Echoes of ancients: A comparative analysis between Neolithic megalithic monuments of Atlantic Europe

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ECHOES OF ANCIENTS

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Cover Figure: D26-Drouwenerveld (Photo: Sonja Smit)

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Chapter 1: Introduction

1.1 Introduction

Atlantic Europe was home to many different cultures associated with different Neolithic (~4000-15000 BC) megalithic monuments (*hunebedden*, *allée couvertes*, and portal tombs). These megaliths were created during a time of change from hunter-gatherer lifestyles to the adoption of agriculture throughout northern and western Europe (Bradley, 1998, p. 11; Scarre & Laporte, 2022, p. 1258). While there has been much research into specific megalithic monuments throughout Atlantic Europe, less research has been carried out between megaliths in different countries. Similarly, little research is available analysing the development of megaliths relative to each other regionally, nationally, and internationally.

This thesis will provide a more thorough comparison of the megalithic monuments of Ireland, France, and The Netherlands with emphasis on stone types, monument orientation, and associated assemblages and cultures. These regions were chosen as they offer different developmental perspectives: Ireland reveals an island-type development, while the Netherlands and France reveal continental-based developments. Megalith construction is thought to originate in France, with *hunebedden* interpreted as developing from similar earlier French megaliths. I will compare Irish portal tombs, French *allées couvertes* (otherwise known as gallery graves), and Dutch *hunebedden*, although it is noted that these are not the only monuments in Ireland and France. The mentioned types have been chosen as they offer insights into the developments of megalithic tombs on the Atlantic façade in difference contexts, while remaining within a similar time period. This has been observed through the earlier portal tombs which developed with many variations throughout Ireland and Wales, while *allées couvertes* and *hunebedden* follow more direct developments in continental Europe.

Portal tombs are not associated with any specific culture due to multiple different groups exchanging and influencing ideas and methods of development throughout the Irish Neolithic (Sheridan, 1995, p. 17). *Hunebedden* are associated with the West Group of the Funnel Beaker (TRB) culture. The Seine-Oise-Marne (SOM) culture is associated with the construction of *allées couvertes* (gallery graves); however, they often underwent reuses and are therefore associated with cultures other than the SOM. The Bell Beaker culture

represents one of the most prominent *allées couvertes* reuses (Bakker, 2010, pp. 7-8; Daniel, 1955, pp. 7-12).

1.2 Research Questions

The aim of this thesis is thus to investigate the similarities and differences between Irish (4000-1500 BC), French (4000-1000 BC), and Dutch (3400-2850 BC) megalithic monuments. This will be investigated through four sub-questions:

1. What are the similarities or differences in the types and origins of the stone used in constructing monuments both within and outside the country of research?
2. What does the orientation of the monuments in relation to the landscape reveal about the topography and construction of these monuments?
3. How do the case studies relate to one another and other monuments within 3 kilometres?
4. What do the similarities or differences reveal between cultures and finds associated with monuments?

The main goal is thereby to compare and understand the developments of Northwest European Neolithic monuments through investigating various aspects of megalithic monuments. This is important for understanding how the monuments and cultures of the Neolithic of Atlantic Europe develop over time. This will provide clearer, more thorough data about the developments in Atlantic European Neolithic. There has been no substantial research into this comparison, therefore this thesis will contribute to the data.

1.3 History of Research

There has been varying degrees of research of Atlantic Europe's megalithic monuments over the years. Some, like the Dutch *hunebedden* have more extensive research with early descriptions since the 16th century (Bakker, 2010). Major research began later for other megaliths, for example, portal tombs did not become a major topic of research or interest until the 20th century (de Valera, 1960; Flanagan, 1977; Ó Nualláin, 1983).

The first mentions of the *hunebedden* are from the 16th century with Schonhovius, who related them to the Germania Pillars of Hercules in 1547 (Bakker, 2010, p. 36), continuing to the late 19th century Antiquarian Period of research and the early 20th century, with scholars such as W. C. Lukis, H. Dryden, and W.J. de Wilde, all of whom drew and documented the *hunebedden*, investigating without excavation (Bakker, 2010, pp. 16-17). More recent researchers include A.C. González-García and L. Costa-Ferrer (2003) who investigated *hunebedden* orientations, or J.A. Bakker, who has contributed significantly to both the general and specific *hunebedden* studies (Bakker, 2010; 2013). Another individual is D. Raemaekers, who excavated near *hunebed* (D34) for the first time since the 1980s (University of Groningen, 2023).

French megaliths were first documented in a distribution map in 1864 by Alexandre Bertrand, where he emphasised the different aspects of French megalithic tombs, emphasising the main distribution areas by creating *Bertrand's line* (Daniel, 1955, p. 1). This was furthered by de Caumont and Dechelette who created and publicised the term *allées couvertes*, a specific chambered megalith (Daniel, 1955, pp. 1-2; de Caumont, 1863, p. 582). More research has occurred since, adding to pre-existing information and furthering French megaliths studies (Daniel, 1955; 1958; Hoskin, 2007; Hoskin & Higginbottom, 2002; Scarre, 2001; 2002).

While there are advances in the research of Irish portal tombs in recent years, there is still limited knowledge about portal tombs compared to other classes. Portal tombs were officially recognised as a class of megalithic tombs in the 1930s (Connolly, 2021, p. 45; Evans, 1938, p. 14; Evans & Gaffikin, 1935, p. 248). This was continued with further research, mainly from the 1960s to the present, with more investigations, through surveying, excavating and other investigative studies (ApSimon, 1985/86; Connolly, 2021; de Valera, 1960; Flanagan, 1977; Herity, 1964; Kytmannow, 2008; Mercer, 2015; Ó Nualláin, 1983). T. Kytmannow (2008) and P. Mercer (2015) have published PhD studies about portal tombs investigating newer topics surrounding them including the morphologies, chronology, and landscape positions, and the ritual aspects of construction and use respectively. The most recent significant portal tomb excavation were the Killaclohane portal tombs' excavations by M. Connolly (2021).

Various studies of the orientation and location of megalithic monuments are available, some more detailed than others (Bradley, 1998; 2019; Connolly, 2021; de Valera & Ó Nualláin, 1082; González-García & Costa-Ferrer, 2003; Hoskin, 2007; Hoskin & Higginbottom, 2002; Kytmannow, 2008). González-García & Costa-Ferrer (2003, p. 219) studied the orientation of 52 of the 55 *hunebedden*, offering insights into their location in the *Hondsrug*, which indicated *hunebedden* primarily orientate easterly. Hoskin (2007; 2008) studied the orientation of French dolmens, specifically Breton *allées couvertes* in 2007. He investigates various tomb types, concluding that the passage and chamber usually have the same orientation. Two main points indicate all dolmens follow patterns regardless of time and space constraints, and those patterns are primarily influenced by cosmological observations (Hoskin, 2008, pp. 508-509). Daniel (1958, p. 6) offers locational insights and how prominent *allées couvertes* tombs are in specific regions. There are multiple studies into Irish portal tombs, from full excavations to their results and interpretations (Connolly, 2021) to their orientation (Connolly, 2021, pp. 79-89; Kytmannow, 2008), how they fit into the landscape (Ó Nualláin, 1983), and Irish megalithic tombs surveys (De Valera & Ó Nualláin, 1982). Bradley (1998; 2019) and Bradley et al. (2016) investigated the relationship between the location of monuments and the landscape.

