four small fragments from the stone hole of stone 7, which date around 3000 cal BC (Gibson 2010, 59; Ritchie 1974, 3). Within the fill of stone hole 10, two sherds of Grooved Ware pottery were found, giving the stone circle an approximate date from the later third to the early second millennium BC (Ritchie 1974, 6-8). Within the centre of the stone circle, a setting of rectangular stones was found arranged in a square (Ritchie 1974, 6). The stone square was slightly visible from the ground surface and had internal measurements of 3.3 m by 2.8 m (Ritchie 1974, 6). Tiny cremated bone fragments were found on the south side of the square (Ritchie 1974, 6).

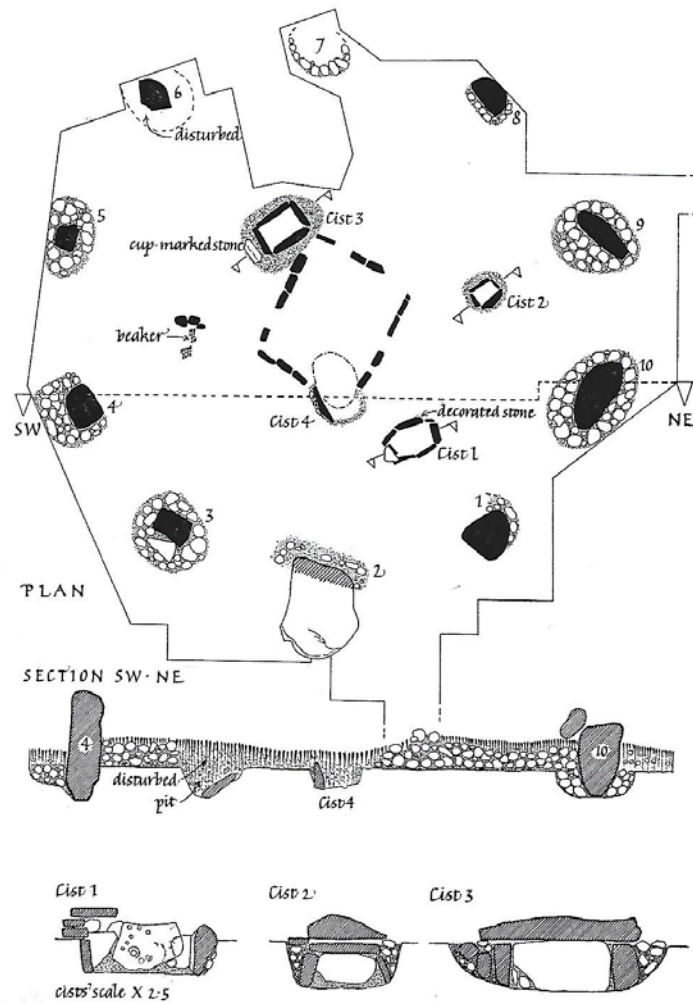


Figure 32: Balbirnie Stone Circle Site Plan (Ritchie 1974, 5 fig 1b)

The remains of a stone circle, including two standing stones, which were located at the Balfarg Henge site, were excavated by Roger Mercer in 1977 and 1978 (Mercer 1981, 63-171). The two standing stones were documented in 1925 by the Royal Commission for the Ancient and Historical Monuments in the *Inventory For Fife, Kinross, and Clackmannan* (Mercer 1981, 63; RCAHMS 1933, 209-210). They were described by the Royal Commission as tall rectangular boulders of sandstone set in a line, which runs northeast and southwest with 13.3 m distance between them (Mercer 1981, 63; RCAHMS 1933, 209-10). The Royal Commission measured the stones with the West Stone having measured 2 m in height, 2.9 m girth at the base, and 3.3 m in girth 1.2 m up from the ground surface (Mercer 1981, 64; RCAHMS 1933, 209-10). The East Stone measured 1.6 m in height, 3.7 m in girth at the base, and 4 m in girth 1.2 m from the ground surface (Mercer 1981, 64; RCAHMS 1933, 209-10). A careful examination of these stones was undertaken by Roger Mercer during his excavation of the features found at the Balfarg Henge monument in 1977 and 1978

(Mercer 1981, 63-171). The Portal Stone, one of the two remaining stones found on the site, was set on the south side of the entrance of the henge with no trace of a matching stone hole on the north side of the henge entrance (Figure 33) (Mercer 1981, 70). The second remaining stone belonged to the inner stone circle, which was one of two excavated by Mercer at Balfarg (1981, 70-72). The stones were found to weigh between 8 and 10 tonnes, and showed no evidence for deliberate shaping of the stones (Mercer 1981, 72). The fill of the postholes for the two stones consisted of harder less friable rocks, which appeared to have been selected (Mercer 1981, 70). There was no evidence of artefactual remains found in the fill of either of the two postholes of the remaining stones (Mercer 1981, 70).

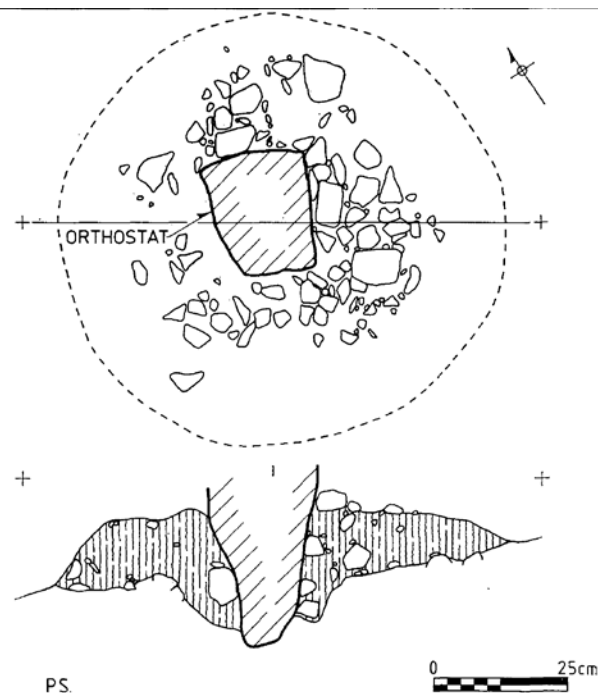


Figure 33: Plan and Section of the Portal Stone at the Balfarg Henge (Mercer 1981, 71)

The stone circle at the Balfarg Henge appeared to consist of two circles, the outer stone circle and the inner stone circle (Mercer 1981, 70-72). There was only a limited amount of evidence found by Mercer for the existence of the outer stone circle (1981, 70). Six stone sockets were identified probably belonging to the outer stone circle, which were found set along the eastern side of the interior on the inner lip of the ditch and were placed at roughly equal intervals (Mercer 1981, 70). Based on the six stone sockets found, the outer stone circle, if it existed, would have consisted of about 24 orthostats, none of which survived to the present day (Mercer 1981, 70). Of the six stone sockets found, stone socket 3 contained burnt materials located at the base (Mercer 1981, 70). There was much firmer evidence for the presence of the inner stone circle found by Mercer, with four stone sockets

and the second remaining standing stone identified as part of the circle (1981, 71). These stone sockets were located along the western sector of the site, with sockets 2 and 3 as the deepest sockets and possibly representing the tallest orthostats (Mercer 1981, 71-161). The inner stone circle, according to the placement of the stone sockets located at the site, would have been composed of 12 stones, only one of which was found erect, with stone 2 and stone socket 3 forming a portal entrance (Mercer 1981, 71-160). A small deposit of burnt bone was uncovered in stone socket 3, with no other cultural material found in any of the other stone sockets (Mercer 1981, 71-72).

The Standing Stones of Lundin (Canmore ID 32656) are located at about 274 m north-northeast of the railway station at Lundin Links, Fife (Figure 34) (Coles 1903, 212). The stones consisted of at least three standing stones made from coarse red sandstone, with a possible fourth recorded in 1790, which may form the remains of a stone circle with a circumference of 16.4 m (Coles 1903, 212). The largest stone is on the southeast side and measures 1.57 m to 1.95 m in width with a height of 4.16 m (Coles 1903, 212). The southern stone has a height of 4.57 m, while the northern stone measures 5.07 m in height (Coles 1903, 214).

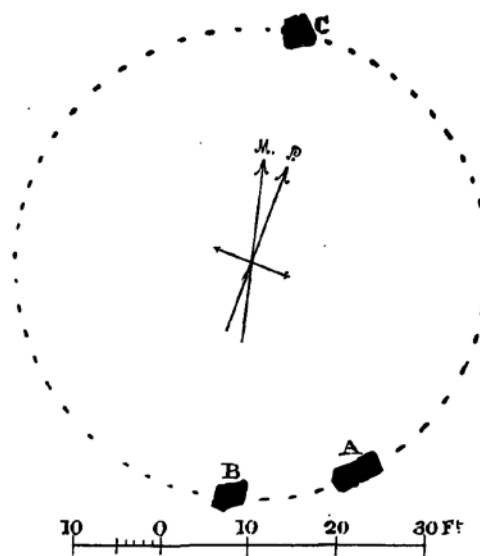


Figure 34: Standing Stones of Lundin Links Site Plan (Coles 1903, 213)

Two standing stones are located at Peterhead Farm, Gleneagles (Canmore ID 25924) in Perth and Kinross, and are situated 365 m away from each other (Calder, 1946-47, 1). One of the stones, which is located in a field bounded by the Black Plantation on the north, has a girth of 2.13 m and a height of 1.16 m (Calder 1946-47, 1). The second standing stone, which is situated 13.7 m from the main road, is roughly oblong in shape, measuring 0.91 m

north to south, 0.76 m east to west, has a girth of 3.27 m and a height of 1.52 m (Calder, 1946-47, 2).

The stone circle at Moncreiffe House was located 400 m west of the Moncreiffe House and was aligned east to west (Figure 35) (Stewart 1985, 125). The circle consisted of eight monoliths that were graded in height from the southwest to the northeast: between three stones on the southwest arc, Stones II, III, and IV, are the tops of recumbent stones (Stewart 1985, 125-27). Stone X, was found in the centre of the circle with 18 cup-marks decorating its surface, although probably not in its original position (Stewart 1985, 127-35).

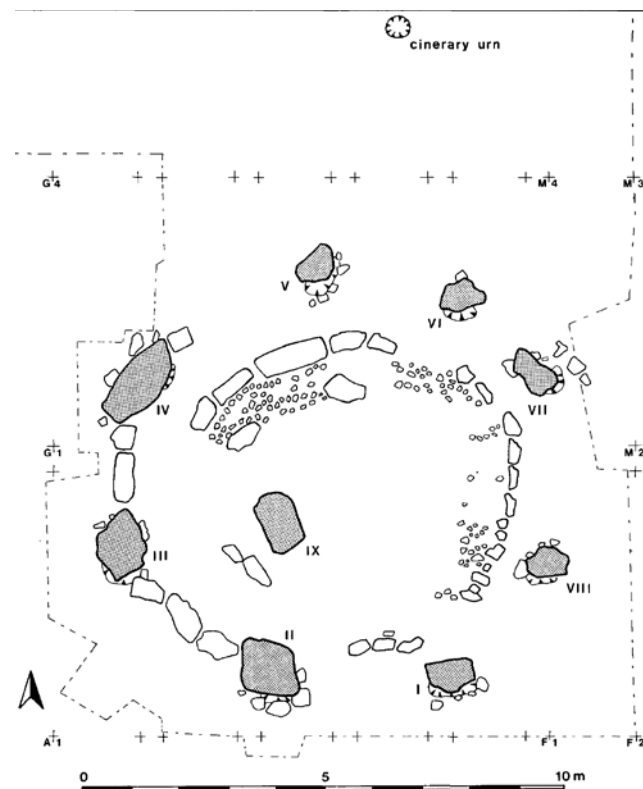


Figure 35: Stone Circle at Moncreiffe Site Plan (Stewart 1985, 136)

### ***Ring-Ditches/Ring-Cairns***

Only a few ring-ditches have been identified within Fife and southern Perth and Kinross. Within Fife at least nine have been found, and these include two ring-ditches at Gateside, a ring-ditch at Esky Loch (Canmore ID 33162), a possible ring-ditch at Reedeleys, the possible ring-ditch at Kilmany, a ring-ditch at Mosshead Farm (Canmore ID 26078), a ring-ditch at Easter Kinnear (Canmore ID 33257), two ring-ditches at Craigie (Canmore ID 33245), and the ring-ditch/ring-cairn complex at the Balfarg Riding School (Barclay and Russell-White 1993, 47-111). While in southern Perth and Kinross, five ring-ditches have been recorded, with one at Forteviot, and two each found at Leadketty and North Mains

(Barclay 1983c). Not all of these sites many actually have been ring-ditches, but may be the remains of other monuments such as henges, cairns, or barrows.

The ring-ditches at Gateside were discovered by aerial photography, along with the other features found at the site. The two ring-ditches may actually be the remains of two barrows, which were constructed next to each other and measure 10 m in diameter, with the ditches 2 m wide. A pit circle was located within one of the ring-ditches.

During the excavation of the Balfarg Riding School, Barclay and Russell-White uncovered a ring-ditch/ring-cairn complex dating from the mid-third millennium BC to the mid-second millennium BC, the Later Neolithic/Early Bronze Age period (Figure 36 and 37) (1993, 47-111). The ring-ditch/ring-cairn complex was located to the west of the Balfarg Riding School enclosure and included a ring-ditch, a ring-cairn, and a complex cairn (Barclay and Russell-White 1993, 110). The ring-ditch, which cuts across Timber Structure 1, had a diameter of 14.2 m and measured between 0.8 m and 1.3 m across and up to a depth of 0.6 m (Barclay and Russell-White 1993, 111-13). Six flint flakes and a flaked quartzite cobble were found within the ring-ditch (Barclay and Russell-White 1993, 114).

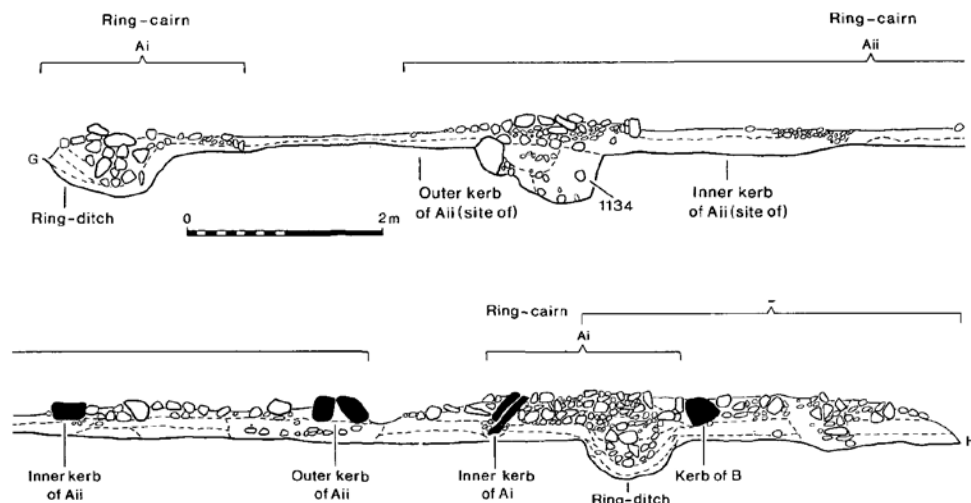


Figure 36: BRS Ring-ditch/Ring Cairn Complex Section Plan (Barclay and Russell-White 1993, 116-117 illus 38)

Lying on top of the ring-ditch was a complex double ring-cairn, A, which contained an outer ring-cairn, i, and an inner ring-cairn, ii (Figure 36) (Barclay and Russell-White 1993, 110). The ring-cairn Ai consisted of rounded stones set in a band with kerb slabs positioned on the inner side of the rounded stones (Barclay and Russell-White 1993, 114-15). The kerb was constructed of two types of sandstone slabs, yellow/white sandstone slabs and dark red sandstone slabs, and was supported by a 'ramp of soil', within which a large quantity of Later Neolithic Impressed Ware was uncovered (Barclay and Russell-White 1993, 115-17). The

remains of ring-cairn Aii, which were found within the area enclosed by the kerb of ring-cairn Ai, constructed of small rounded stones encircled by a badly surviving kerb which was further encircled by another badly surviving kerb of rounded boulders (Barclay and Russell-White 1993, 117). The inner and outer kerbs measure 3 m -3.15 m in diameter and 9.5 m-10 m in diameter, respectively (Barclay and Russell-White 1993, 117). Within the central area of ring-cairn Aii, a broad and shallow pit measuring 0.1 m deep was found, possibly constructed before the placement of the inner kerb (Barclay and Russell-White 1993, 117). The pit, F1134, was found to contain cremated bone fragments within its backfill (Barclay and Russell-White 1993, 112). A possibly disturbed burial, identified by two slabs overlaying the kerb, and a disturbed cremation burial pit measuring 0.35 m wide and 0.5 m deep were also uncovered within the area of ring-cairn Aii (Barclay and Russell-White 1993, 112-17). The burial pit appeared to be a disturbed Food Vessel accompanied cremation which contained burnt bone fragments (Barclay and Russell-White 1993, 112-17). Due to the heavy disturbance of the ring-cairns and soil, mostly probably caused by modern cultivation, the excavators were unable to definitively establish a construction sequence for ring-cairn Aii (Barclay and Russell-White 1993, 117). Within the ring-ditch/ring-cairn complex, two sherds of a Food Vessel were found; one was located at the south end of the ring-ditch among the upper part of the ring-ditch fill, and the other was found in a disturbed section of the central enclosure of the ring-cairn (Barclay and Russell-White 1993, 117).

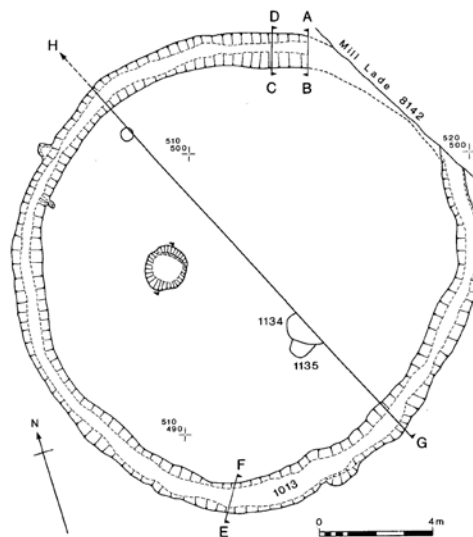


Figure 37: Ring-Ditch at the Balfarg Riding School Site Plan (Barclay and Russell-White 1993, 112)

Two further ring-ditches have been excavated at North Mains (Figure 38) (Barclay 1983c, 243). Ring-ditch 1 is a circular ditch, which measures 0.2 m to 0.4 m in depth and

0.38 m to 1.1 m in width, with a diameter of 4 m to 4.7 m (Barclay 1983c, 243). Ring-ditch 2 is located to the south-southwest of Ring-ditch 1 (Barclay 1983c, 243). The second ring-ditch is small than the first, measuring 0.05 m to 0.2 m in depth, 0.3 m to 0.6 m in width, and having a diameter between 2.3 m and 2.8 m (Barclay 1983c, 243).

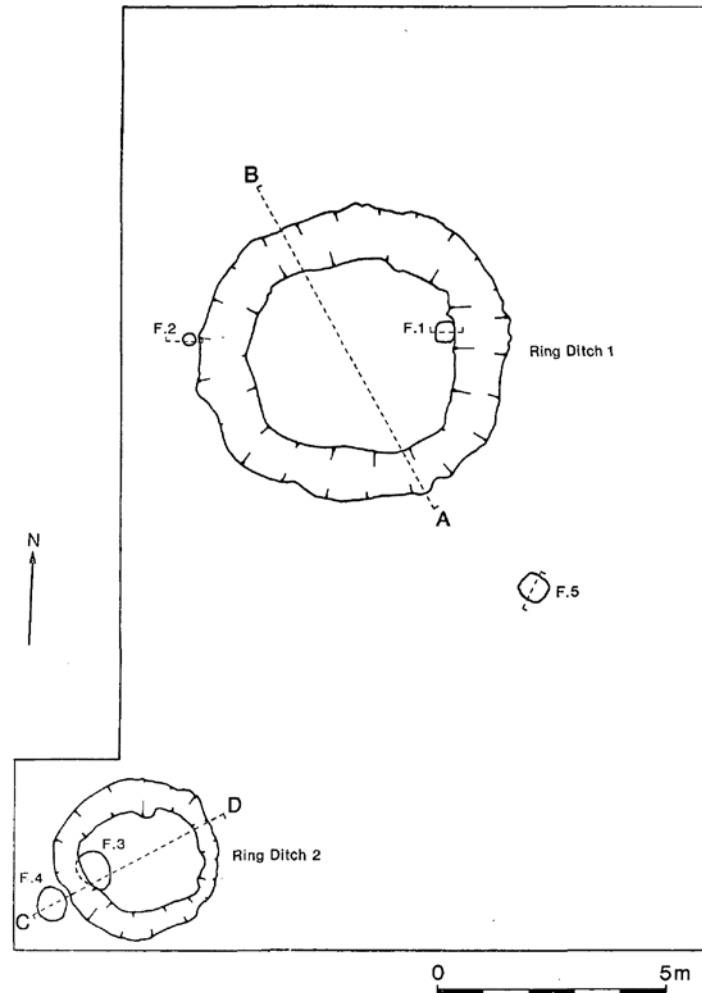


Figure 38: Ring-Ditch 1 and Ring-Ditch 2 at North Mains Site Plan (Barclay 1983c, 244)

### *Cairns and Barrows*

Of the Bronze Age burial mounds found within Fife and southern Perth and Kinross, there have been at least 53 cairns, and 84 barrows identified. The cairns consist of two kerb cairns Green Hill (Canmore ID 31809) and Gask Hill (Canmore ID 30151) in Fife and 51 cairns within both areas.

Two additional cairns besides the ring-ditch/ring-cairn complex were uncovered within the Balfarg Ceremonial Complex dating to the Bronze Age, one located in the Balfarg Riding School and the other at Balbirnie (Barclay and Russell-White 1993, 120; Ritchie 1974, 7). Cairn B, found at the Balfarg Riding School was located north of ring cairn A, with

less than a quarter of the cairn surviving (Figure 39) (Barclay and Russell-White 1993, 120). The remains of cairn B covered an area of only 10.2 m by 3.4 m with the remaining edge defined by several boulders of the kerb, which measured 0.7 m across from the outer to inner face and would have measured roughly 11.2 m in diameter if complete (Barclay and Russell-White 1993, 120). The stones comprising the cairn found within the area encompassed by the kerb were of similar size to those of ring-cairn Ai (Barclay and Russell-White 1993, 120). Around the outside of the south west side of the kerb, several stones of similar nature to those of ring-cairn Ai were found forming a ‘halo’, which appeared to cover the stones of ring-cairn Ai (Barclay and Russell-White 1993, 120). Due to the disturbed nature of the cairn, it is unclear whether cairn B was a ring-cairn with a ‘halo’ of stones forming an outer ring kerb (Barclay and Russell-White 1993, 120). The remains of the cairn within the kerb enclosure were found to be heavily disturbed especially within the eastern section of the cairn where several burials were found (Barclay and Russell-White 1993, 120).

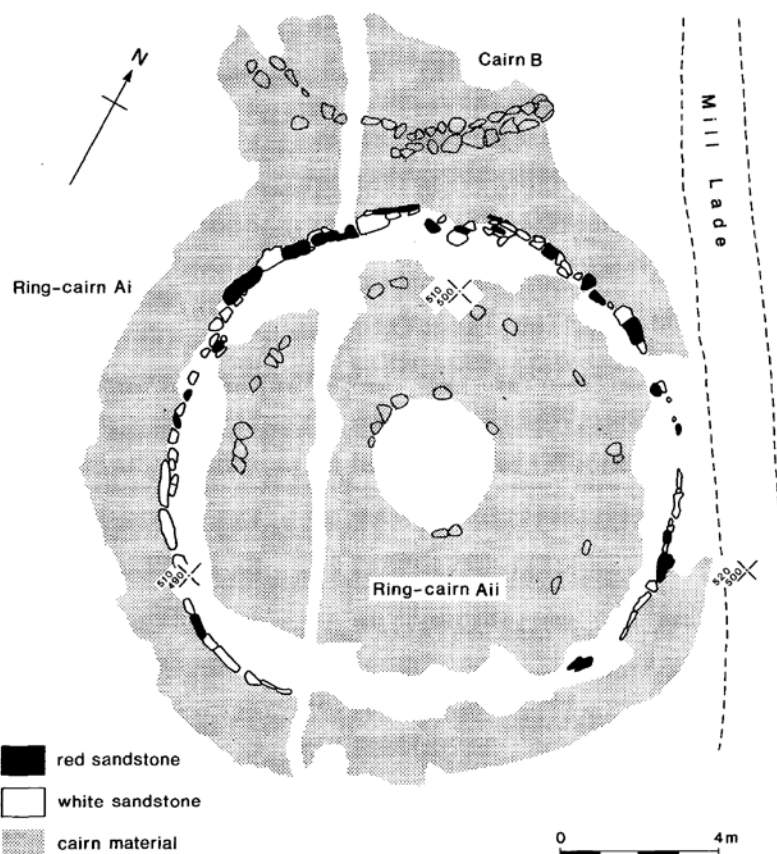


Figure 39: Ring-Cairn Aii and Cairn B from the Balfarg Riding School Site Plan (Barclay and Russell-White 1993, 119)

The Bronze Age cairn located at the Balbirnie Stone Circle, which dates between 1667 and 1542 cal BC, was built during the final phase of construction and use of the stone circle complex (Figure 40) (Gibson 2010, 64; Ritchie 1974, 7-14). The cairn was found to

overlay several Bronze Age cists located at Balbirnie, discussed in detail below (Ritchie 1974, 6-7). From the excavation, the cairn was measured to a height of approximately 1 m, and was constructed of various small and medium sized boulders surrounded by a kerb of large rounded stones (Ritchie 1974, 7). Although incomplete, the kerb was found to be in decent condition, especially between stone 1 and 2, and between stones 5-6, 8-9, 9-10, and 10-1 (Ritchie 1974, 7). Evidence from the excavation shows the cairn material had been disturbed several times starting in antiquity (Ritchie 1974, 7). Cremated bones, consisting of the remains of roughly 16 individuals, were found inserted into the cairn material along with associated pottery sherds, discussed further below (Ritchie 1974, 7). Other bone fragments were discovered scattered across the cairn as well as fragments of undecorated pottery, mainly Cordoned Urn fragments and possibly Collared Urn sherds (Ritchie 1974, 7-15).

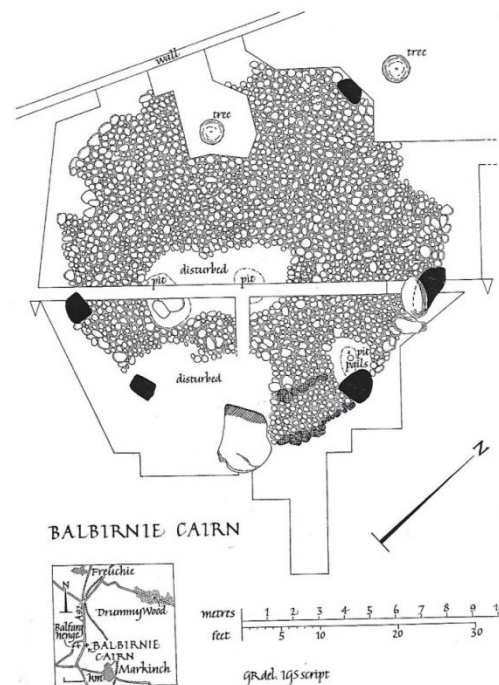


Figure 40: Balbirnie Stone Circle and Cairn Site Plan (Ritchie 1974, 4)

A small cairn, called Thorn Knowe (Canmore ID 26512), was located at Easter Coldrain in Perth and Kinross in the 1800s. A small mound was found containing a cremation burial in an urn in a possible cist. However, all traces of the mound have been destroyed (RCAMHS 1933, 296).

Three barrows have been identified at Forteviot (Canmore ID 26567) near the ceremonial complex. The largest of the three measures about 10 m wide, and each appear to contain inhumation burials (St. Joseph 1976, 56; St. Joseph 1978, 40-50). Further, some square barrows have also been located at Forteviot (Canmore ID 26560) with a geophysical

survey identifying the central grave of the western barrow (Campbell 2010, 141).

Multiple barrows, including square barrows have been discovered at Leadketty through aerial photography, geophysical survey, and excavation (Canmore ID 129229, 72247, 129230, 26621) (Brophy and Green 2015; Brophy *et al.* 2012; Brophy and Wright 2013). One of these square barrows is located 250 m west of Dunning Burn, while a second was found about 150 m to the northwest of the former barrow (King 1993, 102). Excavations of Leadketty are still in progress.

### ***Bronze Age Burials and Cists***

Several Bronze Age cists and burials were found during the various explorations of Fife and southern Perth and Kinross with at least 58 cists and 56 burials discovered along with several urn burials.

At the Balfarg Ceremonial Complex, the earliest recorded cist found at Balfarg at the farm house near the North Lodge, which was uncovered by John Balfour, was oriented west to east with top slabs 1.8 m in length completely covering the cist (1882-83, 324-25). Within the cist, human remains were discovered, including a broken skull and limb bones (Balfour 1882-83, 324).

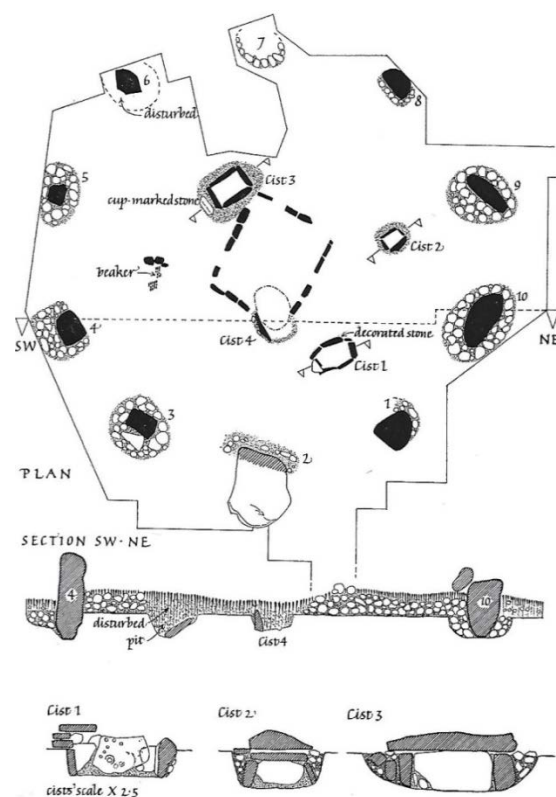


Figure 41: Balbirnie Site Plan and Section of the Stone Circle – Including the Placement of the Cists (Ritchie 1974, 5)

At Balbirnie, four Bronze Age cists were found underneath the cairn, which were built during the fourth stage of construction and use of the site (Figure 41) (Gibson 2010, 63; Ritchie 1974, 6). Cist 1, (Figure 42), measuring 1.12 m by 0.6 m and approximately 0.5 m deep, was rectangular in shape and comprised three slabs along the west side, two slabs on the east, and single slabs along the ends (Ritchie 1974, 6). Of the side slabs, one was found to be decorated with cup-and-ring and cup-marks (Ritchie 1974, 6). This cup-and-ring marked stone was reused for the creation of the cist and probably was originally part of the central rectangular structure located within the area enclosed by the stone circle, discussed further below (Ritchie 1974, 11-12). Above these slabs, a layer of flat slabs was found that formed a rim for the capstones to sit upon (Ritchie 1974, 6). Only one of the capstones, located on the south side of the cist, survived measuring 0.75 m by 0.5 m and 0.09 m thick (Ritchie 1974, 6).

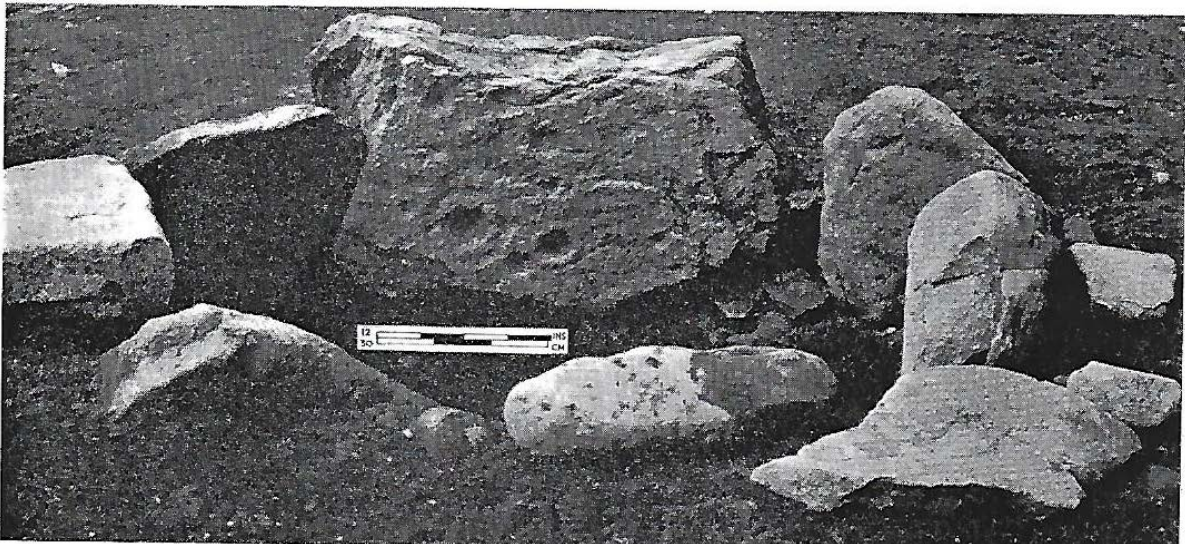


Figure 42: Cist 1 at the Balbirnie Stone Circle (Ritchie 1974, plate IV)

The second cist, Cist 2, found at Balbirnie was constructed in a pit, measuring 1.2 m by 1.05 m and 0.45 m deep, with four slabs surrounding a central area measuring 0.6 m by 0.4 m and 0.35 m deep and covered by two slabs (Ritchie 1974, 6). A deposit of cremated bone fragments of an adult female and a child were found in the centre of Cist 2, which dates to 2929-2088 cal BC to 2048-1892 cal BC (SUERC-18301) (Gibson 2010, table 3; Ritchie 1974, 6). A square-sectioned bone bead was found in the fill at the south end of the cist right above the cremation deposit (Ritchie 1974, 6).

Cist 3 was located in the northwest corner of the central setting of the Balbirnie Stone Circle and was found to have been built into a pit which measured 2.35 m by 1.5 m and was

roughly 0.5 m deep (Figure 43) (Ritchie 1974, 6). Four large slabs formed the cist which surrounded an area approximately 1m by 0.65 m and 0.5 m deep and was topped by a large flat capstone measuring 1.75 m by 1.3 m with a thickness of 0.25 m (Ritchie 1974, 6-7). The fill of Cist 3 contained fragments of cremated bones of an adult female and a child, along with a complete Food Vessel pot and a flint knife (Ritchie 1974, 7). A chocking stone located behind the end slab on the south side of the cist was found to be another reused stone decorated with a series of cup-marks, discussed below (Ritchie 1974, 7).



Figure 43: Cist 3 at the Balbirnie Stone Circle (Ritchie 1974, plate V)

The final cist uncovered at the Balbirnie Stone Circle, Cist 4, was heavily disturbed with only one stone side-slab surviving and measuring 1.27 m long, 0.7 m deep, and 0.3 m thick (Ritchie 1974, 7). The cist was found on the southeast corner of the central setting with roughly half of the perimeter intact and the slot along the floor where the other side slab would have sat (Ritchie 1974, 7). When complete, the cist would have measured between 0.7 m and 0.8 m in length with an internal breadth of between 0.5 m and 0.6 m (Ritchie 1974, 7). The disturbance of the cist included the pit in which the cist was constructed had been extended on the west side, and the removal of the other three slabs of the cist (Ritchie 1974, 7). Within the area of disturbance, a V-bored jet button was recovered (Ritchie 1974, 7).

During the excavation of the Balfarg Henge, a Bronze Age Beaker grave was uncovered located within the interior of the henge monument (Figure 44) (Mercer 1981, 72). The Beaker grave had been found underneath a large slab weighing about 1 ½ tonnes in a pit

originally measuring 0.4 m to 0.5 m deep, which was packed with small blocks of stone (Mercer 1981, 72-73). Beneath the slab was an oval pit measuring 1.5 m by 1 m within which the remains of a young adult inhumation burial were discovered (Mercer 1981, 73). The skeletal remains, of which only teeth and a fragment of the left tibia survived, were found on its right side in a crouched position with the head oriented to the south and the body facing east (Mercer 1981, 73). A handle beaker stood in front of the chest and face of the body and a small black flint knife was located to the north of the handle beaker (Mercer 1981, 73-76).

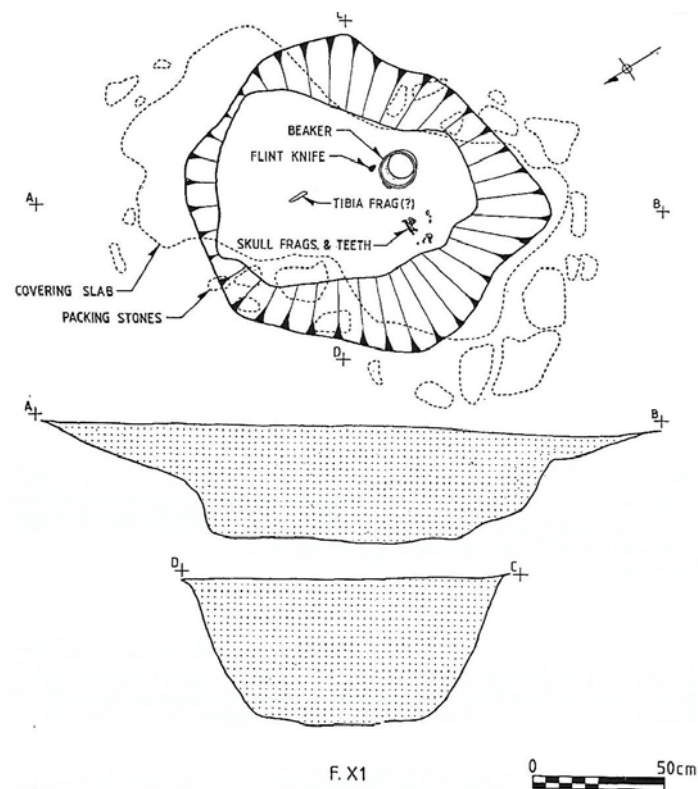


Figure 44: Plan and Section of the Beaker Burial at the Balfarg Henge (Mercer 1981, 85)

Four burials were uncovered during the excavation of Cairn B located to the west of the Balfarg Riding School enclosure (Figure 45) (Barclay and Russell-White 1993, 110-35). Cist A, which contained Burial 1, was found in a pit measuring 1.6 m by 1.4 m with a depth of 0.35 m that was cut into the material of Cairn B (Barclay and Russell-White 1993, 135-36). A bone fragment of a human femur was recovered along the north side of the cist, which had been covered by a slab of red sandstone (Barclay and Russell-White 1993, 136). Tooth enamel fragments and part of a jet disc necklace were recorded within the bottom of the fill of the cist, along with a nearly complete Food Vessel found on its side in the southeast corner of the cist (Barclay and Russell-White 1993, 136). From the upper fill of the cist, a chunk of

flint was found as well as a large deposit of grain including, 155 grains of hulled six-row barley, other barley fragments, four oats, and one caryopsis cf *Bromus* sp (Barclay and Russell-White 1993, 136).

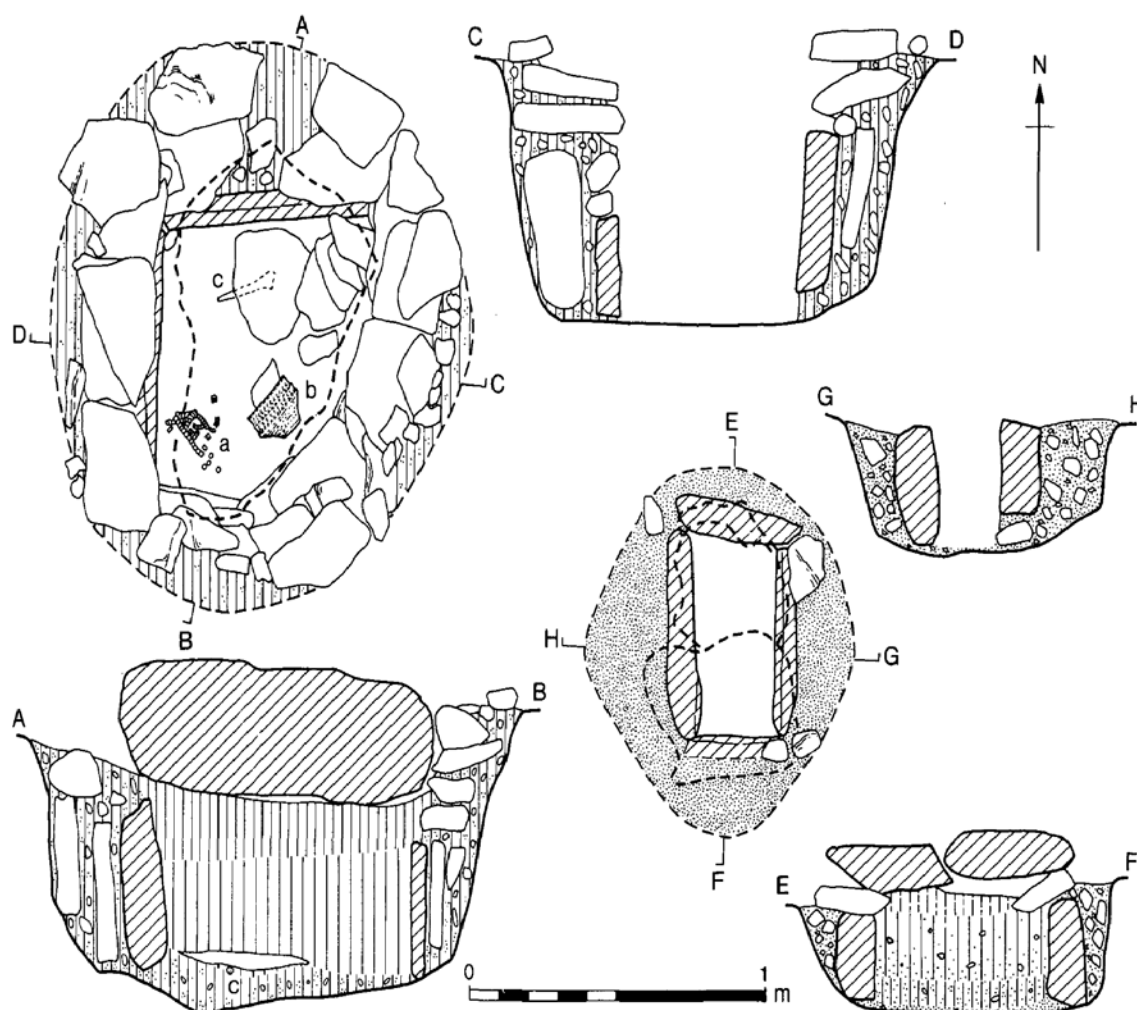


Figure 45: Plans of the Cist Burials Associated with Cairn B at the Balfarg Riding School (Barclay and Russell-White 1993, 137)

The second burial associated with Cairn B was uncovered within Cist B, which was constructed of four side slabs forming a rectangle with double capstones sealing the cist (Barclay and Russell-White 1993, 136). The cist was located along the centre northeast of the pit, an egg-shaped pit with the blunt end oriented to the north (Barclay and Russell-White 1993, 136). Within the fill of the cist, fragments of unidentifiable pottery and three fragments of burnt bone were recovered, along with several seeds including 13 barley seeds, four fragments of barley, and one grain of oat (Barclay and Russell-White 1993, 136).

The last two burials, burials 3 and 4, discovered in association with cairn B were cremation deposits located within the top material of cairn B (Barclay and Russell-White 1993, 136). They were found about a half a meter inside the kerb within depressions made in

the material of the cairn (Barclay and Russell-White 1993, 136). Burial 3 contained the cremated remains of a possible juvenile or adult female and the remains weighed 281.2 g (Barclay and Russell-White 1993, 136). Burial 4, which weighed 38.7 g, was a smaller deposit and could only be identified as the cremated remains of a human (Barclay and Russell-White 1993, 136).

A series of pits containing 10 Bronze Age cremation burials, Burials 8-17, was uncovered during the excavation of an area to the west of the Balfarg Henge and another three possible burials, Burials 18-20, were found in Area A (Figure 46) (Barclay and Russell-White 1993, 142-43). The burials were found on the highest point of a low ridge about 50 m from the southwest entrance to the Balfarg Henge with a dry valley between the henge and the burials (Barclay and Russell-White 1993, 143).

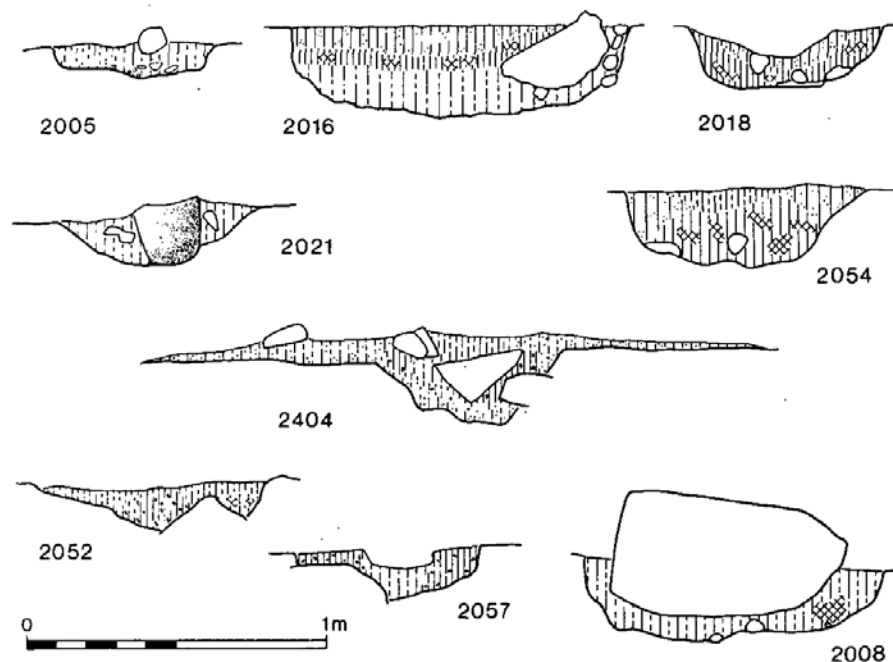


Figure 46: Sections of Cremation Pits and Features located in Area A to the west of the Balfarg Henge (Barclay and Russell-White 1993, 144)

Burial 8 was recovered from pit F2005, a shallow rectangular pit which was vertically cut on one side and had two distinct layers of fill (Barclay and Russell-White 1993, 143). A circular deposit of a few cremated bone fragments was found on top of a layer of medium brown slit loam, which formed the majority of the fill of the pit (Barclay and Russell-White 1993, 143-44). The cremated bone fragments could only be identified as belonging to an adult human; the sex could not be determined (Barclay and Russell-White 1993, 144). At about 1 m distance from the edges of the pit, pebbles were found in a 'halo' encircling the pit

(Barclay and Russell-White 1993, 144).

Pit F2012, which contained Burial 9, consisted of a small and poorly defined pit with the remains of an urn, found in an upright position, with a cremation burial inside (Barclay and Russell-White 1993, 143-44). Two deposits of bones were recovered from the pit, one located in the urn and the other found to the side of the urn underneath a large stone (Barclay and Russell-White 1993, 144). The burnt bones within the urn were identified as probably an adult human of unknown sex, while the small deposit of cremated bones found outside of the urn could not be correctly identified (Barclay and Russell-White 1993, 144).

Pit F2021, a small sub-square pit, contained the remains of a cremation urn burial, Burial 13 (Barclay and Russell-White 1993, 144). The urn was found with only the bottom half recovered in a mostly intact state and in good condition (Barclay and Russell-White 1993, 144). Within the urn, a moderate deposit of cremated bones belonging to a young adult or adult human of unknown sex was recovered (Barclay and Russell-White 1993, 144). On the north side of the urn, the base of a second urn was found, however no further sherds of the vessel were uncovered (Barclay and Russell-White 1993, 144).

Pit F2404, measuring 0.6 m in diameter and 0.3 m in depth, consisted of a shallow scoop with four distinct layers within which was Burial 17 (Barclay and Russell-White 1993, 144). The cremated bones of Burial 17 were found in a layer of dark brown silty clay loam which also contained several small sub-angular stones (Barclay and Russell-White 1993, 144). This layer of fill lay on top of a layer consisting of a dark black/brown silty loam which contained charcoal and had several inclusions of stones including a pitched slab in the upper part of the layer, and several medium and large stones found around the perimeter of the layer (Barclay and Russell-White 1993, 144). Underneath the pitched slab, was charcoal and sooty soil containing burnt plant impressions (Barclay and Russell-White 1993, 144). The final layer of the pit, the bottom, was found slightly reddened by fire and concreted (Barclay and Russell-White 1993, 144). The cremated remains were identified as an adult human of unknown sex (Barclay and Russell-White 1993, 144).

Burial 19 was recovered from Pit F2054 which was found to be an almost circular medium-sized pit (Barclay and Russell-White 1993, 144). The deposit of the cremated remains was found to be well defined and in a domed shape, which suggests the deposit may have been placed within a bag full of the material (Barclay and Russell-White 1993, 144).

Twelve further Bronze Age pits within the location of the cremation pit burials, Burials 8-17, were found during excavation to be of a similar nature in construction, but were not found with any significant amounts of cremated bones or urn vessel sherds (Barclay and

Russell-White 1993, 145). All of the pits contained concentrations of charcoal and some of them exhibit signs of in situ burning (Barclay and Russell-White 1993, 145).

At Forteviot, a Bronze Age dagger burial was discovered inserted into the south-eastern interior of the henge, dating to 2199-1977 cal BC (Figure 47) (Noble and Brophy 2011, 796). The cist contained an inhumation burial, with the head facing south, along with several grave goods including a large bronze dagger on one side of the body, and on the other side, a smaller knife, partially preserved wooden objects, two of which may have been wooden vessels, animal hide, and a fire making kit (Noble and Brophy 2011, 798). The cover stone of the cist was decorated with a rock art motif on the side facing the burial (Noble and Brophy 2011, 798).