Most of these studies have been very particular to regional comparisons rather than international comparisons. This is important to consider moving forward as it allows for more detailed, in-depth studies into megalithic monuments and their associated cultures.

1.4 Methodology

This thesis investigates three case studies: D26-Drouwenerveld (Dutch *hunebedden*), Men-ar-Rompet (French *allées couvertes*), and Killaclohane I and II (Irish portal tombs). These offer more in-depth archaeological views of the megalithic monuments relationship with aspects including the landscape, artefacts, and cultures. The three case studies provide insights into Irish, Dutch, and French megalithic monuments and how they compare to each other.

Various resources are used to investigate the research aims, including literature, maps, and video sources; additionally, archaeological assemblages associated with the case studies of Killaclohane (portal tombs), D26 (*hunebed*) and Men-ar-Rompet (*allées couvertes*).

This thesis also includes a literature study to offer insights into various aspects of previously investigated megalithic monuments, including the types and origins of stones used in each monument, and the monuments' associated cultures. This leads to a specific comparison of archaeological assemblages excavated at each site using literature (including books, articles, and excavation reports).

Both literature and maps have been used to investigate how the monuments fit into the landscape. This was investigated with two main views: any implications associated with their viewsheds and how they fit in with other monuments in the close surroundings.

1.5 Outline

Chapter 2 provides a general insight into megalithic monuments and their associations, including general information about monument type, initial remarks, or commonalities. This information specifically regards Irish, French, and Dutch monuments and available comparisons or background information.

Chapters 3, 4, and 5 introduce the case studies: D26-Drouwenerveld, Men-ar-Rompet, and Killaclohane I and II respectively. Firstly, the case studies are introduced. This includes background information, for instance previous surveys or excavations in which the monument was involved. Secondly, landscape association provides details about the monuments relations with the landscape and other nearby monuments. Thirdly, each site's archaeological assemblage will be described, with primarily artefacts relating to the earliest (Neolithic) usages. Finally, cultures associated with the monuments are discussed.

Chapter 6 critically analyses chapters 2-5 based on the research goals, comparing similarities and differences between various tomb types and wider implications or associations.

Chapter 7 concludes this thesis, summarising and reviewing the main information and conclusions drawn from the previous chapters.

Chapter 2: Background

2.1 Introduction

Chapter 2 introduces general concepts of Atlantic European megalithic monuments. It provides general information about specific Dutch, French, and Irish megaliths, including general commonalities between the monuments before investigating three case studies (See Chapter 3, 4, and 5). Section 2.2 discusses Atlantic European megalithic monuments in general, exploring common regions and concepts. Section 2.3 - 2.5 discuss information such as main concepts, locations, and important background information about specific tomb types.

2.2 Atlantic Europe's megalithic monuments

Atlantic Europe, the area from Scandinavia to the Iberian Peninsula, including Ireland and Britain, has a vast array of megalithic monuments belonging to the Neolithic (~4000-1500 BC (varies per region)). While these are not the only regions containing megaliths (Laporte et al., 2022), the Netherlands, north-west France, and Ireland are the focus.

Some of the most famous, variable, and oldest monuments are found in Ireland, Britain, and northern France (Laporte & Bueno Ramírez, 2022, p. 1173; Scarre & Laporte, 2022, p. 1254). Northwest Europe is one of the first places where megalithic monuments were studied, surveyed, or excavated. Two megalith excavations were recorded in 1968: *hunebed* D27 in Borger, The Netherlands, and one in Cocherel in Normandy, France. The discovery of human skeletal remains at these sites reinforced the concept of tombs as burial places (Bakker, 2010, pp. 54-56; Laporte & Bueno Ramírez, 2022, p. 1174; Scarre & Laporte, 2022, p. 1254; Schnapp, 1996, pp. 268-270). Likewise, while not all megalithic structures are funerary monuments in early Neolithic Atlantic Europe, the majority are. More is known about funerary monuments than settlements or houses from this time (Bradley, 1998, p. 3). There is a paradox to this: where there is evidence of settlement (houses/paddocks/etc.), there is a lack of monuments in those same areas (Bradley, 1998, p. 10).

Fluctuating trends explain the dispersal of megalithic monuments across the Atlantic facade using diffusionist theories including migration and invasion amongst others. Maritime travel is a popular explanation group movements along the Atlantic coast. This is reinforced by

using concentrated areas of megalithic structures as focal points to track the movement (Bradley, 1997, p. 18; Laporte & Bueno Ramírez, 2022, p. 1174; Montelius, 1899, pp. 18-24; Thomas, 1999, p. 90). Diffusionist theories, 'the spread of ideas, items of material culture, or cultural traits from one culture or society to another' although not exclusively through the movement of people (Darvill, 2008, p. 131), were particularly prominent in the mid to late 19th century, although they lessened by the mid-20th century. There is a return to interpreting diffusionist theories in the 21st century (Bradley, 1997, p. 18; Laporte & Bueno Ramírez, 2022, pp. 1174-1177; Schulz Paulsson, 2017, p. 9; Thomas, 1999, p. 90; 2004, p. 66).

In the mid-20th century, the terms 'Neolithic' and 'megalithic' were used interchangeably, assumed to span the same periods. It was not until the 1980s with renewed efforts in calibrating radiocarbon dates that it became increasingly accepted that the Neolithic lasted longer than a millennium, unlike previously assumed (Laporte & Bueno Ramírez, 2022, p. 1177). Additionally, the Neolithic was often viewed through two main perspectives: an economic perspective with emphasis on local hunter-gatherer roles, or an ideological perspective with emphasis on new ideas and artefacts brought by migrating farming communities (Bradley, 1998, pp. 12-13). Post-processualism (placing the experiences of individuality as a core feature within cultures) was particularly popular in the 1980s-90s, with fluctuating but continued relevance until present (Thomas, 1999, p. 127; 2000; 2004, pp. 140-141; 2007; Robb & Harris, 2017). Post-processualism relating to megaliths shifts the focus from monuments and their construction to human experience and conscience (Thomas, 1999, p. 36).