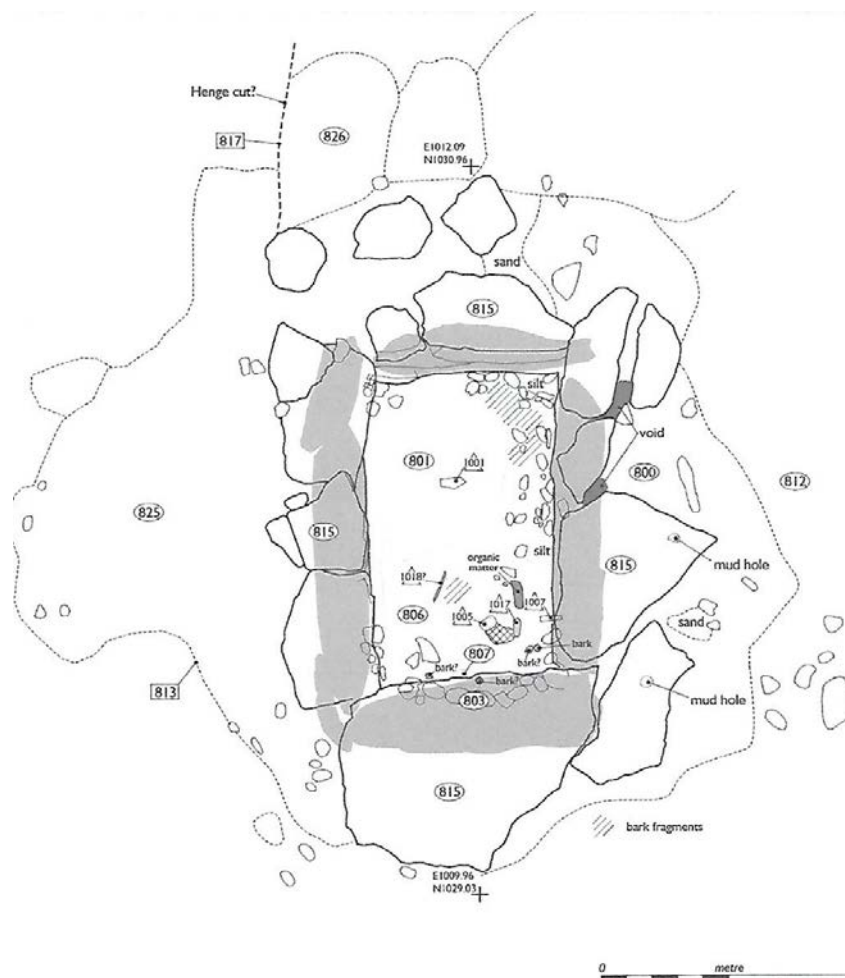


Figure 47: Plan of Dagger Cist Burial at Forteviot (Brophy and Noble 2009, 13)

Three cists with a possible fourth were found at Ashgrove, Methilhill in Fife (Canmore ID 53945) in 1963 (Henshall 1963-64, 166-79). Cist 1 consisted of four sandstone blocks and measured 1.2 m long by 0.8 m to 0.68 m wide and 0.78 m deep. The cist contained an inhumation burial of a crouched skeleton lying on its left side (Figure 48)

(Henshall 1963-64, 166-67). A bronze dagger with an ivory pommel, a black 'stick' and a Beaker pot were also recovered from the cist (Henshall 1963-64, 167-79). Cist 2 measured 1.29 m long by 0.54 m to 0.52 m wide and 0.58 m deep, and is aligned east-northeast to west-southwest (Henshall 1963-64, 167). Some small bone fragments and sherds from a Food Vessel were uncovered during the excavations (Henshall 1963-64, 168). Cist 3 measured 0.91 m by 0.6 m; however no artefacts were discovered in this cist (Henshall 1963-64, 168). A large capstone of a potential fourth cist was found but not excavated 131 m north by east of Cist 1 (Henshall 1963-64, 168).

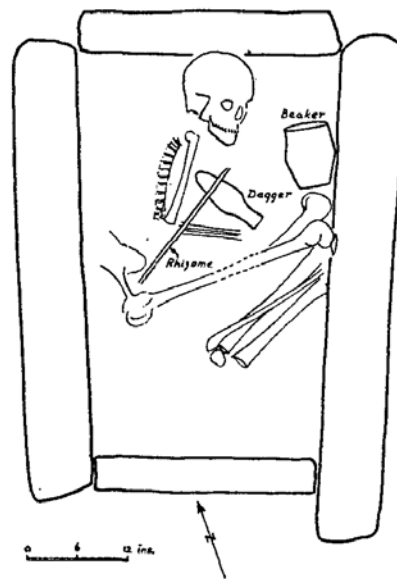


Figure 48: Plan of Cist 1 Beaker Burial with a Bronze Dagger at Ashmore (Henshall 1963-64, 168)

### ***Cup-and-Ring Marked Stones***

At least 23 cup-marked/cup-and-ring marked stones have been identified in Fife and southern Perth and Kinross, with 17 located in Fife and six within Perth and Kinross. They have been discovered on standing stones/stone circles as well as on natural boulders/outcrops.

Three cup-marked/cup-and-ring marked stones were found at the Balbirnie Stone Circle; one during the excavation of John Balfour in 1883 and the other two by J. N. Graham Ritchie in 1970-71 (John Balfour in Ritchie 1974, 1-2; Ritchie 1974, 6-7). A cup-marked stone, measuring 0.3 m in length by 0.1 m wide and 0.1 m deep, was uncovered by John Balfour during the second day of his excavation (John Balfour in Ritchie 1974, 2). The stone had only one cup-mark on it and was discovered near the centre of the stone circle and cairn within the deepest section of an excavation trench (John Balfour in Ritchie 1974, 2). The cup-marked stone has subsequently been lost (John Balfour in Ritchie 1974, 2).

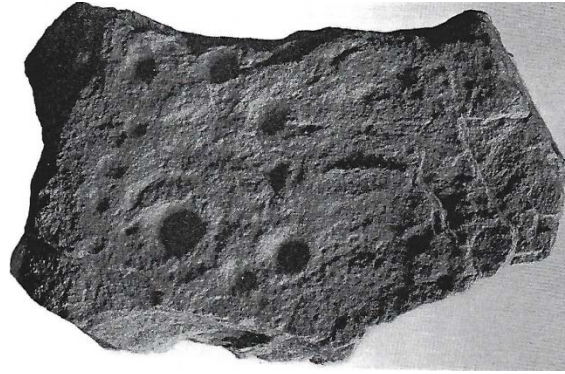


Figure 49: Decorated Stone from the Balbirnie Stone Circle Cist 1 (Ritchie 1974, plate IV)

The final two cup-marked stones were recovered from Cists 1 and 3 during J. N. Graham Ritchie's excavation in 1970-71 (1974, 6-7). The stone from Cist 1 was decorated with a series of cup-marks and cup-and-ring marks and was being reused as a side-slab for the cist (Figure 49) (Ritchie 1974, 6). The cup-marked stone shows signs of being chipped in order to be used in construction of the cist (Ritchie 1974, 11). The cup-marked stone recovered from Cist 3 was found upside down within the packing material behind the south end-slab of the cist (Figure 50) (Ritchie 1974, 7-11). The stone was made from a sandstone slab with a series of cup-marks on the surface of the stone (Ritchie 1974, 7). The decoration of the stone consisted of 17 cup-marks with the cup-marks found in near perfect condition along with many tool-marks still visible (Ritchie 1974, 7). As both of the cup-marked stones found were recovered from secondary deposition within Bronze Age cists, the dating of the original creation of the stones is unclear, but probably date to the Later Neolithic (Ritchie 1974, 6-7). The stones may have been a part of the central rectangular structure of the stone circle and were reused during the Bronze Age for the building of the cist burials 1 and 3 (Ritchie 1974, 11-12).

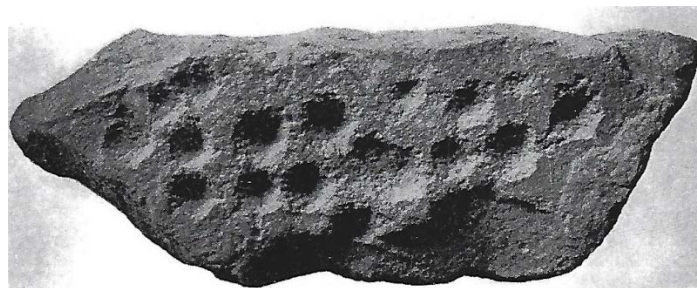


Figure 50: Decorated Stone from the Balbirnie Stone Circle Cist 3 (Ritchie 1974, plate V)

Other cup-marked stones include a cup-and-ring marked stone at Glasslie, Fife (Canmore ID 29946) measuring 4.87 m by 3.04 m by 1.82 m (RCAHMS 1933, 144). Three

cups and two cup-and-ring markings are located on one face of the stone (RCAHMS 1933, 144). Cup-and-ring markings were also found on a glacial boulder at Hilton of Aldie Farm, Perth and Kinross (Canmore ID 75854), with two cup and rings, which measure 10.16 cm in diameter (Lines 1989, 64). At Moncreiffe, a stone located at the stone circle was found to have 15 cup-marks on its upper surface (Figure 51) (Stewart 1985, 125-50). A boulder at Battle Law in Fife (Canmore ID 31771) has about 80 cup-marks, cup-and-ring marks, dumbbells, and channels on one side, with a possible 11 further cup-marks on a different face (Kenworthy and Proudfoot 1976, 34).

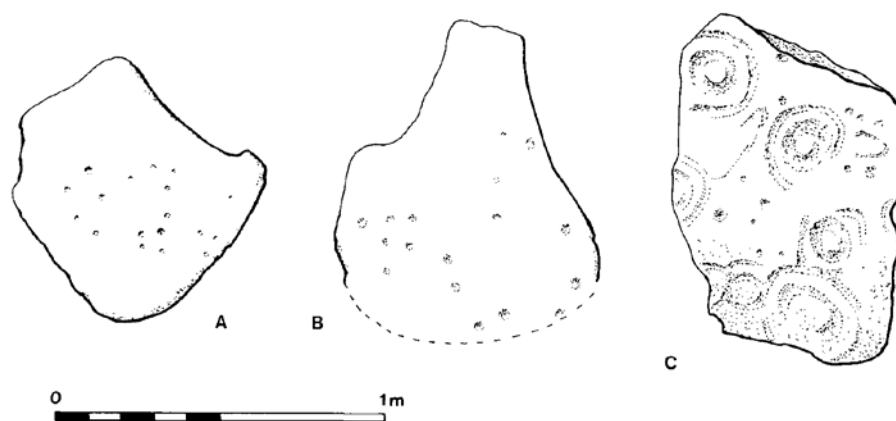


Figure 51: Cup-Marked Stones found near Moncreiffe Henge and Stone Circle (Stewart 1985, 141)

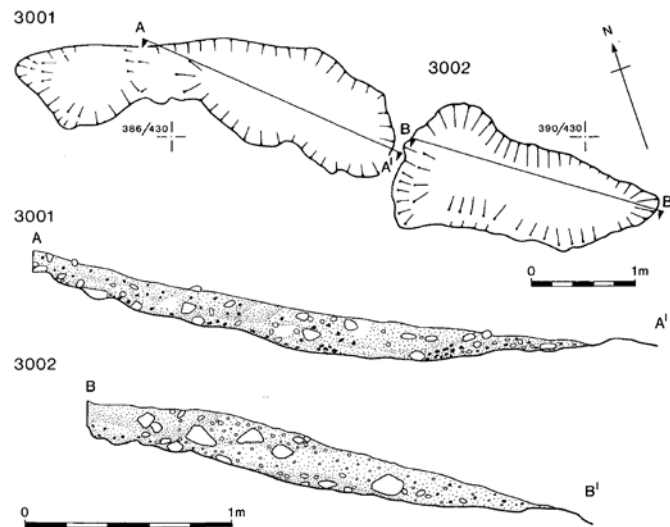
### *Hut Circles*

Within Fife and southern Perth and Kinross there are at least 24 prehistoric or historic hut circles, which have been identified. Hut circles are usually indicators of domestic settlements, however dating a site can be problematic as the majority of them have not been excavated and they can range in date from the Later Neolithic through to the Early Historic period.

### *Bronze Age Cooking Pits*

The final features found at the Balfarg Ceremonial Complex are the two Bronze Age cooking pits, F3001 and F3002, located on the east side of the Balfarg Henge, in Area B Lane 3 (Figure 52) (Barclay and Russell-White 1993, 146). Pit F3001, measuring about 3 m by 0.9 m with only the bottom 0.2 m of the pit surviving, contained 14 distinct layers of soil, which indicates a deliberate deposition of the layers through backfilling (Barclay and Russell-White 1993, 146). The upper fill consisted of a medium brown silty sandy loam which had charcoal flecking, and the bottom fill was made up of dark soil that was stained by charcoal and often

had a red hue, possibly from *in situ* burning (Barclay and Russell-White 1993, 146). Over 350 grains of hulled six-row barley were recovered from the fill of the pit (Barclay and Russell-White 1993, 146-47).



Feature 52: Plans and Sections of the Balfarg Area B Bronze Age Cooking Pits (Barclay and Russell-White 1993, 147)

Pit F3002, the second Bronze Age cooking pit, was located roughly 0.2 m to the west-northwest of pit F3001 and was nearly identical to the first pit (Barclay and Russell-White 1993, 147). The fill of the pit consisted of a top layer of medium brown sandy loam containing charcoal flecking overlaying charcoal deposits and burnt soil (Barclay and Russell-White 1993, 147).

### ***Small Finds***

#### ***Artefacts***

##### ***Pottery***

The pottery uncovered in Fife and southern Perth and Kinross can be grouped into several categories, which span from the Neolithic through the Bronze Age. The Neolithic pottery, which was primarily uncovered around the Balfarg Riding School and the Balfarg Henge, is comprised of several types of vessels including Carinated Bowl sherds, Globular Bowl sherds, Grooved Ware sherds, Impressed Ware sherds, and Shouldered Bowl sherds (Cowie and Henshall 1993, 1A5-1C9). Various sherds of unidentifiable vessel types, only labelled as rim sherds, body sherds, and sherds, were also found during the series of excavations undertaken at Balfarg. Decoration was found on several of the Grooved Ware and Impressed Ware sherds recovered from the features at Balfarg, as well as on a few

unidentifiable Neolithic sherds uncovered at the site (Cowie and Henshall 1993, 1A5-1C9). The earliest pottery recovered from the ceremonial complex, found within Neolithic pits from Area A at Balfarg and Area C at the Balfarg Riding School, were grouped into two categories, Group 1 and Group 2 (Barclay and Russell-White 1993, 65). Group 1 pottery, the majority of which was found in Area C of the Balfarg Riding School, consists of Carinated bowl sherds, shouldered bowl sherds, and miscellaneous 'plain bowl style' sherds (Barclay and Russell-White 1993, 65). The pottery sherds of Group 1 were from thinly walled plain vessels which have a high-quality surface finish (Barclay and Russell-White 1993, 35). The Carinated Bowl sherds form a shallow vessel with an inverted rim 260 mm in diameter and decorated with carination low on the body of the vessel (Barclay and Russell-White 1993, 66). Group 2 pottery was found only in Area A of the Balfarg Henge within Neolithic pits, and includes heavy globular bowl sherds and associated miscellaneous pottery sherds of heavy and thick walled vessels (Barclay and Russell-White 1993, 69). Of the Group 2 pottery sherds recovered from the Neolithic pits, one complete globular bowl, two partial vessels, portions of eight other vessels, and over 150 sherds, fragments, and crumbs were identified (Barclay and Russell-White 1993, 69). Several grooved ware sherds have also been found at other sites such as three grooved ware pots recovered from Leadketty (Brophy *et al.* 2012, 79-81).

Pottery sherds, which date to the Bronze Age, were found at several sites including all three sites of the Balfarg Complex, Forteviot, Leadketty, the three sites at North Strathallan, and at two of the cist burials at Ashgrove. The Bronze Age pottery sherds can be grouped into several categories of vessels, including Beaker sherds, Bucket Urn sherds, Cinerary Urn sherds, Collared Urn sherds, Cordoned Urn sherds, Food Vessel sherds, a Handle Beaker, and various miscellaneous sherds which were unable to be identified further than as body sherds, rim sherds, and sherds (Barclay 1983c, 122-281; Brophy and Noble 2010, 22-24; Brophy *et al.* 2012, 79-81; Cowie and Henshall 1993, 1A5-1C9; Henshall 1963-4, 166-69; Lacaille 1931, 261-69; Lawson 1868, 401-07; Mercer 1981, 136-39, Ritchie 1974, 18-21; Stewart 1985, 125-50). Several of the Bronze Age sherds uncovered are decorated including those found at the Balfarg Henge and the Balfarg Riding School, and North Mains Henge and Barrow such as various Beaker sherds, Food Vessel sherds and the Handle Beaker (Barclay 1983c, 122-281; Cowie and Henshall 1993, 1A5-1C9; Mercer 1981, 136-39). Decorations were also found on some of the Bronze Age pottery sherds recovered from the Balbirnie Stone Circle, the sites at Moncreiffe, and Creich Manse (Canmore ID 31819), such as the Beaker sherds, Cinerary Urn sherds, Cordoned Urn sherds, a Food Vessel sherd, and a few

miscellaneous sherds from unknown pottery vessels (Lawson 1868, 401-07; Ritchie 1974, 18-21; Stewart 1985, 125-50). A number of unidentifiable decorated and undecorated pottery sherds were recovered from several sites including the Balfarg Henge which could not be specifically dated to either the Neolithic or the Bronze Age (Cowie and Henshall 1993, 1A5-1C9, Mercer 1981, 136-39).

### *Lithics*

Several lithic fragments were found during the excavations of the many of the sites within Fife and southern Perth and Kinross, including the Balfarg Ceremonial Complex, Forteviot, North Mains, Moncrieffe, and Leadketty as well as several others dating from the Neolithic through the Bronze Age. Although some of the lithic flakes can be dated specifically to the Neolithic or Bronze Age, the majority found at the sites were unable to be clearly dated. Some of these flakes, which were found at the Balfarg Henge and the Balfarg Riding School, can be grouped into several types such as a core, a core rejuvenation flake, a core trimming flake, flaked cobbles, a hammer stone, inner chips, inner flakes, natural pebbles, primary flakes, retouched inner flakes, secondary chips, secondary chunk, secondary flakes, a split pebble, and a saddle quern (Mercer 1981, 123-27, Wickham-Jones and Reed 1993, 1C10-1D4). A few lithic flakes clearly belonging to the Neolithic, which were recovered from the Balfarg Henge and the Balfarg Riding School, consist of three types, a core, inner flakes, and a secondary flake (Wickham-Jones and Reed 1993, 1C10-1D4). The Bronze Age lithic flakes included inner flakes, secondary flakes, retouched inner and secondary flakes, and a bifacial leaf point, which were found at the Balfarg Riding School and the Balfarg Henge (Mercer 1981, 123-27, Wickham-Jones and Reed 1993, 1C10-1D4). Only two lithic fragments were recovered from the Balbirnie Stone Circle, a flint knife measuring 67 mm by 35 mm found within Cist 2 and a round scraper located within the Cairn with dimensions of 33 mm by 13 mm and a thickness of 8 mm both dating to the Bronze Age (Ritchie 1974, 18-21). A large number of lithics have been recovered from North Mains, with 74 pieces from the henge, 62 from the barrow, and 6 from the ring-ditch (Wickham-Jones 1983a, 246-47; Wickham-Jones 1983b, 217-25; Wickham-Jones 1983c, 163-69). Of those, 19 are pitchstone, two agates, two mudstone, seven quartz, and the rest are flint (Wickham-Jones 1983a, 246-47; Wickham-Jones 1983b, 217-25; Wickham-Jones 1983c, 163-69). Forteviot also has a large number of lithics, about 50 pieces, with five pieces of jasper, nine pieces of agate, three pieces of pitchstone, 14 of quartz, with the rest consisting of flint (Brophy and Noble 2009, 36-39; Brophy and Noble 2010, 22-24; Noble and Brophy 2007,

27-28).

### *Jet*

Several objects made from jet were found during the excavations at the Balbirnie Stone Circle and the Balfarg Riding School, which date from the Bronze Age. These objects include 25 jet disc beads, which range in size from 8 mm in diameter and 1 mm thick to 10 mm in diameter and 2 mm thick, and a V-bored button, measuring 39 mm by 36 mm with a thickness of 12 mm, and were found within the cairn material at the Balbirnie Stone Circle (Ritchie 1974, 18-21). At the Balfarg Riding School, a complete jet disc necklace was recovered from the burial located in Cist A (Barclay and Russell-White 1993, 135-36).

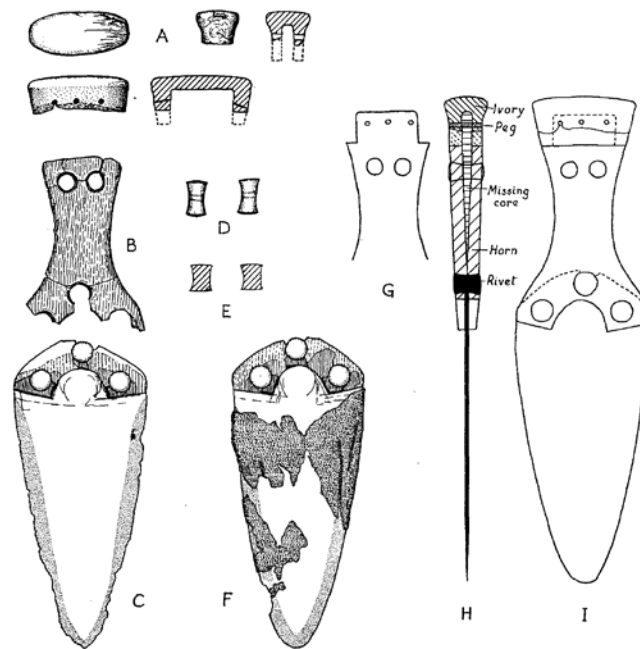
A jet necklace was discovered at North Mains within burial G, containing 136 perforated jet discs, as well as four further disc fragments (Barclay 1983b, 225). The discs vary in diameter between 4 mm to 8 mm and are between 1 mm to 2 mm thick (Barclay 1983b, 225). Further, at the cairn found at Green Hill a jet necklace consisting of 72 beads was recovered (Hutchenson 1901-02, 635-53).

### *Wood*

Several partially preserved wooden items have been recovered from the dagger burial at Forteviot, two of which probably are the remains of wooden vessels (Noble and Brophy, 2011, 798).

### *Metal Objects*

Several metal objects have been recovered from various sites in Fife and southern Perth and Kinross. A few of the objects were found at Forteviot, a large bronze dagger with a gold pommel mount, a smaller knife or knife-dagger from the Dagger Burial and a copper object from the henge, and metal fragments from a pointed object such as a spearhead (Brophy and Noble 2009, 36; Brophy and Noble 2010, 24; Noble and Brophy 2011, 798). Several metal objects were discovered during the excavations at Moncrieffe including a bronze tanged chisel, shallow bronze boss, and two small corroded fragments of tin bronze (Stewart 1985, 145-47). Another bronze dagger was discovered in Cist 1 at Ashgrove, and would have originally measured 13.58 cm in length by 5.71 cm in width, and had an ivory pommel (Figure 53) (Henshall 1963-64, 169-70).



Feature 53: Bronze Dagger from Beaker Burial in Cist 1 at Ashgrove (Henshall 1963-64, 171)

Further bronze objects include a bronze flanged axe was recovered from a cairn in 'Fife' (Canmore ID 96896) measuring 119 mm long, 24 mm along the butt, and 53 mm along the cutting edge (Schmidt and Burgess 1981, 83). Also, a bronze spearhead was found in a cist inhumation burial at the possible cairn site of Balbie in Fife (Canmore ID 52777) (RCAHMS 1933, 43-44). Another bronze spearhead was discovered at a possible barrow site in Craigton, Perth and Kinross (Canmore ID 49622), which measured 158.75 mm in length (Duns 1876, 168).

### *Bone Objects*

A few bone objects have been found at some of the sites such as a bone pin from the cremation cemetery at Forteviot and the ivory pommel from the bronze dagger at Ashgrove (Henshall 1963-64, 166-79; Noble and Brophy 2011, 787-804).

### *Plant Remains*

Two groups of seeds and grains were found at the Balfarg Riding School which date from the Neolithic through the Bronze Age and three were found at the Balfarg Henge. The earliest grains found were the two finds located at the Balfarg Henge which consist of a barley grain, dated to the Neolithic, recovered from a Globular pottery sherd uncovered from Pit F2212 within Area A and 15 seeds of hulled barley, one alder, and one *Chenopodium* cf

*album* recovered from Pit F2430 in Area A (Barclay and Russell-White 1993, 64; Cowie and Henshall 1993, 1A5-1C9). The third group of grains comes from one of the Bronze Age Cooking Pits, F3001, and consists of over 350 grains of hulled six-row barley (Barclay and Russell-White 1993, 146-47). Of the two groups of seeds and grains found within the Balfarg Riding School, one was identified in among the remains of the burial located in Cist B at the Balfarg Riding School and included thirteen seeds of barley, four barley fragments, and one oat grain (Barclay 1993, 135-36). The final grouping of flora was recovered at the Balfarg Riding School from among the remains of the burial in Cist A and consists of 155 grains of hulled six-row barley, barley fragments, four oat grains, and one grain of caryopsis of *Bromus* sp. (Barclay 1993, 135-36).

### ***Human Remains***

A large number of bone fragments and cremation deposits, at least 253, have been found at several of the sites dating to the Neolithic and Bronze Age within Fife and southern Perth and Kinross. About 28 bone fragments have been recovered dating to the Neolithic with the majority, 18, largely from the Neolithic cemetery located at ceremonial complex at Forteviot, with the remaining recovered from three sites; five from the standing stones at Bogleys, Fife (Canmore ID 52877), four at the standing stone at Orwell, Fife (Canmore ID 27912), and one from Burial A at the henge at North Mains.

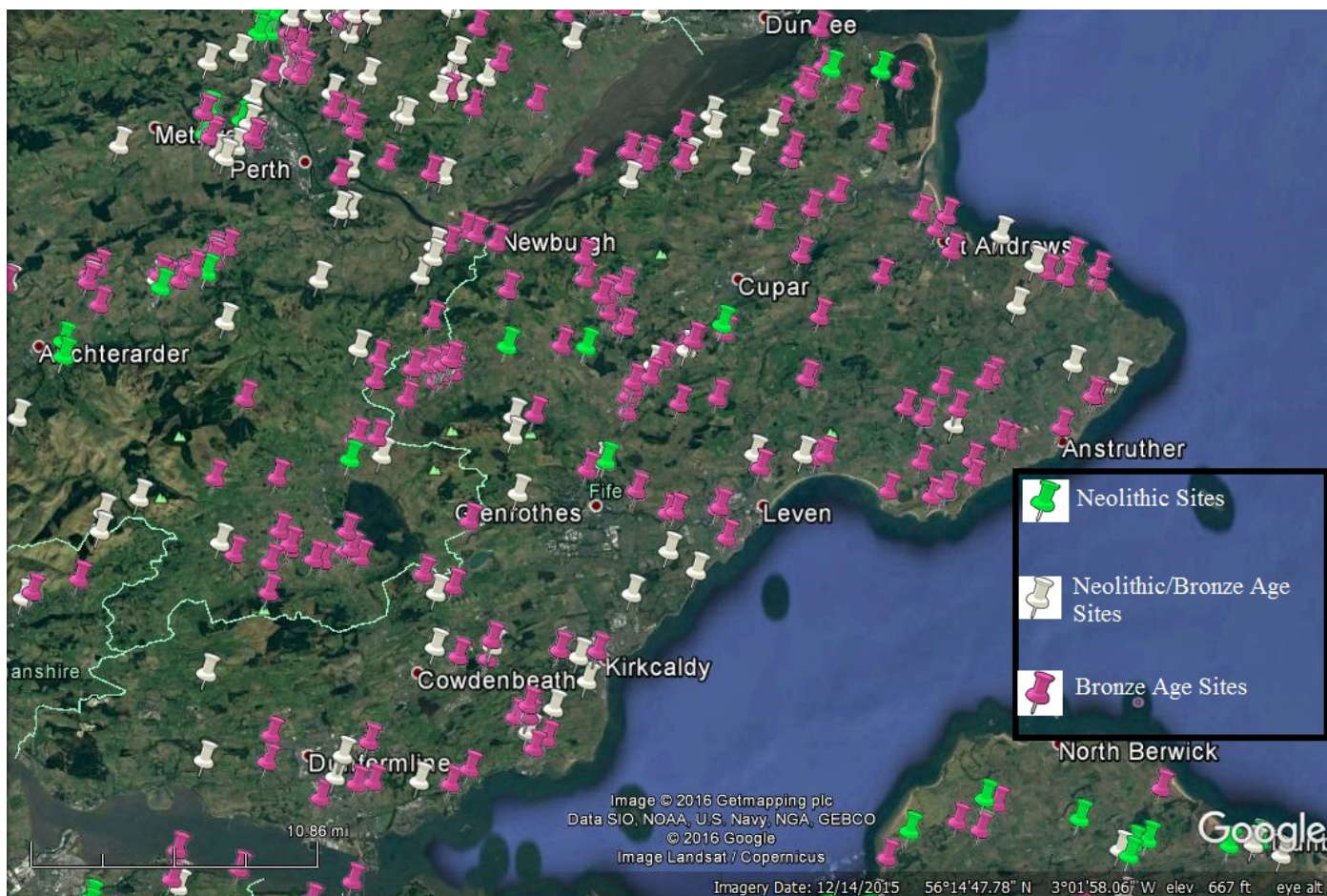
Roughly 186 bone deposits have been found dating to the Bronze Age, with the ceremonial complex at Balfarg containing the most, 44. Several of the deposits were discovered in cairns and barrows across the area. The remaining burials, about 39, could only be dated to sometime in the Neolithic or Bronze Age. The largest concentration of burials occurred at the ceremonial centres of Balfarg, Forteviot, and North Mains.

### ***Animal Remains***

Various bone fragments from animals have been identified from a few sites within the area, including antler fragments from a cairn at Cormie Hill, Raith Tower in Fife (Canmore ID 52962), as well as twelve animal bone fragments, mostly from pigs, from the henge and barrow at North Mains.

Several animal bone fragments were also recovered from the Balfarg Riding School and the Balbirnie Stone Circle. A burnt sheep bone fragment and fish bones were found in pit F009 within the interior of Timber Structure 2 at the Balfarg Riding School, along with a burnt cattle bone from pit F7023 (Barclay and Russell-White 1993, 88). A further two burnt

fragments of sheep bones and a fragment of burnt cattle bone were discovered within the middle layer of the ditch-enclosure and a cattle bone fragment from the upper layer of the ditch-enclosure at the Balfarg Riding School (Barclay and Russell-White 1993, 93). A bead or toggle made from animal bone, which measured 7 mm by 6 mm and dated to the Bronze Age, was recovered from Cist 2 at Balbirnie Stone Circle (Ritchie 1974, 18-21).



Map 2: Distribution Neolithic and Bronze Age sites in Fife, Southern Perth and Kinross  
(Canmore and Google Earth)

### *Discussion*

A large concentration of Neolithic and Bronze Age sites are located in Fife and southern Perth and Kinross, with two very important ceremonial complexes recognised; one at Balfarg/Balbirnie, Fife, which may also include not only the sites at Balfarg, BRS, and Balbirnie but also other monuments in the Leven valley, such as Lundin Links; and the other at Forteviot, Perthshire, comprising the sites found within Forteviot as well as others in the Earn Valley including monuments like North Mains, Moncreiffe House, and Leadketty (Map

2). As a means of trying to understand the nature and placement of these Neolithic and Bronze Age sites located within and around Fife, I consulted site reports, searching for patterns in the types of features and sites identified as well as the types of small finds recovered. By comparing these patterns with various land use maps, notably the Land Utilisation Survey maps of 1931-35 for Scotland as well as maps on the HLAmap website, and research into landscape and vegetation reconstruction for Fife, Kinross, and southern Perthshire, I have attempted to address the questions of why the Neolithic people built their ceremonial sites where they did, and why their Bronze Age successors would continue to build burial monuments within or near Neolithic sites creating landscapes with ceremonial monuments spanning thousands of years.

Recent work has been done for Fife and the surrounding areas on the past climate after the last glacial retreat. Pollen cores have been studied from several locations in Fife, including Black Loch, which is a rock basin loch located in northern Fife; Picklettillem Inn (sic), 5 km north-northwest of Leuchars, a kettle hole enclosed by glacial sand and gravel ridges; and on the Lomond Hills, which give a basic understanding of the vegetation changes occurring during the Neolithic and Bronze Age (Edwards and Whittington 1997; Whittington and Edwards 1994; Whittington *et al.* 1991; Whittington *et al.* 1991a; Whittington *et al.* 1991b; Whittington *et al.* 1993). All three sites show an elm decline during the start of the Neolithic along with a rise in clearance colonising birch and hazel woodland, as well as oak and alder, across the region. However, the changes to the vegetation at Black Loch display a wholly different pattern than those at Picklettillem Inn or the Lomond Hills. At Black Loch, elm went into decline three times with alternating periods of recovery (Whittington *et al.* 1991a; Whittington *et al.* 1991b). The first elm decline at Black Loch occurred during roughly the same period as those recorded at Picklettillem Inn and the Lomond Hills, as well as across the whole of Scotland. This was followed by a partial recovery of elm around 5070 BP, which declined again sometime around 4940 BP. The second recovery took place at about 4695 BP, with the final decline of elm occurring between 4460±110 BP and 3890±80 BP (Whittington *et al.* 1991a, 156).

During the Neolithic, the woodland decreases across all three sites and may have also occurred across the whole of Fife, allowing for a more open landscape suitable for agriculture (Whittington *et al.* 1991). It is quite possible that the clearance of the forests was caused by human activity; however other causes may have also contributed including climate change, and possibly elm disease which would have made clearing the woodland easier (Whittington, *et al.* 1991a). Large areas of good arable land are located across the lowlands of Fife,

Kinross, and the southern part of Perthshire, with areas of rough grazing land, heath and moorland, and woodland found along the hills (Land Utilisation Survey Map 1931-35, HLAmap website).

Along with changes in vegetation, sea levels probably changed drastically after the end of the glacial period, with maximum sea levels rises in areas across Fife dating to around 6000-5800 BP, which then receded (Whittington *et al.* 1991, 78). The probably lower water levels during at least the Early Neolithic means the exact nature of the relationship between the cursus monuments, palisade enclosures, henges, and stone circles and waterways, such as the River Tay, is unknown. It is possible other sites dating from the Early Neolithic are currently submerged along the outer reaches of the Firth of Tay and the River Tay. At the site of Pickletillem (Canmore ID 33269), the Main Post-glacial Shoreline was recorded to have risen to about 8.5 m at its maximum (Whittington *et al.* 1991, 66). The lowering of the sea levels after the end of the glacial period most probably occurred across the coastal regions of Fife, as well as along the Tay River in Fife and Perthshire. The lowering and later rising of the sea level would have had a drastic impact on the Neolithic and Bronze Age communities who were living in the area. The lowering of the sea would have exposed more land for the Neolithic communities to have used for farming, settlements, and possibly ritual purposes. With the rising sea levels, this land possibly used for generations would have been flooded. How quickly the sea levels rose is not known as research into this sea-level change is minimal within Fife, Kinross, and southern Perthshire; it may have risen slowly over the course of several hundred years; or potentially within the span of a couple generations. This would have had a tremendous effect on how the Neolithic and Bronze Age people viewed and interacted with the landscape, especially towards the sites, such as the standing stones and Bronze Age barrows found along the modern coast line.

According to the Land Utilisation Survey Map 1931-35 and the maps on the HLAmap website, most of the Early and Later Neolithic sites in the area appear to have been built on or near good arable. Some of the earliest sites, Neolithic Pits were uncovered at the Balfarg Ceremonial Complex located north of Glenrothes. The features in the complex appear to have been situated within an area that is currently arable land, which was right next to current meadowland grassland with a small forested region surrounding it (Land Utilisation Survey Map 1931-35). The Balfarg Ceremonial Complex is one of the most notable site clusters in Fife and consisted of several Neolithic and Bronze Age features.

Of the stone circles located within Fife and the surrounding regions, at least six were constructed near the Firth of Tay, on what is now good arable land with several located on the

hill margins (HLAmap website; Land Utilisation Survey Map 1931-35). The stone circles at Abernethy Den (Canmore ID 185835), Abernethy (Canmore ID 28004), and Moncreiffe House were found on the low lands. The stone circle at Moncrieffe House also appears to be located between the River Earn and the River Tay. The other three were found spread across the southern half of Fife, with a possible stone circle, Kirkhall at Loch Ore (Canmore ID 98749), found within a short distance of the loch and on or near arable land; the stone circle at Balbirnie constructed near the edge of arable land, meadowland, and woodland; and the stone circle at Dunino (Canmore ID 34487), which was built in what appears to be a small river valley for Kenly Water consisting of meadow or woodland with arable land just beyond (HLAmap website; Land Utilisation Survey Map 1931-35). The placement of several of the stone circles near prominent waterways or hills and on or near good farming land may have been a means of staking a claim to the land, as well as used as markers for travel across the landscape.

Several of the standing stones were located along the coastal regions of Fife, running from the standing stone at Tuilyies (Canmore ID 49451) south of Dunfermline along the Firth of Forth coast and up to the standing stone at Brownhills south of St. Andrews on the North Sea coast. One of the most well-known, Lundin Links appears to have been built on a small patch of good farming land next to meadowland and woodland very close to the coast (HLAmap website; Land Utilisation Survey Map 1931-35). The soils found at the site of Lundin Links consist of links, freely drained brown forest soils, imperfectly drained brown forest soils, and very poorly drained peaty soils (The James Hutton Institute Soil Survey of Scotland maps Kinross, Elie and Edinburgh Sheets 40 and Part 41 and 32). Several of the more inland standing stone sites were also constructed near waterways, including Newton of Collessie (Canmore ID 110508), Cowiefauld (Canmore ID 27779), Easter Nether Urquhart (Canmore ID 27809), and Orwell (HLAmap website; Land Utilisation Survey Map 1931-35). Braeside Farm (Canmore ID 30196) and Newton of Collessie are located along Den Burn between Lindores Loch and Gaddon Loch, with the standing stone at Newton of Collessie built on arable land, while Braeside Farm standing stone was constructed on the border between farm land and a patch of rough grazing land (HLAmap website; Land Utilisation Survey Map 1931-35). One of the standing stones, Balharvie Moss in Fife (Canmore ID 29932), was located along the slopes of the Lomond Hills next to a small stream on rough grazing land (HLAmap website; Land Utilisation Survey Map 1931-35). Most of the other standing stones were located on low lands on or near good arable land (HLAmap website).

The henges and enclosures dating to the Later Neolithic or Early Bronze Age within

the area of study were located in Fife and southern Perth and Kinross. Of these, two groups of sites occur at very important complexes, the henge and timber enclosure at the Balfarg Ceremonial Complex, and the multiple henges and timber enclosures found at Forteviot (Canmore ID 26562). The site of Forteviot is located on good arable land near a small stream the Water of May, which is a tributary of the River Earn (HLAmap website; Land Utilisation Survey Map 1931-35). While the Balfarg Henge and BRS timber enclosures are located on the border between arable land and meadowland (HLAmap website; Land Utilisation Survey Map 1931-35). Most of the other henges are also found on the border between arable land and meadowland/rough grazing land. Further, all of the henges appear to have been constructed on the low lands (HLAmap website; Land Utilisation Survey Map 1931-35).

The number of sites increased during the Bronze Age, with numerous barrows, cairns and cists located within Fife, Kinross, and southern Perthshire. Of the Bronze Age barrows found within Fife and the surrounding regions, several clusters can be identified, including one grouping in central Fife, one in Kinross near Loch Leven, and one near Forteviot in Perthshire. As with sites dating to the Neolithic, most of the barrows were located on or near good arable land. However, unlike many of the Neolithic sites, the placement of most of the Bronze Age barrows does not appear to have been related to waterways (HLAmap website; Land Utilisation Survey Map 1931-35). There are a number of barrows located along the coastal areas of Fife, such as at Barns Farm near Dalgety Bay (Canmore ID 50899), Abercrombie (Canmore ID 68789), Kingsbarns (Canmore ID 34390) and Kingsbarns Law (Canmore ID 34386), and Broomfield (Canmore ID 305992) south of Newburgh near the River Tay. The small cluster of five barrows near Loch Leven appear to have been built on possibly more marginal farming land, with small parcels of good arable land interspersed with meadowland as well as small sections of heath and moorland (Land Utilisation Survey Map 1931-35). As this cluster of barrows forms a rough line leading either towards or away from Loch Leven, it is possible that this cluster was marking a prehistoric pathway, and possibly staking a claim on the land and the loch, which may have held some importance during the Neolithic and Bronze Age.

A large number of cairns probably dating to the Bronze Age have been found within the Fife region, appearing in clusters as well as individually. The cairns also appear to be spread across the landscape, located on both hilly terrain and lowlands, and found on arable land, meadowland, and heather and moorland (HLAmap website; Land Utilisation Survey Map 1931-35). Several of the cairns were constructed along the southern coastal areas of Fife along the Firth of Forth, such as Craigdhu (Canmore ID 50945) near North Queensferry,

a grouping of three cairns at Burntisland, which includes the cairn at Pettycur (Canmore ID 52740), Burntisland Greenmount House (Canmore ID 52789), and 'criagkennochie' (Canmore ID 52849), and the three cairn cluster at Lundin Links. The cairns at Lundin Links, one of which possibly dates to the Pictish period, are right along the coast which is bordered by heath and mooreland, followed by meadowland (Land Utilisation Survey Map 1931-35). One of the central clusters of cairns is located near Nether Urquhart, consisting of a main grouping of about seven cairns, with at least four other cairns found nearby. Most of the cairns in this cluster are located near the River Eden on good arable land (HLAmap website; Land Utilisation Survey Map 1931-35).

The placement of both Neolithic and Bronze Age sites along river ways, near lochs, or along the coasts may have been used as a means of both claiming the land and waterways as well as possibly used as a means of marking routes of travel through or points on entry to the region, or marking the ancestral right to the land for those 'strangers' passing through it.

A large number of cists have been found within the region of Fife, many of which possibly date to the Bronze Age. Several of the cists were constructed along the coastal areas of Fife, which formed numerous cist clusters, such as the group of cists at Kirkcaldy, Lundin Links, and a cist found near the town of Boarhills. As with most of the other Bronze Age sites, the cists were built on good, marginal, and poor farming land, with those located along the coasts usually found on meadowland with good arable land situated nearby (HLAmap website; Land Utilisation Survey Map 1931-35).

A number of clusters of sites dating from the Neolithic through the Bronze Age have been identified, including the Balfarg Ceremonial Complex as well as the complex at Forteviot. Despite some similarities in the types of sites found at the two complexes, the location of each complex is quite different in the landscape. While the Balfarg complex was constructed on land which appears to be on the border between marginal and good farming land, Forteviot was built on arable land (HLAmap website; Land Utilisation Survey Map 1931-35). Further, for Balfarg there is no evidence of any settlements during either the Neolithic or the Bronze Age, although they were probably present during the periods. However, for Forteviot there is evidence for domestic activity during the periods. It is unclear why these complexes differ in placement within the landscape. It is possible that the area around Forteviot was not only used for farming purposes, but as a place of movement across the land for both people and goods as the Water of May connects to the River Eden which leads to the Firth of Tay (HLAmap website; Land Utilisation Survey Map 1931-35). The soils found around the Forteviot Complex consist of a large area of alluvium soils

located near the River Earn and the Water of May, freely drained podzols soils, and freely drained brown forest soils (The James Hutton Institute Soil Survey of Scotland maps Perth and Arbroath sheets 48 and 49, 1975). Although these soils types were identified during the modern era, it is very probable they reflect the soil found at Forteviot during the Neolithic and Bronze Age, especially as the two river systems the site is situated around appear to have existed during prehistory. The placement of the Forteviot Complex was probably to have been chosen on purpose, an area of good farming land next to two rivers, which would have been used as both a source of water and as a means of transport to and from the site complex from other places within Scotland and the rest of Britain and possibly Europe. All of these factors would have caused the Neolithic and later the Bronze Age people to view this site with great importance, which therefore led to the construction of the various ceremonial monuments dating to the Neolithic and the Bronze Age. A factor of determination might be that some sites were visited and used only seasonally whereas others were the object of attention all year round and thus required a hinterland that offered the possibility of providing support on that basis.

The Balfarg Complex is located to the north of the River Leven, with the sites located on the boundaries between good arable land and marginal land. The River Leven runs also east to west, which runs from the Largo Bay near Leven to Loch Leven (HLAmap website; Land Utilisation Survey Map 1931-35). This was also probably used as a means of traversing the landscape, using Largo Bay as an entry point into Scotland and the River Leven as a quicker means of travel into the interior of Scotland, which would probably have been used from the Early Neolithic, and possibly earlier during the Mesolithic, through the Bronze Age, and probably later in prehistory and antiquity. The soils around the Balfarg Complex consisted of freely drained brown forest soils; loamy soils, imperfectly and poorly drained alluvial soils; and further brown forest soils (The James Hutton Institute Soil Survey of Scotland maps Kinross, Elie and Edinburgh Sheets 40 and Part 41 and 32, 1975). Although these soils are of the modern period, it is possible they are similar to those found during the Neolithic and Bronze Age. The different soils types identified at the Balfarg Complex further indicate the area was probably situated in a location of marginal farming land, which was probably used for agricultural purposes would not have been as productive farming land as the land surrounding Forteviot, and may instead have been used for grazing. The importance of the Balfarg Complex may lie in its placement on the boundaries between several types of landscapes, such as forests, grazing land, and farming land, which were all located near a river running east to west. These factors would probably have been a reason the Neolithic

and Bronze Age communities built the ceremonial sites situating them in the middle of a conjunction of the different vegetal landscapes. Further, the construction of these monuments would have been used as a means of both staking a claim on the land for those communities living in Fife and as markers in the landscape for those traveling through the area.

Along with the ceremonial monuments constructed during this period, several possible settlements have been found possibly dating to the Neolithic and the Bronze Age, including a Neolithic enclosure at Forteviot, as well as the possible Neolithic and Bronze Age settlements at Tentsmuir and Scotstarvit Covert. The site at Tentsmuir was located near the north-eastern coastal region of Fife within the Tentsmuir Forest, with good farming land located to the west and heath and moorland to the south (HLAmap website; Land Utilisation Survey Map 1931-35). The possible settlement at Scotstarvit Covert, which dates at least to the Bronze Age, and possible was used during the Neolithic, was constructed inland within the central area of Fife on what appears to be meadowland or woodland which is surrounded by good arable land (HLAmap website; Land Utilisation Survey Map 1931-35). A few further potential sites dating possibly to the Neolithic and the Bronze Age have been found, with three possible Neolithic timbered buildings and several possible Bronze Age huts. All three of the timber buildings, the sites at Shiells, Kirkton Wood and Kirktonbarns are all located on good arable land, with Shiells located in the central region of Fife near the banks of the River Eden, while the other two were located to the south of Tayport near the coast (HLAmap website; Land Utilisation Survey Map 1931-35). The possible Bronze Age huts are scattered across the landscape of Fife and southern Perth and Kinross, with many of them found near waterways or coastal regions. Each of these sites is located near a water source, with Forteviot and Scotstarvit placed near rivers, while Tentsmuir was built near the coast with a few small rivers located nearby (HLAmap website; Land Utilisation Survey Map 1931-35). The rivers would have not only acted as a source of freshwater and marine resources but possibly also as means of transport for trade and contact between the various communities in the area and perhaps those across Scotland.

Only a handful of sites dated to the early Neolithic have been located, which appear to be localised to two specific areas and sites, the Balfarg Ceremonial Complex in southern Fife and the Forteviot Complex in southern Perthshire. For both of these site complexes, the earliest recorded Neolithic features are pits, containing Neolithic pottery at Balfarg and the Balfarg Riding School and cremation deposits at Forteviot (Barclay and Russell-White 1993; Noble and Brophy 2011). Each of these complexes is situated near or on good arable land with a water source located nearby (HLAmap website; Land Utilisation Survey Map 1931-

35). However, the difference in the types of deposits within the pits between the two complexes may be related to several factors. Forteviot appears to have been located near to what may have been a major route of travel, the River Earn, for movement both into and across Scotland. This river, which branches off from the River Tay, runs roughly east to west ending at Loch Earn located in the southwestern Highlands, with the whole routeway running from the Firth of Tay to the Western Islands (Noble and Brophy 2011, 788). This river would have been seen as an important means of travel, with sites along its route seen as important hubs of travel with the exchange of goods and ideas possibly occurring along the route. Although, the Balfarg Complex is also located near an east-west river routeway, it was built both at a further distance from the river as well as on less arable land than the complex at Forteviot. This may indicate a possible reason why the Neolithic pits found at Balfarg and BRS contain only broken pottery vessels and burnt soil versus the cremation deposits within the pits at Forteviot, as Balfarg was located in a less economical and farming, although still important, area than Forteviot.

Both of these complexes contain timber enclosures, which date to the middle of the Neolithic. However, as with the Neolithic pits, the enclosures found at Forteviot constructed on a grander scale than the two timber enclosures which make up part of the Balfarg Complex located at the Balfarg Riding School. The palisaded enclosure at Forteviot was constructed around the Early Neolithic cremation pits and a large area surrounding the pits, while the two timber structures at the Balfarg Riding School encircled several of the pottery filled earlier pits (Barclay and Russell-White 1993; Noble and Brophy 2011, 791).

The density of the sites increases during the Later Neolithic across Fife and the surrounding areas, with timber circles, ditch-enclosures, stone circles, and standing stones found across the area, with an even greater increase in sites occurring during the Bronze Age. The number of sites and the concentration of them intensify from the Early Bronze Age through to the Later Bronze Age, with several of the sites located along more marginal farming land. The Bronze Age sites also appear to have been built in larger clusters, while those dating to the Early and Later Neolithic appear either spread out across the landscape or in small clusters. These changes reflect a possible increase in population as well as a possible decline in the climate/environment which seems to have occurred across the whole of Scotland during the Later Neolithic and Early Bronze Age, with a large scale reduction in woodland occurring across various regions of Scotland including at Black Loch in Fife (Edwards and Whittington 2003, 74-75; Whittington *et al.* 1991a). The change in climate would have led to an increase in use of more marginal farming land, which probably led to

the rise in communities constructing ceremonial and burial monuments across the landscape as a means of laying claim to sections of the landscape.

During the Chalcolithic into the Early Bronze Age, in the latter centuries of the third millennium BC there was an influx of artefacts and new burial styles coming from the continent into Fife and the surrounding regions, with several Beaker and Bronze Age burials identified across the landscape. A number of Beaker burials and artefacts have been recovered from Neolithic ceremonial sites, including the Balfarg Ceremonial Complex and the Forteviot Complex, with those at Forteviot dating earlier than those found at Balfarg (Barclay and Russell-White 1993; Brophy and Noble 2010). Further, a few Bronze Age dagger burials have been found, with one located at Ashgrove, and another uncovered within the interior of the henge monument at Forteviot, with both examples containing at least one bronze dagger (Henshall 1963-64; Noble and Brophy 2011). The Beaker pots and bronze daggers were probably brought into the Fife region by both trade and the movement of small groups of Early Bronze Age people from the continent who sailed across to Britain possibly even directly to Fife, and probably using the riverways as a means of travel into the interior of Scotland. These groups of people would have interacted with the existing communities, influencing their settlement structures, artefact styles and technologies, and burial/ceremonial structures. The earliest of these groups placed several of their burials within or near existing Neolithic ceremonial monuments, such as at Balfarg, Forteviot, and Lundin Links drawing on the previous or current groups claim to access to the land, both for agriculture and for travel.

A large number of Neolithic and Bronze Age ceremonial sites have been found within Fife and Southern Perth and Kinross. Along with individual sites, several clusters of sites have been identified, which contain features dating from the Early Neolithic to the Late Bronze Age. These sites include the two large ceremonial complexes at Balfarg in Fife and at Forteviot, as well as four further complexes at Leadketty, North Mains, and Moncrieffe House. All of the Perth and Kinross complexes were located along the River Earn or its tributaries, which runs east from the Firth of Tay and connects to various other waterways all the way to the west coast. The creation of such complexes along important waterways on good agricultural land can be seen as a means of means of controlling access to the riverways, such as the series of four monument complexes of Moncrieffe House, Forteviot, Leadketty, and North Mains along the River Earn, and therefore access to trade and migration within areas Scotland. The River Earn is an important waterway within Scotland as it travels east to west across the interior of Scotland from the Firth of Tay and connects to rivers and lochs leading to the western coast of Scotland. The communities who built the first features

within the monuments may have viewed this river as an important focal point both spiritually and for travel, and were potentially laying claim to the access of both. With later communities continuing to use these sites as a means of controlling the access to this river, which would have continued to have been viewed as a very important means of transportation for the movement of goods and people for trade, migration, and pilgrimage.

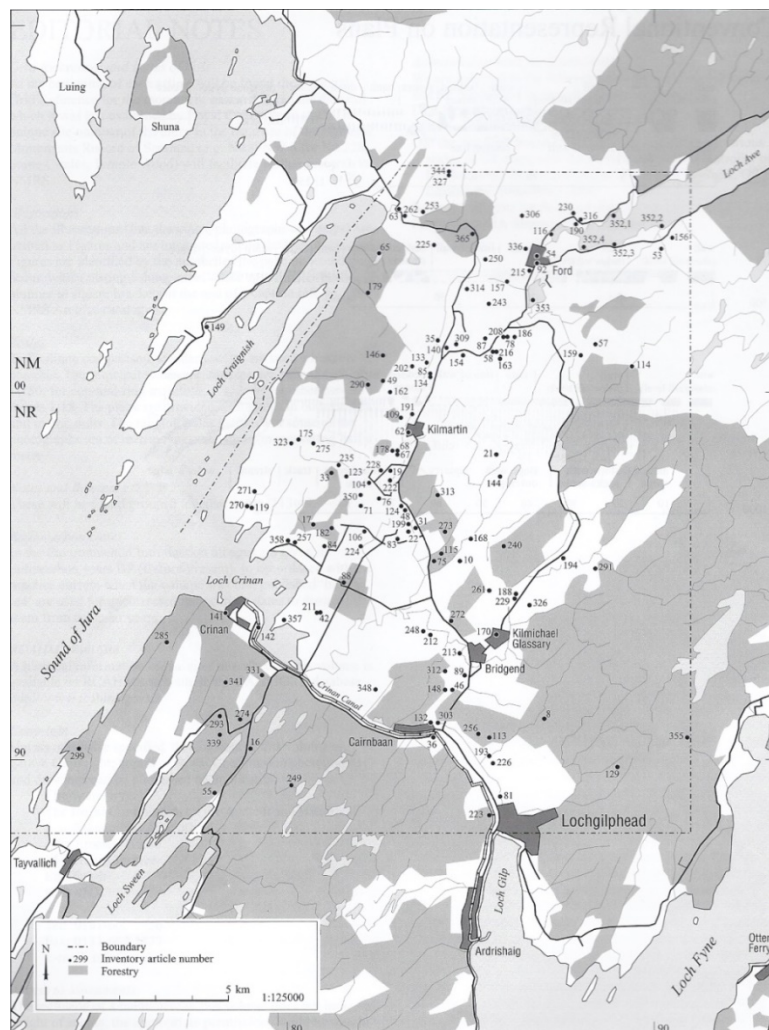
The largest quantity of artefacts and small finds recovered from the area come from the main ceremonial complexes. Further, a considerable amount of human remains has also been discovered at these sites. This is to be expected as sites such as Balfarg and Forteviot were in use from the Early Neolithic through the Bronze Age, and thus would have become important sites for the deposition of items, such as Grooved Ware pottery, Beaker pots, a bronze dagger, and a jet necklace; along with the large number of burials uncovered at these two sites plus North Mains and Leadketty. However, as many of the sites located in Fife and southern Perth and Kinross have yet to be excavated, there may yet be other sites with large collections of artefacts and burials. Further, several of these sites are found within good arable land, it is also probably the various artefacts and sites themselves have been lost due to farming activities.

The presence of potential domestic sites of both the Neolithic and Bronze Age dates near ritual and ceremonial sites along with the ample farming land found in Fife and southern Perth and Kinross may indicate the ceremonial monuments, and the rituals/ceremonies that were associated with them, were used as a means of staking a claim on the land by various communities during each period. However, these communities may not have been in competition with each other for access to good farming land but may have had some form of association with each other. These communities may have also banded together to control access across the various waterways many of the sites were built next to. These rivers and lochs may have initially been seen as spiritual places in the landscape, but their necessity in everyday life and travel may have increased the importance of them, thus increasing the importance and power of the ceremonial sites located along the routes. And with each new monument constructed the communities may have been either laying claim to past groups or erasing the past with each new type of monument that was built.

## Kilmartin Case Study

### Introduction

The Kilmartin Valley, located in Argyll, contains a dense concentration of prehistoric and early historic structures. The valley is set in a rocky glacially eroded landscape containing a series of hills, which rises to the east to approximately 435 m OD at source of the River Add (RCAHMS 2008, 1). The valley is situated in the highlands of Mid Argyll in the west of Scotland between the southern tip of Loch Awe and the more open lands to the east of Loch Crinan (Map 3). The main concentration of Neolithic and Bronze Age sites occur along the Kilmartin Burn, while others are located to the south in Poltalloch and in Crinan. The area is sparsely populated with small villages along the major roadways, many of which are located along routes similar to those used in the prehistoric eras. The vast majority of the Neolithic and Bronze Age ceremonial sites appear to be located on terraces formed during the Lateglacial period found above the Kilmartin Burn floodplain (RCAHMS 2008, 4).



Map 3: Map of Kilmartin Valley and Surrounding Areas (RCAHMS 2008, x)

Given the continued importance of the area through the historic period, it is probable that exploitation of the area by Mesolithic hunter-gathers occurred (RCAHMS 2008, 5). However, there is no specifically datable evidence, either through artefacts or features, for settlement of the Kilmartin Valley during the Mesolithic. A few lithics were found from sites within the Kilmartin Valley, which can only be dated to the Mesolithic/Neolithic (Campbell and Sandeman 1961-62, 112-25). There also has been no evidence of domestic settlements from either the Neolithic or the Bronze Age. The earliest dateable evidence from the Kilmartin area comes from the Early Neolithic monuments.

The main types of sites prevalent during the Neolithic through the Bronze Age consist of ritual and mortuary sites. The earliest site of the Neolithic is the cursus monument, a recently found a cursus at the Upper Largie Quarry, which is believed to pre-date the chambered cairns, followed by the Clyde type chambered cairns, which are mounds of stones in various shapes and sizes that were designed to cover slab-built burial chambers used for the deposition of inhumation and cremation burials (Cook *et al.* 2010, 194). Other types of Neolithic monuments found in Kilmartin include stone alignments, and a post-hole alignment. There is only one henge monument identified in Kilmartin at the site of Ballymeanoch. Henges usually have oval or circular earthworks with an inner ditch and outer bank interrupted by one or more entrance causeways. The standing stones located in the Kilmartin Valley are grouped into categories of single stones, stone alignments, and stone circles. Cup and ring markings appear from the Neolithic through the Bronze Age, and are found in the densest and most elaborate concentrations in the Kilmartin Valley. The markings which resemble circular indentations sometimes with concentric rings carved around them, have been located on rock outcrops, large boulders, small portable stones, and a number of prehistoric monuments, including standing stones and cist covers. Other monuments identified in Kilmartin include Bronze Age cairns and barrows and a timber circle at the Upper Largie Quarry. Of the 30 Bronze Age cairns identified, several have been completely destroyed due to agriculture while for others only kerb stones survive. Beneath many of the cairns excavated, cists, stone lined rectangular pits used for burials, have been found some with grave goods. Other Bronze Age burials and cists have been found with grave goods similar to those found in cairn covered cist burials. Many of the cist burials are found grouped together forming cemeteries.

| <i>Sites</i>                         | <i>Calibrated C14 Dates</i>   |
|--------------------------------------|---|
| Cursus Monument, Upper Largie        | 4340-3800 cal BC and 3750-3390 cal BC, 4220 to 3790 cal BC (AA-43411), 4340 to 4040 cal BC (AA-43013), 3910 to 3630 cal BC (AA-43014), 3940 to 3650 cal BC (AA-43015), 3720 to 3510 cal BC (AA-43016), 3940 to 3640 cal BC (AA-43023) |
| Timber Circle, Upper Largie Quarry   | 2010-1760 Cal BC to 1740-1440 Cal BC, 1880 to 1520 cal BC (GU-9363), 1920 to 1680 cal BC (AA-43018)   |
| Cist, Upper Largie Quarry            | 1410 to 1020 cal BC (GU-1976), 1380 to 1010 cal BC (GU-1977), 2140 to 1740 cal BC (GU-1978),  |
| Burials, Upper Largie Quarry         | 1410 to 1210 cal BC (SUERC-16632), 1940 to 1750 cal BC (SUERC-16631)  |
| Cist 3, Upper Largie                 | 2140 to 1920 cal BC (SUERC-16633), 2120 to 1770 cal BC (AA-43006)   |
| Standing Stone C, Ballymeanoch       | 1370 to 1040 cal BC (GrA-28613)   |
| Stone Circle, Temple Wood            | 1400 to 800 cal BC (SRR-531), 1400 to 750 cal BC (SRR-530), 4350 to 3350 cal BC (GU-1296), 1450 to 800 cal BC (GU-1528), 1550 to 900 cal BC (GU-1527)   |
| Kerbed Cairn, Temple Wood            | 1425-1316 cal BC to 1441-1270 cal BC, 1900 to 1100 cal BC (GU-1300), 2100 to 300 cal BC (GU-1299),  |
| Burial E, Temple Wood                | 1900 to 400 cal BC (GU-1298), 1650 to 1000 cal BC (GU-1529), 1440 to 1270 cal BC (SUERC-17361)  |
| Cist D, Temple Wood                  | 1550 to 900 cal BC (GU-1297), 1550 to 800 cal BC (GU-1045)  |
| Burial D, Temple Wood                | 1420 to 1270 cal BC (SUERC-17360)   |
| Cup and Ring Marked Rock, Torbhlaran | 2580 to 2340 cal BC (SUERC)   |

Table 3: Calibrated C14 Dates For Sites in Kilmartin Valley (Canmore)

## Features

### Cursus

A post-defined cursus was discovered at the Upper Largie Quarry (Canmore ID 39486) site during a series of excavations from 1993 to 1997 (Figure 54) (Cook *et al.* 2010, 169). The cursus consisted of at least 77 post-holes, which were placed between 1.03 to 3.79 m apart, forming a U-shape (Cook *et al.* 2010, 169). The remains of posts or post pipes, which were concentrated in the south and south-western section of the cursus, were identified in 18 of the post-holes (Cook *et al.* 2010, 169). Two lithic artefacts were recovered from post-hole 303, a double-ended scraper and a small flint fragment of irregular shape (Cook *et al.* 2010, 171). Two other possible cursus monuments have been identified by aerial

photography; one located about 800 m to the east of Dunadd (Canmore ID 109413) on the northern terrace of the River Add; and the other is a potential avenue at Ballymeanoch (Cook *et al.* 2010, 195). However, there has been no further evidence at either site of the existence of a cursus. The River Add site is strongly believed to be the remains of a barrow by other archaeologists; while excavations at the Ballymeanoch feature only revealed a shallow ditch, which ran north to south (Cook *et al.* 2010, 195).

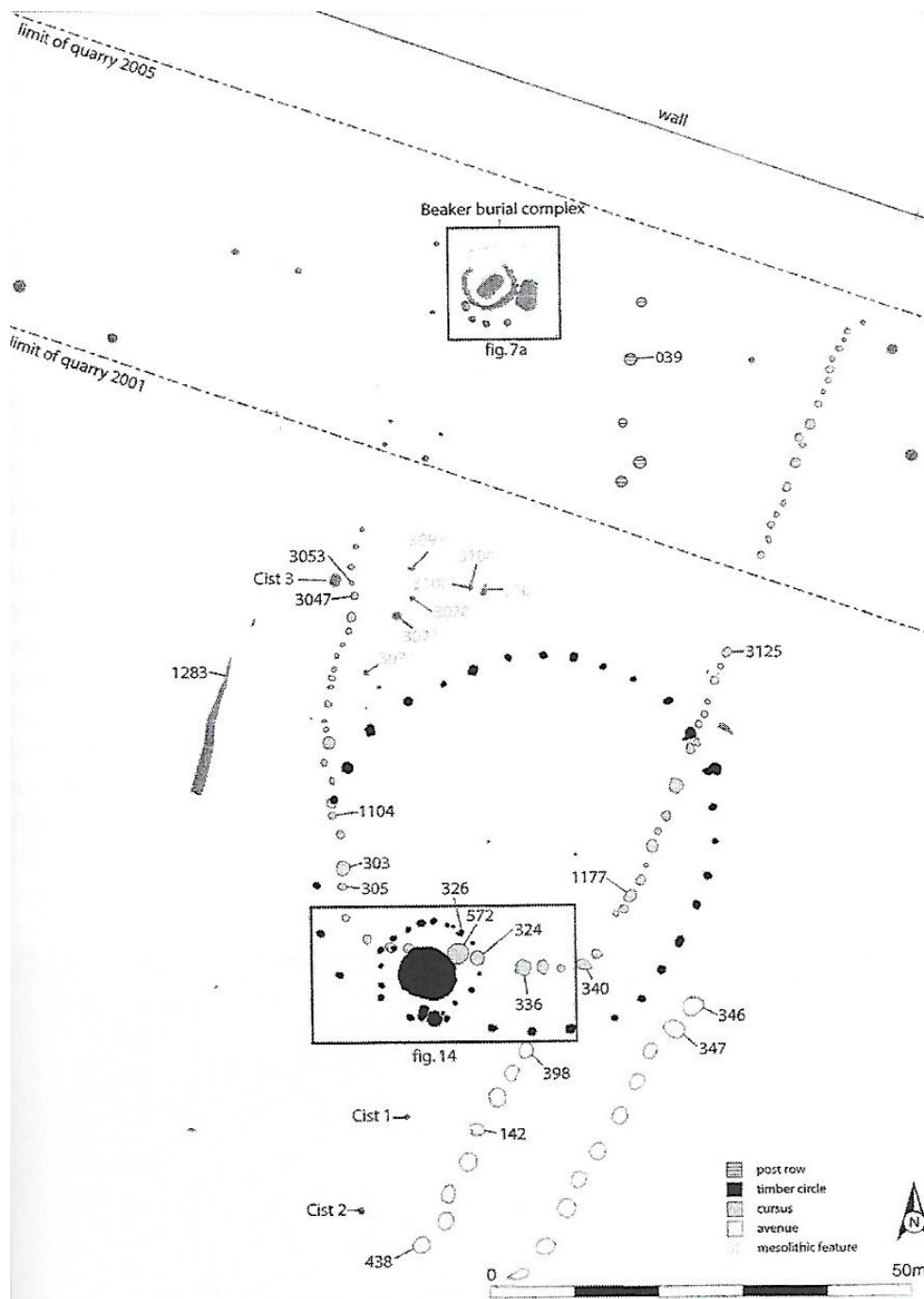


Figure 54: Southern Terminal of the Upper Largie Pit-Defined Cursus Monument Site Plan  
(Cook *et al.* 2010, 170)

## Chambered Cairns

Some of the earliest Neolithic monuments found in the Kilmartin valley are the Clyde type Chambered Cairns (RCAHMS 2008, 5). The Royal Commission has inventoried six chambered cairns within the area of the Kilmartin Valley (2008, 19-24). Of the six chambered cairns, Gartnagreanoch (Canmore ID 39195), Kilchoan (Canmore ID 39452), and Nether Largie South (Figure 7), are aligned northeast to southwest with entrances and forecourts at the northeast end; Auchoish (Canmore ID 39561) is aligned west-northwest to east-southeast with the entrance at the east-southeast side; the alignments of the chambered cairns at Baroile (Canmore ID 39467) and Upper Rhudil (Canmore ID 39432) are not specified, however the entrance to the cairn at Baroile lies on the north-northeast side.

Only the chambered cairns at Kilchoan (Figure 57 and 58) and Nether Largie South (Figure 55 and 56) produced any finds, thus any discussion concerning the possible uses will focus largely on the two sites. Evidence for burials has been found at both, with burnt and unburnt bone recovered from the compartments of both cairns. Of the burials found at Nether Largie South, several appear to be of later period than the initial construction and use of the cairn as fragments of beaker pottery and broken arrow heads were found in association with the bones found in the cist in the rear compartment. The finds for both of the cairns dates from the Neolithic to the Bronze Age.

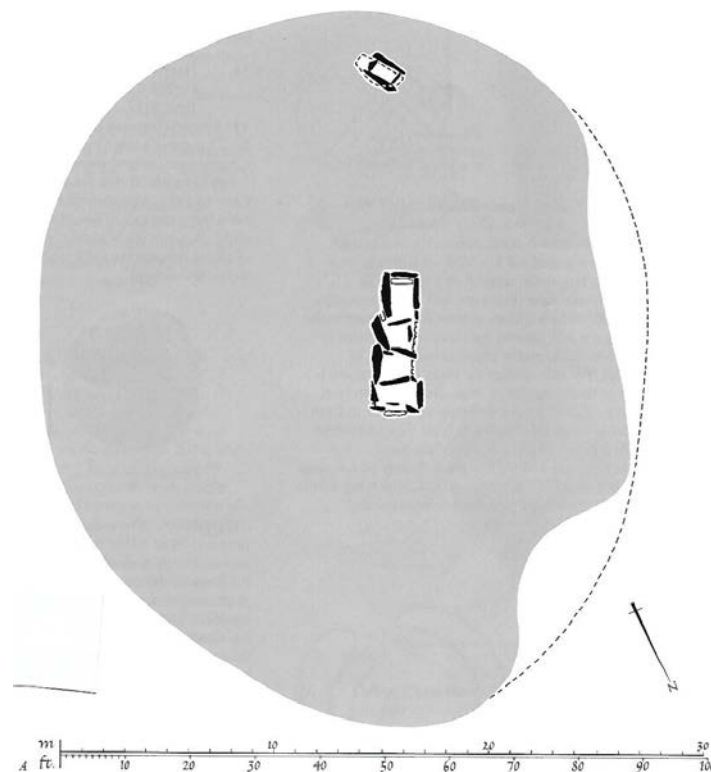


Figure 55: The Chambered Cairn at Nether Largie South Site Plan (RCAHMS 2008, 23)



Figure 56: Exterior of the Chambered Cairn at Nether Largie South (Photo: Rachel Ford)

At Kilchoan, the finds consisted of lithic deposits which could either belong to the Neolithic or the Bronze Age, including unretouched flint flakes, half of a rough knife and chips, and seven finished flint implements (Campbell and Sandeman 1961-62, 120). Also found at Kilchoan was a rim sherd of a decorated food vessel (Campbell and Sandeman 1961-62, 120). At Nether Largie South, the finds were for the Neolithic a Beacharra bowl and for the Bronze Age sherds of five beakers, two broken barbed arrowheads, flint fragments, chipped quartz pebbles, and ox and cow bones (Campbell and Sandeman 1961-62, 122; Greenwell 1864-66, 341-347). Only one definitive find remains at the cairns from the Neolithic, a bowl, which could be interpreted either that the Neolithic people who built the cairns did not place many artefacts in the chambers of the cairns or that the cairns were cleaned out at some point after the initial deposition.

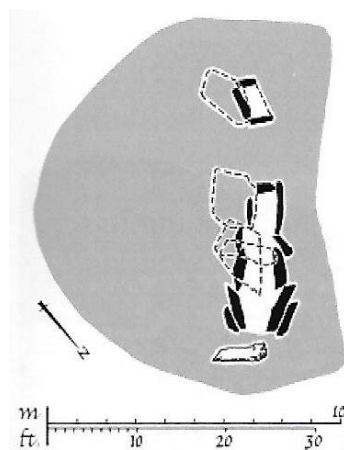


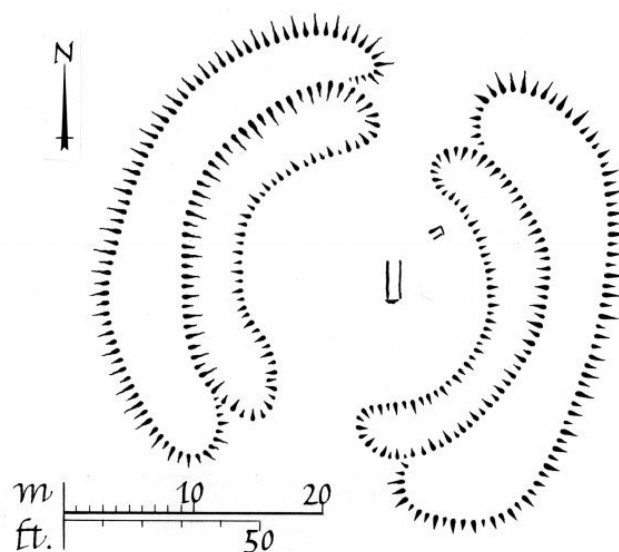
Figure 57: The Chambered Cairn at Kilchoan Site Plan (RCAHMS 2008, 21)



Figure 58: Exterior View from the Northeast of the Chambered Cairn at Kilchoan (RCAHMS 2008, 21)

### Henges, Standing Stones, and Stone Circles

The henge at Ballymeanoch (Figure 59) is the only one found within Kilmartin Valley and one of only a few found within the north-west of Britain (RCAHMS 2008, 6). The henge comprises ‘an outer bank with internal ditch, broken by entrance-causeways on the N and S’ measuring about 40 m in diameter, and the bank is at most 0.4 m high (RCAHMS 2008, 24). Two cists were found in the enclosed area of the henge by Greenwell in 1864 measuring 1.8 m by 0.8 m and 0.7 m deep, and 0.9 m by 0.4 m and 0.5 m deep (1864-66, 348-349). The only finds within the henge were found in the smaller cist which contained bone fragments from three inhumation burials and a fragmentary Beaker pot (RCAHMS 2008, 24).



<https://canmore.org.uk/collection/345640>

Figure 59: Site Plan of the Ballymeanoch Henge (Canmore)

About 130 m north-northeast of the Ballymeanoch henge lie the Ballymeanoch Standing stones (Canmore ID 39454) (Figure 60), one of the seventeen groups of standing stones within Kilmartin. The standing stones of Ballymeanoch originally had seven stones aligned in two ‘roughly parallel linear settings of four stones and two stones,’ the seventh stone was an outlier to the northwest, which later fell sometime after 1881 (RCAHMS 2008, 72). Three of the stones bear decorations; stone B, part of the four stone alignment, is decorated on the east face of the stone with at least 70 plain cup-marks, ‘five cups with single rings and gutters, and eight cups with complete or partial single rings’; stone C, also part of the four stone alignment, has decorations on the west face of the stone of ‘forty plain cup-marks, one large cup and single ring, and one cup with a gutter ring’; and stone G, the seventh stone, has decorations on the east face of ‘two large cup-marks, about fifteen smaller cups and a dumb-bell’ (RCAHMS 2008, 73). Beneath the stump of stone G, three small patches of cremated bone were found during an excavation, which are assumed to be a foundation deposit placed during the erection of the stone (RCAHMS 2008, 73).



Figure 60: The Standing Stones of Ballymeanoch viewed from the Northeast (RCAHMS 2008, 72)

Of these standing stones, some of them occur in isolation, such as the stone at An Car, Leckuary (Canmore ID 39447), which is located 200 m southwest of Leckuary on the north bank of the River Add and measures 0.9 m by 0.3 m at its base and 3.9 m in height; and at Stane Alane, Lochgilphead cemetery, that measures 2.45 m in height and 1 m by 0.28 m at the base (RCAHMS 2008, 72-77). The other standing stones, like at Ballymeanoch and Nether Largie (Canmore ID 39471), appear closer to other sites. The standing stones at Nether Largie are situated in fields on the west side of the Kilmartin Burn and about 250 m southeast of Temple Wood, and are aligned northeast and southwest. The stones are set up in a slightly complex fashion. The end of the southernmost alignments are a pair of stones, A and B, aligned about north-northeast to south-southeast; the next set of stones, a group of four

stones C, D, E and a fallen stone, are located 24 m to the north-northeast of A and B; situated 6.5 m to the north-northeast is the five stone group comprised of ‘a large upright (F) and two pairs of flankers (G, I, J, H)’; the northern pair of stones, K and L, lie 34 m further to the north-northeast; and two further stones, a single outlying stone, M, located 100 m to the northwest, and a stump of a standing stone, N, about 300 m to the west of the main alignment (RCAHMS 2008, 76-77).

Only two of the standing stones have any finds associated with them, at Ballymeanoch where patches of cremated bone were found, and the standing stone at Achnabreck (Canmore ID 39545) in which human bones were found at the foot of the stone during an excavation (Campbell and Sandeman 1961-62, 23; RCAMHS 2008, 72-77).



Figure 61: The Southern Stone Circle at Temple Wood – Reconstruction (Photo: Rachel Ford)

The stone circles at Temple Wood (Canmore ID 39504) are the only ones found within the Kilmartin Valley and lie at the centre of ‘the densest concentration of prehistoric monuments in Mid Argyll’ with the chambered cairn of Nether Largie South 250 m to the northeast and the standing stones of Nether Largie are about 300 m to the southeast (Figure 62) (RCAMHS 2008, 78). Excavations were carried out by J H Craw in 1928, and later by J G Scott between 1974 and 1979 (RCAHMS 2008, 78; Scott 1988-89, 57). The chronology of

the site is rather complex with the earliest feature discovered to be a timber setting in the northeast circle (Figure 63), which was later replaced by standing stones placed on the same location. The activity of the site shifted to the southwest circle (Figure 61) with the earliest feature consisting of a circle of 22 standing stones, later two small cairns both with cists were built on the northeast and west sides of the stone circle, later upright slabs were placed in the spaces in between the stones of the circle, and finally the circle was surrounded by a bank of stones covering both the external cairns (RCAHMS 2008, 78; Scott 1988-89, 53-124). The site dates from the Neolithic to the Bronze Age, with the kerbed cairn dated to the Bronze Age (Table 3) (Scott 1988-89, 115-117; Sheridan 2008, 202).

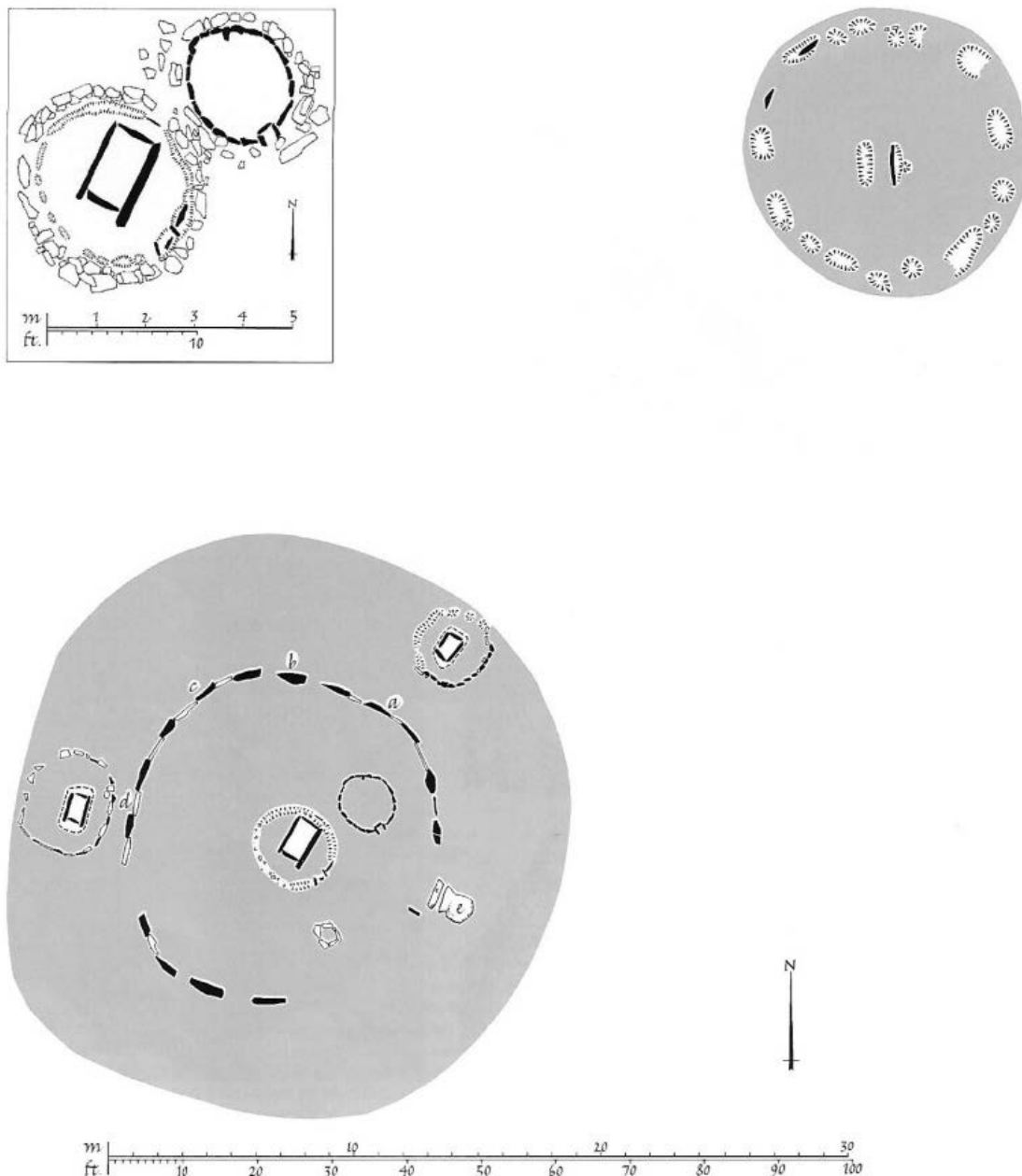


Figure 62: Temple Wood Northern and Southern Stone Circles Site Plan (RCAHMS 2008,

80)



Figure 63: The Northern Stone Circle at Temple Wood – Reconstruction (Photo: Rachel Ford)

### **Cup-and-Ring Marked Stones**

The largest concentration of decorated stones found in Scotland is located within the Kilmartin Valley dating to the Neolithic and Bronze Age (RCAHMS 2008, 6). The majority of these stones were decorated with cup-and-ring markings, although other decorations were found including spirals, peltas, stars, ringed stars, parallel grooves, uncupped rings, depictions of flat bronze axes (RCAHMS 2008, 6-8). The 107 decorated stones identified were distributed throughout the Kilmartin Valley many of which have been found near other Neolithic or Bronze Age features with 77 located on rock outcrops, such as Achabreck

(Canmore ID 39552) (Figure 64) and Torbhlairen Tiger Rock and Lion Rock, while 13 were discovered on standing stones within stone alignments and a stone circle, 14 were identified from cists and burials, and three were found at two cairns (RCAHMS 2008, 42-71). Of these decorated stones, several were found in concentrations within specific locations.



Figure 64: A Cup-and-Ring Marked Stone from the Rock Outcrop at Achabreck (Photo: Rachel Ford)

Eleven cup-and-ring decorated stones have been located to the north of Ardifuir (Canmore ID 39137) (RCAHMS 2008, 52-53). One was found within a pasture field to the north of the Ardifuir Dun with two cup-marks identified measuring 45 mm by 20 mm and 45 mm by 15 mm (RCAHMS 2008, 52). A further eight stones decorated with cup-and-ring marks were identified on rock outcrops located on a ridge bisecting the valley floor at Ardifuir, with the southernmost stone containing four cup-marks along the eastern peak of the outcrop and three cup-marks on the western peak (RCAHMS 2008, 52). The other decorated stone outcrops contained a variety of cup-marks with one stone covered in 34 plain cup-marks, three cup-marks with 'eyebrows' and a possible cup-and-ring mark, which was badly

eroded; another with at least 30 plain cup-marks; a stone decorated with only one cup-mark and a small cup-mark surrounded by half of a ring; one with three cup-marks within a line formation; another stone with four plain cup-marks and one cup-and-ring mark; a stone decorated with one cup-mark and two rings, seven large cup-marks and single rings, one small cup-mark and single ring, and eighteen plain cup-marks; and the final stone in the outcrop with nine plain cup-marks (RCAHMS 2008, 53). The final two decorated stones at Ardifuir were found to have one cup-mark and two rings, four cup-marks and single rings, and ten plain cup-marks on one stone with the other stone covered in fifteen plain cup-marks, one cup-and-ring mark with a gutter, and dumb-bell carved into the stone (RCAHMS 2008, 53).

Another grouping of decorated stones was identified at Kilmichael Glassary (Figure 65) (Canmore ID 39549), with a series of cup-and-ring marks found on two stone outcrops (RCAHMS 2008, 65). The first decorated outcropping which was identified initially by Miss C. S. Campbell and further excavated and documented by David Christison, is located within a pasture northwest of Am Baile Mór, Kilmichael Glassary (Christison 1903-04, 144; RCAHMS 2008, 65). The rock outcrop was found to be divided into three sections by two clefts in the rock with the three groups of carvings differing in the characteristics of the decorations found (Christison 1903-04, 144-145). In the upper division, which measures 2.4 m by 0.6 m, a series of decorations were found consisting of nineteen detached cup-marks, two pairs of cups joined by a shallow groove, a pear-shaped figure with a cup located inside the pear and a 'minie-bullet-shaped flat boss', and 'a round flat boss, with a long tongue-like projection' (Christison 1903-04, 145). The middle division, measuring 2.4 m by between 0.3 m to 0.7 m, contains fifty-one detached cup-marks, two elongated ovals and one curved hollow, one cup, seven cup-marks in a row connected together by a groove and two cup-marks connected by two grooves, seven cup-marks connected to other figures, six dumb-bells, a large cup-mark mostly encompassed by a groove which ends in small cup-marks, and one cup-and-ring (Christison 1903-04, 145). The lower division of the outcrop, which measures 3.2 m by 0.9 m, has twenty-nine detached cup-marks, thirteen cup-marks connected to each other or other figures, eight pear-shaped or tongued images, a complex figure of two oval spaces surrounded by eight small cup-marks, and one oval cup-and-ring mark (Christison 1903-04, 145-146). The second outcrop at Kilmichael Glassary is located 60 m north-northeast of the first outcrop and contains one cup-mark with five rings, one cup-mark with four rings, three cups with two rings, two cup-marks with single rings, and seventeen plain cup-marks (RCAHMS 2008, 65).



Figure 65: Cup-and-Ring Marked Stone at Kilmichael Glassary (Photo: Rachel Ford)

Of the 13 decorated standing stones identified, ten were discovered at three sites; three at the standing stones of Ballymeanoch, three at the standing stones of Nether Largie, and four at the stone circle of Temple Wood (RCAHMS 2008, 72-80). At the standing stones of Ballymeanoch, stones B, C, and G were found to be decorated with various cup-and-ring markings (RCAHMS 2008, 72-73). The eastern face of stone B is incised with at least seventy cup-marks, five cup-marks with single rings and gutters, and eight cup-marks with single rings (RCAHMS 2008, 73). The western face of stone C bears forty cup-marks, one large cup-mark and single ring, and one cup-mark with both a gutter and a ring (RCAHMS 2008, 73). Stone G, which is located 18 m west-northwest of stone F, was decorated on its eastern face with two large cup-marks, roughly 15 smaller cups, and a dumb-bell (RCAHMS 2008, 73).

Three of the stones from the Standing Stones at Nether Largie (Figure 66) also bore carved decorations. Three cup-marks were found on stone B, which belongs to the southernmost pairs of stones, the cup-marks measured 70 mm, 60 mm, and 50 mm in diameter and 15 mm in depth (RCAHMS 2008, 76-77). Forty cup-marks, one cup-and-ring mark, and two

cup-marks with gapped circles were identified on the southwest face of stone F of the Nether Largie Standing Stones (RCAHMS 2008, 76-77). The final stone at Nether Largie with decorations is stone L, which has three cup-marks on its southwest face, each measuring between 40 mm to 50 mm in diameter and are up to 15 mm deep (RCAHMS 2008, 76-77).



Figure 66: Cup-and-Ring Marked Stone at the Nether Largie Standing Stones (Photo: Rachel Ford)

Four stones at the stone circle of Temple Wood were recorded bearing decorated markings. Two of the stones of the southwest circle are decorated with unique markings. Stone A has faint concentric circles pecked into its surface, while stone B has double spiral markings on its inner and outer faces, with a three-strand decoration curling to form a single spiral (Figure 67) (RCAHMS 2008, 78). The other two stones, C and D, were decorated with cup-marks; several small cup-marks found on the outer face of stone C, and two small cup-marks on the interval slab, stone D (RCAHMS 2008, 78).



Figure 67: Spiral Decorated Stone B from the Southern Circle at Temple Wood (RCAHMS 2008, 79)

Fourteen decorated stones were recorded from cists across various sites along the Kilmartin Valley. Most of the stones were recorded as single finds from individual cists at different sites, although at the four sites of Nether Largie Mid (Canmore ID 39493), Nether Largie North, Ri Cruin (Canmore ID 39456), and Poltalloch (Canmore ID 39478) at least two stones with decorations have been discovered within the remains of cists. Three marked stones were found at cists within the cairn of Nether Largie North (Craw 1930-31, 271). Two stones decorated with axe-head carvings were recovered from the cist within the cairn at Nether Largie North by J. Hewat Craw, which probably date to the Bronze Age (1930-31, 271). The cover stone of the cist, which measures 2m by 31m by 0.22m, was found inscribed with ten large flat axe-heads, four smaller figures possibly axe-heads, and forty-one cup-marks (Figure 68) (Craw 1930-31, 271). The end slab on the north side of the cist also had two axe-head carvings (Craw 1930-31, 271). An up-right slab with cup-marks was found along the eastern end of a possible second burial located to the south of the central cist (Craw 1930-31, 271). The cup-marks on the slab measure roughly 180 mm in diameter (Craw 1930-31, 271).

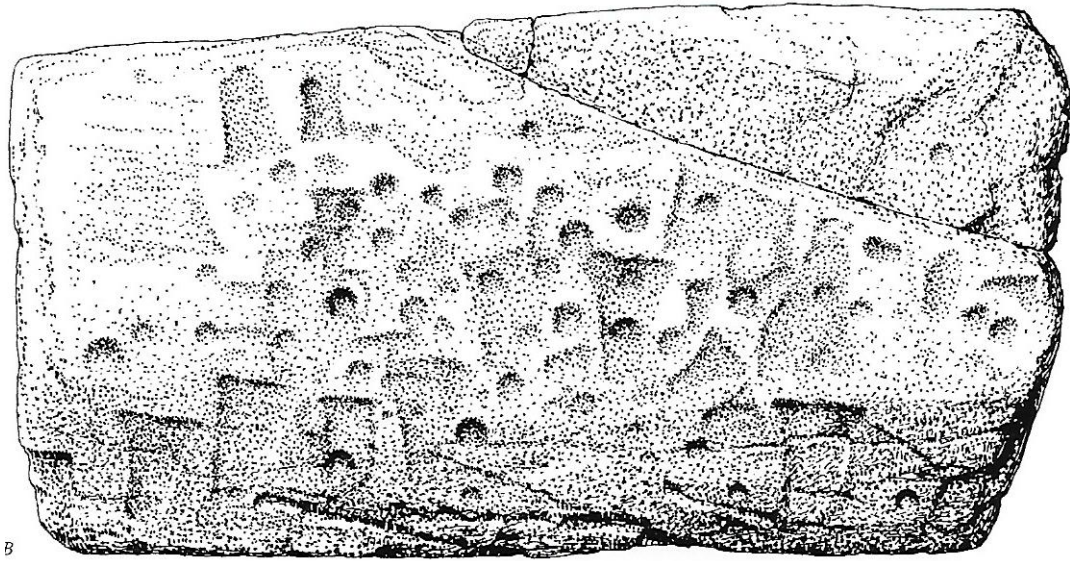


Figure 68: Axe and Cup-Marked Stone at Nether Largie Cairn – the Underside of the capstone for the cist (RCAHMS 2008, 33)

At the cairn of Ri Cruin, two decorated slabs were identified from the third cist burial, which was aligned east to west, located outside the kerb of the cairn (RCAHMS 2008, 35-36). The slab at the west end of the cist was found to be decorated with seven pecked axes (Figure 69), while the eastern slab was recorded to have been incised with a vertical line with shorter lines branching off at right angles and ending with a rounded line, possibly depicting a halberd or a boat (Figure 70) (RCAHMS 2008, 35-36).



Figure 69: Axe Decorated Stone at Ri Cruin Cairn (RCAHMS 2008, 35)



Figure 70: Halberd/Boat Decorated Stone at Ri Cruin Cairn (RCAHMS 2008, 36)

### **Bronze Age Cairns and Barrows**

There have been twenty-nine reported Bronze Age Cairns and barrows within the Kilmartin Valley, and all have been found within various states of disrepair, with several completely removed due to agricultural developments (RCAHMS 2008, 10, 24-36). A few of the cairns can be identified as kerb-cairns, including the cairns at Ballymeanoch (Canmore ID 39483), Temple Wood, and the small cairn at Kintraw (Canmore ID 22824) (RCAHMS 2008, 10). Two of the twenty-nine cairns and barrows have been located at Ballymeanoch. The barrow, which is located between the public road and the henge monument, is a large turf-covered mound measuring 30 m in diameter, and 1.4 m in height (RCAHMS 2008, 24). J H Craw conducted an exploratory excavation in 1928 and found the barrow consisted of mostly earth with a large number of boulders irregularly placed, and 1m beneath the boulders was a

layer of charcoal covering the ground surface; however no cists or burials were found (RCAHMS 2008, 24). The cairn also found at Ballymeanoch is situated about 135 m to the west-northwest 29 m northeast of the standing stones (Figure 71). Originally the cairn was mostly circular, measuring 6.9 m in diameter over a kerb of upright stones, and stands at the present to a height of 0.7 m. Due to stone-robbing only eleven of the kerbstones remain, which appear to have been ‘graded in height, with the tallest (up to 1.4 m high) on the SW’ (RCAHMS 2008, 24). No artefacts were found at either the cairn or the barrow at Ballymeanoch.

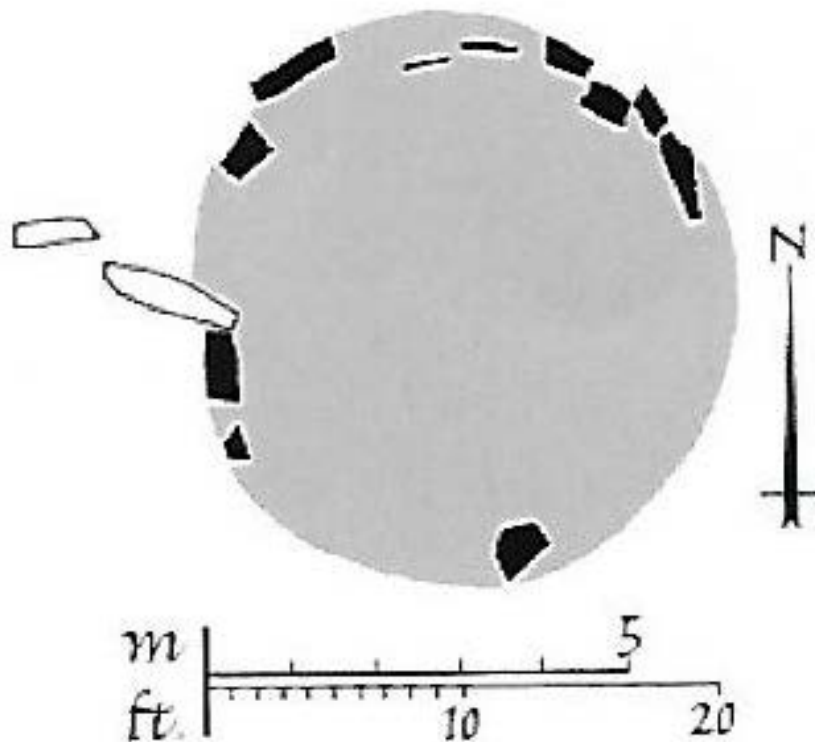


Figure 71: Cairn Located to the West-Northwest of the Ballymeanoch Henge Site Plan (RCAHMS 2008, 24)

Some of the most memorable cairns within Kilmartin lie along the Kilmartin Burn and form the linear cemetery, which include the cairns at Kilmartin Glebe, Nether Largie Mid (Figure 72 and 73), Nether Largie North, and Ri Cruin. Of these Bronze Age cairns, only two were found with any artefacts, Kilmartin Glebe and Nether Largie North. The Glebe cairn which measured 33.5 m in diameter and 4.1 m high before its reconstruction was excavated by Greenwell in 1864 (Greenwell 1864-66, 339-341; RCAHMS 2008, 28). During the excavation, Greenwell uncovered two concentric rings of stones located in the southwest portion of the cairn and within the centre of the rings he discovered a cist.

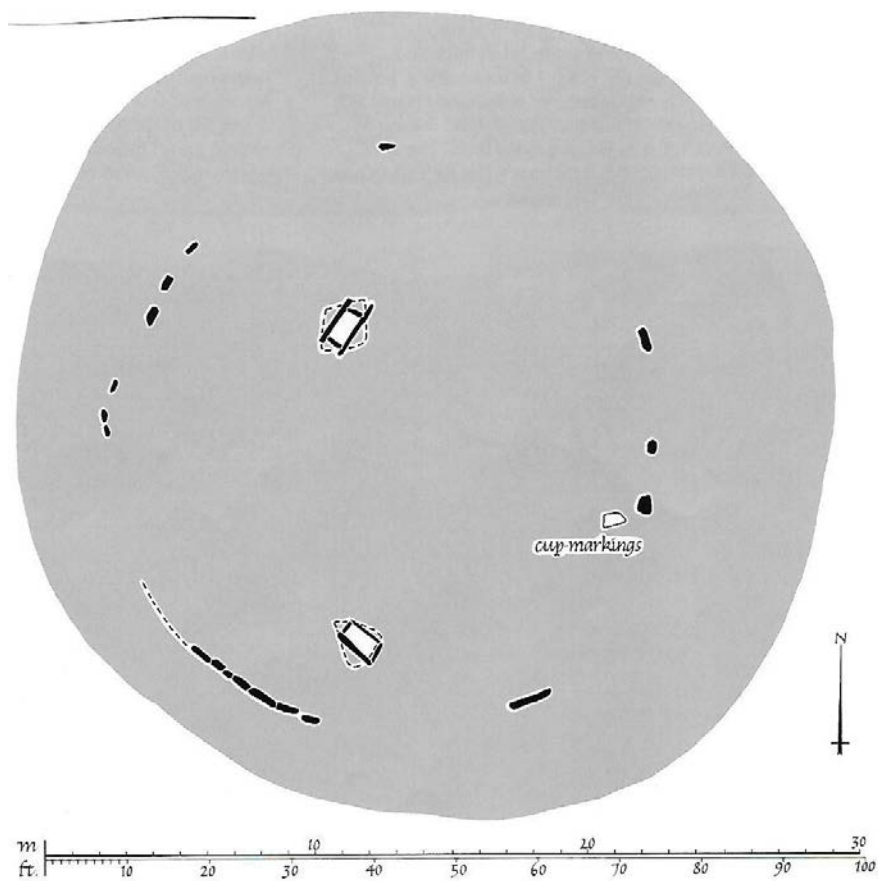


Figure 72: Nether Largie Mid Cairn Site Plan (RCAHMS 2008, 31)



Figure 73: Exterior of Nether Largie Mid Cairn (Photo: Rachel Ford)

## Bronze Age Timber Circle

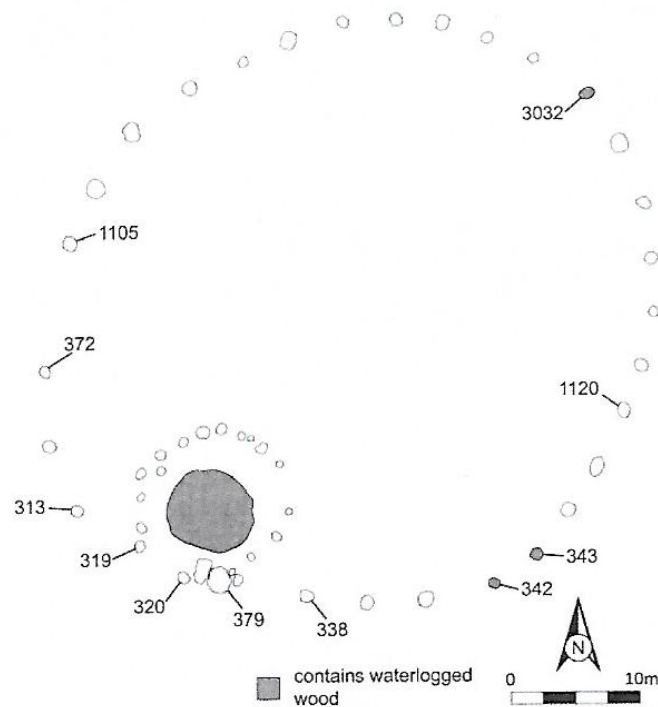


Figure 74: Timber Circle at Upper Largie Quarry Site Plan (Cook *et al.* 2010, 190)

The remains of post holes from a timber circle dating to the Bronze Age were found at the southern extremity of the cursus at the Upper Largie Quarry (Figure 74) (Cook *et al.* 2010, 190). The circle measured 45 m to 47 m in diameter and consisted of 29 to 31 posts, which ranged in width between 0.7 m and 2.09 m and in depth from 0.35 m to 0.85 m (Cook *et al.* 2010, 190). The timber circle is actually oval or elliptical in shape and is believed to have been deliberately constructed as such with the major axis aligned from north-east to south-west (Cook *et al.* 2010, 191-202). The site was radiocarbon dated with dates ranging from 2010-1760 Cal BC to 1740-1440 Cal BC (Table 3); however the circle may have been built 200-300 years later based on tree-ring analysis from the samples taken (Cook *et al.* 2010, 191). This is one of only a few known examples of Bronze Age timber circles in Scotland (Cook *et al.* 2010, 202).

## Burials and Cists

Several burials and cists have been found throughout the years in Kilmartin, the majority of which are believed to be of Bronze Age origin. At least sixty-six cists and thirty-four burials have been recorded in RCAHMS and by other archaeologists and are probably

only a percentage of the original number, and the artefacts found mostly reflect the goods found in cist burials found within cairns (2008, 10). Some of the cists have been found along the Kilmartin Burn linear cemetery, such as the cist at Crinan Moss (Canmore ID 39576), which was discovered in the nineteenth century and later dismantled. The cist was found to contain human bones (RCAHMS 2008, 37). Other cists have been found in clusters, called cist cemeteries, along the west side of the Kilmartin Valley, including the cist cemetery at Poltalloch (RCAHMS 2008, 10, 38-40). At least two excavations have taken place at the cist cemeteries at Poltalloch (Figure 75), including one led by Sir Ian Malcolm in 1928 and a later excavation undertaken by Eric Cregeen and Peter Harrington in 1960-62 (Craw 1929, 156; Cregeen and Harrington 1981, 19). The excavations by Sir Ian Malcolm reexamined a cist excavated previously by Professor Bryce in 1910, which had contained bone fragments; however, upon reopening the site no new finds were unveiled (Craw 1929, 156). One Bronze Age cist and burial was found within a cave at Crinan Ferry (Canmore ID 39174), which appears to have been used as a domestic dwelling (Mapleton 1880-81, 103-04). According to Mapleton, the original burial within the cist was later disturbed with the inclusion of a second burial, which was later disturbed by the domestic occupation of the cave, although this sequence cannot be verified (1880-81, 103-104).

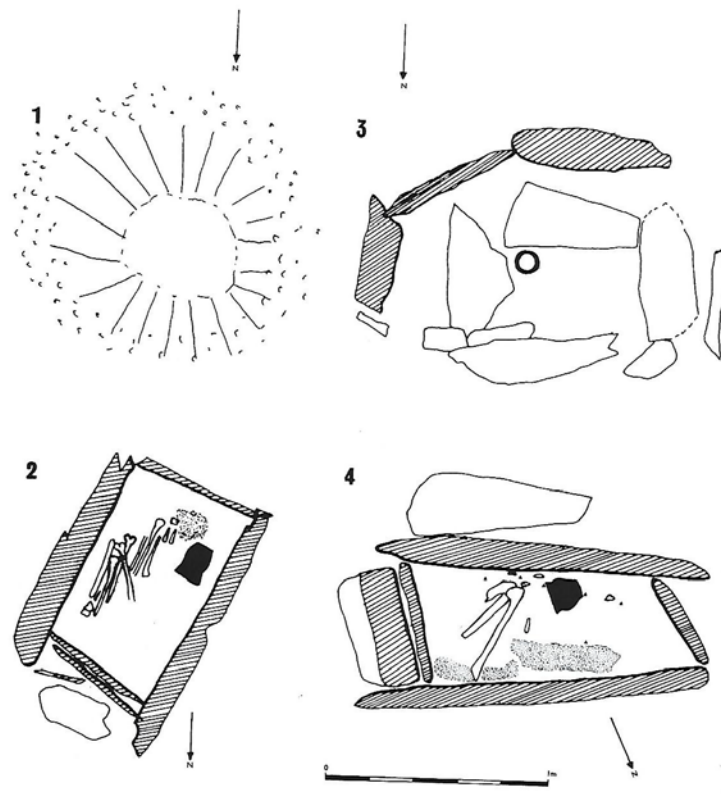


Figure 75: Plans of the Four Cist Graves found at Poltalloch in 1961 (Cregeen and Harrington 1981, 22)

A few of the burials can only be dated from sometime during the Neolithic or the Early Bronze Age. Possibly four individuals were found in Neolithic/Bronze Age burials from the chambered cairn of Kilchoan, with two deposits of unburnt bones and two deposits of cremated bones recovered during the excavation of the site (Mapleton 1864-66, 354-355). Along with these Neolithic/Bronze Age burials were two burials from the stone circle of Temple Wood, three burials from cists at the standing stones of Ballymeanoch, and two burials from the cist at the cave site of Crinan Ferry (RCAHMS 2008, 20-81). A Bronze Age burial was also found beneath Stone G of the standing stones of Ballymeanoch (Table 3) (Sheridan 2005, 183).