2.3 Hunebedden

Dutch megalith construction and use occurred between 3400-2850 BC (*Ancient History – Geopark de Hondsrug*, 2023; Bakker, 2010, p. 6; González-García & Costa-Ferrer, 2003, p. 219; Rap, 2016, p. 25). The accepted date for the establishment of *hunebedden* is 3400 BC; however, the end range varies. Bakker (2010, p. 6) ascribes an end date of ~2700 BC, while González-García & Costa-Ferrer (2003, p. 219) ascribe one of ~2850 BC. *Hunebed* construction occurred between 3400-3050 BC, while their use continued until ~2800-2700

BC (Bakker, 2010, p. 15). *Hunebedden* are majorly confined to the north-eastern part of the country, in the provinces of Drenthe and Groningen. This area is referred to as the *Hondsrug* (or 'Dog's Back'), a glacial ridge orientated north-south (Bakker, 2010, p. 6; 2013, p. 11; Cummings et al., 2015, p. 817; González-García & Costa-Ferrer, 2003, p. 219; Rap, 2016, p. 25).

Table 1

Chronological table of the Netherlands, including period, year range, and associated culture/monument relevant to the text.

The Netherlands		
Period	**Year range**	**Associated culture/monument**
Mesolithic	10,000-4000 BC	
Neolithic	4000-2000 BC	Funnel Beaker (TRB) culture *Hunebedden*
Bronze Age	2000-800 BC	
Iron Age	850-20 BC	
Roman	20 BC-400 AD	
Medieval	400 AD-1500 AD	
Post-Medieval/Modern	1500-1800 AD	
Present	1800 AD-Now	

Hunebedden are associated with the Funnel Beaker culture (TRB) (See Table 1). The TRB culture is geographically divided into regions (See *Fig. 2.1*): the West, North, East, South-east, and South groups are major regional divisions. The Western Group encompasses the Netherlands with *hunebedden* and western Germany (3400-2700 BC) (Bakker, 2010, pp. 7-8; Bakker et al, 2013, pp. i-ii; González-García & Costa-Ferrer, 2003, p. 219; 2007, p. 201). The main (TRB) artefacts associated with *hunebedden* are decorated pottery, lithic tools (arrowheads, battle-axes, axes, etc.), and perforated (amber) beads (Bakker, 2010, pp. 10-15; 2013, pp. 16-18; Van Gijn & Bakker, 2005, p. 286).

The word '*hunebedden*' is derived from the generic medieval name (hun(n)ne(n)bed), meaning 'giant's bed' or 'giant's grave' (Bakker, 2010, pp. 28-32; 2013, p. 11; González-García & Costa-Ferrer, 2003, p. 219). There was a gradual evolution and usage of the word before becoming mainstream in the 17th century (Bakker, 2010, p. 31). Monuments names are important as they offer insight into how they were viewed, both in the past and present.

For example, the medieval derivative of *hunebedden* indicated it is association as a tomb, grave, or altar (Bakker, 2010, pp. 35-36).

There have been many interpretations on how *hunebedden* were constructed, from Cohausen's suggestion of a ramp to move the capstone in 1714, to Janssen's suggestion of a rope system, rolling the stones on felled tree trunks in 1853, and Frederik VII's parallel suggestion in 1857 (Bakker, 2010, pp. 134-136). Their overall construction entailed two uprights with a capstone resting on top – known as a *yoke* or *trilithon*. *Hunebedden* were constructed with rows of yokes, one behind the other. Uprights were placed half a meter below ground, with their flatter side facing the monument's interior, creating balance (Bakker, 2010, p. 13). Dutch *hunebed* chambers generally contain 2-10 yokes with an interior length of approximately 3-20 meters, characteristic of the West group (Bakker, 2010, pp. 13-14). *Hunebedden* are generally oriented east-west, although there are a few deviations (Bakker, 2010, p. 13; González-García & Costa-Ferrer, 2003, p. 223).

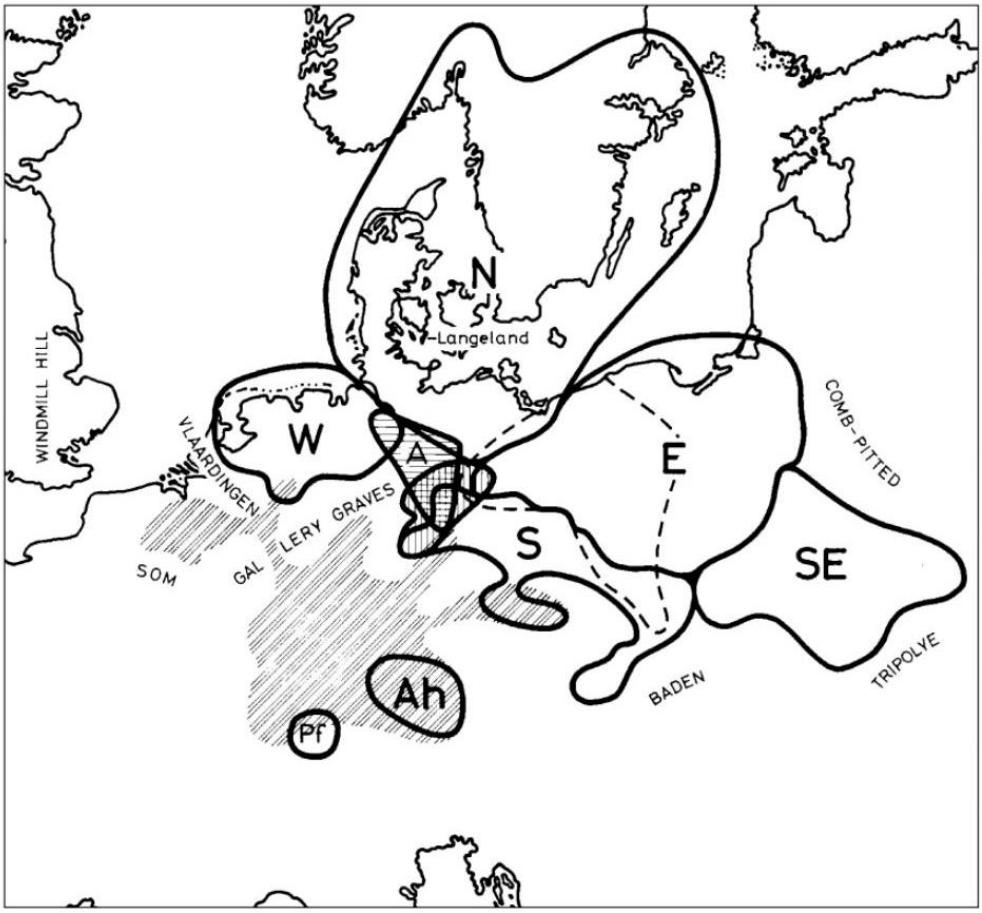

Figure 2.1: Map indicating the geographical extents of the regional groups of the Funnel Beaker culture (Bakker, 2010, p. 7)

2.4 *Allées couvertes* tombs

In western France, diverse forms of megalithic monuments were initially constructed around 4500 BC, spanning ~3000 years until the early Bronze Age (See Table 2) (Cummings et al., 2015, p. 814; Scarre & Laporte, 2022, p. 1258). However, some stone structures pre-date this estimate to ~4700 BC (Laporte & Bueno Ramírez, 2022, p. 1181). *Allées couvertes* tombs (otherwise known as *allées sépulcrales* or gallery graves) are a type of chambered tomb first appearing in northern France around 3400 BC, after a gap in which there were few new megalithic tombs being constructed between 3800-3400 BC (Boujot et al., 1998, p. 193; Cummings et al., 2015, p. 817; Daniel, 1955, p. 6; 1958, p. 2; Hoskin, 2007, p. 493; Scarre, 2001, p. 298; Scarre & Laporte, 2022, p. 1274). After this gap, two types of chambered tombs appeared: *allées couvertes* and *sépultures a entrée laterale*.