### **Small Finds**

Several types of small finds were recovered from the sites located within the Kilmartin Valley, including artefacts, human remains, and animal remains, which date from the Neolithic through the Bronze Age. The artefacts discovered during the various excavations can be grouped into categories such as pottery, lithics, metal objects, jet objects, and ochre. The majority of the small finds date to the Bronze Age, with pottery, lithics, and human remains making up the majority of the finds.

### *Artefacts*

#### *Pottery*

The pottery recovered from the Kilmartin Valley can be grouped into several categories, which include Food Vessels, Cinerary Urns, Beakers, unidentified pottery vessels, and various sherds. Most of this pottery dates to the Bronze Age with only one Food Vessel dated between the Neolithic and Bronze Age found at the Nether Largie South chambered cairn (Greenwell 1864-66, 341-347). The remaining thirteen Food Vessels, dating to the Bronze Age were uncovered from various locations within the Kilmartin Valley. Two Food Vessels were recorded at the Poltalloch Estate, with one found in Cist B and the other from an unknown location (Anderson 1904-05, 240-241; Craw 1929, 161-162). Another two were discovered at the Kilmartin Glebe Cairn, while a further two cairns located at Carnassarie (Canmore ID 22837) and Rhudil (Canmore ID 39468) each had a Food Vessel recovered from their remains (Craw 1930-1, 275-278; Greenwell 1864-66, 339-350). From two cists found within the cairn at Dunchraigaig (Canmore ID 39455), two additional Food Vessels were uncovered, and another Food Vessel was discovered within a cist at Barsloisnoch (Canmore ID 39475) (Anderson 1904-05, 232-248; Greenwell 1864-66, 347-348). Recent

work at the Upper Largie Quarry has recovered two Food Vessels, one from burial pit 132 and the other from Cist 1 (Cook *et al.* 2010, 183-187). The remaining Food Vessel was found at Dunadd (Canmore ID 39564) (Craw 1929-30, 124-124). All of the Food Vessels were shown to have some ornamentation (Anderson 1904-05, 240-241; Cook *et al.* 2010, 183-187; Craw 1929, 161-162; Craw 1929-30, 124-124; Craw 1930-31, 275-278; Greenwell 1864-66, 339-350). One Cinerary Urn was recovered from a cist at Upper Largie, along with nine conjoined base sherds plus several fragments, and crumbs of Cinerary Urn Sherds were found at the Upper Largie Quarry within Feature 1 (Barclay *et al.* 1983, 22-23; Mercer and Rideout 1987, 25-38). Numerous sherds of Beaker vessels were uncovered at six sites within the Kilmartin Valley, with 24 sherds, which form two Beaker urns, discovered at a cave at Crinan Ferry (Mapleton 1880-81, 103-104). At the Nether Largie South Chambered Cairn, sherds of four Beaker urns along with one relatively whole Beaker, which was found nearly black in colour, were located (Greenwell 1864-66, 341-347). Two whole Beaker Urns were uncovered at Poltalloch; one was located within Grave 2 of a cist, while the other comes from an unknown location (Anderson 1904-05, 232-248; Cregeen and Harrington 1981, 19-28). Another two whole Beaker Urns were identified with one found within the Henge at Ballymeanoch and the other in Burial B Grave Group at Temple Wood (Greenwell 1864-66, 348-349; Scott 1988-89, 101-103). Three Beakers were found within a possible burial in pit 053 at the Upper Largie Quarry (Cook *et al.* 2010, 175). Several unidentifiable pottery vessels and sherds were recovered from seven sites within the Kilmartin Valley. From Poltalloch, a complete vase and bowl, both of which were decorated, were uncovered from cist burials Grave 4 and Grave 3, respectively (Cregeen and Harrington 1981, 19-28). An undecorated complete urn was found within a cist at Ballymeanoch (Craw 1929-30, 135-137). Several undecorated burnt clay vessels were also recovered from a cist at Kilbride (Canmore ID 22736) (Campbell and Sandeman 1961-62, 125). Several pottery sherds from undecorated vessels were uncovered from a cist at Dunchraigaig, the chambered cairn at Kilchoan, a cairn at Rhudil, and from Feature 2 and 3 at the Upper Largie Quarry (Greenwell 1864-66, 347-350; Mapleton 1864-66, 355; Mercer and Rideout 1987, 25-38).

### *Lithics*

Numerous lithic fragments and implements, which date from the Neolithic through the Bronze Age, were recovered during the various excavations of the sites located within the Kilmartin Valley. Of the over 554 lithic objects probably dating to the Neolithic, ten were flint flakes and one core recovered from the fort at Duntroon (Canmore ID 39450), along

with three scrapers and one unidentified flint implement (Christison *et al.* 1904-05, 270-85). A flint knife and a stone hatchet were discovered at the Dunchraigaig cairn, and a stone axe was uncovered at the Ardifuir Dun (Canmore ID 39140) (Greenwell 1864-6, 347-348; Christison *et al.* 1904-05, 267-69). Five lithic tools were recovered from the Upper Largie Quarry; two end scrapers from pit 004; a double-ended scraper and flint fragment from one of the pits of the cursus monument, pit 303; and a flint blade from pit 202 (Cook *et al.* 2010, 171-175). A carved greenstone ball that has six projecting discs dating to the Neolithic, was found at the fort at Dunadd (Christison *et al.* 1904-05, 311). The vast majority of the lithics dating to the Neolithic were recovered at the rock art site of Torbhlairen Tiger Rock (Canmore ID 39543), with over 500 lithics recorded, such as hammerstones, cores, pebbles, flakes, and unworked stones (Jones *et al.* 2011a, 38-87).

The largest group of lithic fragments and objects found could only be dated to the Neolithic/Bronze Age, with over 593 objects identified. Of these lithic objects, thirty-seven saddle querns dating to the Neolithic/Bronze Age were uncovered with one from Dunadd and the rest from the fort at Duntroon (Christison *et al.* 1904-05, 270-85; Craw 1929-30, 120). Several Neolithic/Bronze Age lithic fragments and implements were found at the Kilchoan Chambered Cairn, including ten unidentified flint implements, one flint knife, one flint knife or scraper, one flint flake, and various flint fragments (Mapleton 1864-66, 354-55). The remaining Neolithic/Bronze Age lithic objects were uncovered at the Stone Circle at Temple Wood, with a side scraper, a poulder, a point, and a flake found at the Southern Circle; and two end scrapers discovered at the Northern Circle (Scott 1988-89, 101-103). The largest number of lithics were discovered at two rock art sites Torbhlairen Lion Rock and Ormaig (Canmore ID 22860), with over 383 objects recorded from Torbhlairen Lion Rock, including various worked stones, such as hammerstones and flakes, and unworked pieces of stone; and at least 150 lithics were found at Ormaig, such as hammerstones, a flint flake, and unworked stones (Jones 2011b, 93; Lamdin-Whymark 2011, 212).

The lithic fragments and objects dating to the Bronze Age were recovered from ten sites within the Kilmartin Valley. Of these sites, the Nether Largie South Chambered Cairn contained five arrowheads, a knife fragment, and numerous quartz pebbles and flint fragments (Greenwell 1864-66, 341-347). Three arrowheads were also found within the Burial Group B at Temple Wood, as well as a knife or scraper and a side scraper (Scott 1988-89, 101-103). At Poltalloch, a plano-convex knife was recovered from Grave A located in a cist, along with a flint knife from Cist A and a flint fragment from Cist B (Craw 1929, 160-162; Cregeen and Harrington 1981, 19-28). Two additional plano-convex knives were

discovered at a cist in Upper Largie and within Feature 1 at Upper Largie Quarry, as well as fifteen quartz pebbles from Cist 1; a core, three flakes, and two scrapers from Cist 3; a flake knife and a double-ended strike-a-light from the sub-rectangular pit 053; and a pitchstone flake, a quartz chunk, and four quartz flakes from two pits in the timber circle (Barclay *et al.* 1983, 22-23; Cook *et al.* 2010, 175-192; Mercer and Rideout 1987, 25-38). Further lithic objects include a whetstone found at the Dunchraigaig cairn, a flint knife from the cist at Kilbride, and a thumb flint from the Rhudil cairn (Greenwell 1864-66, 347-50; RCAHMS 2008, 38). The remaining Bronze Age lithic fragments were a deposit of flint fragments from the cist at Badden (Canmore ID 39384) and two flint fragments uncovered from the cairn and cist of Carnassarie (Craw 1930-1, 275-78; RCAHMS 2008, 36).

### *Metal Objects*

Fourteen metal objects, found within the Kilmartin Valley, were dated to the Bronze Age, and three of the fourteen, a bronze buckle from the Kintraw Cairn and two rings from Torran (Canmore ID 22803), appear to be of a decorative nature (Campbell and Sandeman 1961-62, 122; RCAHMS 2008, 29-31). The remaining Bronze Age metal objects are weapons and tools, including a bronze dagger from the cist at Ballymeanoch; at Torran, three socketed axes, two spearheads, a socketed gouge, and a knife; and at Poltalloch, a halberd, a socketed axe and a spearhead (Campbell and Sandeman 1961-62, 122; Craw 1929-1930, 135-137).

### *Jet*

Several jet objects were uncovered at Kilmartin dating from the Bronze Age. The jet objects dating to the Bronze Age were found at four different sites with the largest amount consisting of six decorated jet beads found at the Kintraw Cairn (RCAHMS 2008, 29-31). Two jet necklaces were recovered, one from the Kilmartin Glebe Cairn, which had 28 beads, and the other from Cist A at Poltalloch, made up of six plates, one triangular piece, and 110 barrel-shaped beads (Figure 76) (Craw 1929, 160-163; Greenwell 1864-66, 339-341). A jet fragment found within a cist at Barsloisnoch dates to the Bronze Age (RCAHMS 2008, 36-37).



Figure 76: Poltalloch Jet Necklace from Cist A at Poltalloch (Craw 1929, 164)

### *Ochre*

A few fragments or lumps of ochre were recovered from four sites within the Kilmartin Valley. Two lumps of yellow ochre were found within the Southern Circle of Temple Wood, which date to the Neolithic/Bronze Age (Scott 1988-89, 101-103). One lump of ochre from Cist A and several fragments of ochre from Cist B were discovered during an excavation at Poltalloch, which date to the Bronze Age (Craw 1929, 160-161). A small piece of ochre, from the Bronze Age, was found within a cist at Nether Largie North (Craw 1930-1, 271). The final piece of ochre, which dates to the Bronze Age, was located in a cist at Carnassarie (Craw 1930-1, 277).

### *Amber*

A singular amber bead was found at the rock art site of Torbhlaren Lion Rock. The bead has a rectangular profile and dates to the Later Neolithic or Early Bronze Age (Jones 2011b, 97)

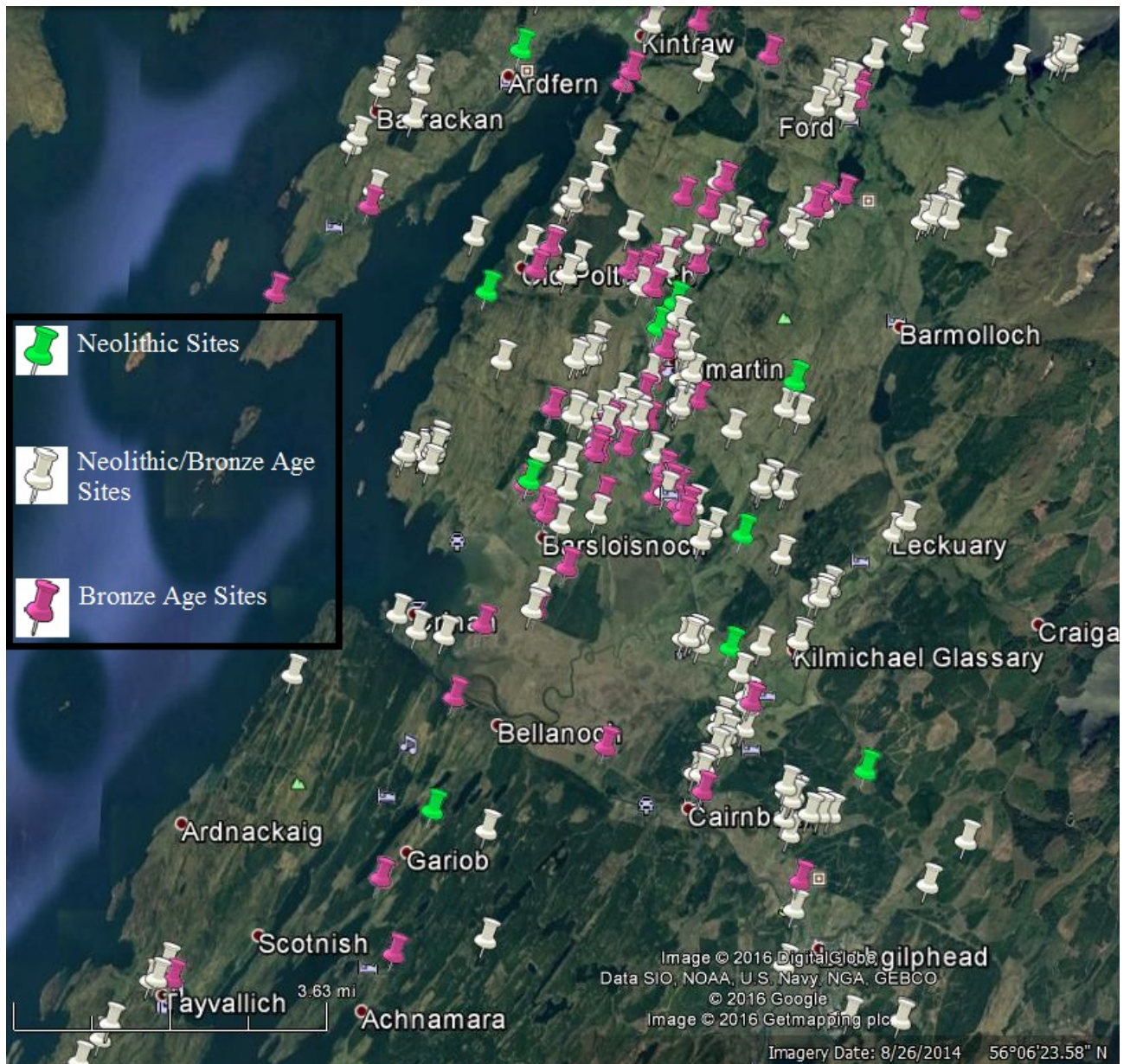
### ***Human Remains***

Several deposits of human remains were identified during the numerous excavations of sites within the Kilmartin Valley, which date from the Neolithic to the Bronze Age. Two burial deposits, which date to the Neolithic, were found in association with standing stones, bone fragments from Ach nabreck, and cremated bone from Ballymeanoch (RCAHMS 2008, 72; Barber 1977-78, 107). The remaining deposits of human remains date to the Bronze Age

and were recovered from fourteen sites. The deposits at Temple Wood include four deposits of bone fragments from Burial E and two tooth fragments from Burial A at the Southern Circle (Scott 1988-89, 117). At Poltalloch, the human remains consist of bone fragments found in Cist A, Cist B, Grave 1 within a cist, and Grave 4 within a cist, and tooth fragments located in Grave 1 in a cist and Grave 4 in a cist (Craw 1929, 160-61; Cregeen and Harrington 1981, 19-28). Four deposits of cremated bones were found within Pit 321 located in a ring of pits, Cist 3, Feature 1, and Feature 2 of the Upper Largie Quarry, along with one deposit of bone fragments from Cist 3 (Cook *et al.* 2010, 184-188; Mercer and Rideout 1987, 25-38). Four deposits of human remains, two cremated bones and two bone fragments, were found at the Kilchoan Chambered Cairn (Mapleton 1864-66, 355). At Kilbride, two bone fragment deposits and a cremation deposit were recovered from cists (RCAHMS 2008, 38). Further cremation deposits were uncovered, with one from the Ri Cruin Cairn, one from a cist at Kintraw, one from a cist at Barsloisnoch, and one from the Barr a'Chuirn Cairn (Mapleton 1870, 378-381; RCAHMS 2008, 24-36). Additional deposits of bone fragments were recovered from a cist at Dunamuck, a cist at Crinan Ferry, the Nether Largie South Chambered Cairn, and the Rhudil Cairn (Greenwell 1864-66, 341-350; Mapleton 1880-81, 103-04; RCAHMS 2008, 37). Finally, tooth fragments were found within a cist at Nether Largie North (Craw 1930-1, 271-272).

### ***Animal Remains***

The remaining small finds identified from the Kilmartin Valley are animal remains which were recovered from four sites, three of which date to the Bronze Age. An ox tooth, dating to either the Neolithic or the Bronze Age, was discovered in the cist of the Nether Largie North cairn (RCHAMS 2008, 32). At the Kintraw Cairn, an ox tooth, a sheep or goat's tooth, and several mussel and cockle-shells were found dating to the Bronze Age (RCAHMS 2008, 29-31). A large amount of ox bones, found in the outer chamber, and a cow's tooth were uncovered at the Nether Largie South Chambered Cairn from the Bronze Age (Greenwell 1864-66, 341-347). Finally, two small cow's teeth dating to the Bronze Age were unearthed during the excavation of the Kilchoan Chambered Cairn (Mapleton 1864-66, 355).



Map 4: Distribution of the Neolithic and Bronze Age Sites at the Kilmartin Valley (Canmore and Google Earth)

### *Discussion*

The Kilmartin Valley contains one of the densest surviving concentrations of Neolithic and Bronze Age ceremonial monuments across the whole of Scotland. Nearly 300 sites and features dating from the Neolithic to the Bronze Age are located within the area of the Kilmartin Valley (Map 4). These features form a ceremonial landscape which encompasses the land between the southern tip of Loch Awe to the northern tip of Lochgilphead and the more open lands to the east of Loch Crinan, with the central concentration of sites located within the Kilmartin Burn. According to the evidence from the

features and small finds located within the Kilmartin Valley, the valley was used for ceremonial purposes during the Neolithic through the Bronze Age. There is no discernable evidence for any domestic use of the area during the Neolithic, with the only specifically Neolithic features identified as a cursus monument, chambered cairns and a henge. Very little artefactual evidence dates to the Neolithic, none of which was found at any of the chambered cairns, which suggests the cairns were cleared of their material either during the use of them in the prehistoric period or were robbed after they fell into disuse. The presence of Bronze Age material found in cists and burials within some of the Neolithic chambered cairns suggests a continuation of the ritual nature of these features with reuse of these cairns, along with the construction of the standing stones, Bronze Age cairns, burials, and cists across the Kilmartin Valley.

Some of the earliest sites that date from the Neolithic are the six chambered cairns, three of which are located within the main cluster of Neolithic and Bronze Age monuments, the Chambered Cairn of Baroille, the Chambered Cairn of Kilchoan, and the Chambered Cairn of Nether Largie South. The remaining three Neolithic tombs are situated in three separate locations of the Kilmartin area, away from the Kilmartin Burn. Only two of the chambered cairns were found to have any artefacts or small finds, Nether Largie South and Kilchoan, with most of the small finds, including human and animal remains, dating to the Bronze Age and a food vessel dating to the Neolithic/Bronze Age, which were found at Nether Largie South; and several lithic fragments dating to the Neolithic/Bronze Age along with animal and human remains and an urn, which date to the Bronze Age at Kilchoan.

There are several possible reasons for the lack of small finds dating to the Neolithic from the chambered tombs, such as the cairns were cleaned out at some point after the initial deposition of artefacts and remains. This clearance could have been carried out by the Neolithic people as they added new burials as a part of a mortuary ritual, as has been theorized to take place in chambered cairns during the Neolithic in Orkney (further discussed in the next chapter). Other possible reasons for the absence of artefacts and human remains could be the removal of them sometime between the end of their use by the Neolithic people and the reuse of them during the Bronze Age, at some point throughout the Bronze Age, or after the use of the cairns halted after the Bronze Age, for either ceremonial or pillaging purposes. Due to the lack of domestic artefacts from the cairns and no current evidence for Neolithic settlements in the valley, the cairns were most probably built and used as ceremonial sites and burial monuments for the dead. The artefacts found at Kilchoan and Nether Largie South, which date to the Bronze Age, are consistent with documented grave

goods for this period, indicating the people of the Bronze Age probably used the chambered cairns in a similar fashion as ceremonial and possibly funerary sites as in the Neolithic. The reuse of the chambered cairns could have been an attempt by the Bronze Age people to claim an association with the Neolithic ancestors and through this claim ownership of the valley.

During the Later Neolithic, the erection of standing stones and the stone circle of Temple Wood further continued the ritual aspects of the area of Kilmartin. Few finds were uncovered near the standing stones, the majority of which dated to the Bronze Age. Burial deposits were recovered from the base of two standing stones, one at Ach nabreck and one at Ballymeanoch. These deposits could be from an earlier ritual activity prior to the erection of the standing stones, or they could be foundation deposits used to consecrate the land before the placement of the stones. Based on features, such as cists and burials, and small finds, including beaker pottery sherds, dating to the Bronze age found at some of the standing stone monuments, most of which were located along the valley floor, a few of these Neolithic features were reused during the Bronze Age for burials and other ritual activity, such as at Temple Wood and Ballymeanoch. The only finds within the henge at Ballymeanoch, which dates to the Later Neolithic, come from secondary deposits, such as the beaker vessel. The henge was probably cleared of any accidental deposits, possibly for ceremonial purposes, during its use throughout the Later Neolithic.

During the Early Neolithic and Early Bronze Age, cup-and-ring marked rock outcrops and decorated stones from standing stones and cist burials occur across the Kilmartin area. The decorations on the outcrops, which could have been made and added to throughout the Neolithic and into the Early Bronze Age, may have been created during ceremonial activities with individuals returning to the outcrops to add further decorations to the sites. The rock outcrops contain a greater quantity of decorations, suggesting a continued decorating activity over a longer period of time than the marked stones at the standing stones or cists. The decorated stones from cists were probably to have been removed from their primary contexts and reused for the formation of the cists. The recycled decorated stones probably held some significant meaning, possibly pertaining to a ritual or a set of beliefs. It is possible that the rocks were viewed by the prehistoric people as living components of the land, which influenced how people interacted with the rocks (Freedman *et al.* 2011, 248). Thus, the relationships of individuals and communities crossing the Kilmartin Valley would have become sketched out across the landscape with each new rock art added and each new interaction with them telling the stories of those long gone and allowing for new stories to be added.

During the Bronze Age, the ceremonial monuments found in Kilmartin shifted from the chambered tombs of the Neolithic, which would have contained several burials from the community, to the mostly individually interred human remains within cists, cairns, and barrows. The Bronze Age burials consisted of both inhumations and cremations, suggesting at least two different cosmological views during the Bronze Age, although it is unclear whether the two types of burial are contemporary. Of the Bronze Age cairns, several were built along the central concentration of Neolithic ceremonial monuments along the Kilmartin Burn, creating a multi-period ceremonial landscape. Several Neolithic sites had evidence for reuse during the Bronze Age, with the construction of new features, such as cists and cairns, and the deposition of Bronze Age artefacts. The reuse and expansion of Neolithic sites during the Bronze Age possibly suggests a desire to claim and continue the sacred landscape for the Bronze Age communities.

The absence of known settlement sites within Kilmartin during the Neolithic and Bronze Age suggests the area was solely used for ceremonial purposes during this period. However, there may have been domestic sites within the area that have yet to be discovered or have been destroyed over the years along the periphery of the Kilmartin Valley.

During the Neolithic and Bronze Age, the Kilmartin Valley and surrounding areas were the focus of ceremonial activity along the low-lying areas of the valley and particular outcrops, with the construction of Neolithic burial chambers, Bronze Age cists, ceremonial monuments such as the stone alignments, and the proliferation of decorated stones and rock outcrops.

The landscape of the Kilmartin Valley was shaped during the Quaternary Era, a period lasting for 2.3 million years consisting of sequences of glaciations and interglacials, creating the peaks, ridges, terraces, and valleys that make up the landscape (Tipping 2008, 1). Unfortunately, the details of the environmental changes which occurred after the last glacial retreat are not very well known, but what is clear is that woodland was present, possibly including hazel, oak, elm, and alder (Tipping 2008, 3). During the prehistoric period, the climate was probably similar to the present, although possibly slightly warmer, drier, and with less wind before 4000 BP (Sutherland 1997, table 2.1). The vegetation also changed during this period with an expansion of the forests prior to 6000 BP, which shifted to an increase in heath and peatlands after 4000 BP (Sutherland 1997, table 2.1). According to the Land Utilisation Survey Maps of 1931-35 and the HLAmap website, much of the land within and surrounding the Kilmartin Valley are heath and moorlands, with forested woodland covering the hills, while small clusters of arable land are located within the Kilmartin Burn

and other valleys within the area.

Recent research into landscape reconstruction have examined a few sites, including Temple Wood, exploring how not only the type vegetation but also the amount of vegetation present, semi-open versus closed canopy woodland, can affect the visibility of a site and between sites (Winterbottom and Long, 2006). In Winterbottom and Long's study that shows how vegetation can affect intervisibility, they investigated the use and application of using GIS based analysis and virtual reality reconstruction for prehistoric landscapes, using two rock art sites at Cairnbaan (Canmore ID 88645) and Glasvaar (Canmore ID 22792) as well as Temple Wood as examples from Kilmartin (2006). By using pollen analysis, which indicates Kilmartin was a mostly wooded area, they were able to create two possible virtual reconstructions of the landscapes chosen for their study, a closed canopy, in which the trees have no open spaces between their canopies, and a semi-open canopy, in which there is a space roughly equivalent to the width of a canopy between each tree (Winterbottom and Long 2006, 1360). The study found that for both of the rock art sites, according to the virtual reconstruction the vegetation would have been obscured most of the views from the sites despite whether the woodlands were semi-open or closed canopy. At Cairnbaan, the reconstructions showed little difference in the views from the site, with the estuary partly visible in both scenarios as well as the summit of Creag Ghlas to the south of the site (Winterbottom and Long 2006, 1361-1362). Similar results were found at Glasvaar, where views from the site were obstructed by the woodlands regardless of tree density, with only the summit of Creag a' Chapuill shown to be visible from the site (Winterbottom and Long 2006, 1362). The results from Temple Wood show the stone circle was probably, according to pollen analysis, located between the woodland of oak, elm, and hazel on the sides of the valley and the open birch and hazel woodland found on the valley floor. This would have made any large ceremonial monument located on the valley floor visible from the stone circle; however, the site was unlikely to have been visible when approached, even with an open canopy woodland (Winterbottom and Long 2006, 1362). The difference between the visibility experienced from the two types of sites may indicate how different types of monuments operated in the landscape, and how they were viewed by the Neolithic and Bronze Age communities.

Due to the melting of the glaciers and the isostatic rebound, the sea levels along the coastal region of the site were most probably different during the early Neolithic. However, as not much research has been done in this area, only a little is known about how the changing sea levels would have affected the Neolithic communities who lived and travelled

throughout the Kilmartin area. Unfortunately, there is no current research like the Rising Tides project on Orkney, which explores the past coastlines within the Kilmartin Valley and surrounding region, so it is unknown whether the sea level was lower or higher during the Neolithic and Bronze Age than it is today.

One of the few locations in the area that has produced evidence for sea level changes is Moine Mhor (Haggart and Sutherland 1992, 143; Scotland's Natural Nature Reserves 2009). Prior to the peat formation, Moine Mhor was a freshwater loch with a saltmarsh edging the loch along the coast (Scotland's Natural Nature Reserves 2009). The soils at Moine Mhor consist of non-calcareous gleys, some peaty gleys, peat, which tends to occur on raised beach terraces with gentle slopes, as well as estuarine and lacustrine raised beach silts and clays (the James Hutton Institute Soil Survey of Scotland maps South West Scotland Sheet 6). The sea level fell roughly 5500 years ago, allowing peat to form (Scotland's Natural Nature Reserves 2009). Despite two past shorelines recorded at 6.5-7.5 m OD and 4-5 m OD, the actual Main Postglacial Shorelines have yet to be identified (Haggart and Sutherland 1992, 152). It is possible the lower shoreline is the Main Postglacial Shoreline as the relative sea level appears to have fallen below 4 m OD at around 3800 BP in the Lochgilphead region (Haggart and Sutherland 1992, 152).

Due to the unknown sea level during the prehistoric period, understanding precisely how people moved between Ireland and the Kilmartin Valley is rather problematic, such as how long the journey took, how much was by boat versus over land, how often groups travelled to and from Scotland via Kilmartin to Ireland. If the sea level was lower than the present for at least part of the Neolithic, the crossing to Ireland may have been less arduous than today with travellers potentially island and coastal hopping until reaching an entrance into the Kilmartin Valley. Or the sea levels may have been higher, increasing the distance groups travelled over more open waters to Scotland, making this journey possibly more treacherous. However, according to current research, it appears the sea levels were lower during the Mesolithic than they are today and probably remained lower through at least part of the Neolithic allowing for the coastal dwelling Mesolithic communities, and possibly the Early Neolithic communities better access to coastal sites, such as caves and rock shelters (Bonsall 1997; Sutherland 1997).

Kilmartin and its surrounding valleys and lochs were probably used as routes connecting areas of Scotland, Britain, and Ireland (Ritchie 1997a, 57). The placement of the Neolithic and Bronze Age monuments appears to have been along or near travel routes running through the valley to the coast. The location of the Neolithic monument may have

been used as a means of marking or commanding the routes of travel people used at the time to get across the landscape, as well as staking a territorial claim on the area. The travel of groups across the valley may have facilitated exchanges of goods and ideas between areas within Ireland and parts of Scotland. One of the sites, Temple Wood, has a stone within its stone circle which is decorated with designs similar to those found in Ireland, such as at the passage grave Newgrange in Meath and open air sites such as at Mevagh, Co. Donegal and Lougher, Co. Kerry, with double spiral markings on its inner and outer faces, with a three-strand decoration curling to form a single spiral (RCAHMS 2008, 78; Van Hoek 2010, 29-32). It would be possible to expand on the evidence for Irish-Great Glen-Moray plain contact in continuity from 4000-2500 BC.

A large majority of the Neolithic sites appear to have been located within or near arable land, including several found on terraces situated above the valley floor, as well as a number of sites which were built on the valley floor, such as Nether Largie South. The largest concentration of the ceremonial monuments follows the Kilmartin Burn, on which several plots of arable land is located (Land Utilisation Survey Maps 1931-35). It is quite possible there were Neolithic settlements located in the area, although none have been located to date as any domestic activity, including agriculture and animal husbandry, may have been destroyed sometime in antiquity.

Of the earliest Neolithic sites, which include the chambered cairns, the cursus monuments, along with the earliest phases at Temple Wood and the timber circle at Upper Largie, the chambered cairns were spread across the landscape, while several of the sites were located on arable, a few of the chambered cairns were constructed on heath and moorland (Freedman *et al.* 2011, 240; Land Utilisation Survey Maps 1931-35). The dispersed placement of the chambered cairns could mark important locations within the Kilmartin Valley, such as marking routes traversing through the valley, or they may be related to possible Neolithic settlements, which are no longer present within the landscape. The other earlier Neolithic sites were all located within the central cluster of sites along the Kilmartin Valley on the terraces running along the valley sides, some of which are located just above the valley floor, and are either on or near good arable land (HLAmaps website; Land Utilisation Survey Maps 1391-35).

The construction of ceremonial sites during the Neolithic within or on the edge of good arable land may have been used as a means of expressing of power within a community, such as laying claim on the land for a particular group, especially possible travel routes through the Kilmartin region, or as means of establishing and legitimising a leader or group

of leaders for a community, as well as possibly marking routes to, or objects of, pilgrimage or visitation. This display of power would use ceremonies, rituals, and religion as a way to claim, reinforce, or redefine the authority within a community of an individual or group. These displays of power continued during the Later Neolithic and into the Bronze Age with the placement of rock art and later Bronze Age burial mounds and cemeteries within the landscape.

The density of sites increased during the Later Neolithic, with the creation of rock art sites, through the Bronze Age, to the burial mounds and cist cemeteries. This could suggest an increase in the importance of cultural and trade links between the prehistoric communities of Scotland to those in Ireland. Unfortunately, little artefactual evidence has been recovered from the Kilmartin area dating to the Neolithic or the Bronze Age. The lack of artefacts and small finds could be due to several factors including the purposeful removal of objects from the sites after the initial deposition as a means of ceremonially cleaning the monument before the next use, the theft of objects located within the sites sometime in antiquity, and the loss of artefacts during the late 19<sup>th</sup> century excavation. None of the remaining small finds within the Kilmartin Valley can shed much light on the type and strength of the connection Scottish Neolithic and Bronze Age communities had with those in Ireland. However, several artefacts, including Irish bowl Food Vessels, Lyles Hill type plain bowl pottery, and Group IX Tievebulliagh axes, have been found in the surrounding areas which demonstrate the connection between Ireland and Scotland. Despite the relative absence of artefacts linking Kilmartin to Ireland, goods from Ireland have been found in other sites in Scotland, including two polished stone axes made from porcellanite quarried in Rathlin Island and Tievebulliagh in Co. Antrim were recovered from Loch Sween, located to the south of the Kilmartin region; as well as Antrim flint artefacts such as the flint axeheads found at Auchenhoan near Campbeltown (Jones 2011a, 315). This exchange of goods also went the other direction with pitchstone from the island of Arran having been found in an Irish Early Neolithic settlement in Ballygalley, Co. Antrim (Jones 2011a, 316).

One of the routes taken to move the goods between Scotland and Ireland probably traversed the Kilmartin Valley, with not only goods but also possibly groups of people moving between Scotland and Ireland across the Kilmartin Valley, who would have also exchanged social/cultural ideas and beliefs between various groups. Within the Kilmartin Valley, one of the only possible physical connections during the Neolithic between Kilmartin and Ireland are the Irish passage tomb decorative motifs carved onto several rock art sites, such as Achabreck, Poltalloch, and Ormaig, and the spiral marked stone in the stone circle at

Temple Wood (Jones 2011a, 316). For instance, the star motifs found at Poltalloch and the rosette motifs located at Ormaig appear to follow similar patterns to those found on the Irish passages tombs at the Loughcrew cemetery in Co. Meath (Jones 2011a, 316). This connection with Ireland continued into the Bronze Age and expanded to include other areas within Britain, such as Yorkshire, and the Netherlands, with 'Irish bowls' found across Kilmartin Valley; necklaces made of jet beads probably produced from jet found along the coast near Whitby, found within burials at Poltalloch and the Glebe Cairn; and Beaker pottery vessels stylistically connected to the Netherlands, such as the one found at Upper Largie (Jones 2011a, 317-19).

Rock art sites appear to be located for the complex sites, on upland area next to a junction or entry point into one of the valleys, with possible expansive views into the valley; and for the less complex site, along the lower terraces of the valleys (Jones 2006, 216). One of the uses for the more complex sites appear to be entry markers into the valleys along a traveling route, possibly used to signal a claim to the area, resources, and potentially as a means of communicating a shared sense of belonging or connection (Freedman *et al.* 2011, 245). Rock art sites, such as at Torbhlaren, continue to be used and added to during the Early Bronze Age (Freedman *et al.* 2011, 245). The rock art sites may have been used as both trail markers and as a means of signalling a connection to the landscape and the local communities by adding a new design onto an already existing rock art site. It is possible the groups journeying between Scotland and Ireland would while traveling across Kilmartin added to the rock art outcrops, possibly adding a new motif, such as those found in Ireland, to the rock outcrops. Each addition probably incorporated some type of ceremonial/ritual activity, which may have included the purposeful deposition of artefacts within fissures in the rock outcrops. For instance at Tiger Rock, Torbhlaren, hammerstones and knapped lithics were recovered from a fissure in the outcrop which could have been intentionally deposited in the fissure as part of a ceremony in the production of new rock art on an outcrop (Jones *et al.* 2011a, 59).

As with the Neolithic, the majority of the Bronze Age sites, such as the burial mounds and cist burials, were constructed on or near the good farming land, and along the main travelling routes (Land Utilisation Survey Maps 1931-35). Many of the Bronze Age sites were also located near clusters of Neolithic monuments, including along the Kilmartin Burn. During the Bronze Age instead of having monumental sites located up on terraces running along the sides of the hills, several burial mounds were built on the valley floor, including the cairns which make up the Bronze Age portion of the Linear Cemetery along the Kilmartin Burn. Nearly all of the burial mounds found within Kilmartin run along what appear to be

possible travel routes used to connect Scotland with Ireland, other areas within Britain, and the continent. These connections, which began in the Neolithic, appear to have taken on even greater importance during the Later Neolithic and through Bronze Age, as more sites were built within the Kilmartin region, especially along the probable routes used by groups of people traveling to and from Scotland.

The Bronze Age cist burials, which include cist cemeteries, follow a similar pattern of placement within the landscape as the other sites dating to this period. Most of the cist burials were found to be located along the same routes through the valley as the other Bronze Age site, on or near good arable land, with a few outliers located on heath and moorland (Land Utilisation Survey Maps 1931-35).

The Kilmartin Valley and surrounding areas were undoubtedly affected by modern changes in soil composition, although how much is uncertain as the area has not been used for much intensive agriculture over the years, and instead appears to have been used more for grazing sheep and cattle. This does not mean the soils have remained unchanged from the Neolithic onwards, as with the change in climate and vegetation during the Later Neolithic and Bronze Age, which caused the reduction in woodland and peat formation in the Kilmartin region would have altered the composition of the soil (Tinsley and Grigson 1981). According to the modern soil profiles, the soils along the valleys and lower terraces of the hills consist of various podzols, alluvium, glacial soils, and some brown forest soils (The James Hutton Institute Soil Survey of Scotland maps South West Scotland Sheet 6, 1981; The James Hutton Institute Soil Survey of Scotland maps Western Scotland Sheet 4, 1981). If the soil profiles were similar during the Neolithic, the valleys and terraces would have been an ideal location within the Kilmartin Region for agricultural use. These areas were also where a large portion of the Neolithic and Bronze Age ceremonial sites were located. According to the soils maps, the slopes of the hills contain brown forest soils, gley soils, and peaty soils (The James Hutton Institute Soil Survey of Scotland maps South West Scotland Sheet 6, 1981; The James Hutton Institute Soil Survey of Scotland maps Western Scotland Sheet 4, 1981). Several of the earliest Neolithic sites, chambered cairns, as well as the Later Neolithic/Early Bronze Age rock art sites were placed along the slopes and ridges of these hills. Many of the burial and ceremonial sites have been situated on soil types that indicate potential for good farming land, however for Kilmartin as of the present no known Neolithic or Bronze Age settlements or domestic features have been uncovered.

As with the Neolithic, there is an inherent bias in distribution of Bronze Age sites based on their recovery. There were probably domestic structures located within the

Kilmartin Valley dating to the Bronze Age; however there are no clearly identifiable and datable domestic sites, such as hut circles and field systems found. Further, with the change in vegetation during this period to an increase in peat formation, this may have put pressure on remaining arable land, causing an increase in competition for the good farming land. This could partially explain the increase during the Bronze Age in ceremonial monuments, as a means of staking a claim on the increasingly scarce resources within the region

## Orkney Case Study

Orkney consists of at least forty islands of various sizes, numerous islets, and several rocky skerries and lies approximately 11.26 km north from the northern coast of Scotland (Ritchie 1996, 10). These islands were separated from the mainland of Scotland about 10,000 years ago at the end of the last ice age (Ritchie 1996, 12). Over the course of 10,000 years, the coasts of the Orkney Islands have changed due to the end of the last glacial period and coastal erosion, reducing the size of the land masses from what the earliest settlers would have seen (Ritchie 1996, 12; Saville and Wickham-Jones 2012, 40). The majority of the islands geology comprises sandstone, which splits without difficulty into regular stone slabs that were used for the construction of various domestic and ritual structures (Ritchie 1996, 11).



Map 4: Map of the Orkney Islands (OSmaps Website)

The features and small finds included in this chapter are not a complete listing of those found on Orkney, but are used as a way to represent the relationships between all of the sites within and between the two different periods, using features, artefacts, human remains, and animal remains. Many of the most well-known sites were chosen, as well as a selection of less well-known, however in order fit into the limitations of this work, several sites had to be excluded.

The earliest sites found within the islands of Orkney date to the Mesolithic, with further evidence of human occupation dating through the prehistoric and historic periods (RCAHMS 1946; Saville and Wickham-Jones 2012, 40). Concentrations of prehistoric activity occur on several of the larger islands, including Westray, Papa Westray, North Ronaldsay, Sanday, Rousay, South Ronaldsay, Hoy, and Mainland (Davidson and Henshall 1989; Ritchie 1996). The largest of these islands, Mainland, contains the greatest number of prehistoric sites, and also has the designated World Heritage sites, the Heart of Neolithic Orkney. The Heart of Neolithic Orkney includes the settlement of Skara Brae (Canmore ID 1663), the stone circle and surrounding features at the Ring of Brodgar (Canmore ID 1696), the settlement at the Ness of Brodgar (Canmore ID 269123), the stone circle and henge located at the Stones of Stenness (Canmore ID 2105), the Watch Stone (Canmore ID 2096), the Barnhouse Stone (Canmore ID 2097), and the Maes Howe chambered cairn (Card *et al.* 2007, 417).

Domestic and ceremonial sites have been identified dating from the Neolithic through the Bronze Age, such as the settlements of Skara Brae and Barnhouse, and the burnt mounds of Liddle and Beaquoy. The earliest Neolithic ceremonial sites are the chambered tombs, which are divided into at least two types, stalled cairns and chambered cairns, along with examples of horned and mixed type cairns. Stalled cairns are rectangular burial monuments with interiors partitioned into sections ranging from three to fourteen subdivisions (Bradley *et al.* 2000, 48). Chambered cairns, which appear later in the Neolithic, are burial monuments with side chambers branching off from the main structure (Bradley *et al.* 2000, 48). Most of the recorded Neolithic chambered tombs on Mainland Orkney consist of chambered cairns, such as the monument of Maes Howe, the most well-known of the chambered cairns in Orkney (Bradley *et al.* 2000, 48).

Further features relating to ceremonial activity, which date to the Neolithic, were found on the Orkney Islands. Several standing stones and stone circles were identified dating to the Neolithic including, the Stones of Stenness and the stone circle of the Ring of Brodgar. A small number of henges, circular or oval ditch embankments broken up with at least one

entrance causeway, were also found belonging to the Neolithic. A few Neolithic settlements roughly contemporary with the chambered cairns were also uncovered on Mainland and the Isle of Rousay, such as the settlement of Skara Brae. At least one of these Neolithic settlements was located within a short distance from monuments built during the Neolithic.

The main Bronze Age sites located on Orkney are the earthen and stone burial mounds, barrows and cairns (RCAHMS 1946). Within a number of these barrows and cairns were cists, which are rectangular below ground features usually used as burial pits. There is little evidence for domestic settlement during the Bronze Age (RCAHMS 1946). Domestic features found possibly dating to the Bronze Age are burnt mounds, although the dating of these features is unclear.

| <i>Sites</i>                             | <i>Calibrated C14 Dates</i>  |
|--|--|
| Dog Remains from Cuween Chambered Cairn  | 2570 to 2460 cal BC (SUERC-4847), 2570 to 2340 cal BC (SUERC-4848), 2580 to 2460 cal BC (SUERC-4849)   |
| Eagle Bone From Isbister Chambered Cairn | 2273-2141 cal BC to 2459-2337 cal BC (UB-6553)   |
| Isbister Chambered Cairn                 | 3350 to 2250 cal BC (Q-3018), 3400 to 2650 cal BC (Q-3016), 1900 to 1250 cal BC (GU-1187), 2950 to 2100 cal BC (GU-1186)   |
| Maes Howe                                | 2460 to 1970 cal BC (Q-1481), 3050 to 2350 cal BC (Q-1482), 2400 to 1700 cal BC (SRR-504), 2950 to 2350 cal BC (SRR-505), 2150 to 1450 cal BC (SRR-524), 4250 to 3600 cal BC (SRR-791)   |
| Quanterness Chambered Cairn              | 3650 to 2900 cal BC (Q-1294), 3650 to 2850 cal BC (Q-1363), 3400 to 2650 cal BC (SRR-754), 3350 to 2550 cal BC (Pta-1626), 3050 to 2450 cal BC (Q-1479), 3050 to 2200 cal BC (Q-1451), 2900 to 2000 cal BC (Q-1480), 2700 to 1950 cal BC (SRR-755) |
| Henge, Stones of Stenness                | 3650 to 2900 cal BC (Q-1294), 3650 to 2850 cal BC (Q-1363), 3400 to 2650 cal BC (SRR-754), 3050 to 2450 cal BC (Q-1479), 2900 to 2000 cal BC (Q-1480), 2700 to 1950 cal BC (SRR-755)   |

|                        |  |
|------------------------|--|
| Stones of Stenness     | 3350 to 2600 cal BC (SRR-350), 3100 to 2450 cal BC (SRR-351), 3100 to 1000 cal BC (SRR-592), 2910 to 2860 cal BC (OxA-16483), 3090 to 2890 cal BC (OxA-16484), 2920 to 2670 cal BC (OxA-16485), 2890 to 2630 cal BC (OxA-16482), 3020 to 2870 cal BC (OxA-17783)                       |
| Ness of Brodgar        | 3010 to 2880 cal BC (SUERC-6764), 2915 to 2770 cal BC (SUERC-6191), 2990 to 2670 cal BC (SUERC-6762), 2890 to 2620 cal BC (SUERC-6761), 2850 to 2490 cal BC (SUERC-6685), 1495 to 1310 cal BC (SUERC-6684)   |
| Skara Brae             | 3640 to 3380 cal BC (SUERC-3127), 3370 to 3110 cal BC (SUERC-3128), 3500-3340 cal BC (SUERC-3129), 3360 to 3110 cal BC (SUERC-4119; SUERC-4121), 2920 to 2870 cal BC (SUERC-3126), 2860 to 2580 cal BC (SUERC-3578) 2870 to 2630 cal BC (SUERC-3582), 2575 to 2480 cal BC (SUERC-4958) |
| Links of Noltland      | 3400 to 2600 cal BC (GU-1697), 3100 to 2600 cal BC (GU-1696), 3100 to 2450 cal BC (GU-1429), 3050 to 2350 cal BC (GU-1428), 2900 to 2200 cal BC (GU-1693), 2650 to 1950 cal BC (GU-1433), 2490 to 2130 cal BC (GU-1692), 2500 to 1750 cal BC (GU-1432)                                 |
| Barnhouse              | 3500 to 2900 cal BC (OxA-2734), 3340 to 2870 cal BC (OxA-2736), 3350 to 2920 cal BC (OxA-3501), 3330 to 2880 cal BC (OxA-3763)   |
| Knap of Howar          | 4840 to 4330 cal BC (SRR-347), 3900 to 3100 cal BC (SRR-348), 3500 to 2700 cal BC (SRR-349), 2900 to 2300 cal BC (SRR-452)   |
| Braes of Rinyo, Rousay | 2650 to 1950 cal BC (Q-1226)   |
| Knowes of Trotty       | 2130 to 1890 cal BC (GrA-32127), 2030 to 1770 cal BC (GrA-34776), 1870 to 1520 cal BC (SUERC-7913), 1740 to 1500 cal BC (SUERC-7918)   |

|                      |                                       |
|----------------------|---------------------------------------|
| Burnt Mound, Beaquoy | 2350 to 1650 cal BC (SRR-1001)        |
| Burnt Mound, Liddel  | 1400 to 800 cal BC (SRR-525, SRR-701) |

Table 4: Calibrated C14 Dates For Orkney (Canmore)

## Features

### Neolithic Cairns

Of the Neolithic features found on Orkney, the Neolithic cairns are one of the earliest sites recorded, which fall into two main categories, chambered cairns and stalled cairns, with a couple of examples of horned cairns and mixed chambered/stalled cairns. At least nine chambered cairns have been identified on Mainland, along with seven chambered tombs from Eday, two chambered cairns from Rousay, and one example from Papa Westray, South Ronaldsay, and Sanday.

#### *Maes Howe*

The most famous of the chambered cairns is Maes Howe, on Mainland, which is known as the type site for the cairns (Figure 77 and 78). Maes Howe, which dates to the early third millennium BC, was first excavated by James Farrer in 1861 (RCAHMS 1946, 309; Ritchie 1996, 145). During the excavation, only a fragment of a human skull was recovered from the monument with no further artefacts found (RCAHMS 1946, 309; Ritchie 1996, 145). Further excavations focusing on the tomb and the surrounding ditch embankment were conducted by Gordon Childe in 1954-55 and by Colin Renfrew in 1979 (Challands *et al.* 2005b, 230; Childe 1954-56, 155). Maes Howe lies less than a mile from the southeast end of the Loch of Harray within visual range of the Stones of Stenness and the Ring of Brodgar (RCAHMS 1946, 306). The cairn appears externally as a mound in the shape of a dome measuring 7 m high with a base diameter of 25 m (RCAHMS 1946, 306; Ritchie 1996, 144-145). The mound of the cairn was constructed on a circular platform, which was surrounded by a ditch and embankment (Ritchie 1996, 145). The ditch was built roughly 15.24 m to 21.33 m from the base of the mound and has measurements averaging 13.71 m in width and 1.82 m in depth (RCAHMS 1946, 307). An irregularly shaped cist was located within the platform, which had been disturbed by ploughing (Childe 1954-56, 167).

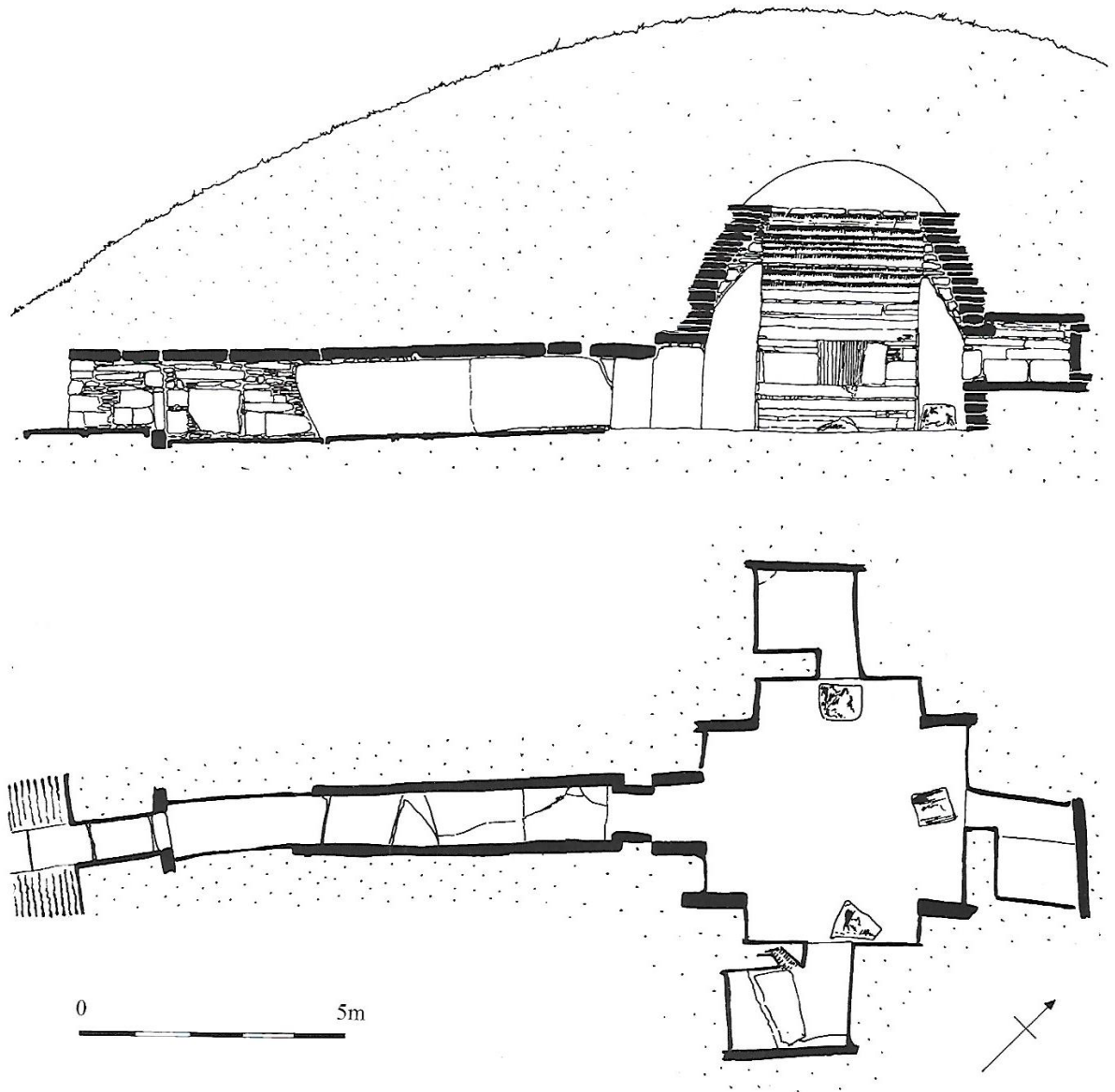


Figure 77: Maes Howe Chambered Cairn Section and Site Plan (Challands *et al.* 2005b, 230)

Within the structure of the tomb, the four upright stones, which form the corners of the central chamber, were possibly erected prior to the construction of the chambered tomb (Mackie 1997, 344). The central chamber, measuring roughly 4.5 m square and 3.8 m high, was built around the four upright stones with three side-cells branching off from the central chamber (Ritchie 1996, 145). The entrances to the rectangular side-cells were constructed 0.81 m to 0.86 m from the floor and lead to rooms that were each 1.07 m high (RCAHMS 1946, 307). The tomb walls constructed of laid dry stone leading to a corbel vaulted roof (Wickham-Jones 2007, 45). At least 11 markings dating to the Neolithic have been identified along the walls of the chambered tomb, with one found in the main entrance passage, eight in

the central chamber, and two in the passages leading to the side cells (Bradley *et al.* 2000, 57). The inscriptions share similar characteristics to decoration found on Grooved Ware pottery (Bradley *et al.* 2000, 56). The majority of the inscriptions found within the central chamber were located within a visual zone between the level of the side cells and an adult eye level (Bradley *et al.* 2000, 57). The designs of the inscriptions include incised lines some with lattice patterns or inverted V's (Bradley *et al.* 2000, 60, fig 11, fig 12). Despite the lack of finds, Maes Howe was probably used as a communal tomb during the Neolithic, with the bones of various individuals located within the side chambers.



Figure 78: Exterior of Maes Howe – Facing the Entrance (Photo: Rachel Ford)

#### *Cuween Hill (Canmore ID 2059)*

The chambered cairn of Cuween Hill, which dates to the 3<sup>rd</sup> millennium BC, is located near the village of Finstown within the parish of Firth, Mainland, Orkney (Figure 79, 80, and 81) (Charleson 1902, 733; RCAHMS 1946, 97). The only recorded excavation of the chambered cairn was by M. M. Charleson in the summer of 1901 (1902, 733-738; RCAHMS 1946, 97). The mound of the cairn is 2.59 m high with a diameter of approximately 16.76 m with the passageway which leads into the chambered cairn located on the east side of the mound (RCAHMS 1946, 97).

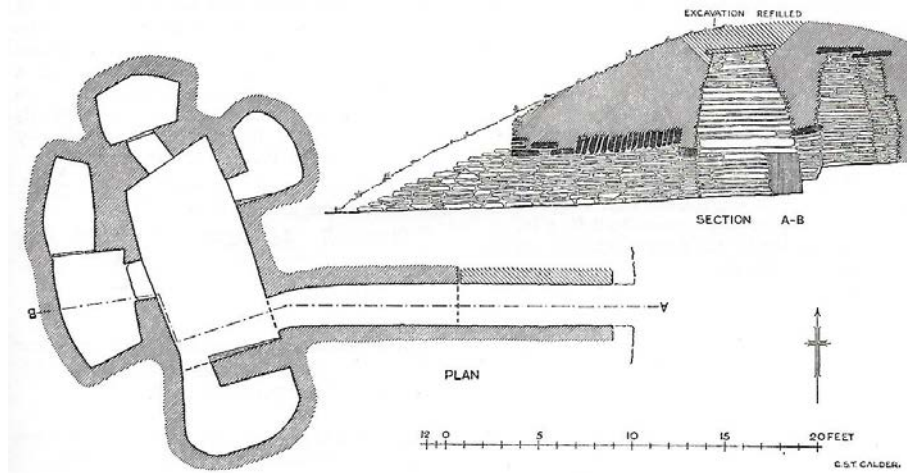


Figure 79: Cuween Hill Chambered Cairn Section and Site Plan (RCAHMS 1946, 97)



Figure 80: Exterior of Cuween Hill – Facing the Entrance (Photo: Rachel Ford)

The passageway into the central chamber of the cairn, which enters the chamber along the southeast corner, was found to measure 3.04 m in length, 0.81 m in height, and 0.71 m in width (RCAHMS 1946, 97). Due to the narrow entrance into the cairn, individuals wishing to enter the chambered cairn had to move along the passageway on their hands and knees (Ritchie 1996, 144). The rectangular central chamber of the cairn is aligned on a north-south axis and measures 3.61 m in length along the east wall, 3.10 m along the west wall, 1.60 m

along the north wall, and 1.73 m along the south wall with a height of 2.18 m at the north end of the chamber (Charleson 1902, 734). Four side-cells branch off from all four walls of the central chamber, with the east and west cells oblong shaped and the north and south cells beehive shaped (Charleson 1902, 736).



Figure 81: Interior of Cuween Hill – Taken from the interior end of the passageway (Photo: Rachel Ford)

During the 1901 excavation of Cuween Hill, two dozen dog skulls and limb bones of dogs were recovered (Charleson 1902, 736-738). The large deposit of dog skulls could have had a special significance such as a totemic deposit as a secondary use of the chambered cairn as they date after the initial construction of the cairn (Table 4) (Charleson 1902, 733-738; Sheridan 2005, 182). Further investigations of Cuween Hill were undertaken, which examined the walls of the chambered tomb for inscriptions etched into the stones (Bradley 1998, 388). The decorations were located on the lintel, which connected the entrance passageway to the central chamber, with the largest concentration found in the centre of the lintel (Bradley 1998, 388-89). The inscriptions consisted of a few small triangles, various arcs, and a group of angular motifs located at the base of the lintel (Bradley 1998, 390, fig 2).

*Quanterness (Canmore ID 2552)*

The Maes Howe type chambered cairn at Quanterness is situated 45.9 m above sea-level along the northern incline of Wideford Hill facing north across the Bay of Firth (Figure 82) (Renfrew 1979, 45). The chambered cairn was originally examined in 1805 by Reverend George Barry and later partially excavated by Colin Renfrew in 1972-74 (Renfrew 1979, 44-45; Renfrew *et al.* 1976, 194). Very little disturbance occurred to the chambered cairn allowing for a more thorough excavation by Renfrew in the 1970s (Wickham-Jones 2007, 50). Renfrew excavated most of the central chamber, a portion of the entrance passageway, and the southwest side chamber of the Quanterness chambered cairn (1979, 44-69). The mound of the chambered cairn, which originally may have been shaped to resemble a truncated cone, measured 30 m in diameter and 3.2 m high, with original dimensions possibly of 39 m circumference and 4.2 m high (RCAHMS 1946, 159; Renfrew 1979, 45). The entrance passage to the chambered cairn is situated along the east side of the cairn, with the roofed portion of the passageway having a height of 2.2 m (Renfrew 1979, 48-49). The passageway leads into the central chamber of the chambered cairn that has its major axis oriented due north and south (RCAHMS 1946, 159).

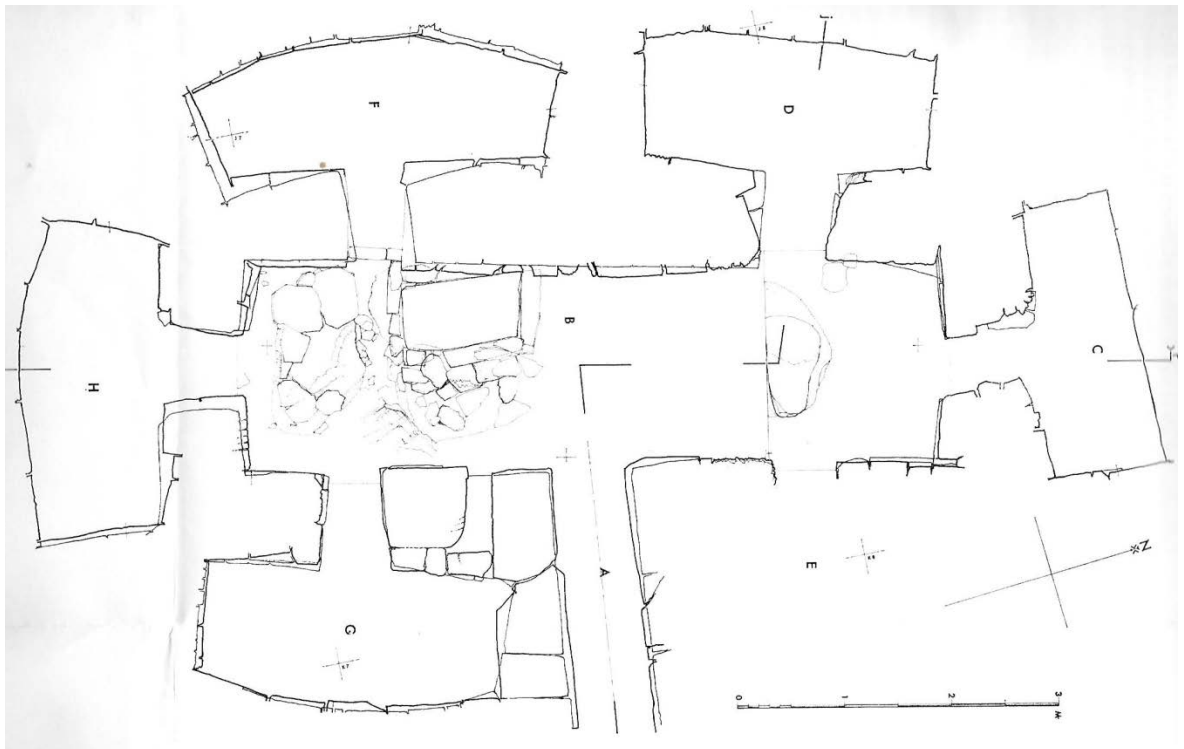


Figure 82: Quanterness Chambered Cairn Interior Site Plan (Renfrew 1979, fig. 28)

During the excavation of Quanterness, a large quantity of bones were recovered, the majority of it human remains, some of which had signs of burning, with some animal bones

included (Renfrew 1979, 52). Three burial pits, Pits A, B, and D, were found within the central chamber (Renfrew 1979, 53). Pits A and B, both located at the southern end of the main chamber, contained the remains of crouched burials, while Pit D was not fully excavated (Renfrew 1979, 53). Pit A, which was sealed off by eight stone slabs, measured approximately 1.5 m by 0.9 m and contained a crouched inhumation burial of a male lying on his left side facing west (Renfrew 1979, 59). A Bronze Age burial pit, Pit C, was located within the central chamber of the cairn containing human remains, sheep bones, and a pottery sherd (Renfrew 1979, 60). The side chambers of the cairn were arranged symmetrically, with two chambers located off of the east and west walls and one found off the south and north walls (RCAHMS 1946, 166).

Along with the central chamber, the southwest side chamber was excavated by Renfrew in the 1970's (1979, 61-64). Other finds from the central chamber, the side chamber, and the entrance passageway include a large amount of pottery, lithics including flint tools and ground stone, and a few worked bone and antler objects (Renfrew 1979, 75-93).

#### *Unstan (Canmore ID 1740)*

The Neolithic cairn of Unstan is located on an outcrop of land which extends out into the Loch of Stenness from its south shore and is approximately 274.32 m northeast of the Bride of Waith (Figures 83 and 84) (Clouston 1885, 341; RCAHMS 1946, 315). This cairn dates to the 3<sup>rd</sup> millennium BC; however it is of a different type to the Maes Howe chambered cairns (Clouston 1885; RCAHMS 1946, 315-17; Ritchie 1996, 147). The tomb is of a stalled cairn design with a single side-cell branching off from the main chamber (Ritchie 1996, 147). The only excavation of the Unstan stalled cairn was in the summer of 1884 by Robert Stewart Clouston (1885, 341-351). A circular cairn, measuring 13.71 m by 13 m, was found covering the stalled chambered tomb (RCAHMS 1946, 316; Ritchie 1996, 148). The entrance to the chambered tomb is located along the east side of the cairn, with a passageway leading into the chamber (RCAHMS 1946, 316). The passageway enters the chambered tomb not from the centre but from the side and opens into the second chamber from the south end (RCAHMS 1946, 316-17). The Unstan stalled tomb is divided into five compartments with a side cell located off the middle chamber (Clouston 1885, 342). The southernmost cell of the tomb was divided into two sections roughly down the middle of the compartment by a series of flagstones running from the southern wall to the three flagstone partitions, which run across the whole width of the tomb (Clouston 1885, 342).

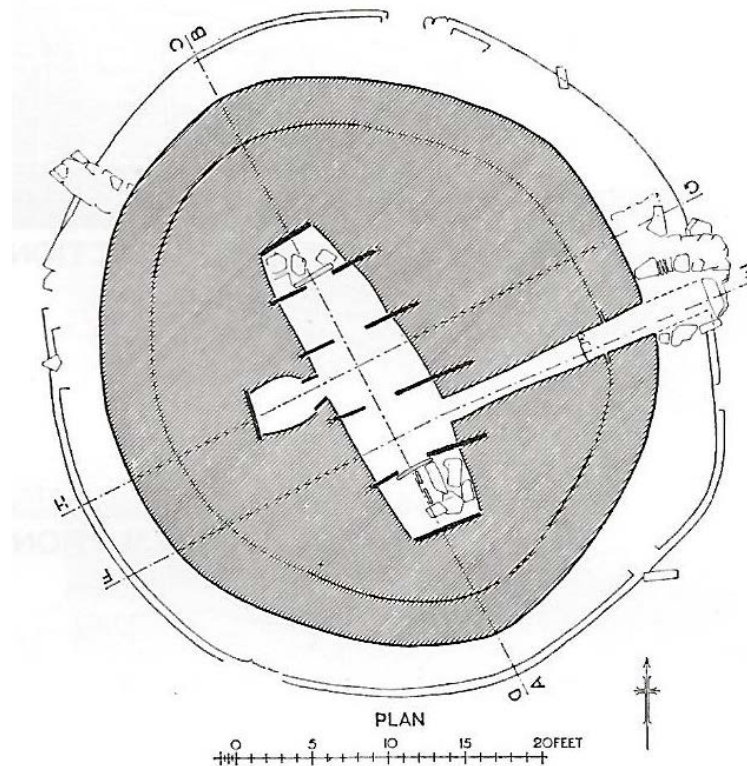


Figure 83: Unstan Stalled Cairn Site Plan (RCAHMS 1946, 315)



Figure 84: Interior of Unstan Stalled Cairn – From the Entrance (Photo: Rachel Ford)

*Isbister (Canmore ID 9554)*

The Neolithic tomb at Isbister, which is located in the south-east corner of South Ronaldsay, also known as the Tomb of the Eagles for the large quantity of eagle remains

recovered from the cairn, is a hybrid of a stalled cairn and a chambered cairn with internal compartments and three side cells (Figure 85) (Davidson and Henshall 1989, 125-127; Hedges and Simison 1983, 1). The tomb was first recorded and partially excavated by Ronald Simison in 1958 over the course of three days, and who later excavated the tomb in 1978, which was compiled by John Hedges (Hedges 1983, xvii; Ritchie 1959, 25). The mound measured 41.14 m long by 15.24 m wide and 3.04 m in height and had a long axis running north to south (Ritchie 1959, 25). The entrance to the cairn extends from the east-northeast side of the tomb facing the sea to the centre of the eastern side of the main chamber (Davidson and Henshall 1989, 125; Hedges and Simison 1983, 3). The central chamber, which measures 8.2 m long, is divided into five compartments, although the two end compartments differ greatly from the three central stalls (Davidson and Henshall 1989, 126; Hedges and Simison 1983, 3). The three central compartments are separated by two pairs of upright flagstones projecting between 0.1 m to 0.15 m from the walls (Hedges and Simison 1983, 3). The two shelved end compartments, which measure 0.6 m broader than the three central stalls, are separated from the main chamber by a flagstone slab positioned between a pair of uprights (Hedges 1983, 6). Side cells 1 and 3 were found intact prior to the excavations, while side cell 2 was partially destroyed from quarrying activity and a possible previous and unrecorded excavation (Hedges and Simison 1983, 6). Unfortunately, little is known about the contents of stall 1 and side cell 2 as they were probably part of a previous and unrecorded excavation (Hedges and Simison 1983, 20).

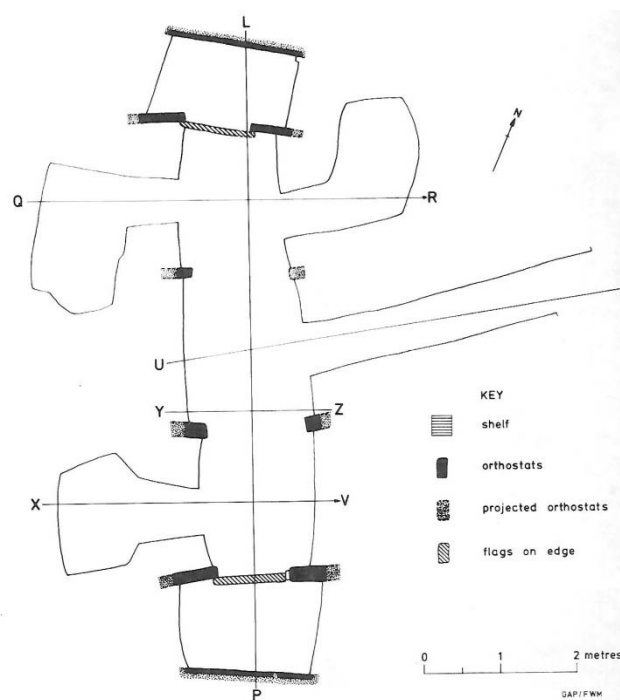


Figure 85: Isbister Chambered Cairn Interior Site Plan (Hedges 1983, 7)

The earliest deposit recovered from the cairn was found underneath the flagstone floor of stall 5, which contained human and animal bones, (Hedges and Simison 1983, 20). A large number of white-tailed eagle bones were found during the excavation, with 641 of the 725 bird bones identified as belonging to white-tailed eagles (Bramwell 1983, 159-160). However these deposits of animal remains may reflect a secondary use as the revised dates for a long bone of a white-tailed sea eagle found on the floor of the chambered tomb at Isbister dates range from 2273-2141 cal BC to 2459-2337 cal BC (UB-6553) which is at most 1000 years younger than the estimated construction of the tomb (Bramwell 1983, 160-164; Sheridan 2005, 182).

A few features have been found surrounding the tomb, including a forecourt on the eastern side of the tomb, a hornwork on the northern side which connects to a retaining wall curving along the western side terminating at the southern end of the tomb where another possible hornwork might have been (Hedges 1983, ii; Hedges and Simison 1983, 23). The forecourt, which has not been excavated, is a D-shaped area spanning from the eastern side of the tomb to the cliffs, measuring *c.* 75 m in distance, and the space between the northern and southern horns, which measures *c.* 110 m (Hedges and Simison 1983, 23-24). A cist containing human remains was found within the bank between the retaining wall and the tomb (Hedges and Simison 1983, 24).

### **Standing Stones and Stone Circles**

Four stone circles have been identified on Mainland Orkney, including the Ring of Brodgar and the Stones of Stenness, with two partial stone circles found at Markstone Moss (Canmore ID 2345), along with a series of stone circles at Els Ness, Sanday (Canmore ID 3399).

#### *The Ring of Brodgar*

The stone circle of the Ring of Brodgar, dating to the mid-third millennium BC, is situated on the Ness of Brodgar, which is located between the loch of Harray and the loch of Stenness (Figure 86) (RCAHMS 1946, 299; Ritchie 1996, 136). Several additional monuments are associated with the stone circle of Ring of Brodgar, including the henge, the standing stones and the burial mounds (RCAHMS 1946, 299-302). The stone circle, containing 60 stones with 36 in place today, is surrounded by a henge, discussed below (Ritchie 1996, 136). The central platform of the stone circle, which has never been excavated, measures 105 m in diameter (RCAHMS 1946, 299).



Figure 86: Ring of Brodgar aerial view (Ritchie 1995, plate 5)

### *Stones of Stenness*

Another stone circle identified on Mainland Orkney is the Stones of the Stenness (Figure 87). The Stones of Stenness date to roughly 3000 BC and is located on an outcrop of land, which faces the Ness of Brodgar, with the Loch of Harray to the west and the Loch of Stenness to the east (Ritchie 1975-76, 1, fig 1). The Stones of Stenness have been examined and documented several times since the mid-1700s, the first occurring in 1760 by Richard Pococke (Ritchie 1975-76, 3). Only one partial excavation of the stone circle has taken place in 1973-74 by JN Graham Ritchie (1975-76, 3).

The stone circle, which is surrounded by a henge, discussed below, has a diameter of approximately 30 m (Ritchie 1975-76, 9). The stone circle of Stenness is believed to have been constructed first with the encircling henge later built around it, although the construction sequence is unknown (Ritchie 1975-76, 16). Originally the stone circle would probably have had twelve stones, although only six stones or stumps were found *in situ* (Ritchie 1975-76, 16). The four erect stones are located on the western arc of the circle (RCAHMS 1946, 302). Close to the centre of the enclosed area of the stone circle was a slot within the ground of a

possible erect post with a lateral post for support (Ritchie 1975-76, 15). Within the centre of the stone circle is a setting of four stones in a square enclosing an area of 2.1 m by 1.9 m (Ritchie 1975-76, 12). To the north of the stone setting was a pair of stone holes, with the stones purposely removed and the holes backfilled, which was connected to the stone setting by a slab path (Ritchie 1975-76). Also within the enclosing area of the circle near the entrance to the circle lies a 'dolmen' consisting of three uprights set in concrete (Challands *et al.* 2005a, 221). The 'dolmen' was reconstructed in 1907, with the western stone introduced at this time, based on earlier illustrations, however no solid evidence exists that this feature was part of the original structure (Challands *et al.* 2005a, 221; Ritchie 1975-76, 14).

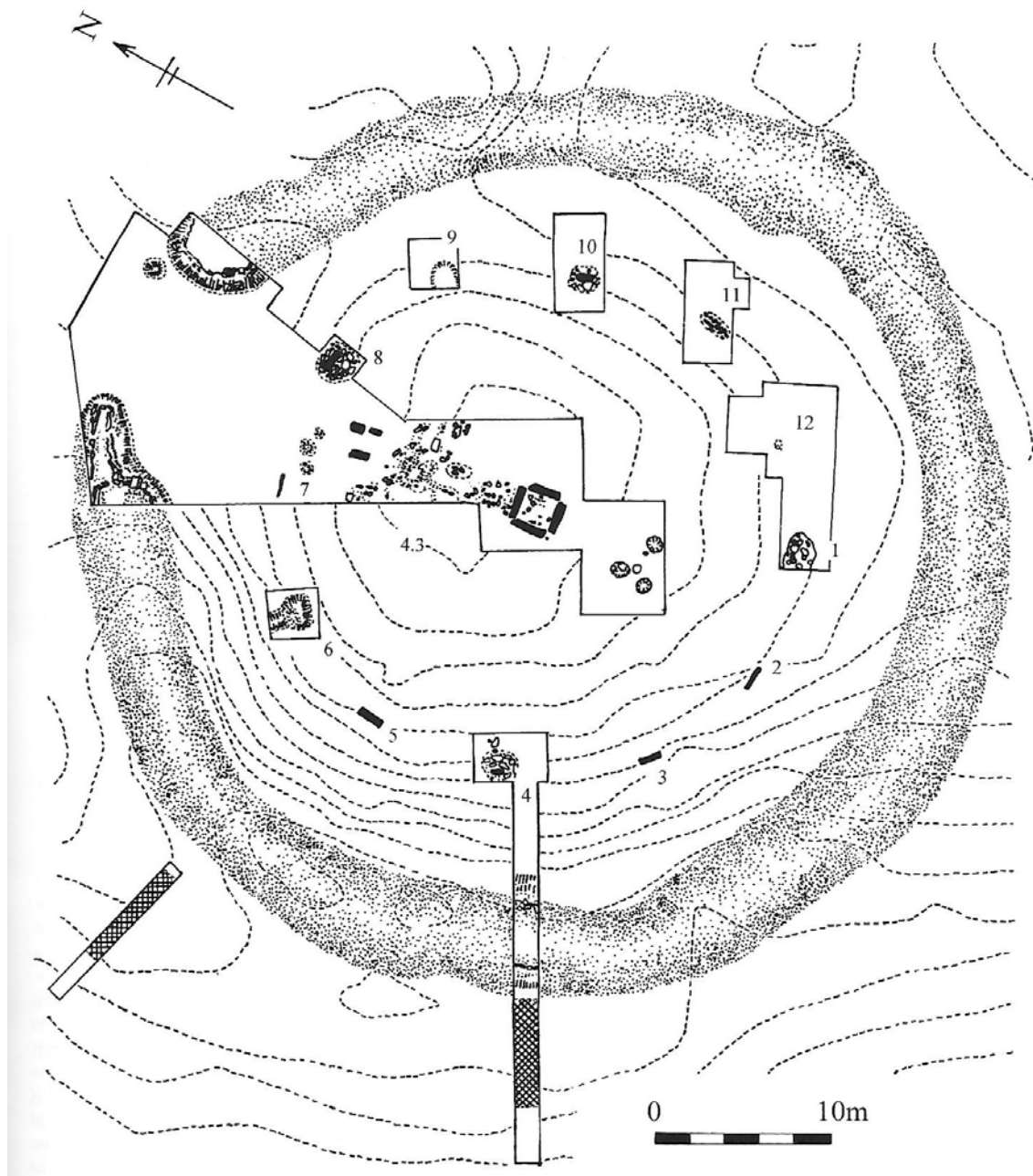


Figure 87: Stones of Stenness Stone Circle and Henge Site Plan (Challands *et al.* 2003a, 219)

Several later features were found during the excavation of the Stones of Stenness. Five pits, Pits A-E, built possibly 3000 years after the initial use of the site, were located roughly 5m to the south of the central feature (Ritchie 1975-76, 15-22).

#### *Other Stone Circles*

The stone circles located at Els Ness on Sanday were destroyed prior to the Royal Commission survey (RCAHMS 1946, 170). The circles, recorded by Dr. Wood, were described as several stone circles with each probably containing a central stone placed on its edge (RCAHMS 1946, 170). The stones were measured to a maximum height of 0.60 m above ground, with the circles each measuring roughly 10.97 m in circumference (RCAHMS 1946, 170). Two of the stone circles were found on either side of a creek within the area, with two found along the beach of the creek, while the other two were located along the upper portion of the beach (RCAHMS 1946, 170).

#### *Standing Stones*

Of the 47 single and grouped standing stones found on the Orkney Islands, 24 are located on Mainland. The most well-known of these were located near the Stones of Stenness and the Ring of Brodgar, including, the Barnhouse Stone, the Watch Stone, and the Stone of Odin (Canmore ID 2128) near the Stones of Stenness; and the Comet Stone (Canmore ID 1700) near the Ring of Brodgar (RCAHMS 1946).

The Barnhouse Stone is situated within a cultivated field roughly 91.44 m to 137.16 m north from the Barnhouse farm (RCAHMS 1946, 305). The stone, which is aligned northwest and southeast, has a height of 3.20 m with a width of 1.12 m at the base of the stone, 1.57 m at 1.52 m above the ground, and roughly 1.82 m wide at 2.43 m above the ground level (RCAHMS, 1946, 305). It is possible this stone was part of a larger collection of standing stones, with the other stones no longer present (Challands *et al.* 2005a, 216).

The Watch Stone, situated along the west side of the public road near the Stones of Stenness at the south end of the Bridge of Brodgar, faces east and west (RCAHMS 1946, 304; Wickham-Jones 2007, 43). The stone is the largest within the Stenness area measuring 5.64 m high, 1.524 m wide, and 0.40 m thick (RCAHMS 1946, 304). About 14 m southwest of the Watch Stone, the stump, of a broken standing stone, was identified along the edge of the Loch of Stenness (Challands *et al.* 2005a, 216; RCAHMS 1946, 304-320). The original stone of the stump was probably part of a pair of standing stones with the Watch Stone

(Challands *et al.* 2005, 216). The stump was broken below the ground surface and measuring 0.91 m high, 1.45 m wide, and 0.12 m thick (RCAHMS 1946, 320). The stone was aligned northeast and southwest and was at an obtuse angle to the alignment of the Watch Stone (RCAHMS 1946, 320).

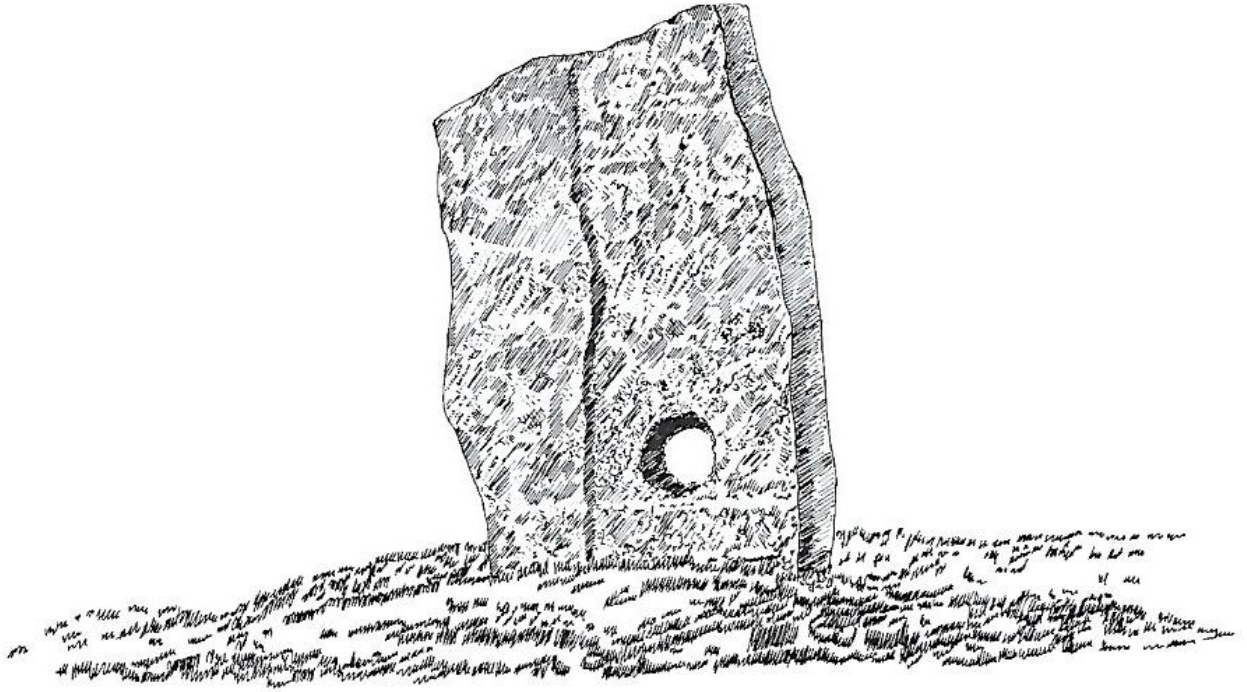


Figure 88: Reconstruction Drawing of the Stone of Odin (Challands *et al.* 2003a, 212)

The Stone of Odin, which no longer exists, originally stood approximately 137.16 m north of the Stones of Stenness and was situated on a small rise in the ground (Figure 88) (Marwick 1975-76, 28; RCAHMS 1946, 320). The stone, which had a perforated hole in the stone a third of the way up from the bottom of the stone on the west side, was destroyed in December 1814 by Captain Mackay, the tenant of the farm where the Stones of Stenness were situated (Marwick 1975-76, 28-30; RCAHMS 1946, 320). According to various accounts, the Stone of Odin has been described as standing 2.43 m high, 1.07 m wide, and having a perforated hole through the stone placed roughly between 0.91 m and 1.52 m up from the base of the stone (Marwick 1975-76, 29; RCAHMS 1945, 320). A segment of the Stone of Odin was used as a mill stone for the mill located at Barnhouse (Marwick 1975-76, 31). However, in the 1940s, this segment of the Stone of Odin was destroyed (Marwick 1975-76, 31). This portion of the stone, which contained the perforated hole, measured 1.52 m in length and ranged in width from 0.76 m to a little over 0.60 m, with a thickness of about 0.30 m (Marwick 1975-76, 31). A recent excavation of the area around the Stones of

Stenness found two stone holes where the Stone of Odin is said to have been located, which could indicate the Stone of Odin was part of a group of at least two standing stones (Challands *et al.* 2005a, 212-216). The northern stone hole, oval in shape, measures 1.2 m wide, 2.1 m long and a depth of 0.75 m (Challands *et al.* 2005a, 213). Within the northern stone hole, a small flint fragment was recovered (Challands *et al.* 2005a, 214). The southern stone hole, containing the stone packing in situ, measured 1.7 m by 1.38 m with a depth of 0.6 m (Challands *et al.* 2005a, 214). A pit dating to the Early Bronze Age was found 0.3 m northwest of the southern stone hole, containing charcoal flecks, burnt stone, and possible Bronze Age pottery sherds (Challands *et al.* 2005a, 215).

The Comet Stone is located on a short circular platform, measuring 13.71 m by 12.80 m, roughly 137.16 m southeast of the Ring of Brodgar (RCAHMS 1946, 304). The standing stone has its major axis running northwest and southeast and measures 1.75 m high, 0.76 m wide, and 0.29 m thick (RCAHMS 1946, 304). Two stumps were found on the platform as well, one 2.67 m to the northwest and one the same distance to the southwest (RCAHMS 1946, 304).

The Standing Stone of Shapinsay, or Mor Stein, (Canmore ID 3065) is situated 30.48 m above sea-level about 1609.34 m from Ward Hill on the island of Shapinsay (RCAHMS 1946, 277). The stone, which was broken prior to the survey, measures to a recorded height of 3.04 m above the ground and is 0.94 m wide by 0.51 m thick (RCAHMS 1946, 277). The major axis of the stone is oriented east to west (RCAHMS 1946, 277).

### **Henges and Enclosures**

Three henges have been identified within the Orkney Islands with all three located on Mainland; one found at the Ring of Brodgar, one at the Ring of Bookan, and one at the Stones of Stenness (RCAHMS 1946). The henge found encircling the Ring of Brodgar, which dates to the Neolithic, measures approximately 9.14 m in width and 1.82 m in depth (Figure 89) (RCAHMS 1946, 299). The ditch of the henge consists of two sections, the northern and southern halves, with openings placed opposite from the other on the northwest and southeast segments (RCAHMS 1946, 299). The opening on the southeast side measures 3.65 m wide, while the one on the northwest side is 2.74 m wide (RCAHMS 1946, 299). The henge surrounding the Ring of Brodgar was partially excavated by Colin Renfrew in the early 1970s (1979, 39-439). Three trenches were dug into the henge with Trench A cutting through a section of the northern segment of the henge and running 20 m long by 2 m wide (Renfrew 1979, 39). Trench C, which examined a similar area as Trench A, was dug through

a section of the southern segment nearly opposite Trench A (Renfrew 1979, 40-41). The third trench, Trench B, which was located along the northeast side of the henge, was a 5 m long 1 m wide section of the outer edge of the ditch (Renfrew 1979, 41). During the excavation, no artefacts were recovered from the site (Renfrew 1979, 42).

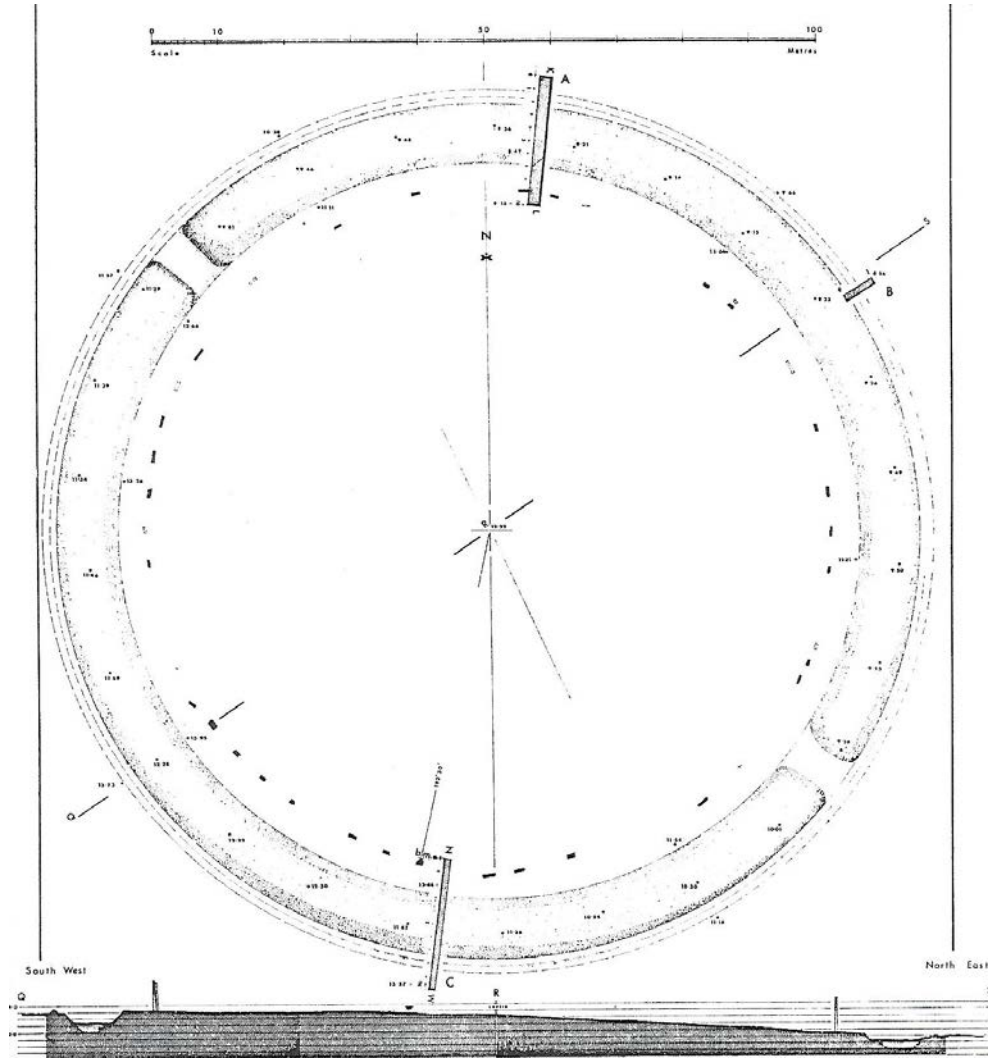


Figure 89: Ring of Brodgar Stone Circle and Henge Site Plan (Renfrew 1979, fig 14)

The second henge identified was found encircling the Stones of Stenness, which possibly predates the stone circle (Figure 87) (RCAHMS 1946, 302-04; Ritchie 1975-76, 1-60). The henge consists of an outer earthen bank and an inner ditch with a single entrance causeway located in the northern section of the henge (Ritchie 1975-76, 1). The ditch, which cuts into the bedrock, measures 2 m deep and 7 m wide and was surrounded by an embankment (Challands *et al.* 2005a, 218). Barely any evidence of the henge survives at present due to the cultivation of the area (RCAHMS 1946, 302). An examination of the henge in 1848 by Thomas gave estimated dimensions of the henge of 71.32 m for the external

diameter of the embankment and 0.91 m for its height (RCAHMS 1946, 302). The henge was partially excavated along with the Stones of Stenness by JN Graham Ritchie in the 1970s verifying the ditch along the east side of the Stones of Stenness site (1975-76, 8-17).

Two circular enclosures were also recorded with both found within Holland (Canmore ID 2435) in the Parish of Kirkwall to the southwest and south-southwest of a Bronze Age burial mound (RCAHMS 1946, 161). The enclosure to the southwest measured 9.14 m in diameter and the one to the south-southwest was 10.97 m in diameter (RCAHMS 1946, 161). The two enclosures probably date from the Neolithic or the Bronze Age, although no artefactual remains have been found.

### **Neolithic and Bronze Age Settlements**

The remains of only six Neolithic settlements have been discovered with three from Mainland, Skara Brae, Barnhouse (Canmore ID 2152), and the newly discovered site at the Ness of Brodgar; one from Rousay, the Braes of Rinyo (Canmore ID 2717); one from Papa Westray, the Knap of Howar (Canmore ID 2848); and one from Westray, the Links of Nolthland (Canmore ID 2790) (Card 2010; Fraser 1983, 139; RCAHMS 1946).

#### *Skara Brae*

The site of Skara Brae was first discovered in 1850, with several explorations occurring afterwards, including in the 1860s by Mr. Farrer and Mr. Watt, in 1913 by Balfour Stewart, in the 1920s and 1930s by Gordon Childe, and in the 1970s by Ann Clarke (Figure 90 and 91) (Childe and Patterson 1929, 225-280; Petrie 1867, 201-221; RCAHMS 1946, 254; Saville 1994, 103; Stewart 1914, 344-355; Traill 1868; 426-439). The village is located on the southeast side of an inlet along the south side of the Bay of Skaill (RCAHMS 1946, 254). The excavations of the village date the site from about *c.* 2500 BC to *c.* 3100 BC and show two periods of occupation for the settlement with only the houses from the latest occupation found surviving to possible roof height (RCAHMS 1946, 254-59; Ritchie 1996, 131-33). At least nine flagstone built structures, possibly houses, and connecting passageways have been uncovered at Skara Brae (RCAHMS 1946, 254). The structures were found to be autonomous houses, constructed of thick walls made from stone and integrated midden material, with the internal measurements of the most preserved houses including 6.40 m by 6.09 m, 6.09 m by 4.87 m, 6.09 m by 3.96 m, 5.18 m by 5.18 m, and 5.18 m by 4.87 m (RCAHMS 1946, 254). The entrances to the structures were paved 'tunnel-like' passageways that opened up into a single large room (RCAHMS 1946, 255).

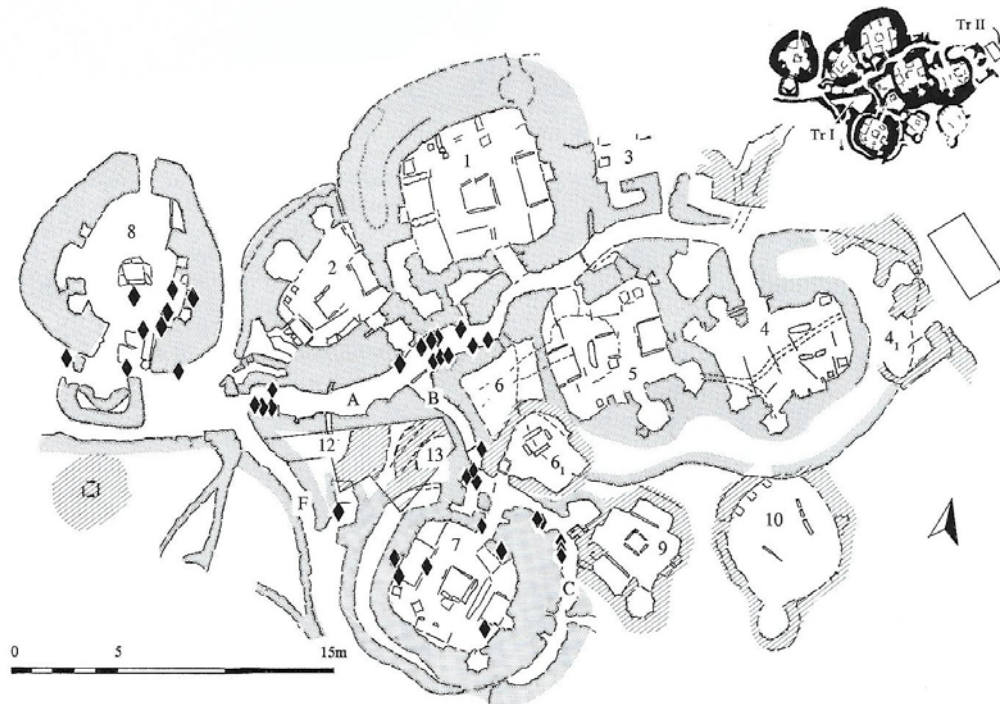


Figure 90: Skara Brae Neolithic Settlement Site Plan showing the position of the 1972-73 trenches and the marking the locations of decorated stones (Shepherd 2000, 140)



Figure 91: Skara Brae Neolithic Settlement House 1 with furniture (Canmore)

The interior of some of the houses at Skara Brae consists of stone built 'furniture' including a rectangular hearth located in the centre of the structure, which measures 1.21 m to

1.52 m, with enclosures or 'beds' found on both sides of the hearth (Figure 91) (RCAHMS 1946, 255). The right-hand 'beds' were consistently larger than the 'beds' situated on the left-hand side of the hearths (RCAHMS 1946, 255). Along the back wall of the houses, either built into a recess or against the wall, were 'dressers', which consist of one to two flagstone shelves with three stone piers supporting them (RCAHMS 1946, 255). Finally, within each of the houses are at least three rectangular cist-like features built with thin slabs placed into the floor of the house measuring 0.45 m to 0.60 m deep, which may have been water tanks possibly for shellfish (RCAHMS 1946, 255). One or more 'beehive' cells branch off from each of the houses, of which a few contain drains (RCAHMS 1946, 255). The houses are connected by passageways, Passages A-F, which greatly resembles tunnels running through the midden material present at the site for a large portion of their length (RCAHMS 1946, 255). Passage A is the main passageway running roughly east to west through the settlement, with Passage B branching off from Passage A (RCAHMS 1946, 255-56, fig 384). Passage C, which connects to Passage B, encircles Structure 7, while Passages E and F run nearly north and south, respectively, around the outside of the main section of the settlement (RCAHMS 1946, 255-256, fig 384).

On the western side of the village, Hut 8 was found outside of the main settlement (RCAHMS 1946, 257). Hut 8 appears to differ from most of the other structures identified at Skara Brae as it contains none of the interior furniture, 'beds', 'dressers', and tanks found in the other huts, and has been interpreted to be a workshop (RCAHMS 1946, 257). This hut has an incredibly narrow doorway and has a horse-shoe shaped porch along the south end of the hut (RCAHMS 1946, 257). Within the interior of the hut were several recesses and niches found along the walls and a hearth within the centre of the hut (Childe 1930b, 173-178). A large quantity of artefacts, including pottery sherds, lithic fragments and animal bones, have been recovered from across Hut 8 (Childe 1930b, 178). A wide range of further small finds were recovered from the rest of the settlement during the various excavations, such as bone fragments of human and animal remains, stone tools and objects, pottery sherds, and ornamental objects including beads and pins (RCAHMS 1946, 258; Robinson 1930, 75-77; Watson 1930, 74-75).

### *Barnhouse*

The Neolithic settlement of Barnhouse was first discovered during a field walking exercise in December 1984 by Colin Richards with excavations occurring in 1985-86 (Figure 92) (2005b, 17-19). Barnhouse is located on the tip of the Stenness promontory a short

distance from the Stones of Stenness stone circle and henge and lies within the centre of a concentration of Neolithic monuments that also include the Ring of Brodgar and the chambered tomb of Maes Howe (Challands *et al.* 2005a, 205). This settlement was constructed between 3300-3000 cal BC and was inhabited with a period of occupation ranging from 300 to 400 years (Jones and Richards 2005, 23). During the excavation of Barnhouse, the remains of at least 13 structures or houses have been identified, the majority of which resemble the houses found at Skara Brae, with central hearths, 'beds', and 'dressers' located within the interiors (Downes and Richards 2005, 61; Jones and Richards 2005, 27). The earliest structures built in the settlement were Houses 3, 5a, 6, 7, 9, 10, 12a, and possibly House 13a along with the large House 2 (Jones and Richards 2005, 27). A network of drains with a dual structure ran through the settlement (Jones and Richards 2005, 51). One drainage system encircled Houses 1, 6, 7, 10, 12a, and 13, which are the inner houses; and the other separate drainage system was used for the outer houses, Houses 2, 3, 9, and 5 (Jones and Richards 2005, 51).



Figure 92: Barnhouse Neolithic Settlement with plan of the network of the drains at the site (Jones and Richards 2005, 28)

Of the 13 structures found at Barnhouse, House 2 and Structure 8 were found to differ greatly with the other houses (Richards 2005c, 129-94). The large structure of House 2, which measures 12.8 m long by 10 m wide, was found on the western side of the Barnhouse

village (Richards 2005c, 129). The interior of House 2 is composed of six recesses, with two located on each of the longest walls and one within each of the end walls of the structure (Richards 2005c, 131-33, fig 5.6). This internal layout of House 2 mirrors the chambered tomb of Quanterness (Richards 2005c, 130-31). Thus, this structure was probably not used as a dwelling but possibly was used for ceremonial practices (Richards 2005c, 130). Two hearths were found within the interior of the structure, one within the western and one in the eastern halves (Richards 2005c, 132-33). Within the eastern section of House 2, a stone covered small cist was uncovered to the west of the central hearth (Richards 2005c, 137). The cist, measuring 0.86 m by 0.78 m, contained fragments of human or animal bones (Richards 2005c, 137). Several sherds of Grooved Ware pottery and flint fragments were recovered from the floor of House 2 during the excavation (Richards 2005c, 132). The second building found at Barnhouse that appears to be different from the rest was Structure 8, which is located within the southern area of the settlement (Hill and Richards 2005, 158-159, fig 6.2). Structure 8 consists of an inner house, measuring 8 m by 8 m, with an outer wall 3 m thick and enclosed by a clay platform encircled by a large stone wall 1.3 m thick (Hill and Richards 2005, 159). This structure is of a later phase as it overlaps part of House 9 (Hill and Richards 2005, 158, fig 6.2). The inner building appears to be a square structure with rounded corners and thick walls, which shares similarities to Hut 7 at Skara Brae (Hill and Richards 2005, 165). The interior was shown to have been remodelled over the course of use of the structure, with evidence for several internal features including a rear 'dresser' and a central hearth (Hill and Richards 2005, 170). A large quantity of lithic and pottery remains were recovered from across the whole of the excavated area of the Barnhouse settlement (Clarke 2005a, 323-338; Jones 2005, 261- 282; Middleton 2005, 293-321).

### *Braes of Rinyo*

The Skara Brae type settlement at the Braes of Rinyo, Rousay, was first recorded and excavated by V. G. Childe and Walter G. Grant in 1937-38 with later excavations that occurred in 1946 (Figure 93) (1938-39, 6-31; 1946-48, 16-41). The site was speculated to have been constructed and occupied over a minimum of two phases with Rinyo I consisting of layers of deposits located below the floors of Chambers A, B, C, and D; while Rinyo II comprised the deposits and material found on or above the floors of Chambers A, B, and C (Childe and Grant 1938-39, 2; Fraser 1983, 144). At least seven structures, chambers A-G, were uncovered with walls surviving to a maximum height of 0.60m (Childe and Grant 1938-39; Childe and Grant 1946-48; Fraser 1983, 142; RCAHMS 1946, 362). The houses were

built of sandstone in rectangular shapes with rounded corners and each contained a central hearth marked off by four upright slabs of sandstone, with rectangular beds placed on either side of the hearth, as well as water tanks, and the remains of dressers (Fraser 1983, 143-44). Of the chambers, Chamber A was the best preserved, measuring 4.57 m long by 3.35 m wide with a doorway, entered to the right of the northern end of the chamber, 0.71 m wide (Childe and Grant 1938-39, 9; RCAHMS 1946, 362). Within the interior of Chamber A is a hearth, with only two of its kerb stones remaining and two beds placed on either side of the hearth, the left bed is built out from the wall, while the right bed is constructed in a recess into the wall (Childe and Grant 1938-39, 9-12; RCAHMS 1946, 362). Other features found within Chamber A include an empty square box bordered with slate slabs located in the left side rear corner and the remains of a dresser situated along the rear wall (Childe and Grant 1938-39, 9-12; RCAHMS 1946, 362). Artefacts similar to those found at Skara Brae were recovered during both excavations by Childe and Grant (1938-39; 1946-47).