Table 2

Chronological table of France, including period, year range, and associated cultures/monuments for relevant periods.

France		
Period	**Year range**	**Associated culture/monument**
Mesolithic	9500-5000 BC	
Neolithic	5000-2000 BC	Seine-Oise-Marne
		Allées couvertes (gallery graves)
Bronze Age	2000-800 BC	Bell Beaker culture
		(Reused *allées couvertes*)
Iron Age	800-50 BC	
Roman	50 BC-400 AD	
Medieval	400-1450 AD	
Post-Medieval/Modern	1450-1789 AD	
Present	1789 AD-Now	

Allées couvertes are associated with Seine-Oise-Marne (SOM) culture (See Table 2). SOM artefacts have primarily been discovered in the following geographical regions: The Paris Basin, Brittany, and west-central France (Daniel, 1955, pp. 7-12). While the SOM culture was mostly based in the Paris basin, it stretches to Belgium, occasionally reaching the south of the Netherlands (van Gijn & Bakker, 2005, p. 281). The region from the Paris basin north towards the English Channel has better preservation of human remains than surrounding areas due to its limestone geology (Bradley, 1998, p. 63; Cumings et al., 2015, p. 816; Scarre

& Laporte, 2022, p. 1274). Associated artefacts include rough, often undecorated pottery (comparable to the Swiss Horgen ware), collective graves, copper beads, polished axes, and flint tools (arrowheads, dagger, *petit tranchet*) (Daniel, 1955, pp. 8-12).

According to Scarre (2002, p. 2), earlier chambered tombs had stronger emphases on coastal sites, while *allées couvertes* were more dispersed (See *Fig. 2.2*). He interprets this as a move towards agriculture in the Late Neolithic, contemporary to *allées couvertes*.

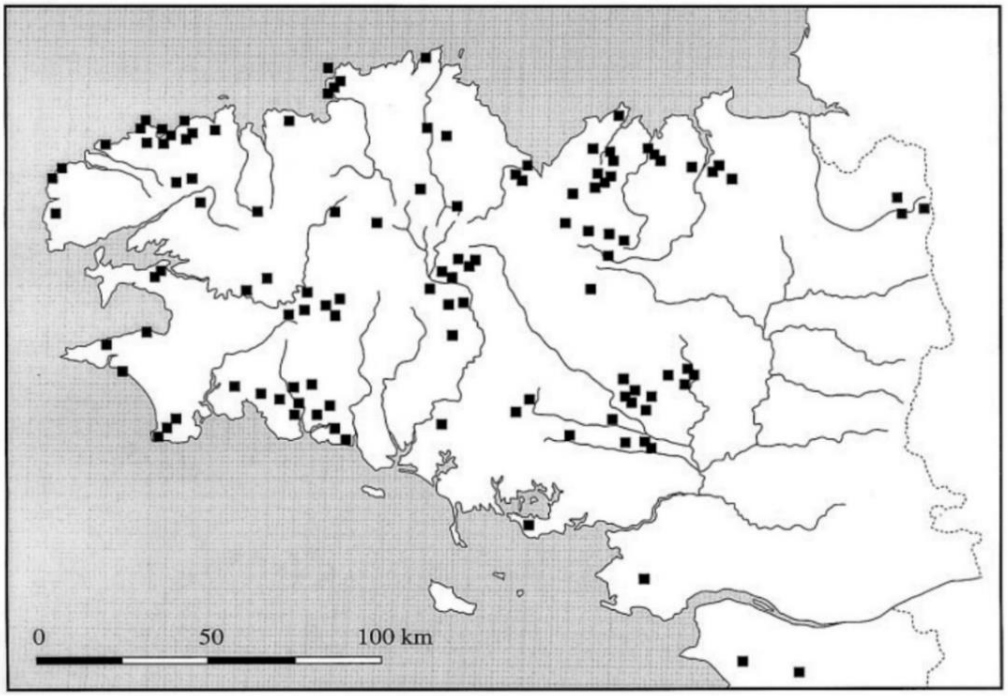

Figure 2.2: Distribution map of allées couvertes in Brittany. (Giot et al. (1998) as cited (and edited) in Scarre (2001, p. 289))

'*Allées couvertes*' was first used in 1846 (Merriam-Webster, n.d.), before de Caumont and Dechelette publicised it as a specific type of megalithic structure (Daniel, 1955, pp. 1-2; de Caumont, 1863, p. 582). According to Merriam-Webster (n.d.), *allées couvertes* means 'a passage like a tunnel leading to a Neolithic tomb.' This could indicate what people thought of the tombs when the word was first used.

Allées couvertes have 'long parallel sided chambers, with entrances … at one end' (Scarre & Laporte, 2022, p. 1274). They are constructed under ground level, in trenches or hill slopes, rarely with a preserved barrow (Daniel, 1955, p. 8). The majority of *allées couvertes* are orientated with their entrances to the east; however, a few deviate from this pattern, facing north instead (Hoskin, 2007, p. 501).

2.5 Portal tombs

Irish megalithic structures were constructed from the Mesolithic-Neolithic transition (*ca*. 4000 BC) until the Early Bronze Age (See Table 3) (ApSimon, 1985/86, pp. 5-6; Connolly, 2021, p. 23; Cooney, 2000, pp. 23-24; Evans, 1938, p. 8; Mercer, 2015, p. 18; Scarre & Laporte, 2022, p. 1258). Portal tombs are one of the earliest tomb types in Ireland (Connolly, 2021, p. 25). However, they are not considered only early Neolithic as they had continued construction and use in the middle Neolithic (Connolly, 2021, pp. 33-34; Cooney et al., 2011, p. 585).

Table 3

Chronological table of Ireland including period, year range, and associated cultures/monuments. Cultures are not present here as explained in-text.