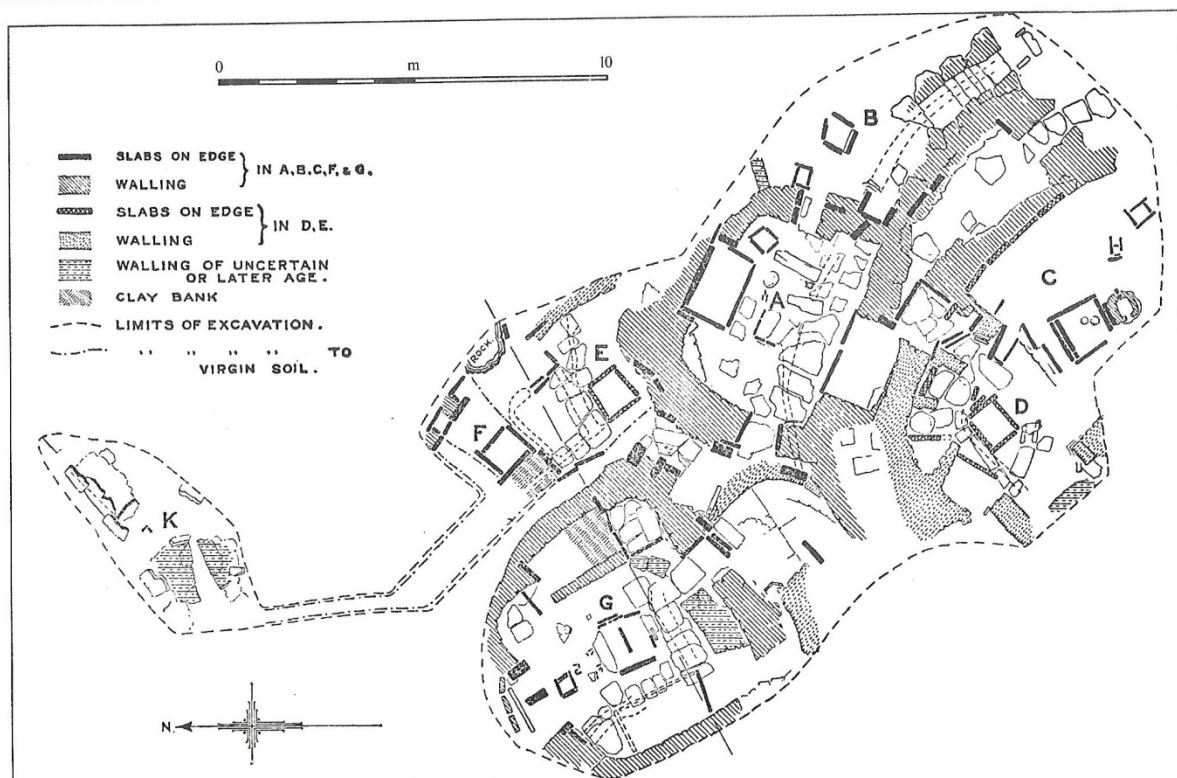


Figure 93: Braes of Rinyo Settlement Site Plan (Childe and Grant 1946-48, fig 1)

### *Ness of Brodgar*

The remaining Neolithic settlement on Mainland, dating to the later fourth and earlier third millennium BC, located on the Ness of Brodgar has only recently been discovered in 2002-3, with excavations on-going (Figure 94) (Card *et al.* 2007, 425, 428; Card 2010, 13-

14). This settlement, which was found only 300 m from the Neolithic settlement of Barnhouse, is located within a major concentration of Neolithic monuments including the stone circles of the Ring of Brodgar and the Stones of Stenness (Card 2010, 14). According to recent work, this site was probably not used as a domestic settlement but as a ceremonial complex in conjunction with the Ring of Brodgar and the Stones of Stenness ('Ness of Brodgar Excavation Background Phases of the site – a Neolithic focal point', n.d., The Ness of Brodgar Excavations website).

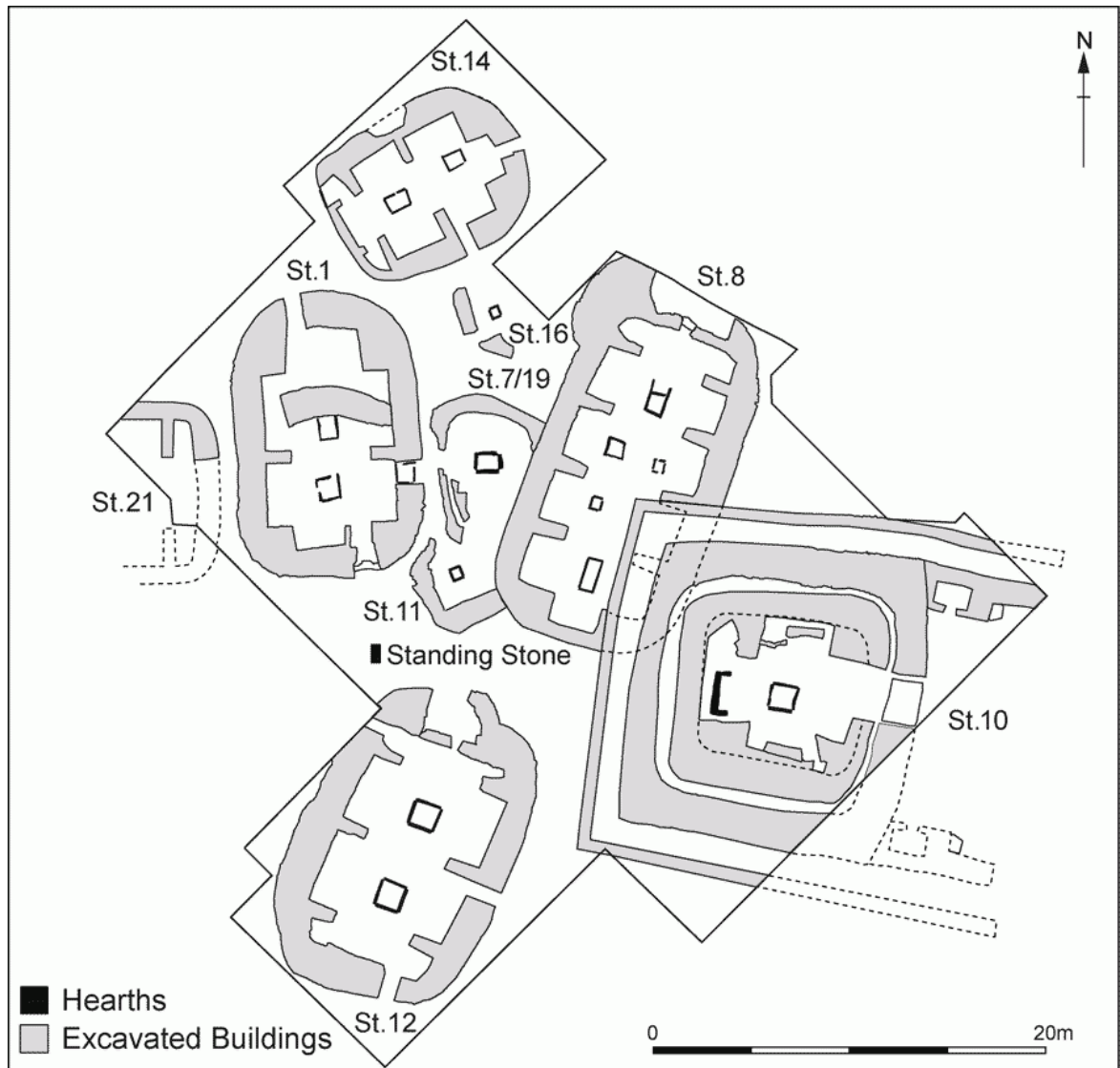


Figure 94: Ness of Brodgar – Plan of the Structures ('Plan Structures of the Site', 2016, The Ness of Brodgar Excavations website)

Several unusual structures have been uncovered during the recent excavations, including Structure 1, which resembles House 2 found at Barnhouse (Card 2010, 16; Card *et al.* 2007, 425). Structure 1 covers an area of 15 m long by 10 m wide and originally contained six rectangular recesses within the interior walls, arranged similar to House 2 at

Barnhouse (Card 2010, 16). Evidence from the excavations show the interior of this structure went through several remodels with a later insertion of a curving wall and an even later oval structure constructed into the interior (Card 2010, 16). Next to Structure 1, another large building, Structure 8, was identified over the course of several excavations and measured to over 15 m in length and 7 m in width (Card 2010, 17). Out of all of the buildings unearthed from the excavations, Structure 10 is the largest measuring approximately 25 m long and 20 m wide (Card 2010, 17). This structure consists of a central square shaped building measuring 15 m across with a forecourt on the east end, which extends the length of the structure to 20 m (Card 2010, 18). The external walls, measuring 5 m thick, were made of two 2 m wide stone walls with midden material in-between (Card 2010, 18). The internal layout of the structure contained several recesses built into the walls forming a cruciform shaped internal chamber (Card 2010, 18). The central pillar of a 'dresser' was found within one of the recesses (Card 2010, 18). A paved pathway was located along the exterior of Structure 10 encircling the outer wall (Card 2010, 18-19). Radiocarbon dates taken from two areas within the site show the complex was occupied for about 1000 years, dating from 3200 cal BC to 2300 cal BC ('Ness of Brodgar Excavation Background A Millennium of Activity', n.d., The Ness of Brodgar Excavations website).

From recent work, several phases of occupation have either been identified or assumed for the site. No evidence has been found for phase 1, which is presumed to date from the Early to Middle Neolithic. Phase 2 consists of several oval buildings that were located underneath Structures 5, 8, and 10 ('Ness of Brodgar Excavation Background Phases of the site – a preliminary view', n.d., The Ness of Brodgar Excavations website). It is possible the massive stone enclosure, The Great Wall of Brodgar, was constructed around the oval structures ('Ness of Brodgar Excavation Background Phases of the site – a preliminary view' and 'The "Great Wall of Brodgar"', n.d., The Ness of Brodgar Excavations website). Phase 3 included the occupation of Structure 1, 8, and 12 as well as the use of a possible building underneath Structure 7 and the widening of the northern boundary wall. During Phase 4, the Phase 3 buildings were retired from use and were purposely covered with a large layer of ashy soil. Phase 5 comprised the construction and various alterations of Structure 10. The decommissioning and infilling of Structure 10 occurs during Phase 6, along within a layer of deposits, including cattle bones, along the outer paved area of the structure. The occupation of Structures 7, 9, and 11 and the possible re-occupation of Structure 1 take place during Phase 7, which dates to the late Neolithic or Early Bronze Age and is probably the final period of use of the site until the late medieval period ('Ness of Brodgar Excavation

Background Phases of the site – a preliminary view’, n.d., The Ness of Brodgar Excavations website). A large amount of decorated Grooved Ware pottery sherds have been recovered during the excavations from this Neolithic settlement, along with various stone tools, including mace-heads and axes; flint fragments; pitchstone; and fragments of animal bones (Card 2010, 19).

### *Links of Noltland*

The Links of Noltland Neolithic settlement, which is located on Westray, was first excavated in 1979-1981 by Dr. David Clark and was later excavated by Historic Scotland under the direction of Hazel Moore and Graeme Wilson from 2007-09 and ongoing (Figure 95) (Moore and Wilson 2011a, 14-18). These excavations uncovered a Late Neolithic settlement along with two Bronze Age settlements (Moore and Wilson 2011a, 16-18). The Neolithic settlement, which dates to about 3000 cal BC, comprises several structures including the Grobust building, which was excavated during the first series of excavations (Moore and Wilson 2011a, 19). The Grobust building consists of two interconnected rooms containing features including cupboards and shelves with the walls surviving to a height of 1 m and the entrance located on the seaward side (Moore and Wilson 2011a, 19). Within the fill of this structure, a large number of artefacts were recovered, such as worked bone objects (Moore and Wilson 2011a, 19).

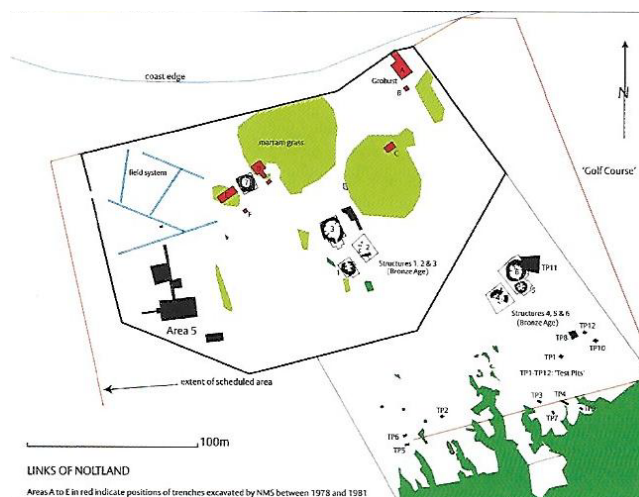


Figure 95: Links of Noltland Plan of Sites and Known Archaeological Interventions, 1978-2009 (Moore and Wilson 2011, 10)

Further structures were found during the second series of excavations, from 2007-09. Structure 8 was discovered during the 2006-07 season, and consists of a large stone building with several phases of occupation/activity (Moore and Wilson 2011a, 19-20). The interior of

the building appears to be cruciform in plan, with dimensions at its widest point of 5 m by 5 m, with a possible entrance passage leading to a potential second cell or room (Moore and Wilson 2011a, 20). A possible outer enclosure wall was located 4 m to the west of Structure 8, containing a courtyard, which may have been used as a hearth (Moore and Wilson 2011a, 20). A substantial amount of finds were recovered from the fill of this structure, including Grooved Ware pottery, work flints, haematite, red ochre, and worked shells, as well as animal bones (Moore and Wilson 2011a, 21).

Later phases of activity occurred at Structure 8, such as the laying of a paved surface over part of the infilled structure, and the construction of a 2 m long linear stone feature with a small square stone cell located at its western end (Moore and Wilson 2011a, 21). Further buildings include Structure 7 (Figure 96), which is a rectilinear shaped building with dimensions of 7 m by 7 m and containing the remains of a possible dresser as well as various small finds within its fill, Area 6 Structure, a curvilinear structure with a paved surface, which was cut by a Bronze Age house and may date from the Late Neolithic-Bronze Age transition, and Structure 9, a sub-rectangular building with an angular or cruciform interior and dimensions of 7 m by 6 m, which contained within the wall core adult cattle skulls placed side by side forming a ring (Moore and Wilson 2011a, 22-23). Other possible structural remains have been found between Structures 8 and 9 consisting of coursed masonry and upright slabs forming a possible corner of a building with a cup-marked stone built into the wall (Moore and Wilson 2011a, 23).

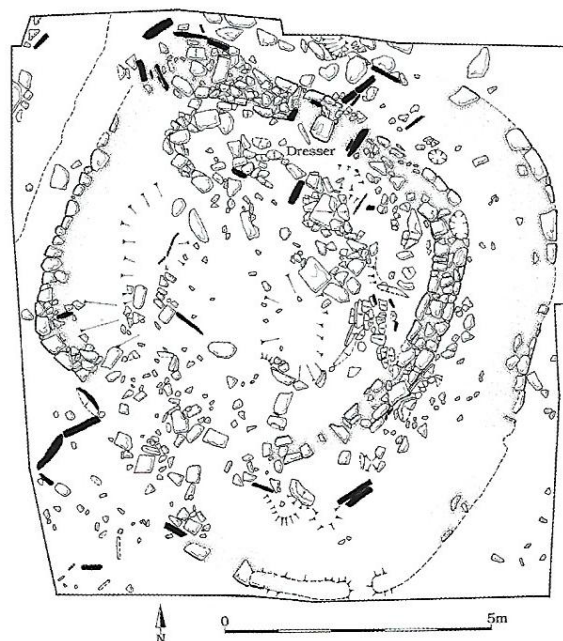


Figure 96: Plan of Structure 7 at the Links of Noltland (Moore and Wilson 2011, 22)

The Bronze Age settlement comprises eight structures grouped into two settlement complexes roughly 80 m apart, each containing a pair of oval structures, which have opposing entrances, with the larger structure located to the north appearing to have a domestic function; while the smaller buildings appear to have been for more specialised activity, with one consisting of a clay-lined floor, and the other containing a stone-lined tank (Moore and Wilson 2011a, 24). One grouping consisted of Structures 1-3, in which Structure 3 was the larger of the buildings forming a pair with Structure 1, and Structure 2 containing the stone-lined boxes (Moore and Wilson 2011a, 24-25). The second group comprised Structure 4-6, with the larger Structure 6 forming a pair with the small Structure 5, which contained a stone-lined tank, and Structure 4 containing a paved surface (Moore and Wilson 2011a, 26-27). A further two structures, which have yet to be fully investigated, have been identified within the Scheduled Area, which possibly date to the Bronze Age (Moore and Wilson 2011a, 28).

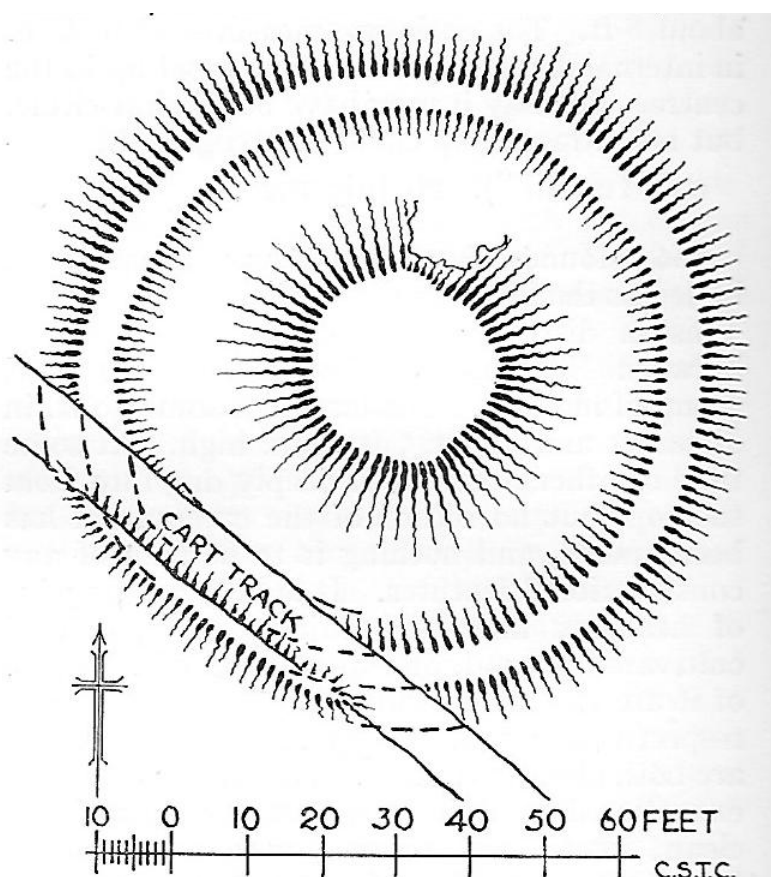
### **Bronze Age Barrows and Cairns**

Over 470 barrows or burial mounds, dating to the Bronze Age, have been identified on the Orkney Islands to date, with close to 400 located on Mainland (RCAHMS 1946). Many of these burial mounds were found in clusters of two or more with several of these groups consisting of at least ten barrows.

One of these large clusters of burial mounds is known as the Knowes of Trotty, which is located within the Hunscarth area of the parish of Harray (RCAHMS 1946, 29). This group of twelve burial mounds dates to the second millennium BC and is situated along the foot of the western slopes of the hill the Ward of Redland (RCAHMS 1946, 29; Wickham-Jones 2007, 74). Although most of the mounds show evidence of disturbance, only the excavation of Mound No. 1 was documented (RCAHMS 1946, 29). Mound No.1, which measured 9.14m in diameter along the base of the mound and 3.35 m to 3.65 m high, was excavated by George Petrie in 1858 (RCAHMS 1946, 29-30; Farrer 1857-59, 195). Within the barrow, a small cist was discovered containing human remains which were possibly burnt, four gold discs, several beads, and a number of angularly shaped amber pieces (RCAHMS 1946, 30; Farrer 1857-59, 195). Roughly 41.14 m southwest of Mound No.1 is Mound No. 2, measuring 12.95 m in diameter and nearly 1.52 m high, while Mound No. 3 is situated 45.72 m further south and measures 13.71 m in diameter with a height of 1.21 m to 1.37 m (RCAHMS 1946, 30). The remaining barrows, apart from Mound No. 11, range in diameter from 9.14 m to 9.44 m and have heights of between 0.60 m to 0.76 m (RCAHMS

1946, 30). Mound No. 11, which was located 123.44 m south of Mound No. 10, was found to have a diameter of 9.14 m and a height of 1.52 m (RCAHMS 1946, 30-31). No further finds have been recovered from the barrows.

A second cluster of at least ten Bronze Age barrows was located at Kirbuster Hill, situated in-between the lochs of Boardhouse and Hundland in the parish of Harray (RCAHMS 1946, 25). The mounds range in diameter from 6 m to 9 m with several of them showing signs of disturbance, but no excavations have been recorded for these mounds (RCAHMS 1946, 25-26; Ritchie 1996, 142). Several of the mounds were found to contain the remains of cists, although no artefacts or human remains have been recovered (RCAHMS 1946, 25-26).



Feature 97: Disc-Barrow Near Bookan Site Plan (RCAHMS 1946, 264)

Of the Bronze Age barrows located on Mainland Orkney, two have been identified as disc-barrows, one found near Bookan (Canmore ID 1718) (Figure 97) and one near Vola (Canmore ID 2155) (RCAHMS 1946, 264, 314). The disc-barrow near Bookan is situated halfway between the Ring of Bookan and the Ring of Brodgar close to the eastern shore of the Loch of Stenness (RCAHMS 1946, 264). This mound, which measures 15.24 m in diameter and is 0.91 m high, is encircled by a trench and a 0.91 m high rampart, which has a

distance of 30.17 m from one end to the other across the mound (RCAHMS 1946, 264). The second disc-barrow found near Vola is located between the farm of Vola and the farm of Quoyer on the eastern side of the Loch of Harray (RCAHMS 1946, 314). This disc-barrow was enclosed by a ditch with a width of 3.96 m on the south side and 6.40 m on the north (RCAHMS 1946, 314). The mound of the barrow is measured to a height 1.82 m and the whole of the barrow including the ditch measures 31.08 m north to south and 25.90 m east to west (RCAHMS 1946, 314).

Close to 100 Bronze Age cairns have been identified on Orkney with at least 45 cairns found on Mainland (RCAHMS 1946). Most of these cairns were found in ruinous conditions and showed signs of disturbance with no artefacts or human remains recovered from the cairns. Several of these cairns were found in groups of two or more, such as the cairns located near Bookan (Canmore ID 1705) (RCAHMS 1946, 263). The remains of two cairns, which form a line aligned nearly due east and west, were located approximately 91.44 m north of the Bookan disc-barrow (RCAHMS 1946, 263). The easterly cairn measures 17.67 m in diameter while the westerly one has a diameter of 13.10 m (RCAHMS 1946, 263). No artefacts or remains were found within either of the cairns.

### **Cists and Burials**

The remains of over 180 Bronze Age cists, more than 70 found on Mainland, three cists dating somewhere between the Neolithic and Bronze Age, and three Neolithic cists have been uncovered on Orkney. The three Neolithic cists, discussed in detail above, were located at the chambered cairn of Quanterness and contained the remains of inhumation burials (Renfrew 1979, 53-61). The majority of the Bronze Age cists were found to have been placed within or near several Bronze Age barrows and cairns, with most of them showing signs of disturbance and contained no artefacts or human remains (RCAHMS 1946). A few of the cists were discovered as secondary deposits within or located close to a few Neolithic monuments (Childe 1954-56, 167-168; Marwick 1925, 34-36; RCAHMS 1946; Renfrew 1979, 60). A Bronze Age cist burial was uncovered from the central chamber at the chambered cairn of Quanterness, which contained several small finds, discussed in detail above (Renfrew 1979, 60). Another cist burial unearthed during the excavation at Maes Howe was found to have been dug into the platform of the chambered cairn (Childe 1954-56, 167). The cist, which measures 2.13 m in length, about 0.60 m in width, and 0.41 m deep, was irregular in shape and consisted of two end stones, two side stones along the northern side and two stones on the southern side of the cist (Childe 1954-56, 167). No artefacts or

human remains were recovered from the cist at Maes Howe (Childe 1954-56, 168).

Five cists were identified at Stenness between the Ring of Brodgar and the Stones of Stenness (Marwick 1925, 34). Of the cists, four larger cists were found positioned parallel to each other within a line, which runs north and south, and the remaining smaller cist was situated at the north end of the line (Marwick 1925, 34). The larger cists measured 0.91 m in length, 0.60 m in breadth, and 0.30 m in depth, while the smaller cist was approximately 0.15 m square and about 0.30 m deep (Marwick 1925, 34). Within three of the larger cists, unburnt human remains were uncovered on the western end of each cist and a round water-worn stone was located at the other end of each of the three cists (Marwick 1925, 35). The largest of these water-worn stones measures 0.12 m by 0.11 m, while the smallest is 0.10 m by 0.08 m (Marwick 1925, 35). No artefactual or human remains were found in the two remaining cists (Marwick 1925, 35). A decorated triangular shaped stone was discovered partly covering the eastern ends of the two middle larger cists (Marwick 1925, 35). This stone was decorated with 'eight bands lattice patterns' and measured 0.76 m long in the front, 0.33 m long at the back, and 0.08 m thick (Marwick 1925, 35-36).

A large number of burials have been recorded ranging from the Neolithic through the Bronze Age. The Neolithic deposits of human remains include the remains of over 341 individuals recorded at the chambered cairn at Isbister, discussed above, as well as three Neolithic or Bronze Age burials located in the cists at Quanterness (Chesterman 1983, table 7, 77; Renfrew 1979, 60). The Bronze Age burials consist of at least 50 inhumation burials and eight urn burials mostly found within barrows or cists (RCAHMS 1946).

### **Burnt Mounds**

At least 230 burnt mounds have been recorded as possibly belonging to the Neolithic and Bronze Age on the Orkney Islands, which has over 200 burnt mounds; as well as large amounts found in South Ireland and South Wales (RCAHMS 1946; Ritchie 1996, 127; Hedges 1974-75, 61). The mounds, which consist of soil and burnt debris usually with burnt stones visible through the soil and grass, are often located near areas of fresh water (Hedges 1974-75, 61-62; Ritchie 1996, 127). They can range in size from a few meters across to 30 m and are usually horse-shoe in shape (Hedges 1974-75, 61; Ritchie 1996, 127-128). Burnt mounds generally contain three elements, burnt stone, ash, and charcoal (Hedges 1974-75, 62). They are potentially domestic features, such as cooking places in which heated stones were placed into troughs of water in order to boil water for cooking (Ritchie 1996, 128). However, as the majority of these mounds have not been excavated and several no longer

exist, the exact nature and number of these features is unknown. Examples of burnt mounds have been found on all of the main islands of Orkney, with the largest concentration occurring on Mainland.

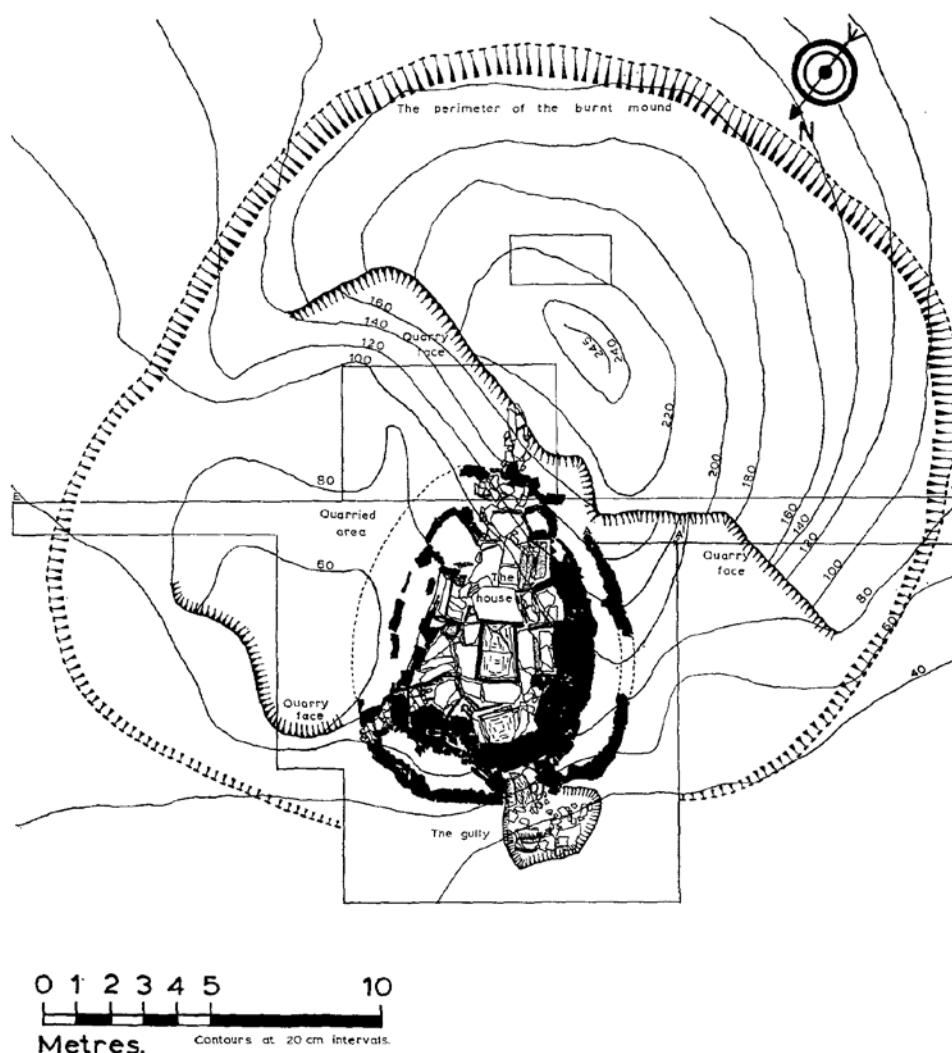


Figure 98: Burnt Mound at Liddle Site Plan (Hedges 1974-75, 41)

Two of the burnt mounds were excavated in the 1970s by John Hedges, one of which is the burnt mound at Liddle, South Ronaldsay (Canmore ID 9555) (Figure 98 (Hedges 1974-75; Ritchie 1996, 128). The mound measured roughly 2 m in height and enclosed an oval-shaped structure (Hedges 1974-75, 39-42). The mound consisted mostly of the shattered remains of burnt stones, ash, and charcoal (Hedges 1974-75, 42). The burnt mound covered the remains of a building, internally measuring 6.5 m long and 4 m wide (Hedges 1974-75, 42). It is probable that the material of the mound initially was dumped outside the walls of the structure and eventually encompassed all but the north side (Hedges 1974-75, 42). The primary wall of the structure measured c. 1.2 m in breadth with a height of up to 0.45 m in

one section and up to 0.9 m along another portion of the wall (Hedges 1974-75, 42). The original entrance to the building, which measured 0.7 m in width, was located along the northeast side of the structure, while a second entrance was later constructed on the southern portion (Hedges 1983, 43-45). The interior of the building contained seven compartments constructed of uprights set against the walls and a trough sunk into the floor measuring 1.6 m by 1 m with a depth of 0.6 m (Hedges 1983, 43-45). In the eastern part of the structure, a hearth was found placed in a sub-rectangular alcove in the wall, measuring 1.2 m wide and 1.1 m in breadth (Hedges 1983, 43). Due to the placement of the hearth, the structure was probably not roofed (Ritchie 1996, 128). Several artefacts were recovered from the burnt mound, such as worked stone objects, including over 20 hammer stones, and pottery sherds from at least ten different vessels (Hedges 1983, 46-50).

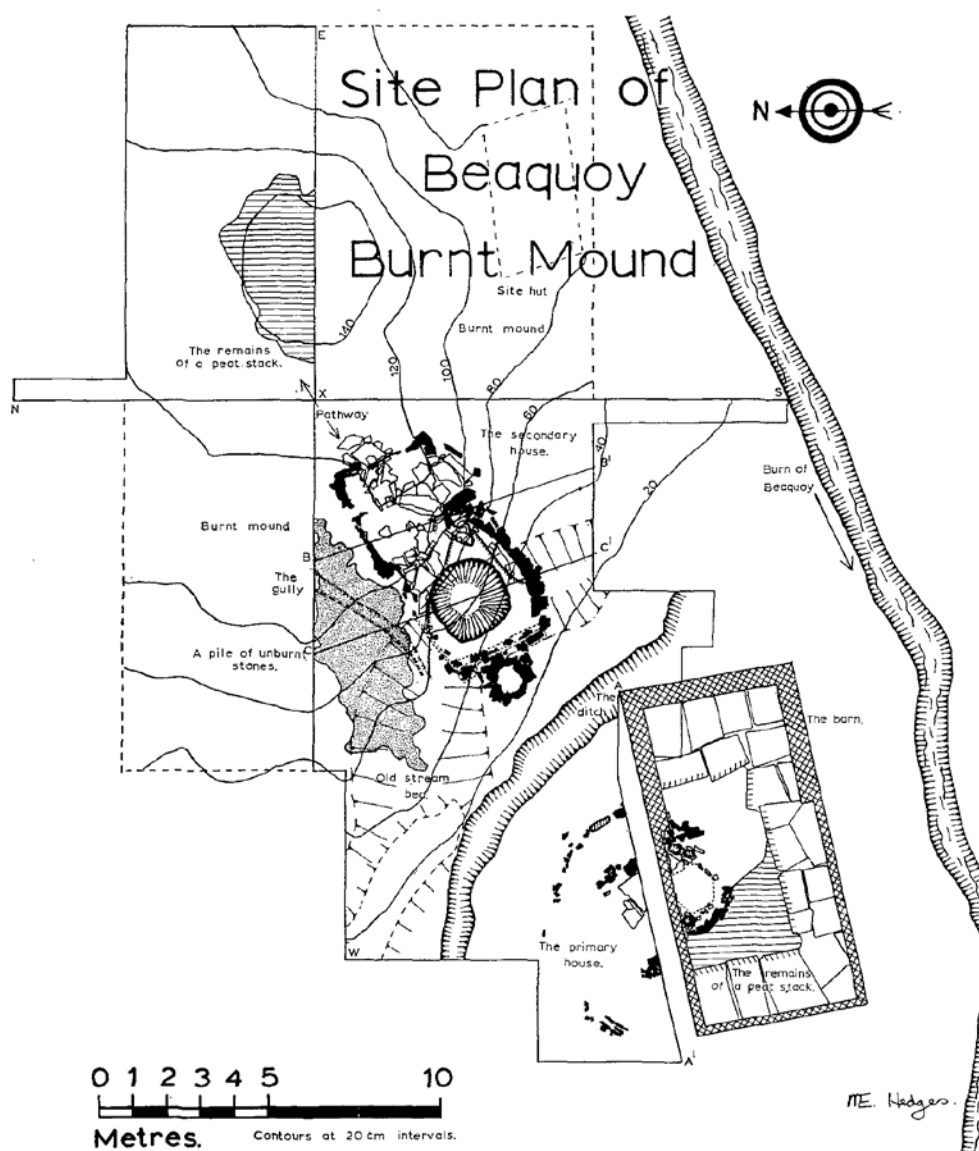


Figure 99: Burnt Mound at Beaquoy Site Plan (Hedges 1974-75, 52)

The second burnt mound excavated by Hedges is located at Beauquoy, near Dounby Mainland (Canmore ID 2251) (Figure 99) (Hedges 1974-75, 51). As the burnt mound was partially destroyed prior to the excavation, the original size of the mound is unknown (Hedges 1974-75, 51). The mound, which is associated with two buildings built sequentially, probably started out as two mounds, one for each structure, but eventually covered both structures (Hedges 1974-75, 51). The first building, which was mostly destroyed before the excavation by the construction of a shed, was probably a sub-rectangular structure measuring 2.6 m by *c.* 4.5 m (Hedges 1974-75, 51-53). The remains of the building consisted of a few structural features, including a rubble-built wall measuring 0.5 m in width and a current maximum height of 0.35 m (Hedges 1974-75, 53). Along with the wall, flagstone flooring was discovered in the northern part of the structure, while a hearth, measuring 1.6 m by 1.3 m, was located at the south end of the building (Hedges 1974-75, 53). The secondary building, which was also largely destroyed prior to the excavation, was a rectangular structure measuring 6 m long and 3.5 m wide and contained similar features as the primary building (Hedges 1974-75, 54). The north and south walls were rubble-built and measured to a maximum preserved height of 0.3 m and a minimum width of 15 cm (Hedges 1974-75, 54). The western wall was built into the primary burnt mound, with chocking stones used to support vertical flagstones or a timber wall (Hedges 1974-75, 54). The entrance to the structure was found in the eastern wall (Hedges 1974-75, 56). A trough, 2.5 m across and 1.7 m in depth, was dug into the primary burnt mound, from which sheep teeth and a quern were recovered (Hedges 1974-75, 54). Although a hearth was not found, it is possible one existed in the western portion of the building but was destroyed from the disturbance to the structure (Hedges 1974-75, 54). A destroyed compartment was located beneath the flagstone floor along the northern wall, measuring over 2 m in length and 1.25 m in width (Hedges 1974-75, 56). Situated to the southwest of the secondary structure was a V-shaped ditch, with preserved measurements of 1 m in width and *c.* 0.35 m in depth (Hedges 1974-75, 56). This ditch, which was built into the primary mound, dates later than the primary building but may or may not be contemporary with the secondary structure (Hedges 1974-75, 56). Various artefacts were recovered from the site, including worked stone objects and tools, such as hammer stones, flint implements and flakes, and three possible fragments of querns found within the secondary building (Hedges 1974-75, 56-61). Three pottery sherds were also recovered from the burnt mound and a piece of mineralised leather from the secondary structure (Hedges 1974-75, 61).

## **Small Finds**

During the explorations and excavations of the features found on Orkney, various types of small finds, such as artefacts, human remains, and animal remains, were recovered dating from the Neolithic through the Bronze Age. These small finds include a range of artefacts grouped into categories, including pottery, lithics, bone objects, metal objects, amber objects, glass objects, unidentified beads, jet objects, and lumps of pigment. The largest collection of small finds dates to the Neolithic, with the majority of the finds consisting of pottery vessels and sherds, lithic objects, and bone objects. This section discusses a representation of the various types of artefacts recovered from sites on Orkney.

## *Artefacts*

### *Pottery*

The pottery recovered from the features make up the largest quantity of artefacts collected from the area ranging from the Neolithic through the Bronze Age, with the vast majority dating to the Neolithic. Of the Neolithic pottery found, the largest concentration of Grooved Ware pottery sherds was uncovered during the excavations of the Neolithic settlement at Barnhouse. Close to 6000 sherds were identified forming possibly 200-300 Grooved Ware vessels, with a great concentration of them recovered from House 2 (Jones and Richards 2005, 39). Although a large percentage of these sherds were found without decoration, many of these sherds may be pieces from decorated vessels (Jones and Richards 2005, 42). Of the other two Neolithic settlements found on Mainland, only a small amount of pottery sherds have been found at Skara Brae, including a few decorated cooking pot sherds, unidentified vessels, and a basal sherd; and a few undecorated unidentified sherds of pottery (RCAHMS 1946, 258). At the settlement found at the Ness of Brodgar the on-going excavations have uncovered some Grooved Ware pottery vessels (Card 2010, 19). The remaining Neolithic pottery sherds were uncovered at the chambered cairns of Bookan and Quanterness, the stalled cairn of Unstan, and the stone circle and henge of the Stones of Stenness. Roughly 40 pottery sherds, which belong to at least 34 separate vessels, were found at the Quanterness chambered cairn with nearly equal division between the decorated and undecorated sherds (Henshall 1979, 75-86). A few sherds from tub-shaped vessels were recovered along with various rim, wall, basal, and body sherds from unidentified vessels (Henshall 1979, 84-86). During the excavation of the Unstan stalled cairn, four decorated urns, four decorated urn sherds, and one decorated round-bottomed urn were discovered, as well as two undecorated plain vessels and one undecorated flat-bottomed urn sherd (Clouston

1885, 345-49). Only a few sherds of unidentified vessels or urns were recovered from the chambered cairn of Bookan (Canmore ID 1697) (RCAHMS 1946, 263-64). The only other Neolithic site to contain Grooved Ware sherds was the Stones of Stenness, which contained over 20 decorated Grooved Ware sherds the majority of which were recovered from the central feature of the stone circle with the remaining located in the west ditch terminal of the henge; roughly six undecorated sherds from the central feature and the west terminal ditch; and about twenty-three undecorated unidentified vessel sherds from the east terminal ditch of the henge (Ritchie 1975-76, 22-25). A few undecorated unidentified vessel sherds dating either to the Neolithic or the Bronze Age were uncovered at the Unstan stalled cairn and the Stones of Stenness, along with one decorated sherd from an unknown vessel at the Unstan stalled cairn (Clouston 1885, 345-49; Ritchie 1975-76, 22-25).

At the Neolithic and Bronze Age settlement site at the Links of Noltland, over 5000 sherds have been recovered from an unknown number of vessels, ranging in date from the Neolithic to the Bronze Age (Sheridan 2011, 92-93). Several of the vessels appear to be either cylindrical or bucket-shaped and vary in size, including a thin-walled cylindrical cup and cooking pots (Sheridan 2011, 92-93). A large portion of these sherds are decorated, with a minimum decoration of applied 'plastic' decoration to more highly decorated sherds with cordons and incised lines (Sheridan 2011, 92-93).

About ten pottery sherds dating to the Bronze Age were identified from the sites of Mainland, all of which were found within burial mounds and cists. Of the Bronze Age pottery, seven undecorated unidentified urns were recovered, two from the barrow at Finstown Market Green (Canmore ID 2062); two from Blowes Farm with one from a cist and the other from an urn burial; one found within the Linga Fiold barrow (Canmore ID 1609); one from a cist at Plumcake Knowe, and one from the Saver Howe barrow (RCAHMS 1946). Two undecorated urn sherds were uncovered, one found within the cist at the Black Knowe (Canmore ID 1994), and the other from the Knowe of Smirrus barrow (Canmore ID 1848); and some undecorated sherds were recovered from an urn burial at Blowes Farm (RCAHMS 1946).

### *Lithics*

A large quantity of lithic objects, implements, and fragments dating from the Mesolithic/Neolithic through the Bronze Age were found during the numerous surveys and excavations of the sites located on Orkney. Two of the lithic implements, a flint blade and a flint scraper, date to either the Mesolithic or Neolithic and were found within the Quanterness

chambered cairn (Henshall 1979, 86-87).

The largest amount of lithics, discussed in this chapter, were found on Mainland and date to the Neolithic, with the majority of them discovered at the Neolithic settlement of Barnhouse, consisting of 1585 lithic pieces, 157 stone tool fragments, and 64 pieces of pumice (Clarke 2005a, 323-34; Clarke 2005b, 335-38; Middleton 2005, 293-321). The large majority of the lithic artefacts recovered from Barnhouse were everyday use items, such as ground cobble and pebble tools, cobble hammer-stones, and various flint scrapers and implements (Clarke 2005a, 323-34). Other lithic objects recovered include four possible stone balls, three of which had pecking marks, two grooved stones were found, one in House 5 and one in Structure 8, a stone bead from the midden, and fifteen stone axes or mace-heads (Clarke 2005a, 323-34).

Over seventy fragments of lithic objects and implements dating to the Neolithic have been recovered from the Neolithic settlement of Skara Brae. These objects include six decorated stone balls, four mortars, six stone celts, over ten scrapers, two stone vessels, six stone cups, three stone dishes, a stone saw, stone knives, circular stones, a hammer-head, two stone cleavers, a stone block, lumps of hematite, pot lids, a skaill knife, a perforated disc, a triangular stone object, and various stone implements and fragments (Childe and Patterson 1929, 225-80; Petrie 1867, 201-21; Saville 1994, 103-11; Stewart 1914, 344-55). Several stone axes, mace-heads, pitchstone, and flint fragments have also been found during the excavations at the Neolithic settlement on the Ness of Brodgar (Card 2010, 19).

The lithics found at the Neolithic settlement of the Links of Noltland consist of over 3000 struck lithic artefacts, such as scrapers, unretouched flakes, and cores, 591 coarse stone objects, including ard-points, flaked stone bars, flaked stone implements, grooved stones, pieces of haematite, and cobbled tools, seven decorated stones, and an anthropomorphic figurine (Goring 2011, 104-106; McLaren 2011, 99-102; Moore and Wilson 2011b, 107; Saville 2011, 96-98). The anthropomorphic figurine, which is considered to be the earliest representation in Scotland of the human form, was carved from sandstone with dimensions of 41 mm high, 31 mm wide, and 12 mm thick (Figure 100) (Goring 2011, 104-106; Moore and Wilson 2011a, 18). The figurine consists of a head and torso with markings depicting eyes, a nose, and a brow line on the front surface of the head, with incised lines and striations on the top and back surfaces; and two breasts on the front surface of the torso, with incised lines running across the front and back surfaces of the torso (Goring 2011, 104-106).

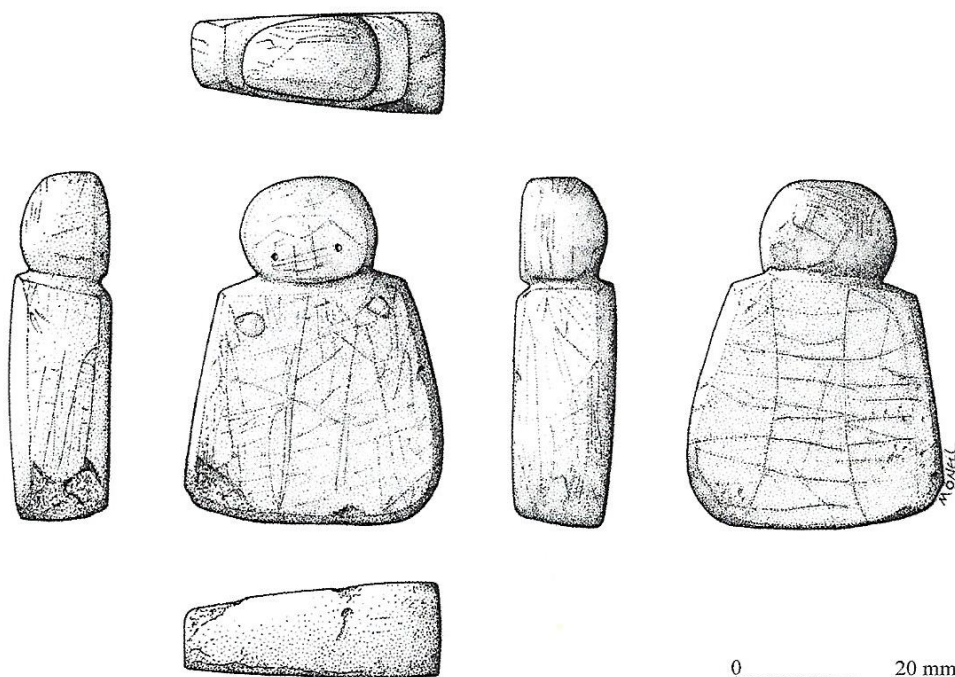


Figure 100: Venus Figurine Found at the Links of Noltland (Goring 2011, 104)

The remaining lithic artefacts dating to the Neolithic were found within the chambered cairns of Bookan and Quanterness, the stalled cairn of Unstan, and the stone circles of the Ring of Brodgar and the Stones of Stenness. At Quanterness, thirty-seven lithic objects were uncovered during the 1970s excavation, including twelve flint chips, eight flint knife fragments, three flagstone pieces, two flint blade fragments, two hammer-stones, two flint scrapers, two unidentified flint fragments, a pot lid, a saddle quern, a stone bead, a worked pebble, a chert fragment, and a flint chip (Renfrew 1979, 86-88). The lithic objects from the stalled cairn at Unstan consist of three flint fragments, a flint knife, and a stone pounder (Clouston 1885, 341-51). The rest of the lithic artefacts dating to the Neolithic included a flint lance-head from the Bookan chambered cairn, a stone axe and hammer-stone from the stone circle at the Ring of Brodgar, and a worked chert fragment and a worked flint fragment from the stone circle at the Stones of Stenness (RCAHMS 1946, 263-64, 299-301; Ritchie 1975-76, 25).

A small number of lithic artefacts could only be dated to either the Neolithic or the Bronze Age. The majority of these were found at the Links of Noltland settlement, including ard points and ard point roughouts, flaked stone bars, a handled club, handled flaked stone implements, skail knives, and several steatite vessels (Forster 2011, 109-115; McLaren 2011, 99-102; Saville 2011, 96-98). A few further lithic artefacts dating to either the Neolithic or the Bronze Age were found at the Stones of Stenness, which consist of four worked flint

fragments and a scraper found in the topsoil; a worked flint fragment and a disc of slate from the east ditch terminal; a chipped pebble from the west stone-hole; and a decorated unknown stone object located in Pit C (Ritchie 1975-76, 25). A flint scraper dating to the Neolithic/Bronze Age was also found at the stalled cairn at Unstan (Clouston 1885, 341-51).

Over 200 lithic artefacts dating to the Bronze Age were recovered from sites across Orkney. The majority of these were recovered from the Links of Noltland, including ard points, cobble tools, flaked stone bars, handled clubs, handled flaked stone implements, hollowed stones, notched-stone tool fragments, pebbles, pot-lids, rubbing stones, saddle querns, skail knives, worked and unworked pumice stones, and worked stone (McLaren 2011, 99-102; Saville 2011, 96-98). Several arrowheads have been discovered dating to the Bronze Age, including five from Unstan stalled cairn, one from the Ring of Brodgar, one from House 10 of the Neolithic Settlement of Barnhouse, one from a barrow at Mousland (Canmore ID 89732), one from a barrow near Setter House, a few from a barrow at Five Hillocks (Canmore ID 2342), and a few from a barrow at Howalee (Canmore ID 2253) (Downes 1994a, 141-54; Middleton 2005, 293-321; RCAHMS 1946). Four steatite urns or vessels were found, three undecorated from a barrow at the Knowes of Yonbell (Canmore ID 1901), the barrow near Newbigging (Canmore ID 2356), and the chambered cairn at Cuween; and one undecorated vessel from a cist found at the burial mound at Plumcake Knowe (Charleson 1902, 733-38; RCAHMS 1946). The remaining objects consist of four rounded stone objects from cists near the Stones of Stenness, a stone axe from Mousland barrow, a hammer-stone from a barrow at Five Hillocks, a perforated stone from a barrow near Setter House, a decorated stone block from the barrow at Plumcake Knowe, a stone object from a barrow at Ellibister (Canmore ID 2242), and a stone pebble from the barrow at Plumcake Knowe (Downes 1994a, 141-54; Marwick 1925, 34-36; RCAHMS 1946).

### *Bone Objects*

Another of the largest groups of artefacts found within sites of Orkney is bone objects, which date to the Neolithic and the Bronze Age. Of the Neolithic bone objects, the majority were uncovered at the Neolithic settlement of Skara Brae during the various excavations. Over 3000 decorated and undecorated bone beads have been recovered from Skara Brae, along with close to one hundred decorated and undecorated bone pins and over one hundred unidentified bone implements (Childe and Patterson 1929, 225-80; Petrie 1867, 201-21; Stewart 1914, 344-55; Traill 1868, 436). Other ornamental bone objects found include several ivory and tusk pendants, tusk and bone ornaments, and perforated boar tusks.

Of the various other bone objects recovered were some bone awls, axe-shaped implements, a dagger or pin, a lance head, bone needles, picks, a scoop, a shovel, a spade, two spatulae, notched bone fragments, two two-pronged bone implements, several whale-bone vessels, a bone dish, twelve celtiform bone implements, and many other unspecified bone implements (Childe and Patterson 1929, 225-80; Petrie 1867, 201-21; Stewart 1914, 344-55). Along with the bone objects found at Skara Brae, a few other bone objects were identified at a Neolithic chambered cairn. During the excavation of the Quanterness chambered cairn, seven bone objects were recovered, including three bone implements, two bone pins, a perforated antler, and a bone bead (Henshall 1979, 88-89).

Over 300 bone objects dated to either the Neolithic or the Bronze Age were found at settlement site at the Links of Noltland. These objects include four bevel-ended tools, 22 blunts, 11 bone awls, 63 bone beads, six bone pins, 112 bone points, eight bone point pins, 21 bone polishers, nine mattocks, eight perforated bones, nine perforated bone objects, five scapula tools, 10 splices/spatulae, 27 splinter points, six whale bone objects, and 14 miscellaneous bone objects (Rice 2011, 90-91).

#### *Metal Objects*

Only four Bronze Age metal objects have been found, four gold discs, from Mound No. 1 at the Knowes of Trotty (Petrie 1857-59, 195).

#### *Amber*

Several amber pieces and beads dating to the Bronze Age have been recovered from three sites on Mainland Orkney. At the Knowes of Trotty, numerous angular shaped amber pieces dating to the Bronze Age were found during an excavation in Mound No. 1 (Petrie 1857-59, 195).

#### *Glass*

One Bronze Age glass bead was recovered from a field south of the mounds at the Five Hillocks in the parish of Holm (RCAHMS 1946, 105-06).

#### *Beads*

Several beads of unidentified material have been found, which date to the Neolithic and the Bronze Age, at two sites on Mainland, Orkney. The majority of these beads, which date to the Neolithic, were found at the Neolithic settlement of Skara Brae (Childe and

Patterson 1929, 225-80; RCAHMS 1946, 258). At the Knowes of Trotty, several beads, possibly amber, were found during the excavation within Mound No. 1, which date to the Bronze Age (Petrie 1857-59, 195).

### *Jet*

Only three jet objects have found from the sites on Orkney, one from a site on Mainland and two from the Isbister chambered cairn. One jet necklace dating to the Bronze Age was recovered from a barrow near Millhouse, Sand Fiold in the parish of Sandwick (Canmore ID 1667) during an excavation of the mound (RCAHMS 1946, 267-68). A jet bead and a pendant were discovered during the excavations at the chambered cairn at Isbister, South Ronaldsay (Henshall 1983, 58).

### *Pigment*

Lumps of red pigment, probably used for ornamentation, were uncovered from two sites on Mainland dating to the Neolithic. Several lumps of red pigment were found during an excavation at the Neolithic settlement of Skara Brae (Petrie 1867, 210; Traill 1868, 433).

### *Human Remains*

Several bone fragments and deposits of human remains have been recovered from various sites on Orkney dating from the Neolithic through the Bronze Age. Over 200 bone deposits dating to the Neolithic have been found, with most of the deposits unearthed from the chambered cairn at Quanterness. A minimum number of 157 bodies were discovered at the Quanterness chambered cairn, consisting of roughly eight-five adults, thirty-six teenagers, twenty-six children, and ten infants (Chesterman 1979, 98-99). At the Unstan stalled cairn, a number of human remains were found within the first compartment, the second compartment, the third compartment, the fourth compartment, and the fifth compartment, along with two burials within the side chamber (Clouston 1885, 341-351). Several human remains were recovered from the Cuween chambered cairn, including fragments from five skulls, some cremated bone fragments, and other bone fragments (Charleson 1902, 733-38). A few degraded human bone fragments were discovered at the Bookan chambered cairn (RCAHMS 1946, 263-64). From the Neolithic settlement of Skara Brae, four deposits of human remains were found during two of the excavations, with two human remains deposits found during the 1860s and two burials from Hut 7, one of which was a relatively whole skeleton of a woman and the other with only fragmentary remains of the skeleton, were found during the 1920s

excavations (Childe 1930a, 58-60; Petrie 1867, 210). Deposits of possible human bones discovered from the bases of the two standing stones at Leafa (Canmore ID 1568) may date to the Neolithic (RCAHMS 1946, 325). At the chambered cairn at Isbister, the minimum number of individuals that recorded is 341, which includes roughly 185 adults, 62 teenagers, 70 children, and 24 infant remains (Chesterman 1983, table 7, 77).

A small number of bone deposits dating to either the Neolithic or the Bronze Age were recovered from two sites. Two deposits of bone fragments were found in the west ditch terminal at the Stones of Stenness (Ritchie 1975-6, 36). At the Links of Noltland, 12 bone deposits including two deposits of child bone fragments and one of cremated bone fragments have been identified (Gooney 2011, 72-74).

Over fifty deposits and fragments of human remains, dating to the Bronze Age were found from various sites. About five deposits of bone fragments and one deposit of cremated bones was recovered from the barrows at Linga Fiold (RCAHMS 1946, 265-267). Three deposits of human remains were uncovered from the cist burials at Blowes Farm, Deerness (Canmore ID 2962), including bone fragments from a burial, calcined bone fragments from a cist, and cremated bone fragments from an urn burial (RCAHMS 1946, 245). Roughly three deposits of bone fragments and two deposits of cremated bones were found from the cists at Isbister (RCAHMS 1946, 83-84). From Upper Groundwater (Canmore ID 1951), a deposit of bone fragments was discovered from Cist No. 4, and a calcined bone fragment deposit was found within Cist No. 3 (RCAHMS 1946, 176-77). A large quantity of bone fragments was recovered from the barrow at Sæver Howe (Farrer 1863, 10-19). Three bone deposits were discovered from three of the cists near the Stones of Stenness, with one deposit found in each of the three cists (Marwick 1925, 34-36). At the barrow of Skae Frue (Canmore ID 1755), three burial deposits, which consist of the remains of an adult male, an adult female, and a child, were discovered during an excavation (RCAHMS 1946, 265). From two cists within Plumcake Knowe, two deposits of calcined bone fragments have been uncovered (RCAHMS 1946, 305-06). Other deposits of bone fragments were found in a cist at Hindatown, Grimeston; from a barrow at the Knowes of Trinnawin (Canmore ID 2033); from Mound No. 1 at the Knowes of Trotty; from a cist near Golf Course in the parish of Stromness; from a barrow near Millhouse, Sand Fiold; from a cist near Vetquoy (Canmore ID 1631); from a cist at Newhouse, Knarston (Canmore ID 2259); from a cist at Syra Dale (Canmore ID 2003); from a barrow at Twatt (Canmore ID 1869); and from a cist at West Puldrite (Canmore ID 2420) (RCAHMS 1946). Deposits of cremated bone and cremated bone fragments were recovered from a barrow at Ravie Hill (Canmore ID 1792); a barrow at the Knowe of

Yonbell; a barrow at the Knowe of Yesko (Canmore ID 2254); a barrow at the Knowe of Crustan (Canmore ID 1790); a cist from the Black Knowe, Blubbersdale; a cist near Howaback (Canmore ID 1624); and a cist at the Mousland barrow (Downes 1994a, 141-54; RCAHMS 1946). Calcined bone fragments were also found in a cist near Skae Frue (RCAHMS 1946, 264-65).

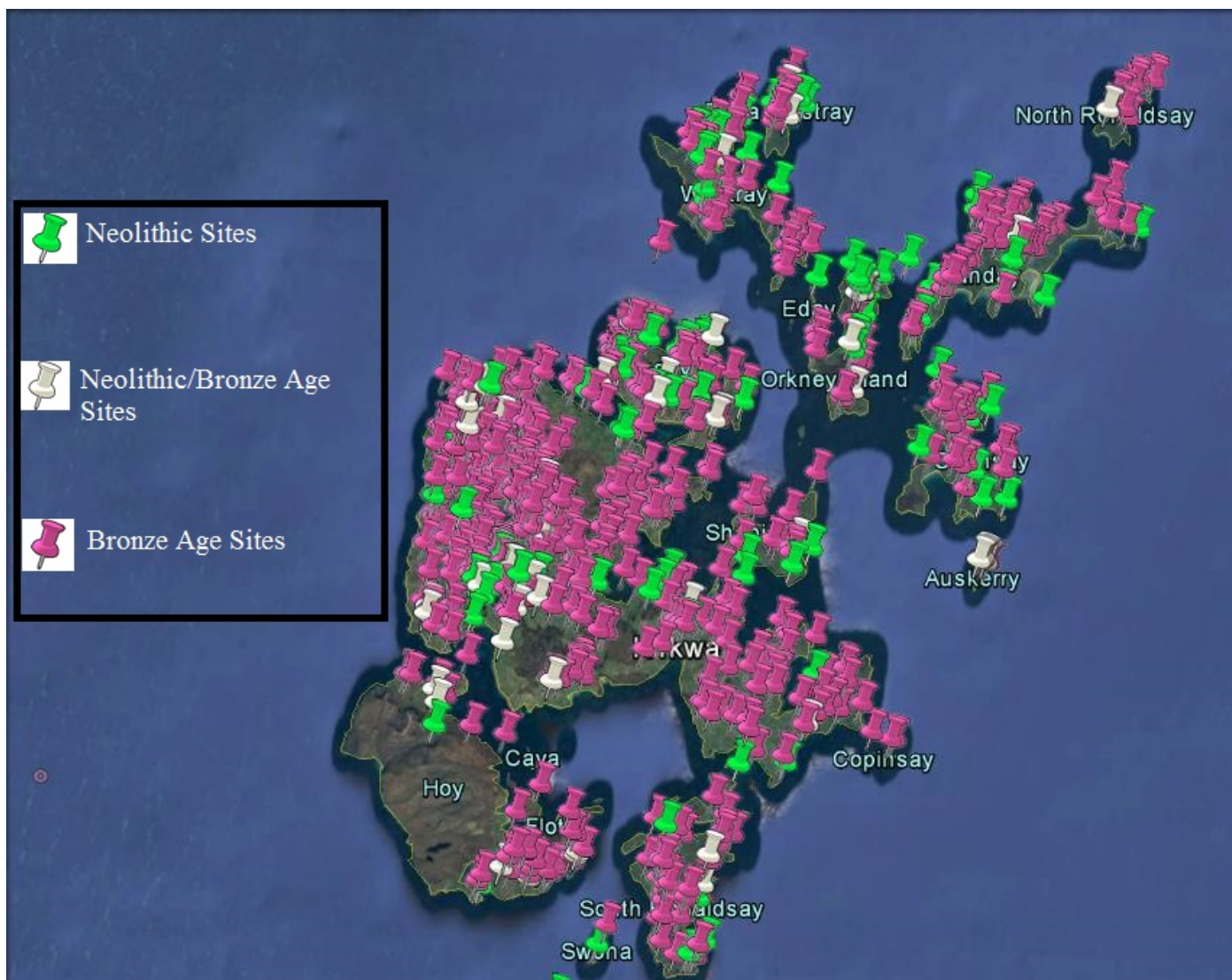
### *Animal Remains*

The largest amount of animal remains were recovered from the Isbister chambered cairn, with more than 1000 fragments of animal bones, consisting of at least 15 to 16 individual cattle remains, 1 dog, 4 to 8 otter, 1 to 3 pigs, 1 to 3 red deer, 1 seal, and 16 to 26 sheep (Barker 1983, 133-137, table 46). Nearly 400 bird bones were also discovered at Isbister with 354 bone fragments belonging to white-tailed eagles (Bramwell 1983, 159). The remaining animal bones that date to the Neolithic were found at three of the settlements, three of the cairns, and the stone circle and henge of the Stones of Stenness. From the Neolithic settlement at Skara Brae, a large amount of animal remains were recovered including, deer antlers, whale-bone fragments, deer bones, fish bones, horse bones, ox bones, ox horns, red deer bones, sheep bones, walrus tusks and teeth, limpet shells, and oyster shells (Childe and Patterson 1929, 225-80; Petrie 1867, 201-21; Stewart 1914, 344-55; Traill 1868, 427-39; Watson 1930; 74-75). At the Neolithic settlement of Barnhouse, 109 animal bones were discovered, with forty-six bones from cows, fifty-nine bones from sheep or goats, and two bones from pigs identified (King 2005, 367-69). Several unidentified animal bone fragments have recently been found at the Neolithic settlement on the Ness of Brodgar (Card 2010, 19). Bone fragments from several animals, including cattle, dog, fox, horse, otter, ox, pig, red deer, and sheep, were recovered during the excavation of the chambered cairn at Quanterness (Clutton-Brock 1979, 116-22). At the Cuween chambered cairn, twenty-four dog skulls were found along with other dog bone fragments, horse bone fragments, ox bone fragments, and bird bone fragments (Charleson 1902, 733-38). From the stalled cairn of Unstan, several bone fragments of sheep, pig, ox, horse, dog, and bird were discovered during an excavation (Clouston 1885, 341-51).

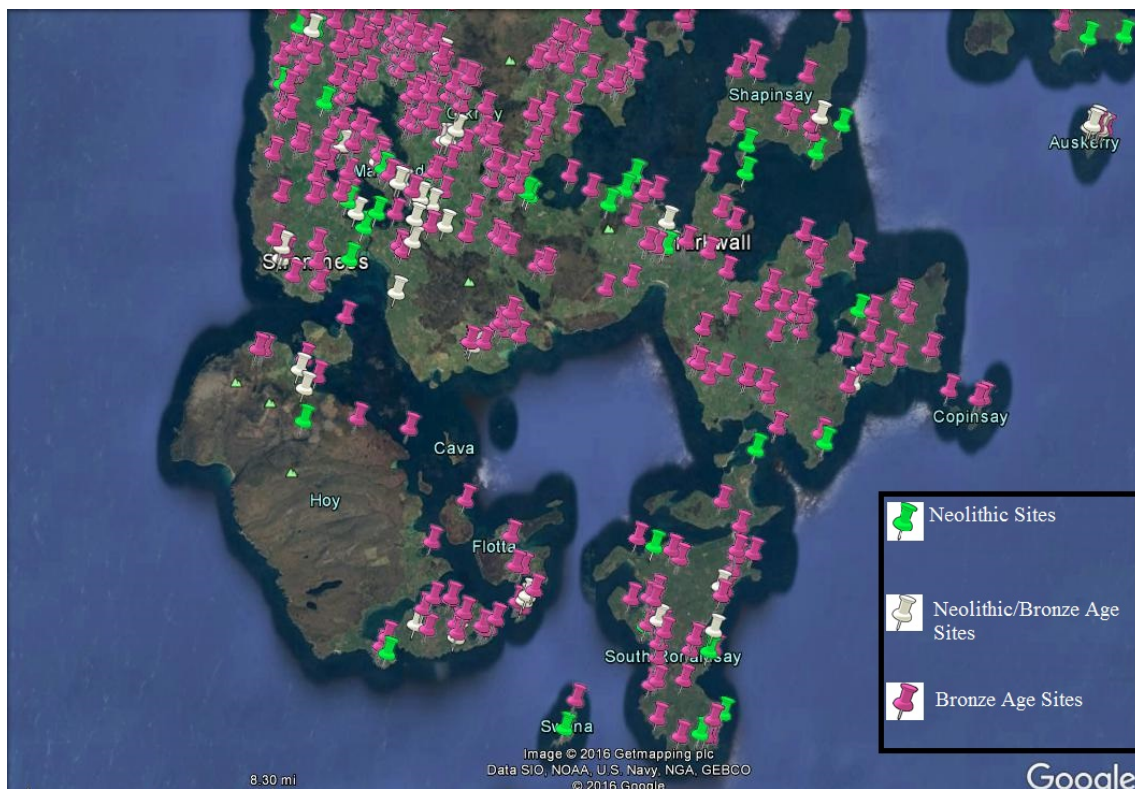
Over forty deposits of animal remains were recovered from the henge and the central feature of the Stones of Stenness, which date from either the Neolithic or the Bronze Age. The animal bones from the henge include ten deposits of wolf or dog bones, five sheep bone deposits, eleven ox bones, the remains of two cremated ungulate, three deposits of cremated sheep or goats, two cremated ox deposits, three unidentified cremated animal deposits, and

two unidentified animal bone fragments (Ritchie 1975-76, 34-37). The animal remains from the central feature consist of two deposits of cremated sheep or goats (Ritchie 1975-76, 34-37). The Links of Noltland settlement sites also contained the remains of animals dating to either the Neolithic or the Bronze Age, which consisted of bird bones, cattle bones, dog bones, otter bones, pig bones, rabbit bones, red-deer bones, sheep bones, vole bones, whale bones and a shark tooth (Fraser 2011, 40-52).

The only animal bone fragments dating to the Bronze Age were found at the burial mound at Syra Dale (RCAHMS 1946, 94).



Map 6: Distribution of Neolithic and Bronze Age Site on the Orkney Islands (Canmore and Google Earth)



Map 7: Distribution of the Neolithic and Bronze Age Sites of Southern Mainland, Hoy, and South Ronaldsay (Canmore and Google Earth)



Map 8: Distribution of the Neolithic and Bronze Age Sites on Northern Hoy, Mainland, Rousay, Shapinsay Stronsay, and Southern Eday (Canmore and Google Earth)



Map 9: Distribution of Neolithic and Bronze Age Sites on Westray, North Ronaldsay, Eday, Stronsay, Rousay, Shapinsay, and Northeastern Mainland (Canmore and Google Earth)

### *Discussion*

Thousands of sites and features, which date from the Neolithic through the Bronze Age, have been recorded on the Orkney Islands, with the largest quantity dating to the Bronze Age. From these sites, several clusters of sacred landscapes can be identified with features dating to the Neolithic and the Bronze Age. The most well-known located on Mainland is centred on the Ring of Brodgar, the Stones of Stenness, and Maes Howe. For the other islands, the majority of the sites, regardless of time period, appear to be located along coastal regions. However, how close they were actually built near the coast is in question as the sea level has changed since the construction of the earliest Neolithic sites (Philips 2003, 376). The sites along the coasts of the islands appear to have some relationship between the islands. On Mainland, sites on the coasts of the western and eastern halves of the island display closer connections with nearby islands than between the two halves. Along the western half, the sites on the northern coastal part of the island probably had close relations with the sites on the southern coast of Rousay. The southern regions of the western half of Mainland show

signs of a connection to the Island of Hoy, such as the Ring of Brodgar, the Stones of Stenness, and Maes Howe; Hoy is visible from each of these sites. Along the eastern half of Mainland, the sites on the northern region probably are related to sites along the coast of Shapinsay, while the southern half most probably has connections to the north portions of South Ronaldsay (Canmore; Maps 6-9).

On Mainland, the sites dating to the Neolithic consist of the smallest group of known features on the island. The main concentration extends from the chambered cairn of Maes Howe and up across the whole of the Brodgar Peninsula running in a northwest/southeast line, which ends at the Neolithic settlement of Skara Brae. Three of the known settlement sites dating to the Neolithic are located along this line of sites, with the villages of Barnhouse and the Ness of Brodgar found within the centre of the concentration of Neolithic features. Several other clusters of Bronze Age sites have been recorded, usually with a few Neolithic sites located in or near the areas. One of these groupings of sites is situated to the north-east of the northern tip of the Loch of Harray, and includes numerous Bronze Age barrows, cairns, cists, and burnt mounds. While another cluster of Bronze Age barrows and cairns is situated near Finstown. Fewer sites have been found east of Kirkwall, the majority of which date to the Bronze Age and are located near the north, south, and eastern coastal regions (Canmore; Maps 6-9).

Only a few sites are found within the central area of Hoy; two clusters of sites one located on the north-western tip opposite from Stromness, Mainland; the other on the south-eastern tip, on South Walla. The north tip includes only Bronze Age sites, which are located along the coast, with one Neolithic standing stone recorded at Whiteglen. On South Walla, features from all time periods have been found, and like the rest of Hoy are mostly located on or near the coastal regions. A small grouping of Bronze Age sites is on the eastern-most tip facing the western coast of South Ronaldsay. One unique site was found on Hoy, The Dwarfie Stane, a stone-cut tomb, which dates presumably to sometime during the Neolithic or just possibly the Bronze Age. This is the only site to be recorded within the interior of Hoy. It contains several deposits of human remains. This is the only funerary monument found on Hoy (Canmore; Maps 6-9).

A similar pattern is found on the islands of Stronsay, Sanday, and North Ronaldsay. Stronsay has only one recorded Neolithic site, the standing stones at Papa Stronsay on the Isle of Auskerry. The remaining sites date to the Bronze Age and are mostly located along the north-eastern coastal areas of the island, with a few outliers on the southern portion at Lamb Head which has a Bronze Age barrow. A small grouping of Bronze Age barrows, with cists,

was found on the Isle of Linga Holm on the north-west side of Stronsay. On Sanday, most of the sites have been found running along the southern coast of the island, with one small grouping of a couple of Neolithic and Bronze Age sites located on Els Ness. On North Ronaldsay, the few sites recorded were situated around the coast of the island. Although it is possible the sites on these three islands were interconnected, as there are so few sites found on them, it is difficult to distinguish any pattern of construction and use of the sites. The sites on Shapinsay are also situated along the coastal regions with no known sites recorded within the centre of the island (Canmore; Maps 6-9).

On Rousay, there are a couple on Neolithic monumental clusters, one of which is located along the southern coast of the island directly across from the north-west coast of Mainland. This cluster consists of several chambered tombs, three of which are stalled cairns, while one is a horned cairn, and the other is a chambered cairn. A standing stone was found within the cluster of the cairns. A second cluster of Neolithic sites is found at the north-eastern portion of the island, where a chambered cairn, a stalled cairn, a standing stone, and the Neolithic Settlement of the Braes of Rinyo were located. The majority of the Bronze Age sites are located on the western and eastern areas of the island grouped into roughly three clusters; two of these groups, which include barrows, cairns, and cists, are found within or near the Neolithic monument concentrations. The third cluster of Bronze Age sites is situated on the western area of the island near the coast (Canmore; Maps 6-9).

Several of the sites on Westray form a cluster of sites dating from the Neolithic through the Bronze Age, located on the northwest portion of the island. This concentration of sites includes Neolithic monuments, such as a stalled cairn and a standing stone and Bronze Age burial mounds and cairns. A few Bronze Age sites have been recorded along the south-western coast of Westray, while on Papa Westray, the few sites were found spread out across the small island (Canmore; Maps 6-9).

Eday is one of the only islands aside from Mainland to have clusters of Neolithic sites found within its centre. Two groups of Neolithic sites were recorded, one in the northern half of the island, consisting of a stalled cairn, a couple of chambered cairns, and a standing stone; while the other grouping contains a chambered cairn, a couple of stalled cairns, and a standing stone. Another cluster of a chambered cairn and a stalled cairn is located on the Calf of Eday (Canmore; Maps 6-9).

The majority of the sites on South Ronaldsay have been found on the southern half of the island, with a cluster of sites located on the western coast. Most of the sites belong to the Bronze Age, including barrows, cairns, cists, and burnt mounds, along with a Neolithic

standing stone. A second grouping of sites consisting of a line of Bronze Age burnt mounds situated to the south of the first concentration of sites runs from the southwest to the northeast (Canmore; Maps 6-9).

For the Neolithic, all of the sites, except for the Neolithic Village sites of Skara Brae, Barnhouse, and the Braes of Rinyo, Rousay, show clear signs of ceremonial use as the primary function. However, within each of these settlements are buildings which appear to have a different purpose other than domestic use. The remaining settlement at the Ness of Brodgar, according to the most recent excavations, was a priestly or ritual settlement, which was walled on two sides and contained a possible temple. All of the Neolithic settlements found on Orkney were located near Neolithic ceremonial monuments, with three located within the centres of clusters of ceremonial sites, Barnhouse and the Ness of Brodgar on Mainland, and the Braes of Rinyo on Rousay. The settlement of Skara Brae is located a short distance away from the main concentration of monuments on Mainland, although it is located at the end of the northwest/southeast line the monuments are situated on (Canmore; Maps 6-9).

The chambered tombs on Orkney were ceremonial and funerary sites that were used as a means of interring the dead. Recent work on the tombs has produced evidence of the particular practices involved in how the Neolithic people treated their dead. For both the stalled cairns and the Maes Howe chambered cairns, the articulated bodies of the dead were directly interred in a tomb and left until the flesh had decayed (Reilly 2003, 153). Once the flesh on the bodies had decayed, the skeletal remains were dismembered and moved (Reilly 2003, 153). For stalled cairns on Rousay, the remains were moved between a series of cairns, beginning at one cairn with the articulated bodies, then moving the disarticulated remains to another cairn, and finally moving specific parts of the skeleton, such as skulls, to particular cairns (Reilly 2003, 143, figure 7). While at the Maes Howe type cairns, the grouping of specific skeletal remains occurred in the individual chambers within a tomb (Reilly 2003, 153).

Of the sites found on Orkney, the largest concentration of features date to the Bronze Age, with sites located on nearly all of the islands. The majority of the sites were used for ceremonial purposes; the only possible domestic sites of the Bronze Age found on any of the islands are the burnt mounds. However, several of the recorded burnt mounds have been destroyed over the years, and of those that still exist, it is not clear if they truly date to the Bronze Age or to even later periods. Out of the 148 burnt mounds found on Orkney, only two sites, Liddle and Beaquoy, have been excavated and conclusively dated to the Bronze

Age (Canmore; Hedges 1974-75).

The majority of the Neolithic and the Bronze Age sites are ceremonial or funerary sites, with only a few domestic settlements dating to the Neolithic and the burnt mounds from the Bronze Age.

However, the environment has not remained static since the Neolithic, the vegetation, climate, and sea levels have change over the millennia for Orkney. As well, agricultural techniques have changed, allowing what once might have been land unsuitable for farming to be used for growing crops. Further, it must be remembered that the known sites dating to the Neolithic and Bronze Age are probably a fraction of those that existed in the past. There are several factors that could have affected which sites survived to the present, including the rising sea levels, ancient and modern ploughing on arable land, as well as the potential for sites to have been robbed of stones and other materials sometime in antiquity, which may have been repurposed and used for the construction of various structures.

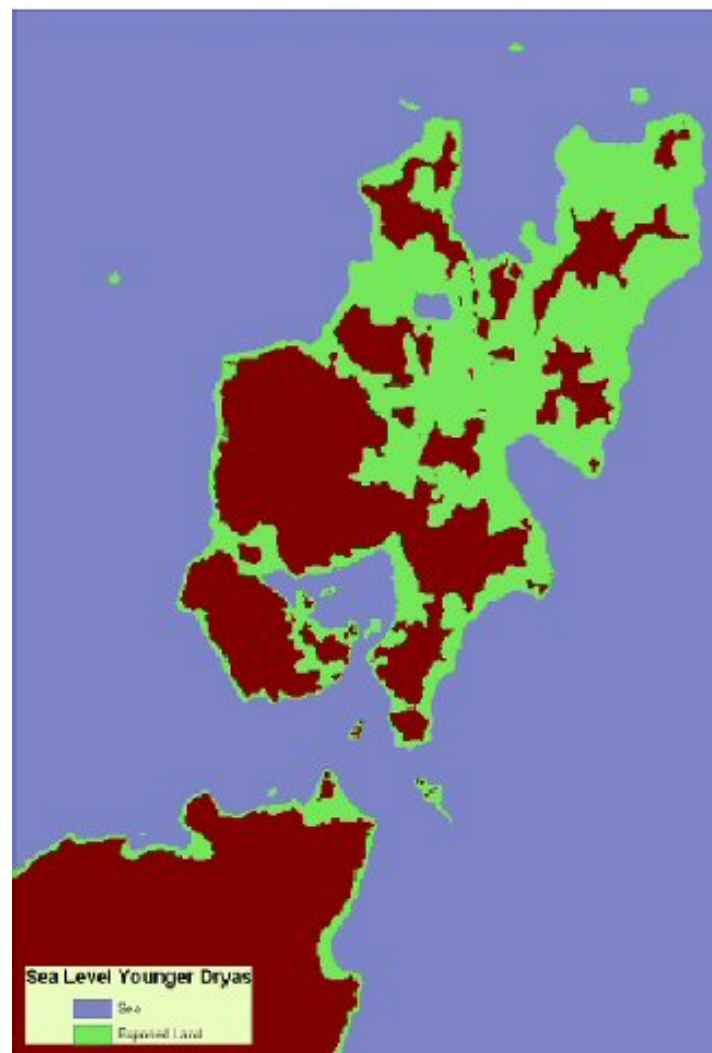


Figure 101: Prehistoric Sea Level Change for Orkney (Rising Tides Project website)

Recent work has been done in the reconstruction of past environments for Orkney. The Rising Tides Project, initiated by Sue Dawson, Caroline Wickham-Jones and Alastair Dawson, examines the changes in sea level on Orkney after the end of the last Ice Age, and the effects these changes had on the landscape and vegetation (Dawson and Wickham-Jones 2006a, 6-8; Dawson and Wickham-Jones 2006b; Wickham-Jones *et al.* n.d.). According to their work, sea level was much lower than in the present, possibly 45 metres less, with the majority of the islands joined together forming one landmass during the Mesolithic with sea-level rise taking place during the Neolithic (Rising Tides Project website). The size and shape of the single island from the end of the ice age through the Early Neolithic is unknown although models have been produced, with the most recent from the Rising Tides Project (Figure 101) (Rising Tides Project website). The Rising Tides Project also examined the changes in vegetation and climate that would have occurred alongside the changes in sea level. The project focused on several locations within Orkney including the Bay of Firth, the Lochs of Stenness and Harray, Echna Loch, Waulkmill Bay, and most recently Sanday (Bates *et al.* 2011; Dawson and Wickham-Jones 2006a, 6-8; Dawson and Wickham-Jones 2006b; Dawson and Wickham-Jones 2009a; Dawson and Wickham-Jones 2009b; Rising Tides Project website; Wickham-Jones *et al.* n.d).

Due to the changing sea level, the landscape and vegetation were quite different during the early Neolithic and Bronze Age than they are today. According to recent research, the climate during the Neolithic was drier and the temperatures somewhat warmer than at present (Bates *et al.* 2011; Dawson and Wickham-Jones 2006a, 6-8; Dawson and Wickham-Jones 2006b; Dawson and Wickham-Jones 2009a; Dawson and Wickham-Jones 2009b; Wickham-Jones *et al.* n.d). Further, the vegetation consisted of low scrub woodland, including birch and hazel, along with some taller trees, such as pine (Bates *et al.* 2011; Dawson and Wickham-Jones 2006a, 6-8; Davidson and Jones 1985, 23; Dawson and Wickham-Jones 2006b; Dawson and Wickham-Jones 2009a; Dawson and Wickham-Jones 2009b; Wickham-Jones *et al.* n.d). The woodland was cleared during the Neolithic; however how much of this was due to climatic changes or human intervention for agricultural purposes is still unknown, although most probably both contributed to the decline in scrub of birch and hazel (Davidson and Jones 1985, 26-27). This makes understanding past land use difficult as well as understanding how this land use would have affected the placement of Neolithic monuments very complicated. For instance, one of the main clusters of Neolithic and Bronze Age sites is located on Mainland, dubbed the Heart of Neolithic Orkney, and includes Neolithic ceremonial sites such as the Stones of Stenness, the Ring of Brodgar, and

Maes Howe, Neolithic settlements such as Barnhouse (Canmore ID 2151, 2152) and the Ness of Brodgar (Canmore ID 348605) site, as well as several Bronze Age burial mounds. Most of the known Neolithic sites are located between two lochs, Loch Harray, a freshwater loch, and Loch Stenness, a saltwater loch. According to the Land Utilisation Survey maps of 1931-35, these sites were situated along areas of arable land and heath and moorland. The Stones of Stenness and the settlement at Barnhouse are located within arable land, while the Ring of Brodgar on the Ness of Brodgar and Maes Howe are both located on heath and moorland. However, according to the Rising Tides Project, Loch Stenness was a freshwater loch during the Early Neolithic, while where the current Loch of Harray sits now was open land (Bates *et al.* 2011; Dawson and Wickham-Jones 2006a, 6-8; Dawson and Wickham-Jones 2006b; Dawson and Wickham-Jones 2009a; Dawson and Wickham-Jones 2009b; Rising Tide Project website; Wickham-Jones *et al.* n.d). This new information creates problems for understanding why the Neolithic people built so many monuments within this area, especially as there may be further monuments or domestic sites located on the bottom of the loch as well as possible features and sites extending into Loch Stenness, potentially related to the Ring of Brodgar and Ness of Brodgar sites and the Stones of Stenness (Bates *et al.* 2011).

Further, based on soil survey maps, along the land bridge between the Loch Harray and Loch Stenness, the soils found on the northern area are of freely and imperfectly draining podzols soils, with pockets of very poorly drained peat alluvium and poorly drained peaty soils (the James Hutton Institute Soil Survey of Scotland maps Orkney Sheet 6). As well, on the southern coastal areas of Loch Harray, where the Stones of Stenness, Maes Howe, and Barnhouse, are located, the soils consist of freely draining soils and some peat (the James Hutton Institute Soil Survey of Scotland maps Orkney Sheet 6, 1976). Also, the soil types found near Skara Brae and along the Bay of Skail consists of freely drained brown calcareous soils, with poorly drained soils to the west and freely and imperfectly draining podzol soils to the south (the James Hutton Institute Soil Survey of Scotland maps Orkney Sheet 6, 1976). The soils found in this area would have been ideal for farming, which underlines the fact that the Neolithic communities were constructing both domestic and ceremonial sites on arable land.

On Mainland, the majority of the Neolithic sites were located on or near freely draining soils, which would have been ideal for agricultural use, while areas on the western half of the island mostly avoided during the Neolithic but used during the Bronze Age appear to be a mixture of freely draining soils, poorly drained soils, and blanket peat, which would not have been good for farming (the James Hutton Institute Soil Survey of Scotland maps

Orkney Sheet 6, 1976). This pattern of site placement based on soil types appears to follow for the whole of the Orkney Islands, with Neolithic sites of either domestic or ceremonial nature found on or near freely or imperfectly draining soils which would have been good for farming, while the Bronze Age sites appear to have been built across freely, poorly drained, and blanket peat soils (the James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7, 1976).

During the Bronze Age, clusters of burial mounds and cist burials have been found within or near groups of Neolithic sites, such as at the Heart of Neolithic Orkney sites. According to the Land Utilization Survey Maps of 1931-35, on Mainland, a large portion of the Bronze Age sites are located on good arable land or on the boundary between arable land and grazing land, however, as the vegetation was very probably not the same then as today, how much of the areas where these sites were located would have actually been good quality farming land is unknown. There appeared to be a rise in peat formation during this period as well as an apparent reduction in the intensity of farming during the Early Bronze Age, however it is still not clearly understood what led to the peat formation (Davidson and Jones, 1985, 27-28).

As well as several burial mounds built along the strip of land dividing the Loch Harray and the Loch Stenness, a number of burial mounds and cists burials appear to have been constructed around the perimeter of Loch Harray. As the water rose covering the land during the Neolithic, it is probable the land surrounding the loch grew in importance, not only due to the possible good farming and/or grazing land that surrounded the loch, but also due to the loss of past domestic and ceremonial monuments to the loch. The possibility that during the Bronze Age stories were told about the flooding of the land covering or destroying the homes and burial sites of their ancestors may have led the Bronze Age societies to view Loch Harray and the remaining Neolithic sites around the loch as powerful and sacred.

Looking beyond the central sites on Mainland, other insights can be seen from examining land use maps in trying to understand the placement of Neolithic ceremonial sites. A smaller secondary cluster of Neolithic sites is located on Mainland on the eastern half of the island, running from the Bay of Firth to Inganess Bay, with the northern most site located on the Head of Work. All of these sites appear to have been built on good farming land, skipping over the rough grazing land located between the sites, based on the Land Utilisation Survey Maps of 1931-35. This group of sites were most probably related to the Neolithic standing stone sites located on Shapinsay, which would have probably been connected to Mainland during this time. As with the Neolithic sites discussed on Mainland, the two

standing stones were located on well drained, easily tillable land, which appears to cover most of the island according to the Land Utilisation Survey Maps 1931-35. As with other areas across Orkney, the water levels between Shapinsay and Mainland were probably lower throughout the Early Neolithic, rising closer to current levels by the end of the period (Rising Tides Project website). During the Bronze Age many of the sites located in the area followed a similar pattern to other areas across Orkney, with Bronze Age sites being constructed near the Neolithic sites. However, unlike the Neolithic sites, some of the Bronze Age sites were built on areas marked as rough grazing land (Land Utilisation Survey Maps 1931-35).

On the Isle of Rousay, nearly all of the Neolithic sites have been found along the modern coast line with a few located slightly further inland on the northern side of the island. According to the Land Utilization Survey Maps of 1931-35 and maps accessed through the HLAmap website, all of the sites were located within or on the border of good arable land, which runs along the coastal regions of the southern half of the island as well as a large area beginning on the western coast at Saviskaill Bay on the north-western side of the island and extending further inland, while the rest of the island appears to consist of rough grazing land. Along the southern coast of the island, there is a line of stalled cairns, including the Knowe of Yarso (Canmore ID 2623), which appear to have been used in conjunction with the each other. The skeletal remains of individuals seeming to have been moved between the series of cairns, beginning at one cairn with the articulated bodies, then moving the disarticulated remains to another cairn, and finally moving specific parts of the skeleton, such as skulls, to particular cairns (Reilly 2003, 143, figure 7). There is a possible connection between Rousay and the north-western part of Mainland as one of the few possible stalled cairns found so far on Mainland, Burgar Cairn (Canmore ID 2213), is located on the coast directly across from the line of stalled cairns on Rousay's coast. Crossing the Eynhallow Sound would not have been impossible for people in the Neolithic, as they were almost certainly well versed in boating techniques in difficult waters. It is possible the two islands were still connected by land while the Neolithic monuments were being built and used. However, it is not yet known exactly when during the Neolithic the water levels rose separating Rousay from Mainland, but it can be assumed that the creation of the Eynhallow Sound occurred within a similar period as the creation of Loch Harray. It is even possible further monuments and domestic structures are located at the bottom of the sound, offering equivalence to the only known Neolithic settlement, the Braes of Rinyo, located along the north-eastern side of Rousay.

Although most of the Neolithic sites, which have been found, appear to have been built on or near good arable land, several ceremonial sites seem to be located on rough

grazing land according to land use maps (HLAmap website; Land Utilisation Maps of 1931-35). Such sites includes the Neolithic cairns and the standing stones found on Eday and the Calf of Eday, the standing stones and the rock-cut tomb, the Dwarfie Stane (Canmore ID 1597), on Hoy, and the stone settings at Markstone Moss, Holm, on Mainland. It is possible the environment was sufficiently different from the present that these sites had been actually placed on arable land, however, the likelihood of that is slim for all but the standing stones at Markstone Moss, which according to the Land Utilisation Maps of 1931-35 is located on rough grazing land, while the maps of the HLAmap website show the site on farming land, which could be improved grazing.

Hoy, which only has a few Neolithic sites, two of which are the standing stones found on the connecting island of South Walls, was probably covered in woodland, and which currently still persists on the island in the form of rowan, birch, hazel, aspen, and willow (Davidson and Jones 1985, 16). It may well be that such a source of timber in the Orcadian circumstance was a resource controlled and defined. Further, the soil types found on Hoy consist of large areas of blanket peat and poorly drained soils, with pockets of freely draining soils along the southern coast and within the central portion of the island (the James Hutton Institute Soil Survey of Scotland maps Orkney Sheet 7, 1976). This would suggest the soils across most of Hoy would not have been ideal for agriculture. Along with the difference in vegetation found on Hoy from the rest of Orkney, Hoy also has a distinctive geology, Upper Old Red Sandstone, and topography, a rugged hilly landscape. Despite the lack of sites, the island itself appears to have held a great deal of significance, possible because of the differences between it and the rest of Orkney, as at many of the sites within the Loch Harray and Loch Stenness cluster there is a sightline to the hills of Hoy. One of the reasons Hoy might have held some importance may be the two veins of haematite, the only source found within Orkney, located on the northern coast of the island (Clarke and Sharples 1985, 81). The rarity of this raw material along with the dramatic hills, and woodland vegetation possibly made this island off limits for settlements and burial chambers, except for the Dwarfie Stane, a remarkable rock-tomb, located within the central part of the northern half of the island. The decision to carve the tomb, which is clearly exceptional in its own right, out of the rocks of the island rather than constructing it out of sandstone slabs may emphasise the uniqueness and separateness of Hoy from the rest of Orkney. It may also have been used as a means staking a claim on the only haematite veins located on Orkney. Haematite probably had several important uses/functions for Neolithic and Bronze Age communities, such as being used as a means of creating fire, by striking a piece with flint, and as a source for

creating pigment used to decorated objects, structures, or even bodies. The few Bronze Age sites found on Hoy appear to avoid the areas where Neolithic sites have been found, especially near the Dwarfie Stane, possibly as a means of both distancing the Bronze Age communities from the Neolithic ones and as a means of claiming the material and spiritual power of Hoy for themselves. On Hoy itself, a Bronze Age burial mound and cist burial were located on the northern coast near Linksness, on the small section of good arable land found on the island (Land Utilisation Survey Maps 1931-35; RCHAMS 1946, 112). The remaining Bronze Age sites, a burial mound and a burnt mound, were found on South Walls also on good arable land.

The placement of the Neolithic sites on Eday would appear to reflect different imperatives to those on Hoy. All of the known Neolithic sites are located on rough grazing land with two clusters of Neolithic chambered and stalled cairns and standing stones, one in the northern half of the island, and one in the centre of the southern half, and a chambered and a stalled cairn on the Calf of Eday located on the coastal region directly across from Eday. The findings on Eday raise two questions; why were all of these sites constructed on what is now rough grazing land, not arable land, or has settlement on current arable been destroyed and only survives in the grazings, and was there something, such as the availability of certain resources or spiritual power, that made Eday different, unique, or special like Hoy. Today Eday is located in a central position between the northern islands of Orkney, however during the Neolithic Eday was probably connected to all of the Orkney Islands and joined together the north-western islands of Westray and Papa Westray to the north-eastern islands of Sanday and North Ronaldsay. This bridging between the two northern sections of the landmass may have made the area now known as Eday an important transportation route during the Neolithic. This could have led to the placement of Neolithic monumental sites as both markers of along the route and as a means of laying claim to the land. As the waters flooded the land forming the islands, the sites which survived the rising water could have developed further significance and meaning beyond marking a territory. Very few Bronze Age sites have been found on Eday, other than a burial mound located in the northern half of the island, three burnt mounds on each of the southern half's coastal regions, and a cist burial on the Calf of Eday, possibly because by this time the island was viewed by the Bronze Age communities as too small and insular to support a community of any size. Only the cist burial was found near any Neolithic sites, with the burial mound and burnt mounds built away from the past ceremonial sites. The burnt mounds and burial mound were also located on or right on the border of what appears to be good arable land, further differentiating them

from the Neolithic sites.

Several of the islands with more inhospitable soils or poorly drained soils and peat soils, such as South Ronaldsay, Stronsay, Eday, and North Ronaldsay, have far fewer if any Neolithic sites than the islands with soils which have freely drained soils, including Sanday and Mainland (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7, 1976). The Neolithic sites found on the islands, with large areas of poor soils, of either a domestic or a ceremonial/burial nature are nearly always located on or near freely draining soils (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7, 1976). Despite the fact these islands were formed during the Later Neolithic with the rising sea level, the pattern of situating the majority of Neolithic sites which have been found on good freely draining soils, which would have been ideal for agriculture, appears across the whole of the Orkney Islands and can be assumed to have been deliberately placed on these soils within the landscape (Rising Tides Project website; the James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7, 1976). This is countered by the placement of Bronze Age sites across Orkney, which appear to be located on freely draining, poorly draining, and peat soils, with many of those found on freely draining soils constructed near or within Neolithic sites, while those on poorly draining or peat soils do not appear to be associated with any Neolithic site (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7, 1976).

During the Bronze Age, similar to the Mainland sites several burial mounds and cist burials were constructed along the same areas as the Neolithic cairns and standing stones on Rousay. However, a few sites were located on the western half of the island away from any of the sites dating to the Neolithic. These sites included a couple of burnt mounds, burial mounds, and cist burials. What is interesting about the location of these sites, according to the Land Utilisation Survey Maps of 1931-35 and the maps on HLAmap website, is not just that they appear to have been purposely set apart from the Neolithic sites, but also that they are located on rough grazing land. It is possible the land was arable during the Bronze Age and overtime degraded in the usability for agriculture through overuse, a change in climate or both.

Across the whole of Orkney several Bronze Age sites, both domestic and mortuary, have been found to have been constructed on land classified as rough grazing land, which would be less suitable for agriculture. This raises several questions such as why the Bronze Age people would build both domestic and burial sites on land that appears to be unsuitable to farming, what factors could have led to the survival of these sites versus those potentially

built on arable land, and why did many of the Neolithic sites located on arable land survive and not those from the Bronze Age. Unfortunately, very little is actually known about Bronze Age domestic life, as burnt mounds and possible field systems are the only sites currently found dating to this period (Øvrevik 1985, 146-48). This makes understanding the placement of Bronze Age sites difficult, as there are probably a large number of sites dating to this period destroyed by ancient and modern ploughing, modern developments, or erosion. It is possible that climate and environmental deterioration, the formation of peat and heather, forced the Bronze Age people to change settlement and agricultural practices, possibly including an increase in grazing (Davidson and Jones 1985, 32). It is also possible the location of sites away from the Neolithic ceremonial sites, such as the stalled cairns on Rousay, was a means of disassociating a community from past groups or even from other Bronze Age communities on Orkney.

The placement of Neolithic ceremonial sites within or on the edge of good arable land may have been an expression of power within a community, such as laying a claim on the land for a particular community, or as means of establishing and legitimising a leader or group of leaders for a community. This expression of power would use ceremonies, rituals, and religion to claim, reinforce, or redefine the authority within a community of an individual or group. For Orkney, many of the ceremonial monuments dating to the Neolithic are also located close to the domestic sites found so far, with two of the settlement sites located within the central cluster of ceremonial monuments on Orkney. The close relationship between the placement of ceremonial and domestic sites probably reflects the ties between the ceremonial and domestic spheres within the community and how they draw from each other and reinforce mutually their respective powers.

However, as previously stated, the actual number of Neolithic sites is not known due to the rise in sea levels, so it is impossible to know for sure whether there really was a rise in constructing ceremonial sites during the Bronze Age, or whether the communities were replacing the monuments lost to the sea on the land which remained.

## Chapter 6: Cursus and Henge Monuments Discussion

In order to assess the further application of the land use, soil, and topographical maps used to explore possible reasons why the Neolithic and Bronze Age communities placed ceremonial monuments where they did within the case study areas explored in Chapter 5, an examination of the location of cursus monuments and henge monuments was conducted in relation to the topographical feature, land use capability and soil characteristics provided by the Ordnance Survey maps, HLA maps, the Land Utilisation Survey Maps 1931-35, and The James Hutton Institute Soil Survey of Scotland maps.

Cursus monuments located within Scotland share similarities and differences with those found within the rest of Britain. In England and Wales cursus monuments occur as bank and ditch-defined enclosures and as so-called 'bank barrows' much attenuated long mounds with parallel ditches along their sides linear earthworks which vary in size, while in Scotland there are two types of cursus monuments, ditch-defined and pit-defined, with 'bank barrows' as well (Brophy 1999, 119; Harding and Barclay 1999, 2). The ditch-defined sites make-up only a small portion of the cursus monuments located in Scotland found largely within south-western and eastern Scotland (Brophy 1999, 122). The pit-defined sites, which have only been found within Scotland and are located across the majority of the known distribution of cursus monuments except for Lothian and Ayrshire (Brophy 1999, 122-27). 'Bank barrows', which are usually narrower than cursus monuments, are found distributed across the known areas where cursus monuments have been identified (Brophy 1999, 123-124).

Nearly all of the cursus monuments known, along with many of the henge monuments, have been identified by aerial photography. Although aerial photography is able to identify various potential monuments based on crop marks, soil marks, unenhanced positive features, upstanding features which are visible under normal lighting from the air, and enhanced positive feature, features which require higher or enhanced resolution in order to be visible, there are limitations to its use (Darvill 1996, 4-10). Thick vegetation cover, such as woodland, bracken, and scrub, can obscure potential features, as well as deep sediments, including sand dunes, marine silts, alluvial deposits, peat, colluvial accumulations, and landslips (Darvill 1996, 9). Of course in built up areas it is near impossible to locate any prehistoric sites; as well, aerial photography is difficult in mountainous regions, such as the Highlands (Darvill 1996, 9). Aerial photography generally works best on relatively flat cleared land. Due to these limitations, the known distribution of cursus and henge

monuments is biased towards areas of the landscape which have been most suitable to the use of this technique. There is the possibility that more of these monuments exist outwith the current distribution, however until further research is carried out these potential sites will remain unknown.

### *Cursus Monuments*

The various cursus monuments appear to be grouped into a few clusters across the landscape, with the largest grouping appearing on the eastern areas of Scotland from a pit-defined cursus at Bannockburn West (Canmore ID 47257) in Stirlingshire, running through Perthshire, Fife, Angus and ending in Aberdeenshire with the ditch-defined cursus at Myreton. Within this grouping is the cursus monument and ‘bank barrow’ found at the Cleaven Dyke, Tayside (Canmore ID 73146) (Figure 102) (Barclay and Maxwell, 1998). The next largest grouping of cursus monuments is located centrally in Dumfries and Galloway with an outlier site along the eastern border of the county of a possible cursus at Cadgill (Canmore ID 67561) and also the ‘bank barrow’ at Raeburnfoot as well as a small cluster of sites along the western coastal region, including the pit-defined cursus monument at Dunragit (Thomas 2015). A further cluster occurs in East Lothian, with a small grouping located near East Linton, containing at least three cursus monuments identified, a possible cursus located at East Linton (Canmore ID 312225), a site at Drylawhill (Canmore ID 56270), and a cursus at Preston Mains (Canmore ID 56228). At least two other sites are located in East Lothian, a cursus at Westfield (Canmore ID 53692) on the far western half of the county, and a possible cursus at Thurston Mains (Canmore ID 346123) on the eastern side. A few sites have been found in relative isolation from the main groupings, such as the cursus at Drybridge (Canmore ID 85830) located in North Ayrshire, the pit-defined cursus monument at Upper Largie, and the possible cursus site found at Sanday, Geramount (Canmore ID 84066) in the Orkney Islands. However, as this site is far outside the main distribution of the other cursus monuments, lying in an area that includes ‘treb dykes’ as a feature, and only been identified via aerial photography, it is very unlikely that this site is actually has a cursus monument.

The cluster within Dumfries and Galloway appears to be located within or near arable land with pockets of meadowland and forests interspersed in the landscape (HLAmap website; Land Utilisation Survey Maps 1931-35). As well, for the smaller grouping on the western half of Dumfries and Galloway, the two pit-defined cursus monuments at Kirmabreck (Canmore ID 298089 and Canmore ID 299521) appear to be located on arable land, which consist of several soil types including imperfectly drained brown forest soils, two

types of freely drained brown forest soils and pockets of poorly drained non-calcareous gleys soils (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Kirkmaiden, Whithorn, Stranraer and Wigtown Sheets 1, 2, 3, 4 and Part 7, 1971). The two remaining cursus monuments in the cluster both appear to be located on arable land, with areas of meadowland and forests close by (HLAmap website; Land Utilisation Survey Maps 1931-35). The site at Dunragit is situated on arable land with a large area of meadowland and forests to the northwest (HLAmap website; Land Utilisation Survey Maps 1931-35). The soil consists of freely drained brown forest soils, and a soil complex comprising of mineral soils (The James Hutton Institute Soil Survey of Scotland maps Kirkmaiden, Whithorn, Stranraer and Wigtown Sheets 1, 2, 3, 4 and Part 7, 1971). The remaining site, a pit-defined cursus at Fox Plantation (Canmore ID 79031), is located on arable land next to meadowland, with the soil consisting of freely drained brown forest soils, poorly drained non-calcareous gleys, which are peaty or mineral soils that have formed through intermittent or permanent waterlogging, and to the south of the site alluvium soils (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Kirkmaiden, Whithorn, Stranraer and Wigtown Sheets 1, 2, 3, 4 and Part 7, 1971; Muir 1956, 37).