Ireland		
Period	**Year range**	**Associated culture/monument**
Mesolithic	8000-4000 BC	
Neolithic	4000-2500 BC	Portal tombs
Bronze Age	2500-600 BC	
Iron Age	600 BC-400 AD	
Medieval	400-1100 AD	
Post-Medieval/Modern	1100-1550 AD	
Present	1550 AD-Now	

Cultures are hesitantly used in Ireland due to multiple communities sharing and creating different ideas and methods of construction, pottery making and usage, and so on, as well as adopting adaptations from various areas (Cummings & Fowler, 2015, pp. 3-4; Sheridan, 1995, p. 17). Pottery, lithic tools (knife, arrowheads, scrapers, etc.), grains, human remains, and beads are associated with portal tomb assemblages (Connolly, 2021, pp. 130-138; Herity, 1964; Kytmannow, 2008, pp. 89-94). Pottery finds are associated with the 'Carinated Bowl' or 'Western Neolithic' pottery (previously known as 'Grimston-Lyles Hill' or 'Lyles Hill' pottery) (Connolly, 2021, pp. 260-262; Darvill, 2008, p. 498; Sheridan & Brophy, 2012).

Portal tombs are primarily found in Ireland, Wales, and southern England. Irish portal tombs are concentrated in the north of Ireland, with fewer further to the south (Connolly, 2021, pp. 50-52; Cummings et al., 2015, p. 823; Cummings & Richards, 2022, p. 133; Kytmannow, 2008, pp. 131-132; Mercer, 2015, pp. 47-50; Scarre & Laporte, 2022, p. 1253). In the

southwest (Counties Kerry and Cork), three portal tombs are officially recorded: one in Kerry (Killaclohane I), two in Cork, all of which reside up to 7 km from the coast (Connolly, 2021, p. 52). Many portal tombs are located on or near borders of different bedrocks which influences ground cover (Connolly, 2021, p. 51; Mercer, 2015, p. 53).

Portal tombs have been classified as such since 1938 when Evans put forth the term officially (Evans, 1938, p. 14). Before then portal tombs were often referred to as 'giants' graves', much like other megalithic structures (Bakker, 2010, pp. 28-31; Evans, 1938, pp. 7-19), as well as 'cromleachs', 'Diarmuid and Grainne's Bed', 'Giant's Griddle', and 'Stone Tables' (Byrne, 2021). These names infer origins in Irish folklore, the monuments acting as graves of felled warriors, heroes, or giants.

Portal tombs have two main elements: the capstone, and the portals (or uprights) (Connolly, 2021, pp. 144-154; Cummings & Richards, p. 134). There are other more variable features, including stone 'stops', buttresses, stone walling, side stones, and a door stone (Connolly, 2021, pp. 148-158; Kytmannow, 2008, pp. 34-39; Mercer, 2015, pp. 101-112). Capstone origins have two main theories: 1) capstones were found or quarried *in situ*, and 2) capstones were glacial erratics in the locality (Connolly, 2021, pp. 144-146; Cummings & Richards, 2022, p. 138). Portal tombs were constructed with portals set into depressions in the ground, before the capstone was placed on top of them, likely using a lever-system (Connolly, 2021, pp. 146-152). Many coastal portal tombs are orientated with the entrance facing away from the sea. Mercer (2015, pp. 69-70) suggested this to be due to changing lifestyles (maritime- to agricultural-based).

2.6 Conclusion

Atlantic European megalithic monuments had great diversity, both between and within classifications. This is observed in variances within portal tombs, *hunebedden*, and *allées couvertes*. The origins or references between the three monuments follow a similar trajectory (references as 'giant's grave'). Construction methods form parallels between all three monument types, indicating a generalised process: a capstone placed upon at least two uprights. There is also a specific orientation the monuments entrances generally face

towards a cardinal direction. The assemblages associated with each monument form parallels in the artefact assemblage, including pottery, lithics, and bone within each.

Chapter 3: Case Study 1 – D26-Drouwenerveld

3.1 Introduction

Chapter 3 establishes the first case study: D26-Drouwenerveld (See *Fig. 3.1*). D26 was the last excavation both of a *hunebed* and in the vicinity of a *hunebed* until 2023, when D. Raemaekers initiated the excavation in the vicinity of D34. There were multiple laws established or reaffirmed to protect *hunebedden* from the first in 1620, to the third reaffirmation and creation of the Protection Law in 1734. This prevents destruction and, later, excavation (Bakker, 2010, p. 62; Klok, 1987, p. 940; *University of Groningen*, 2023). This chapter establishes the research background of D26, including the earliest mentions, likely construction methods, schematics of the monument, and its orientation. Landscape associations are also discussed, specifically the stone types, orientation, and placement on the *Hondsrug*. The archaeological assemblage and associated culture (Funnel Beaker Culture) will also be discussed.

Figure 3.1: D26-Drouwenerveld (Photograph: Sonja Smit)

3.2 Research background

Hunebed D26 has been mentioned and investigated on various occasions. N. Westendorp was the first to mention D26 in 1812 (Bakker, 2010, p. 213; Hunebedcentrum, 2021b). A questionnaire was conducted in 1818/1819 in which D26 was included under a different name ('D20a-Drouwen'). A mistake was made (and later corrected) in the questionnaire – it was said that D26 was east of Drouwen when it was actually west (Bakker, 1988, p. 69).

On 12 July 1878, Lukis and Dryden investigated D26 alongside D28 and D29. Dryden measured the *hunebed* while Lukis documented and sketched all the monuments (description, map, perspectives) using a camera lucida (See *Fig. 3.2*) (Bakker, 1979, p. 11; Terug in Drenthe, n.d.). They found sherds after digging a hole in the entrance passage of D26 and sieving the contents (Bakker, 2013, p. 16). These sherds were brought to the British Museum upon their return to England post-documentation (Bakker, 1979, p. 11; Hunebedcentrum, 2021b). During this survey, they determined the depth of the floor, based on the entrance passage, to be approximately 96.52 cm below the levels in 1878 (Bakker, 2010, p. 299).

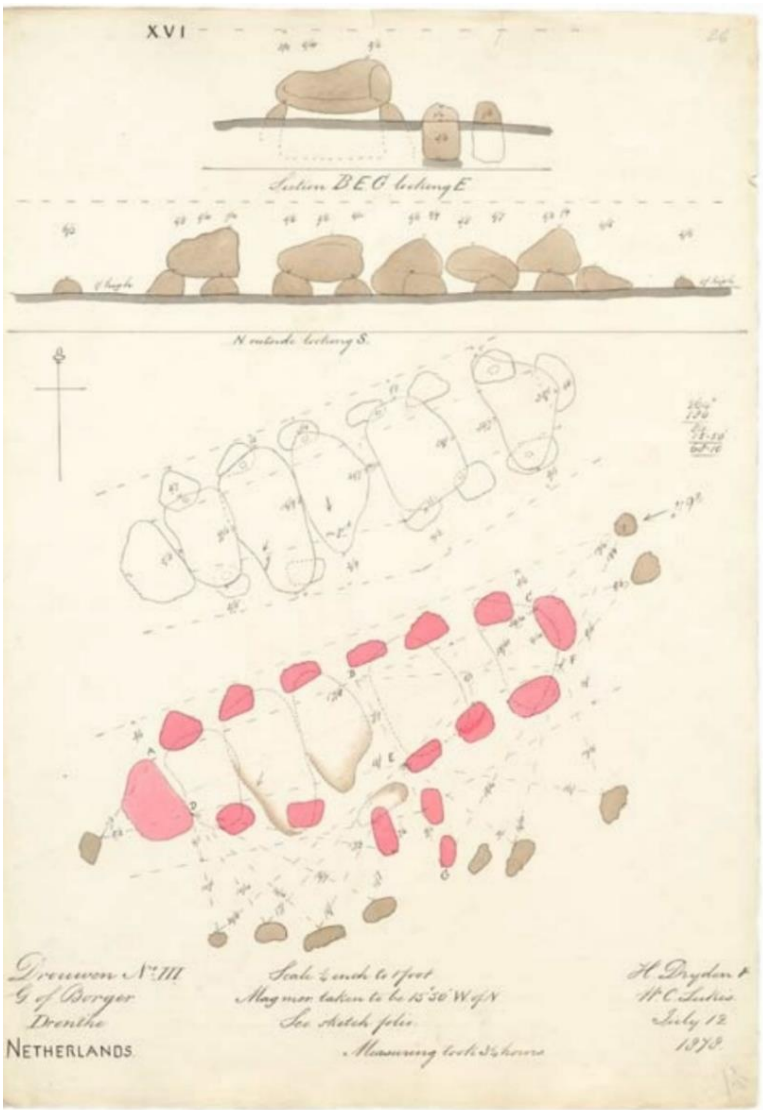

Figure 3.2: Drawing by H Dryden of D26-Drouwenervels on July 12, 1878 (Bakker, 2010, p. 152)

D26 was excavated by J.A. Bakker, A. Van Giffen, and W. Glasbergen in 1968 and 1970 (Bakker, 1979, p. 11; 2010, p. 22). During the 1968 excavation (See *Fig. 3.3*), there was a disagreement between the three regarding the excavation techniques. Van Giffen proposed

excavation in ‘successive horizontal planes’ to identify possible body silhouettes, while Bakker and Glasbergen wanted to record the stratigraphy in ‘typochronological order in the chamber’ to accurately document the sherds. Van Giffen disagreed remarking that it would be impossible. They, ultimately, chose the second method which aimed to record each sherds position (Bakker, 2010, p. 27). D26 was restored in 1970 post-excavation (See *Fig. 3.1* and *3.4*).

Figure 3.3: Photo of excavation of D26 from 1968-1970 (Hunebedcentrum, 2021b)

Figure 3.4: 3D model of D26, created by the University of Groningen (Groningen Institute of Archaeology,

In 2017, Groningen Institute of Archaeology (2017) created 3D models on *Sketchfab* of all surviving *hunebedden*, including D26 to add to the repertoire of *hunebed* information (See *Fig. 3.5*).

D26 constitutes twelve side stones and six capstones, all of which are the monuments original stones. It has two keystones, two pairs of gate stones, and a partially destroyed stone wreath. Before restoration, the fifth capstone was missing. Its total length is 12 m and width is 3.8 m (Bakker, 2009, p. 150; 174; Hunebedcentrum, 2021b).

Figure 3.5: Reconstruction of D26-Drouwenerveld without capstones in the Hunebed Centre, Borger (Photograph: Sonja Smit)

3.3 Landscape Association

D26 is located in Drouwenerveld (coordinates: N 52 56.587; E 006 46.462) in the municipality of Borger (Bakker, 2010, p. 299). This is within the *Hondsrug*, which, due to being a glacial ridge, has a higher elevation than the surrounding land (12-15 m above sea level). In the Neolithic, bogs would have likely surrounded this area (González-García & Costa-Ferrer, 2003, p. 223). The stones are likely granite, deposited nearby by the Pleistocene Ice Age glaciers (Bakker, 2010, p. 8)

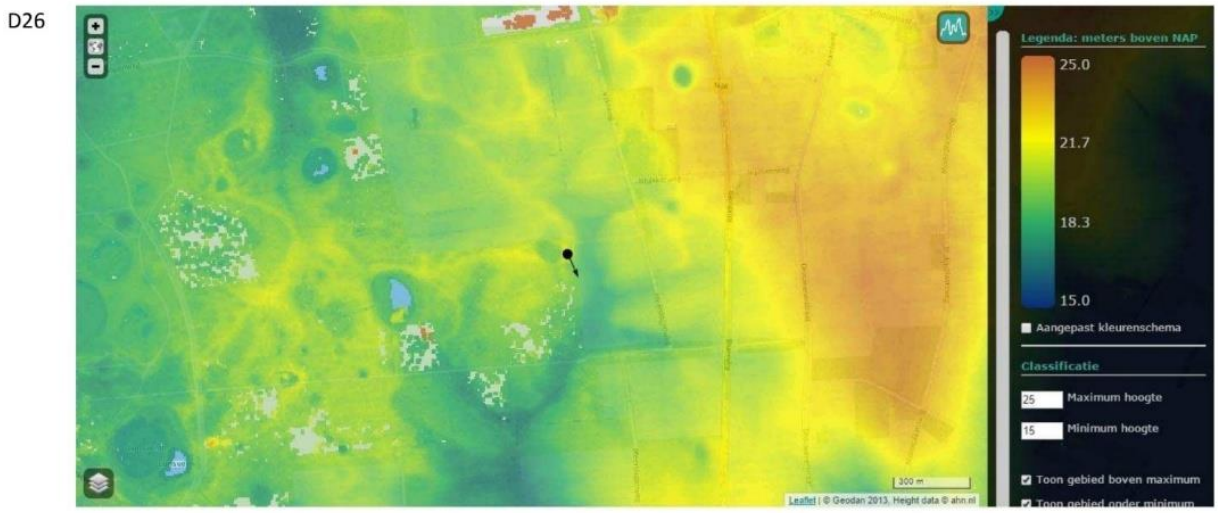

Figure 3.6: Elevation map of the area surrounding D26. Arrow indicated the entrance direction (Rap, 2016, p. 36).

Rap (2016) studied *hunebed* orientation in the landscape which offers insightful results. She investigated the orientation of the *hunebed* in relation to the ridges flank direction, and the entrance direction of the *hunebed* (See Rap, 2016, p. 29). Rap (2016, p. 30) concluded saying that half of the *hunebeds* entrances face a lower elevation, with monuments positioned on the 'flanks of ridges' and backs to the higher elevation. D26 follows this trend, with its entrance facing a lower elevation on the eastern flank (See *Fig 3.6*) (Rap, 2016, p. 29).