Figure 102: Aerial Photo of the Crop Marks and Remains of the Cleaven Dyke Cursus Monument taken from the East-Southeast (Canmore)

The small grouping of cursus monuments near East Linton, of East Linton,

Drylawhill, and Preston Mains, are all located on arable land with pockets of meadowland found near each site (HLAmap website; Land Utilisation Survey Maps 1931-35). The soil at the site of East Linton consists of imperfectly drained brown calcareous and brown forest soils, which has rocks near the surface of the soil, with an area of freely drained brown calcareous and brown forest soils to the east (The James Hutton Institute Soil Survey of Scotland maps Haddington, Eyemouth and North Berwick Sheets 33, 34 and Part 4, 1966). Of the remaining recorded cursus monuments found in East Lothian, the site at Thurston Mains is located on arable land with rough grazing land to the south running along the Thurston Mains Burn, while the soil consists of freely drained brown calcareous and brown forest soils (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Haddington, Eyemouth and North Berwick Sheets 33, 34 and Part 4, 1966). The site at Westfield, East Lothian, is also located on arable land with a soil composition of freely drained brown calcareous and brown forest soils (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Haddington, Eyemouth and North Berwick Sheets 33, 34 and Part 4, 1966).

At least two cursus monuments have been identified in South Lanarkshire, including a pit-defined cursus at West Lindsaylands (Canmore ID 169737) and a cursus at Broomy Law; Black Mount (Canmore ID 73422). The site at West Lindsayland is located on arable land with meadowland to the west and rough grazing to the north, with a soil composition of undifferentiated peaty alluvium soils, with imperfectly drained non-calcareous gleys soils to the north, imperfectly drained brown forest soils to the south and east, and freely drained brown forest soils to the northeast and south (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Peebles and Edinburgh Sheet 24 and Part 32, 1975). Unlike the majority of the cursus monuments identified in Scotland, the site at Broomy Law in South Lanarkshire is located on a hill with rough grazing land and soil consisting of two soil complexes a mount soil complex of unnamed mineral soils and Broomy Law soil complex of unnamed soils with peaty and more humic surface horizons (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Peebles and Edinburgh Sheet 24 and Part 32, 1975).

Of the three outliers, the cursus site at Drybridge, is located within a pocket of arable land surrounded by meadowland and small forested areas with the soil consisting of freely drained brown forest soils, with alluvium soils to the north and east of the site (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of

Scotland maps Kilmarnock Sheet 22 and Part 2, 1956). The pit-defined cursus monument found at Upper Largie is also found on arable land with meadowland, forested areas, and rough grazing land enclosing the area (HLAmap website; Land Utilisation Survey Maps 1931-35). The third outlier site, a possible cursus found on the Orkney Islands, at Geramount, is located in an area of arable and marginal land with a soil composition of freely and imperfectly drained podzols, which are formed in wooded or heath-covered land and characterised by an organic layer overlaying a greyish mineral layer (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Orkney Sheet 5, 1976, <http://www.macaulay.ac.uk/explorescotland/podzols.html>).



<https://canmore.org.uk/collection/373310>

Figure 103: Aerial Photo of Holywood South Cursus Monument (Canmore)

The sites within the largest grouping cover a large area of eastern Scotland and extend across a varying landscape. A large number of cursus monuments have been found in Perth and Kinross as well as in Angus. The sites in Perth and Kinross are spread across the southern and central sections of the county, with the northernmost site, a pit-defined cursus monument at Castle Menzies, Home Farm (Canmore ID 25660). This site was located within a valley on arable land with meadowland, forested areas, and rough grazing land found close to the site (HLAmap website; Land Utilisation Survey Maps 1931-35). The southernmost, a possible cursus at Burleigh, located to the north of Loch Leven, was built on arable and marginal land, with a soil composition of freely drained humus iron podzols and iron podzols (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Kinross, Elie and Edinburgh Sheets 40 and Part 41 and 32, 1975). Within Perth and Kinross is also the cursus-style monument found at the Cleaven Dyke, the

majority of the cursus is located within a woodland area with the southern-eastern portion extending into the arable and marginal land which surrounds the forested area (HLAmap website; Land Utilisation Survey Maps 1931-35). The soil the site was built on consists of freely drained podzols (The James Hutton Institute Soil Survey of Scotland maps Perth and Arbroath Sheets 48 and 49, 1968).

In Angus, the cursus monuments appear to be grouped into small clusters of sites, ranging from two to three sites. One such cluster consists of the pit-defined cursus at Douglasmuir (Canmore ID 118993), the pit-defined cursus at Balneaves Cottage (Canmore ID 35460), and pit-defined cursus at Milton (Canmore ID 34874). The site at Douglasmuir is located on arable and marginal land, with forested areas and rough grazing located to the north and a soil composition of freely drained iron podzols (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Forfar Sheet 57 and Sheet 57a, 1964). The site at Balneaves Cottage was built on arable and marginal land, with a small forested area located to the south, as well as the soil in the area consists of freely drained iron podzols (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Forfar Sheet 57 and Sheet 57a, 1964). The third site in this grouping, the cursus at Milton, was also built on arable land, which contains small pockets of meadowland which is less arable within the area, and a soil make-up of freely drained iron podzols, imperfectly drained brown forest soils to the north, and alluvium soils to the south (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Forfar Sheet 57 and Sheet 57a, 1964)

Several cursus monuments have been found within Aberdeenshire, including two along the coastal region of the county. One of these sites is the pit-defined cursus at Purlieknowe (Canmore ID 77264), which is located on arable land with meadowland to the west of the site and has a soil composition of freely drained iron podzols, which would mean the land may have been as usable for agriculture (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Banchory and Stonehaven Sheet 66 and Sheet 67, 1966). The other site, a possible cursus found at Fetteresso (Canmore ID 166209), is not located on arable land, but on meadowland, with arable land and forested land surrounding the area (HLAmap website; Land Utilisation Survey Maps 1931-35). The soil consisted of freely drained iron podzols and imperfectly drained brown forest soils (The James Hutton Institute Soil Survey of Scotland maps Banchory and Stonehaven Sheet 66 and Sheet 67, 1966).

### *Henge Monuments*

Although henges were, where chronologically in a detectable relationship, built after the cursus monuments were constructed, possibly even after the cursus monuments fell into disuse, many of the henges appear to be similarly located within the landscape as cursus monuments, with many henges located near waterways. Along the southern and eastern regions of Scotland henges appear to be located near cursus monuments, however along the northern and north-western regions, only henges appear to have been constructed.

Within the central clusters of cursus monuments, a large number of henges have been identified. Several of these henges appear to have been purposely constructed near cursus sites, some built right next to a cursus, while many others were located some distance away from the earlier sites. At least two building traditions seem to be occurring with the placement of henges, one of avoidance and one of connection. The use of either was probably dependent on local factors, such as access to good arable soil, waterways, and possibly how much of a connection was shared or was desired between the earlier communities who built the cursus monuments and those who constructed the henges.



Figure 104: Aerial Photo of the Henge Site of Achilty taken from the East-Northeast (Canmore)

The henges appear to be grouped into to several clusters; a grouping of eleven sites are located near Inverness, with the site of Quarry Wood (Canmore ID 16231) located near Elgin in Moray at the farthest east of the cluster and the henge site of Achilty (Canmore ID

12470) (Figure 104) on the western edge of the cluster in the Highlands. Quarry Wood was constructed near the River Lossie on heath and moorland, which was surrounded by forests, with soils of humus-iron podzols, some gleys, and peaty podzols (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Northern Scotland Sheet 3, 1982). Achilty was built just to the east of Loch Achilty on possible arable land, however with soils consisting of peaty podzols, peat, peaty gleys, Ranners-peaty podzols, and some humus-iron podzols the land may not have been very good for agriculture (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Northern Scotland Sheet 3, 1982). Another site in this cluster, Conon Bridge (Canmore ID 12781), which is located to the east of the River Conon, was constructed on possible arable land with soils consisting of alluvium soils, humus-iron podzols, regosols, and some gleys, which may have made the land more suitable for grazing than farming (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Northern Scotland Sheet 3, 1982).

Two smaller clusters of sites are located to the north, the first consists of a small grouping of four henges, including the site of Baddhu (Canmore ID 83950) near the southern tip of Loch Shin, the henge at Loch Migdale (Canmore ID 14025) located along the northern shore of the loch, the site of Troboll Farm (Canmore ID 14783) located to the north of Little Torboll, and the site of Ascoile (Canmore ID 6630) located along the northern shore of the River Brora and to the west of Loch Brora. The henge site of Baddhu was constructed on rough grazing/heath and moorland with the soil consisting of peaty podzols, peat, and some peaty gleys (HLAmap website; Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Northern Scotland Sheet 3, 1982). At Loch Migdale, the henge was also built on heath and moorland and had a soil composition of brown forest soils, humus-iron podzols, some peaty gleys, and peat (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Northern Scotland Sheet 3, 1982). The site at Troboll Farm was constructed near the river Abhainn an t-Sratha Charnaig and the River Fleet on heath and moorland with alluvium soils (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Northern Scotland Sheet 3, 1982). The final site of Ascoile was located as well on rough grazing/heath moorland with alluvium soils (HLAmap website; Land Utilisation Survey Maps 1931-35; the James Hutton Institute Soil Survey of Scotland maps Northern Scotland Sheet 3, 1982).

The second cluster comprises two sites in Caithness, the henge site at Pullyhour (Canmore ID 8366) located along the eastern shore of the River Thurso and south of

Olgrinmore, and the second henge site of Nipster (Canmore ID 8747) situated to the north of Loch Watten (Bradley 2011, 118-141). The henge at Pullyhour was built on a mixture of arable land and meadowland with alluvium soils (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Northern Scotland Sheet 3, 1982). The site of Nipster was constructed on what is now arable land with soils consisting of non-calcareous gleys, some peaty gleys, and brown forest soils (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Northern Scotland Sheet 3, 1982).

These northern clusters, along with the grouping of henge sites on Mainland Orkney; a cluster of four sites in the Borders, including Mellerstain Mill (Canmore ID 57172), Lewenshope (Canmore ID 147646), Overhowden (Canmore ID 54577), and Marygold (Canmore ID 90603) a grouping of three sites in South Ayrshire, Broadshean (Canmore ID 85832), Culzean Castle Policies, High Whiteside (Canmore ID 128026), and Lindston (Canmore ID 41584), and three individual sites, the site at Portree, Home Farm (Canmore ID 296093) on the Isle of Skye, the site of Shiel Bridge (Canmore ID 12002) located on the southern shore of Loch Duich in the north-western Highlands, and the site at Marchfield in Argyll and Bute, are not associated with any cursus monuments. The henge at Marchfield was built near the Chiscan Water on arable land with alluvium soils (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps South West Scotland Sheet 6, 1981). Of the group of henge sites in the Borders, the site at Mellerstain Mill is located near Eden Water on arable land with soil consisting of freely drained brown forest soils (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Kelso Sheet 25, 1959). The site at Lewenshope, which is situated to the north of Yarrow Water, was built on arable land with alluvium soils (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Kelso Sheet 25, 1959). The henge at Overhowden was also located on arable land with a soil composition of freely drained brown forest soils (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Kelso Sheet 25, 1959). At Marygold, the henge is located as well on arable land with the soil consisting of freely drained brown forest soils (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Haddington, Eyemouth and North Berwick Sheets 33, 34 and Part 41, 1966).

The remaining groupings of henge sites are located near the clusters of cursus monuments, including a collection of seven sites in Dumfries and Galloway ranging from the northernmost site of Kirkland (Canmore ID 65269) located to the south of Thornhill near the

River Nith, to the southern site at Cummertrees (Canmore ID 110925) to the north of Powfoot located along the shore of the Channel of River Eden, and the eastern site of Broadlea (Canmore ID 67148) situated to the south of Mein Water in Eastern Dumfries and Galloway. Of these sites, Kirkland is located on arable land with alluvium soils; Cummertrees is on arable land with a soil composition of brown forest soils; and Broadlea is also located on arable land with the soil consisting of brown forest soils with gleying and non-calcareous gleys (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps South East Scotland Sheet 7, 1981).

A large cluster of henges is located within Fife and Perth and Kinross, which includes roughly twenty henge monuments, ranging from the northern site of Mill-Lands of Dalcapon (Canmore ID 26337) located in Perthshire south of Pitlochry near the River Tay, to southern the site of Lumphinnans situated in south Fife, and the western site of Bennybeg Craig (Canmore ID 25335) in western Perthshire near the Pond of Drummond and Bennybeg Pond, and to the east in northern Fife the site of Kilmany, which consists of both a cursus monument and a possible henge. The henge at Mills-Lands of Dalcapon was built on meadowland with a soil composition of humus-iron podzols and alluvial soils, while the henge at Lumphinnans was constructed on arable and meadowland with soils consisting of imperfectly drained brown forest soils (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Eastern Scotland Sheet 5, 1982; The James Hutton Institute Soil Survey of Scotland maps Kinross, Elie and Edinburgh Sheets 40 and Part 41 and 32, 1975).



Figure 105: Aerial Photo of the Henge at Weston looking East-Southeast (Canmore)

A smaller cluster of four henges is located near several cursus monuments is located in South Lanarkshire, also situated near two earlier cursus monuments, West Lindsaylands and Broomy Law, Black Mount. The henge sites include the henge at Weston (Canmore ID 48914) (Figure 105) located to the east of Newbigging, Corbiehall (Canmore ID 47719), situated to the south of Ravenstruther, Balwaistie (Canmore ID 48698) found to the north of Biggar, and Normangill (Canmore ID 47386) located to the east of Crawford and to the south of Camps Water. The henge found at Weston was constructed on arable land with a soil composition of freely drained brown forest soils of Eckford soil association (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Peebles and Edinburgh Sheet 24 and Part 32, 1975). At Corbiehall, the henge is located on arable land with the soil consisting of freely drained brown forest soils (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Hamilton Sheet 23, 1984). The henge at Balwaistie was also built on arable land with soils of imperfectly drained non-calcareous gleys (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Peebles and Edinburgh Sheet 24 and Part 32, 1975). The location of Normangill differs from the other henge sites in this grouping as the henge is located within a hilly region of south-eastern South Lanarkshire on heath and moorland and a soil composition of peaty gleys and non-calcareous gleys (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps South East Scotland Sheet 7, 1981).

Another cluster of roughly eight henges located near cursus monuments have been found in Aberdeenshire. The henge sites range from the north-western most site at Wormy Hillock (Canmore ID 17295) located north of Bruntland and on the eastern side of the Ealaiche Burn, to the southern-most site at West Cauldhame (Canmore ID 35870) situated along Luther Water to the south of Luthermuir, and to the eastern-most site of Whitestripes (Canmore ID 20330) located to the north of Aberdeen City and west of Middleton Park. Of these sites, Wormy Hillock was constructed on heath and moorland and a soil composition of freely drained intermediate podzols and gleys; while the henge at Whitestripes was on possible arable land with the soil consisting of freely drained iron podzols, making the land less suitable for farming but possibly used for grazing (Land Utilisation Survey Maps 1931-35; The James Hutton Institute Soil Survey of Scotland maps Huntly Sheet 86, 1954; The James Hutton Institute Soil Survey of Scotland maps Aberdeen Sheet 77, 1962).

### *Discussion*

The majority of the cursus monuments appear to have been constructed on or near arable land with many located on freely drained soils, which would probably have been good for farming. These may very well have been the first monuments constructed by the Neolithic people; however the purpose/function of cursus monuments is still unknown. Debate has ranged from viewing these monuments as places of performance and processions to a means of reflecting the natural world, such as pit-defined cursus monuments possibly emulating the natural woodland from which they were created or ditch-defined cursus imitating rivers (Brophy 2000, 59-70; Brophy 2016b; Brophy and Millican 2015; Thomas 2015, 171). Many of the cursus monuments were built near waterways. Brophy has theorised that cursus monuments themselves resemble rivers in design, and were possibly used as a means of attempting to project a sense of control on the nearby waterways (2000, 59-70).

As with the cursus monuments, the majority of the henges were also located on or near arable or grazing land. Although the henges which are located away from the main clusters of cursus monuments appear to vary between arable land and rough grazing/heath moorland. The placement of the henges near the earlier cursus monuments could be viewed as a means of claiming a link to the past communities, or possibly as a means of overriding or negating the previous monuments significance, and overlaying a new meaning. Further, the henges which occur out with the area the cursus monuments were constructed, were built on marginal land, although still good arable land. In these areas, the henges may have been purposely placed away from the core settlement areas; whereas henges constructed near cursus monuments were built within these areas. This may have been a way of separating the henges, and possibly the communities which built them, not associated with the cursus monuments, from the core settlements areas. The communities in the marginal areas would have had different needs as they were displaced from the core settlements, perhaps by an increase in population as well as a shift in environmental conditions; thus the henges would have taken on different meanings and purposes for communities located in marginal areas.

The construction of the cursus and later henge monuments during the Neolithic within good arable land may have been used as a means of expressing of power within a community, such as laying claim on the land for a particular group, especially marking possible travel routes through Scotland, or as means of establishing and legitimising a leader or group of leaders for a community, as well as possibly marking routes to, or objects of, pilgrimage or visitation. This display of power would use ceremonies, rituals, and religion as a way to

claim, reinforce, or redefine the authority within a community of an individual or group.

There is probably more than one reason why the people of the Early Neolithic and the Later Neolithic built these monuments as well as having several motives for the placement of them. In all likelihood, both monuments began as a cultural expression with an overarching meaning, but probably developed regionally based on local needs. This may explain why there are several henge clusters that are not associated with any cursus monuments, and could explain why in Scotland there are three types of cursus monuments versus only the ditch-defined type found in England. The desire for these monuments to express different meanings and functions would reflect local different needs within each community. For instance, henges may have been used to separate an area away from the rest of the world, by keeping something inside the henge to either protect it from the outside world or to protect the world from whatever is inside the henge (Brophy and Noble 2012, 21-35). How this would have been enacted would have been in response to the needs of the local communities. This means the construction of henges near or even on top of other monuments such as cursus monuments would have held different meanings for the various communities building them. Although both the cursus monuments and most of the henges are located on arable land near waterways, the reasons behind these placements would differ between the various local communities of the Early and Later Neolithic people.

Most of the henges that are located outside the distribution of the cursus monuments were constructed either along the coastal regions or along rivers or lochs quite close to the coast, with the majority found along the north-eastern coastal areas in the counties of Moray and the Highlands. While many of the henges found within the cursus monuments distribution are located inland, several are found near major waterways. This difference in placement in the landscape is possibly a reflection in the different motivations behind the construction and placement of henge monuments. With the henges built specifically to be near the cursus monuments, most of which are located inland, to possibly either lay claim to the past or to erase the past with a new type of monument. It also might be a reflection of the lack of availability of suitable land further inland in the Highlands for the construction of henge monuments.

The alignments of both types of monuments vary in all directions; however some of the henges appear to be partially aligned to the earlier cursus monuments. For instance, the pit-defined cursus monument at Bennybeg in Perth and Kinross (Canmore ID 25324) runs north-northeast to south-southwest with the opening of the henge monument at Bennybeg Craig located on the eastern side of the monument (Halliday 2002, 16). As well, the cursus

monument at Blainhall in Perth and Kinross (Canmore ID 28175) is aligned east-northeast to west-southwest with the three henges located near by having similar alignments of east-northeast to west-southwest for the closest henge at Berthapark (Canmore ID 26743), while the other two sites have slightly different entrance alignments of west to east at Coldrochie (Canmore ID 26753) and an entrance on the eastern side of the henge at East Huntingtower (Canmore ID 26876). These correlating alignments may reflect a desire by the later communities to claim an existing relationship with the Early Neolithic people who built these cursus monuments.

However, as the alignments of neighbouring cursus monuments vary, with some running along similar alignments such as at Douglasmuir, Angus, which runs northeast to southwest and the cursus at Balneaves Cottage aligned northeast to southwest as well, while the cursus monuments at Holywood North (Canmore ID 65851) and Holywood South (Canmore ID 65652) (Figure 103), in Dumfries and Galloway, are aligned in opposite directions, north-northeast to south-southwest and north-northwest to south-southeast respectively (Brophy 1998, 96). It is possible competing communities built the latter cursus monuments, while either the same community or allied communities constructed the former cursus sites. This might be a reflection of the availability or lack thereof of good farming land, as the cursus and later henge monuments are clustered around the limited good arable land in Dumfries and Galloway, while in Fife, Perth and Kinross, and Angus there is ample land for farming, thus the more spread distribution and closer alignments of the cursus monuments. The communities in Dumfries and Galloway would have had to compete with each other for access to viable farming land and thus may have established rivalling monuments in order to stake a claim on the land. Whereas in Fife, Perth and Kinross, and Angus, the communities possibly worked together in the various areas of life, including the construction of the cursus monuments; or at least did not need to compete for access to land to farm.

The placement of the henge monuments reflects this earlier pattern, with the sites located in the Highlands and in Dumfries and Galloway constructed on the small areas of good farming land, while the henges found in the Lothians, Fife, Perth and Kinross, and Angus are spread across the landscape, although many are found in association with the earlier cursus monuments. This again may reflect a difference in competing versus supporting communities within these specific areas. Further, in Perth and Kinross a series of henges were built along the River Earn, which belong to several ceremonial complexes, such as Moncreiffe House, Forteviot, and Leadketty, forming a long history of monuments along

this river from the Early Neolithic through the Bronze Age. The River Earn is an important waterway as it travels east to west into the interior of Scotland from the Firth of Tay, connecting to rivers and lochs which lead to the western coast of Scotland. Controlling or gaining access to this river would have been very important and these sites may have acted as not only special pilgrimage places but as a means of monitoring and controlling access to the river, and therefore controlling the movement of people and goods across Scotland.

## **Chapter 6: Final Discussions and Conclusion**

### ***Introduction***

This chapter examines the patterns of development and reuse of the ceremonial landscapes between the three case studies of Fife, Southern Perthshire and Kinross, the Kilmartin Valley, and Orkney, by comparing the patterns found in the three case studies for similarities and differences in the placement, formation, and reuse of the features, sites, and ceremonial complexes located in these three areas. This chapter also discusses how these patterns fit into the wider context of Scottish and British Prehistory.

This thesis focused on understanding the development of ceremonial landscapes during the Neolithic and Bronze Age in Scotland, as well as exploring the patterns of development and reuse of the sites and locations of ceremonial and funerary monuments built during these periods. Three major ceremonial landscapes within Scotland, the Fife, southern Perth and Kinross regions; the Kilmartin Valley; and the Orkney Islands, were used as case studies in order to examine these patterns, using site reports from the various excavations within these areas, as well as using environmental studies, land use, soil, and topographical maps in order to understand the motivations behind the reasons why Neolithic communities built their funeral and ceremonial monuments where they did, and why the Bronze Age people either continued to use these areas or abandon them. A large majority of the Neolithic sites within each area were found to be located on or near good arable farming land, usually near either lochs/waterways or valleys. While during the Bronze Age, many of the sites follow a similar pattern with a number of monuments constructed on or near Neolithic sites, several monuments were built away from earlier ones and found to be constructed on land less suited to agriculture and marginal land. These findings are mirrored within the discussion of the cursus monuments and henges, with the Early Neolithic cursus monuments located along or near waterways on arable farming land, while the later henges sited away from the cursus monuments were built in marginal locations.

### ***Final Discussion***

#### **Synopsis**

There are similarities and differences occurring with the placement and function of Neolithic and Bronze Age domestic and ceremonial sites across the three case study areas of the Fife region, the Kilmartin Valley, and the Orkney Islands. Using various land use maps,

notably the Land Utilisation Survey maps of 1931-35 for Scotland as well as maps on the HLAmap website the James Hutton Institute Soil Survey of Scotland maps of the 1950s-1980s, present topographical maps of Scotland from Ordnance Survey Maps, and research into landscape and vegetation reconstruction for the three regions, I attempted to address the questions of why the Neolithic communities built their ceremonial sites where they did, and why the Bronze Age people would continue to build burial monuments within or near Neolithic sites creating landscapes with ceremonial monuments spanning thousands of years.

The use of modern land-use data and maps to understand how the land was used in the past has its own inherent problems. All of the maps examined were created during the modern era, and therefore reflect modern land use and settlement patterns. Further, changes within the landscape have occurred since the prehistoric period; both naturally, such as the formation of peat bogs, and anthropogenic changes, like clearances of the woodland making land once unusable for agriculture suitable for farming, as well as the use of modern farming techniques. Despite the changes to the landscape over time, the use of modern land use and soil maps in understanding how past people interacted and used the landscape is still possible. It is my view the modern topography, land use, and soil maps used for this project provide some degree of usefulness as long as the limitations of the maps are understood and as well as other information can be used to support the assumptions taken from the studying the maps, including current research into the past environment, climate, and sea levels.

In all three areas, ceremonial sites were usually located on or near good arable land, which suggests the land was not only used for ceremonial purposes but probably also used for agricultural purposes (HLAmaps website; Land Utilisation Survey Maps 1391-35). The placement of Neolithic ceremonial and later the Bronze Age sites within or on the edge of good arable land could have been an expression of power within a community, such as laying a claim on the land for a particular community, or as means of establishing and legitimising a leader or group of leaders for a community. This expression of power would use ceremonies, rituals, and religion to claim, reinforce, or redefine the authority within a community of an individual or group.

Of the three areas, domestic sites, such as Neolithic villages and enclosures and Bronze Age burnt mounds and open settlements, have been found within the Fife area as well as on Orkney. Orkney has the largest amount of domestic structures identified, while a few have been located within Fife and Perthshire. However, at Kilmartin, little evidence survives of domestic activity. This difference, which is taphonomic in origin, in known domestic sites between the three areas is probably not a reflection of the number of actual settlements

belonging to the Neolithic or the Bronze Age, but instead is more probably an indication of the survival rates of the domestic sites. On Orkney, due to the lack of woodland present for most of the Neolithic and Bronze Age, most of the sites, both domestic and ceremonial, are constructed from stone slabs. However, as woodland was rather abundant across most of the mainland of Scotland during this period, all domestic structures and ceremonial long barrows, cursus monuments, henges, and 'halls' sites were made from wood. As wooded structures decay much quicker than those made from stone, this, as well as both ancient and modern ploughing methods, would have contributed to the difference in the recorded number of domestic sites. It is very probable that as at Orkney, the ceremonial and domestic sites in Fife and Kilmartin, along with those built across the whole of Scotland, were constructed near each other, suggesting some type of relationship between the domestic and ceremonial/ritual spheres within the community and how they draw from each other and reinforce mutually their respective powers, such as the Stones of Stenness and the settlement of Barnhouse.

The rising sea levels which probably occurred across Scotland, especially along the coastal regions, during the Neolithic would have had a tremendous impact on the Neolithic and Bronze Age communities. On Orkney as well as in the Fife area and the Kilmartin Valley, the rising sea levels would probably have occurred within a few generations, possibly in the span of a single lifetime, a Neolithic individual would have personally experienced the whole or at least partial flooding of several settlements, farming land, and ceremonial monuments. Many would have lost their homes and farms during this period, leaving individuals and communities to relocate to new places. On Orkney, this would have caused the lands not touched by the sea to have become scarce and therefore more valuable. This would have led to the increase in Later Neolithic and Bronze Age ceremonial and domestic sites located within the interior of the islands, with the ceremonial sites probably used by the various Later Neolithic and Bronze Age communities to establish a claim on what land remained after the waters rose.

While across Kilmartin and Fife, the rising sea levels would have also reduced the amount of land available to the Neolithic and Bronze Age communities along the coastal regions and possibly along some of the major river valleys, but not to the drastic level which occurred on Orkney. Competition and demand for land to build settlements and farms would have increased across the coastal regions of Scotland, with a large portion of sites during the Later Neolithic and Bronze Age built further inland. The rising sea levels would have not only affected the Neolithic and Bronze Age people on a community level, but also probably

on a personal one as it would have been rather frightening to witness the seas and rivers swallow what had been a family's home or burial site for generations. This, among many other things, would have probably left a lasting impression of uncertainty and insecurity on both the individual families and the community as a whole throughout the Later Neolithic and into the Bronze Age. This insecurity may have possibly led to an even greater need to stake a claim on the lands left untouched by the sea. However, the actual number of Neolithic sites located on Orkney or along the coastal areas of Fife and the Kilmartin Valley is not known due to the rise in sea levels, or whether the communities were replacing the monuments lost to the sea on the land which remained. Although the Rising Tides Project, which explores the prehistoric coastlines and sea levels on Orkney, has produced incredible findings in the changing sea levels which occurred during the Neolithic, there is only a minimal amount of research tackling sea level changes anywhere else in Scotland. For many places in Scotland including the Kilmartin Valley and the Fife, Kinross and Perthshire areas, it is probable that sea levels changed at some point during the Later Neolithic, but it is unknown whether the sea levels were drastically any lower or higher during the Neolithic and Bronze Age than they are today. For the Kilmartin Valley region, there is very little evidence for sea level changes occurring during the Neolithic, with only one location, the Moine Mhor area, currently producing any information regarding prehistoric sea level changes, showing a sea level fall around 5500 years ago (Scotland's Natural Nature Reserves 2009). While for Fife and the surrounding areas, there appears to have been a lowering of the sea levels, which most probably occurred across the coastal regions of Fife, as well as probably along the Firth of Tay and the Tay River in Fife and Perthshire. However, only the site of Pickletillem has had any sea level research done to date, and had a probable recorded Main Post-glacial Shoreline of about 8.5 m at its maximum (Whittington *et al.* 1991, 66).

One of the main differences between the three case study regions appears to be how the sites were used within the context of travel and movement across the landscape. The ceremonial sites on Orkney were probably places to which family groups or communities across Orkney and the whole of Scotland would have travelled or made pilgrimages. Artefacts from across Scotland have been found at Neolithic sites on Orkney such as Arran pitchstone at the Ness of Brodgar site, which according to the most recent information was probably not solely used as a domestic settlement but also as a ceremonial centre, as exemplified by Structure 10 located between the two major stone circles on Mainland (Card 2010, 12-19). Imports to Orkney are biased away from the eastern coast of the mainland, and towards the west, Minch/Irish Sea, as evidenced by Arran pitchstone, Tievebulliagh (Group

IX) axes, and tomb design. Further, the presence of Grooved Ware pottery at both ceremonial and domestic sites, as well as Grooved Ware decoration on structures such as chambered cairns, on Orkney with Grooved Ware pottery found at other ceremonial sites across Scotland, suggests not only a movement of goods between Orkney and the rest of Scotland, but also the exchange of ideas with Orkney at the epicentre of both. The Grooved Ware influence appears to have disseminated to the east, although Unstan type pots point to the west. This exchange continued during the Bronze Age with the introduction of the Beaker Culture and Bronze artefacts to the Orkney Islands, although at a reduced rate. However, by the Bronze Age it is unclear if the Orkney Islands hold the same importance for the Scottish Bronze Age communities as they did during the Early and Later Neolithic. Although there is still movement of people and goods between the mainland of Scotland and the Orkney Islands, there is no strong indication of any further pilgrimage type journeys occurring during the Bronze Age. Instead, travel between the Orkney Islands themselves probably became increased as the sea levels rose, changing the nature of how the communities would have interacted with each other.

However, at Kilmartin, the ceremonial sites appear to have been used as markers for travel across and through the landscape, with several rock art sites located at or near entrances into the valleys. The Kilmartin Valley along with its surrounding valleys and lochs were most probably used as travel routes connecting the various areas of Scotland, Britain, and Ireland, with routes running not only east to west, but also north to south. The placement of the many Neolithic and Bronze Age monuments would have probably have been used as a means of marking or commanding the routes of travel people used at the time to get across the landscape, as well as staking a territorial claim on the area, with the placement of the Neolithic and Bronze Age monuments appearing to have been along or near travel routes running through the valley to the coast (Ritchie 1997a, 57). The movement of groups across the various valleys would have enabled the exchange of goods and ideas. One of the travel routes used to move artefacts between Scotland and Ireland probably passed through the Kilmartin Valley, with the movement of not only goods but also possibly groups of people traveling between Scotland and Ireland. These groups would have not only brought artefacts with them but would have also exchanged social/cultural ideas and beliefs between various groups they interacted with. Of the many types of sites found within the region, the rock art sites may have had a dual purpose as both trail markers of entrances and exits into the valleys and as a means of signalling a connection to the landscape and the local communities by adding a new design onto an already existing rock art site. It is possible the groups of people

journeying between Scotland and Ireland while traveling across Kilmartin would have added to the rock art outcrops, possibly adding new motifs, such as the spiral pattern motif found in Ireland, to the rock outcrops. Each new addition to the rock art sites probably incorporated some type of ceremonial/ritual activity, which could have included the purposeful deposition of artefacts within fissures in the rock outcrops. Further, most of the burial mounds located within the Kilmartin Valley appear to run along possible travel routes, which include sea passages, used to connect Scotland with Ireland, other areas within Britain, and the continent. These connections, which began in the Neolithic, appear to have taken on even greater importance during the Later Neolithic and through the Bronze Age, as more sites were built within the Kilmartin region, especially along the probable routes used by groups of people traveling to and from Scotland.

For Fife, Kinross and Perthshire, it appears that many of the sites had a similar purpose as those in the Kilmartin Valley, with groups possibly traveling through the region instead of to it like Orkney. The placement of both Neolithic and Bronze Age sites along river ways, near lochs, or along the coasts would have been used as a means of marking routes of travel through or points on entry to the region. Several rivers run through the region along an east to west axis, including the River Tay, the River Eden, the Water of May, and the River Earn, with many of these rivers starting/ending along the coast of Fife and traveling west into the interior of Scotland with a few running to the Western coasts of Scotland. The rivers would have not only acted as a source of freshwater and marine subsistence resources but possibly also as means of transport for trade and contact between the various communities in the area and perhaps those across Scotland (HLAmap website; Land Utilisation Survey Map 1931-35). Within the Fife, Kinross and Perthshire areas, two ceremonial site complexes, Balfarg and Forteviot, may have both been used as places people travelled through and to. The Forteviot Complex seems to have been located near to what may have been two major routes of travel, the River Earn and the Water of May, for movement both into and across Scotland starting/ending on the eastern coast. The River Earn, a tributary of the River Tay, runs roughly east to west ending at Loch Earn located in the southwestern Highlands, with the whole routeway running from the Firth of Tay, a long and difficult journey to the Western Islands, while the Water of May runs roughly north to south before branching off to travel west and south (HLAmap website; Noble and Brophy 2011, 788). The placement of the Forteviot Complex was probably chosen to be located on an area of good farming land next to two rivers, which would have been used as a means of transport to and from the site complex from other places within Scotland and the rest of

Britain and possibly Europe. All of these factors would have caused the Neolithic and later the Bronze Age people to view this site with great importance as a place to travel to, which therefore led to the construction of the various ceremonial monuments, including the great enclosure, dating to the Neolithic and the Bronze Age. The Balfarg Ceremonial Complex, which is located to the north of the River Leven, consists of several Neolithic and Bronze Age sites located on the boundaries between good arable land and marginal land. The River Leven, which was probably used as a travel route through Fife, runs also east to west, running from the Largo Bay in the east near Leven to Loch Leven in the west (HLAmap website; Land Utilisation Survey Map 1931-35). Further, the complex was constructed in the centre of a merging of the different vegetal landscapes, forests, meadowlands, and arable lands (HLAmap website; Land Utilisation Survey Map 1931-35). The location of the complex near a river and the different landscapes could have led to not only the construction of the Early Neolithic features at the site but the continued use and importance of the site during the Later Neolithic and Bronze Age, in which groups would specifically travel to the complex adding further features during both periods.

Across all three case studies, the densities of sites increased during the Later Neolithic and the Bronze Age, with a marked increase in the Bronze Age sites across Orkney and the Fife, Kinross and Perthshire regions. For Orkney, not only was there an increase in the burial mounds and cist burials, but also in domestic sites, with the introduction of burnt mounds during the Bronze Age. The number of sites within Fife, Kinross, and southern Perthshire increased during the Bronze Age, with numerous barrows, cairns and cists. However Kilmartin experiences a diminution in the number of known sites after an increase during the Later Neolithic, although there are more Bronze Age sites than Early Neolithic. These sites include the creation of rock art sites during the Later Neolithic through the Bronze Age, burial mounds, and cist cemeteries for the Kilmartin Valley. This increase of sites in each of the areas could suggest an increase in the importance of cultural and trade links between local the prehistoric communities to those within Scotland, Britain, Ireland, and the continent.

During the Bronze Age, several of the ceremonial sites were constructed near or in sites dating to the Neolithic in all three areas, along with sites located on good and marginal arable land (HLAmap website; Land Utilisation Survey Map 1931-35). In Orkney, sites on Mainland, especially near the Heart of Neolithic Orkney sites, as well as on other islands such as Rousay had several burial mounds and cist burials which were constructed in the same areas as the Neolithic cairns and standing stones. However on Rousay, a few sites were located on the western half of the island away from any of the sites dating to the Neolithic.

These sites included a couple of burnt mounds, burial mounds, and cist burials. What is interesting about the location of these sites, according to the Land Utilisation Survey Maps of 1931-35 and the maps on HLAmap website, is not just that they appear to have been purposely set apart from the Neolithic sites, but also that they are located on rough grazing land. Across the whole of the Orkney Islands several Bronze Age sites, both domestic and ceremonial, have been found to have been built on land classified as rough grazing land, which would be less suitable for agriculture (HLAmap website; Land Utilisation Survey Map 1931-35).

For Kilmartin, many of the Bronze Age sites were also located near clusters of Neolithic monuments, including along the Kilmartin Burn. The majority of the Bronze Age sites, such as the burial mounds and cist burials, were constructed on or near the good farming land, and along the main travelling routes (Land Utilisation Survey Maps 1931-35).

Of the Bronze Age sites within Fife, Kinross and Perthshire, several have been found within or near clusters of Neolithic sites, including the two ceremonial complexes of Balfarg and Forteviot. Several of the barrows found within Fife and the surrounding regions are found in clusters, including one grouping in central Fife, one in Kinross near Loch Leven, and one near Forteviot in Perthshire. Further, a large number of cairns probably dating to the Bronze Age have also been found within the Fife region, appearing in clusters as well as individually.

These changes in intensity of sites could reflect a possible increase in population of each area as well as a possible decline in the climate/environment, which seems to have occurred across the whole of Scotland during the Later Neolithic and Early Bronze Age. This change in climate would have led to the an increase in use of more marginal farming land, which probably led to the rise in communities constructing ceremonial and burial monuments across the landscape as a means of laying claiming to sections of the landscape.

The soil make-up within each of the three case study areas has probably been altered to some degree since the Neolithic, however how much probably varies by each location. The placement of the many of the burial and ceremonial sites on soil types that indicate potential for good farming land is a common factor across all three case study areas.

For the Kilmartin Region, the current soils along the valleys and lower terraces of the hills consist of various podzols, alluvium, glacial soils, and some brown forest soils (The James Hutton Institute Soil Survey of Scotland maps Western Scotland Sheet 4, 1981; The James Hutton Institute Soil Survey of Scotland maps South West Scotland Sheet 6, 1981). If the soil profiles were similar during the Neolithic, the valleys and terraces would have been

ideal location within the Kilmartin Region for agricultural use. These areas were also where a large portion of the Neolithic and Bronze Age ceremonial sites were located. Several of the earliest Neolithic sites, chambered cairns, as well as the Later Neolithic/Early Bronze Age rock art sites were placed along the slopes and ridges of these hills.

In the Fife, Perthshire and Kinross area, few possible Neolithic enclosures and Bronze Age domestic sites have been found in the Fife region, those that have, such as Forteviot, were found on freely draining brown forest soils, alluvial soils, and loamy soils all of which would be ideal for farming. Further, many of the Neolithic ceremonial and burial sites have also been found to have been constructed on or near various types of free draining soils, including Lundin Links, the Balfarg Ceremonial Complex and the ceremonial sites at Forteviot (The James Hutton Institute Soil Survey of Scotland maps Kinross, Elie and Edinburgh Sheets 40 and Part 41 and 32, 1975; The James Hutton Institute Soil Survey of Scotland maps Perth and Arbroath Sheets 48 and 49, 1968). The different soils types identified at the Balfarg Complex further indicate the area was probably located in marginal farming land, which was probably used for agricultural purposes would not have been as productive farming land as the land surrounding Forteviot, and may instead have been used for grazing.

While for Orkney, on Mainland, nearly all of the Neolithic sites were located on or near freely draining soils, which would have been ideal for agricultural use, while areas on the western half of the island mostly avoided during the Neolithic but used during the Bronze Age appear to be a mixture of freely draining soils, poorly drained soils, and blanket peat (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheet 6, 1981). Also, the soil types found near Skara Brae and along the Bay of Skaill consist of freely drained brown calcareous soils, with poorly drained soils to the west and freely and imperfectly draining podzols to the south (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheet 6). The soils found in this area would have been ideal for farming, which underlines the fact that the Neolithic communities were constructing both domestic and ceremonial sites on arable land. This pattern of site placement appears to follow for the whole of the Orkney Islands, with Neolithic sites of either domestic or ceremonial nature located on or near freely or imperfectly draining soils which would have been good for farming, while the Bronze Age sites appear to have been built across freely and poorly drained, and blanket peat soils (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7, 1981). Further, the islands with the more un hospitable soil of poorly drained soils and peat soils, such as South Ronaldsay, Stronsay, Eday, and North Ronaldsay, have far fewer Neolithic

sites than the islands with soils which have freely drained soils (The James Hutton Institute Soil Survey of Scotland maps Orkney Sheets 5, 6, and 7, 1981).

Within the three case studies of Fife, Southern Perthshire and Kinross, the Kilmartin Valley, and Orkney, several similarities and differences in the treatment of Neolithic ritual landscapes over the course of the Bronze Age have been identified. In all three complexes, various Neolithic sites were reused as funerary sites during the Bronze Age. For Fife, Southern Perthshire and Kinross, several Neolithic sites were found to contain Early Bronze Age cists and burials, and some with Later Bronze Age burial inclusions, such as those found at Balfarg, Balbirnie, Forteviot, and Leadketty. At Kilmartin, two of the chambered cairns, Nether Largie South and Kilchoan, contained human remains dating to the Bronze Age. While at Orkney, Bronze Age burials located in cists have been recorded at the chambered cairn at Quanterness.

Further, Bronze Age funerary and ceremonial sites have been found near concentrations of Neolithic ceremonial sites, such as Cairn B at the Balfarg Riding School, which is located next to a series of Neolithic features, including pits, two timber structures, a ditch-enclosure, and a ring-ditch/ring-cairn complex. For Kilmartin, a large concentration of Bronze Age barrows and cairns is located next to the central clusters of Neolithic monuments, such as along the Kilmartin Burn where the linear cemetery of Bronze Age cairns is situated within a short distance from the Neolithic sites of Temple Wood, Nether Largie South, and the Nether Largie Standing Stones. Also during the Later Neolithic and Early Bronze Age, the cup-and-ring marked stones located on outcrops within Kilmartin, which were first created during the Later Neolithic, were continuously added to during these periods. These rock outcrops were found to have a large quantity of markings, indicating a continued decorating/marketing activity over a longer period of time than the marked or decorated stones found at the standing stones or cists. The markings on the stones located on outcrops include a variety of decorations such as cup-marked and cup-and-ring marked stones, axe-head marked stones, a lozenge marked stone, a stone with grooved markings, and a stone with linear markings.

On Orkney, Bronze Age funerary monuments are also found within a Neolithic monumental landscape, with the largest concentration occurring on the Brodgar Peninsula with barrows and cairns found intermixed with the Neolithic ceremonial sites of the Ring of Brodgar, the Stones of Stenness, and Maes Howe. Further examples on Orkney of the construction of Bronze Age burial mounds within clusters of Neolithic monuments have been found on several of the other islands including Rousay and Sanday. All three case studies

show that during the Bronze Age various Neolithic ceremonial sites and landscapes were reused and added to indicating a continuation of the sacred nature of the landscape for the Bronze Age people and a desire to claim or connect with the past societies.

From the evidence presented, many of the sites found in Fife, Southern Perthshire and Kinross, and the Kilmartin Valley appear to follow similar patterns of development from the Neolithic through the Bronze Age, with the construction of a Neolithic ceremonial landscape, the inclusion of Bronze Age funerary sites near or within the Neolithic monuments, and no Neolithic or Bronze Age domestic sites recorded in the vicinity. Orkney appears to follow a slightly different pattern, with the presence of Neolithic settlements near or within the ceremonial complexes. Orkney's differences with the development and reuse of ceremonial complexes may reflect a more insular nature, which although affected by what was taking place on the mainland of Scotland, took a divergent path.

The many Neolithic sites, especially in the areas of intense concentration of sites within each of the three case study areas are located along or near important travel routes; along the valleys and the burn in the Kilmartin Valley; along the coastal region, the River Tay and smaller river/waterways in Fife, southern Perthshire and Kinross; and on the coastal regions and rivers and lochs in Orkney. These sites were constructed not only on important waterways and valleys, but also on what is currently good farming land. The development of these site complexes in these locations afforded access to trade and migration within areas Scotland to the local communities, as well as to areas outwith Scotland, including Ireland.

The Kilmartin Valley would have been an important travel route for access into Scotland for individuals traveling across from Ireland as well as for Scottish Neolithic communities traveling east to west. For Fife, southern Perthshire and Kinross the Firth of Tay and the coastal regions would have provided various places for people traveling across the North Sea from the continent entrance into Scotland, while the River Earn allows for movement east to west across the interior of Scotland from the Firth of Tay, connecting to rivers and lochs leading to the western coast of Scotland, as well as travel north and south along tributaries. While for the Orkney Islands, travel by sea would have connected the Orcadian communities to those on the mainland of Scotland and the continent, with the various loch and river systems acting as travelways within the various islands, especially after the sea level rise.

The Neolithic communities who built the first ceremonial sites within these locations may have possibly viewed the rivers, coastal areas, and valleys as important focal points both spiritually and for travel, and were probably establishing a claim to both. With later

Neolithic and Bronze Age communities continuing to use these sites as a means of controlling the access to into the interior of Scotland or the Orkney Islands via the rivers/waterways and valleys, which would have continued to have been viewed as a very important means of transportation for the movement of goods and people for trade, migration, and pilgrimage. Thus these sites and complexes would have developed into important focal points across the landscape, with communities travelling across the landscape for the specific purpose of visiting them, making pilgrimages to sites for particular socio-cultural purposes (Harding 2013a).

As part of the pilgrimages, it is possible the different communities travelling to these site complexes were expected to carry out certain tasks, possibly to reaffirm their connection to the larger community as a whole. And each individual and group would have had their own unique experiences as they travelled across the landscape journeying to and from these ceremonial sites creating and exploring new and old ceremonial sites. For instance, Colin Richards has theorised that many of the stone circles and alignments were not built in one event, but over a period of time, with the possibility that a community was tasked each year to erect a stone, which would include every thing from quarrying the stone to making the ropes and tools necessary to move and place the stone in its designated space (2004, 103-113; 2013, 2-30). This idea of the construction of the stone circles as having more importance than the finished circle was probably held for the construction of other monuments, from the earliest to the latest. For instance, several of the cursus monuments discussed in Chapter 5 appear to have been constructed in segments, such as the Cleaven Dyke (Barclay and Maxwell 1998). As well, the henges appear to have been cleared regularly as very little debris and artefacts have been found during excavations.

These actions, which took on a ritual/ceremonial aspect, would have been used as a means a bringing the various communities in a region together to either reaffirm old bonds or to establish new ones. As well, the placement of the later Neolithic and Bronze Age monuments on or near the earlier Neolithic sites could possibly have been used as a means of laying claim not just for the land but also for the cultural heritage of the past.

For the Orkney Islands and Fife, southern Perthshire and Kinross the intertwining of the domestic sites with the ceremonial sites can be seen as a desire to establish an ancestral link to the land in order to lay claim to the good farmland available, especially in Orkney where such land is scarce. While in Kilmartin, the lack of known domestic sites does not mean that these sites did not exist. These potential settlements probably exerted influence on access into the Kilmartin Valley through the construction of burial and ceremonial

monuments and the making of rock art.

The creation of the rock art was probably also an aspect of the pilgrimages and travels taking place across the Kilmartin Valley, with the various groups inscribing a new marking on the various rock outcrops during each trip through the valleys. They may have also viewed the rock out-crops which they decorated as a part of a living landscape in which people lived in and travelled through.

### *Wider Contexts*

The three examples of ceremonial complexes used as case studies for this thesis reflect broader patterns for the development and reuse of other ritual landscapes within Scotland and the rest of Britain. The complexes were first constructed during the Neolithic, with several clusters of ceremonial/ritual sites found across the Scottish landscape, with Bronze Age structures, features, or small finds added to some of the complexes (Noble 2006, 140). Many of the ceremonial complexes, including Kilmartin and several of the concentration of sites on Orkney, are located along an assortment of routes either by land, river, or sea that connected different regions of Scotland (Noble 2006, 184-190).

Other ritual complexes have been found within Scotland, including a site, which mirror the Balfarg/Balbirnie complex and the henge complex at North Mains, each of which contained Early Neolithic pits, Later Neolithic timber circular settings, and a henge, which may have been built in the Early Bronze Age. The complex at Cairnpapple Hill consists of Early Neolithic pits containing deposits of pottery and stone axes, Later Neolithic timber settings enclosed by a ditch and bank, six hearths, and a henge (Barclay 1983c, 122-281; Noble 2006, 146-147; Piggott 1947-48, 79). Several of the recorded ceremonial complexes located in Scotland contain similar features during the Neolithic phases of construction, such as early Neolithic pits, later Neolithic timber enclosures, and henges or ditch-enclosures, while a few of the complexes contain other features and sites (Noble 2006, 149-159). Another Neolithic ritual/ceremonial complex was found at Machrie Moor, and contains similar features found at the other complexes, including early Neolithic pits and a possible ditch-enclosure, as well as different features including a series of small stone circles, and nearly half of the known Clyde-type chambered cairns (Haggarty 1991, 51-94; Henshall 1972; Noble 2006, 160-162). This site appears to parallel the monuments constructed at the Kilmartin Valley, with a dense concentration of monuments at Machrie Moor (Noble 2006, 162). Also, several of the recumbent stone circles have been found to contain features prior to and after they were constructed, ranging from the Neolithic through the Bronze Age

(Welfare 2011, 162-167). Although the dating of these features is difficult a general chronology has been established for the construction of these multi-period sites (Welfare 2011, 140-152). Evidence of burning *in situ* has been recorded beneath many of the recumbent stone circles, which is followed by the building of the stone circle, with later pits and burials inserted into the circle, and some are later covered by cairns (Welfare 2011, 73-152).

Within the rest of Britain similar patterns to those happening in Scotland for the formation and reuse of Neolithic ceremonial complexes appear to have occurred. There are several examples of sites but the most well-known are Avebury and Stonehenge. At Avebury, a large number of Bronze Age round barrows have been found within the area of the Later Neolithic henge, which itself is located near two other Later Neolithic monuments, Silbury Hill and the palisaded enclosure at West Kennet, and form a Later Neolithic/Bronze Age ceremonial complex (Watson 2001, 208-209). While at Stonehenge, the ceremonial complex is rather more complicated with the earliest features in the sequence dating to the Middle Neolithic and the latest to the Middle Bronze Age (Parker Pearson 2012, 309-313). The first features at Stonehenge include the outer ditch, inner bank, and the Aubrey Holes filled with the bluestones, which were associated with cremation burials (Parker Pearson 2012, 309). Further features were added during the Later Neolithic, the Copper Age, the Early Bronze Age, and ending with the Middle Bronze Age features of two rings of rectangular shaped holes found outside the sarsen circle (Parker Pearson 2012, 310-312). However, pottery sherds dating from the Middle Bronze Age to early modern times have been recovered from the site. Further Stonehenge is located along a river system, which connects it to other ceremonial sites. It is probable Neolithic and Bronze Age people in Southern Britain used this site and others like it in the same manner as the communities who built and used the sites examined above.

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