Another study investigated the east-west or north-south orientations of *hunebedden* (González-García & Costa-Ferrer, 2003). They calculated the majority to favour east-west orientations, with an eastern chamber azimuth (lying in the extremes of the sunrise-sunset or moonrise-moonset positions) (See *Fig. 3.7*) (González-García & Costa-Ferrer, 2003, p. 223). They measured D26 to be oriented with a chamber azimuth of 66° and passage azimuth at 155°. This aligns with their later observation that most of TRB West group has chamber orientations of approximately 70°. They reiterate the chamber position theory in

relation to moon rise, while furthering this estimate to a specific time (Samhain in October) (González-García & Costa-Ferrer, 2003, p. 224; 2007, p. 207).

D26 resides near other *hunebedden*, including D21 (N 52 56.649; E 006 48.003) and D22 (N 52 56.660; E 006 48.0022). D22 is of a comparable orientation (73.5), while D21 deviates considerably more (46+-2) (Hunebedcentrum, 2021a).

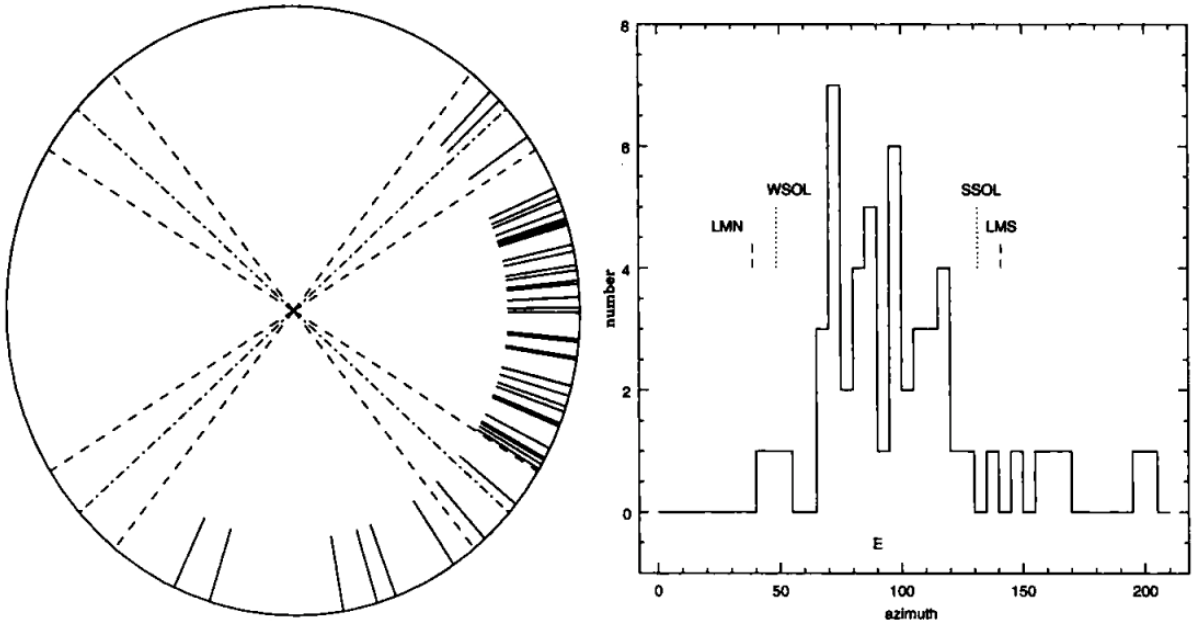

Figure 3.7: Chambers' azimuth. Left: eastern azimuth for each chamber; dashed lines indicating the moon's extreme positions; dotted-dashed lines indicate solstices. Right: histograms with the same information (González-García & Costa-Ferrer, 2003, p. 225).

3.4 Archaeological assemblage(s)

Many artefacts were found and processed post-excavation. This assemblage is now stored and on display in the Hunebed Centre at Borger (Bakker, 2010, p. 213; Wolters, 2017). The assemblage consists of ~160 pots in varying states of completion, lithic tools, and weapons, and 48 amber beads. These were found in the chamber of D26. More artefacts were found by the entrance, where two complete earthenware pots were found in a pit (Bakker, 2013, p. 18; Van Gijn & Bakker, 2005, p. 286; Wolters, 2017).

The pots found in the chamber demonstrate continued TRB usage over 230-250 years (*ca*. 3245-25 to 2995 BC). They were assigned to late Brindley 2 or early-3 to early-5 subtypes of the TRB pottery style. Two amphorae are associated with the Single Grave culture (EGK). A Harpstedt type pot (Iron Age) was found (Bakker, 2010, p. 213). In total, 150, mostly

fragmented pots, were from horizons 2 to early 4 with other grave goods surrounding them on a 'granite grid-covered cobble floor (10 x 2.5 m) without any stratigraphic order' (Bakker, 2013, pp. 16-18). These are reconstructed on museum display (See *Fig. 3.8-3.9*).

Figure 3.8: Pottery from D26 on display in the Borger Hunebed Centre (Photograph: Sonja Smit)

Figure 3.9: Pottery from D26 on display at the Hunebed Centre in Borger (Photograph: Sonja Smit).

While human remains are scarcely found due to highly acidic soils around most *hunebedden*, some can be identified. These are primarily cremated remains, which preserve slightly better in acidic soils (González-García & Costa-Ferrer, 2003, p. 203). In D26, ~150 small fragments of burnt human bone were evenly scattered throughout the chamber. 11 fragments of burnt animal bones and teeth were found, belonging to cattle, pigs and sheep or goats (Bakker, 2010, p. 12). The burnt human bone mainly belonged to men, with a few women and children. This possibly debunks the notion of cremations beginning with horizon 6-7 (~2850 $\pm$ 100 BC), and not earlier due to no TRB pottery from horizon (early) 4. Each horizon lasted for a period of approximately 100-150 years (Bakker, 2010, p. 12; Brindley, 1986, p. 105).

Bakker (2010, p. 12; 2013, p. 18) briefly suggests W. Arentzen's anthropological view of cremated remains present in megaliths. These includes hypotheses around the role of human remains playing a similar food role as the animal bones found, potentially indicating cannibalism. However, Bakker (2010, p. 12) does not give any reasons to support this hypothesis, only that it was a possibility based off behaviours ascribed to other cultures.

Other grave goods in D26 include a lithic tool assemblage (3 half battle-axes, 1 stone and 2 flint axelets, and 80 trapezoidal arrowheads, amongst others) (Bakker, 2013, p. 18).

3.5 Associated cultures

Many monuments are associated with the TRB-West group; however, megalithic tombs, primarily *hunebedden*, are connected with the burial of the dead. These burial structures are also associated with specific orientations; however, those reasons are unknown and debated presently. González-García & Costa-Ferrer (2003, p. 225; 2007, pp. 203-204) suggest it to be in relation to the equinox (See *Section 3.3*).

Much information has been obtained from the West group through *hunebed* studies. Ritual practices of the TRB were identified through the seven ritual deposits of TRB pottery in the Netherlands. Whereas, the remaining West Group in Germany, uncovered no ritual deposits (Bakker, 2013, p. 11-13).

Importation of specific goods can be traced through TRB hoards. Approximately twenty flint axe hoards were discovered, showing the direct import of flint (tools) from North Germany and South Denmark. This also leads to smaller, individual ritual deposits (Bakker, 2013, pp. 11-13). Due to the large size of some axe deposits, Wentink (2006, p. 99) argued they were sacred objects rather than everyday tools.

Despite much available information regarding funerary aspects of the TRB, there is little known about social life relating to settlements, likely due to a lack of archaeological evidence (Bakker, 2013, p. 19; Wentink, 2006, p. 99). However, more information is becoming available with further excavations, as seen in sites like Dalfsen (Schat van Dalfsen, n.d.).

3.6 Conclusion

Hunebedden are protected under Dutch laws. D26 has an extensive research history since 1812, officially recorded in 1818/1819, and was subject of excavation in 1878. D26 was one of the thoroughly and final *hunebedden* excavated, with reconstructions in multiple places. D26 follows the ridge position and orientation of most *hunebedden* with a lower-facing entrance and east-west orientation. It contained the common archaeological assemblage associated with *hunebedden*, including pottery, lithic tools and weapons, beads, and human and animal bone. *Hunebedden* are associated with the Funnel Beaker culture, giving insights into how TRB people viewed and built monuments in the landscape.

Chapter 4: Case Study 2 – Men-ar-Rompet

4.1 Introduction

Men-ar-Rompet, the second case study, is an *allées couvertes* (gallery grave) in Côtes D-Armor, Brittany, France. This chapter investigates various aspects associated with funerary monuments, their construction, and reuses. Men-ar-Rompet is a good example of how one monument can be constructed with one purpose (collective burial) then be reused for another, albeit similar, purpose (individual inhumation). This chapter will also discuss the orientation of Breton *allées couvertes*, which will be further implemented in Chapter 6.

4.2 Research background

Men-ar-Rompet is located 5 km away from the closest town, Kerbor and approximately 25 m from the coast at high tide (See *Fig. 4.1*). At initial construction, the sea level was lower, and the coast was therefore further away from the monument (Giot et al., 1957, p. 493; 1958, p. 67; TheMegalithicPortal, 2007). According to TheMegalithicPortal (2007), its location within a walled field is a key reason for its survival, especially during high tide, as it offers protection from coastal erosion. There is a discrepancy between two publications regarding the exact location of Men-ar-Rompet in the embankment. Giot et al. (1957, p. 493) provides a location in the north-west-north-east embankment, while Giot et al. (1958, p. 67) provides a location in a south-west-north-east embankment, which separates plots A507 and A508 (*Fig. 4.1*). This

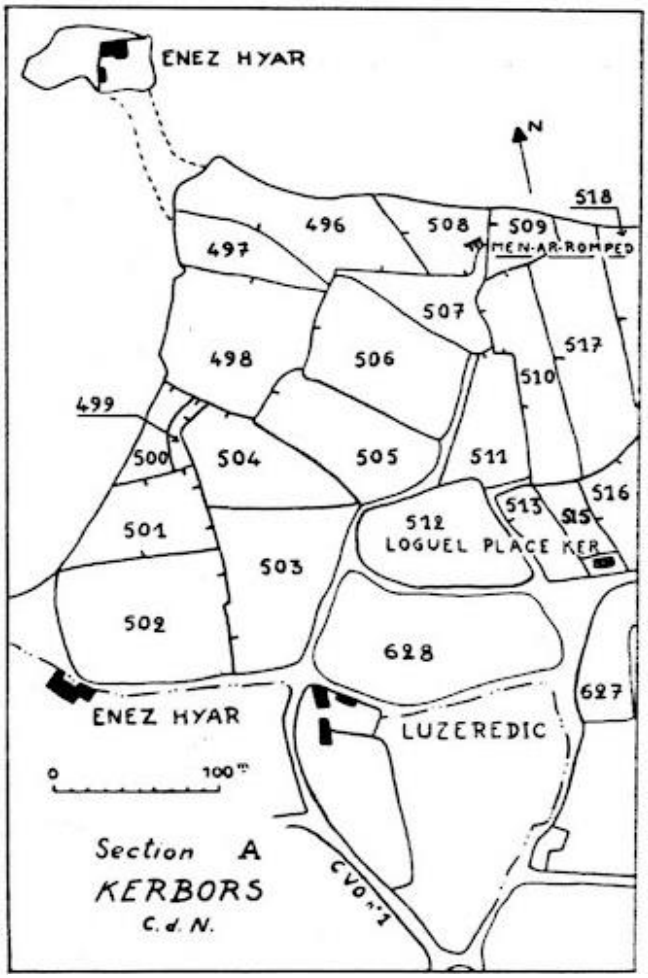

Figure 4.1: Map of the immediate area around Men-ar-Rompet and Kerbors (Giot et al., 1957, p. 494).

is strange as the same authors wrote both articles; however, the 1958 description appears more accurate when compared to *Figure 4.1*.

Men-ar-Rompet has been mentioned by multiple people to varying degrees. In 1911 Cdt. A. Martin discussed it alongside the remains of a tumulus in plot A507 and plot A510. G. du Mottay and G. de la Cheneliere introduced Men-ar-Rompet briefly in their inventories (Giot et al., 1957, p. 493; Société archéologique de Finitere, 1911, p. 94; Société archéologique et historique des Cotes-du-Nord, 1883, pp. 286-287). More recently, *The Megalithic Portal* (https://www.megalithic.co.uk/), a website which allows people who visit specific sites to document their visit, discusses Men-ar-Rompet (See *Fig. 4.3*). It also offers general information about the site.

Figure 4.2: Image of Men-ar-Rompet with the coast in the background (TheMegalithicPortal, 2007)

Men-ar-Rompet was excavated in 1965 by P.-R. Giot, J. Briard, and J. L'Helgouagh (See *Fig. 4.3*). Before excavation, only the northern part of the monument was visible – that includes the exterior uprights and protruding ends of the capstones. The chamber had been filled in with earth and plant debris, while the rest was completely overgrown with vegetation (Giot et al., 1957, p. 493; 1958, p. 67).

Men-ar-Rompet contains two parallel rows of uprights, seven on the northern side, six on the south (See *Fig. 4.3-4.4*). The tomb is divided into three main areas (See *Fig. 4.5*): the rear chamber, main chamber, and antechamber. A large stone slab divides the rear and main chambers (Favrel & Nicholas, 2022, pp. 297-298; Giot et al., 1957, pp. 493-494). All uprights are *in situ* (at 45°) excluding the fourth from the (eastern) entrance, which now leans into the chamber. Only the fourth capstone remains *in situ*. The other three have moved to varying degrees (See Giot et al., 1957 for further details) (Giot et al., 1957, pp. 493-494; 1958, p. 67). According to Giot et al. (1957, p. 494), there was a large slab with an unknown purpose, which was likely a fifth capstone in the embankment.

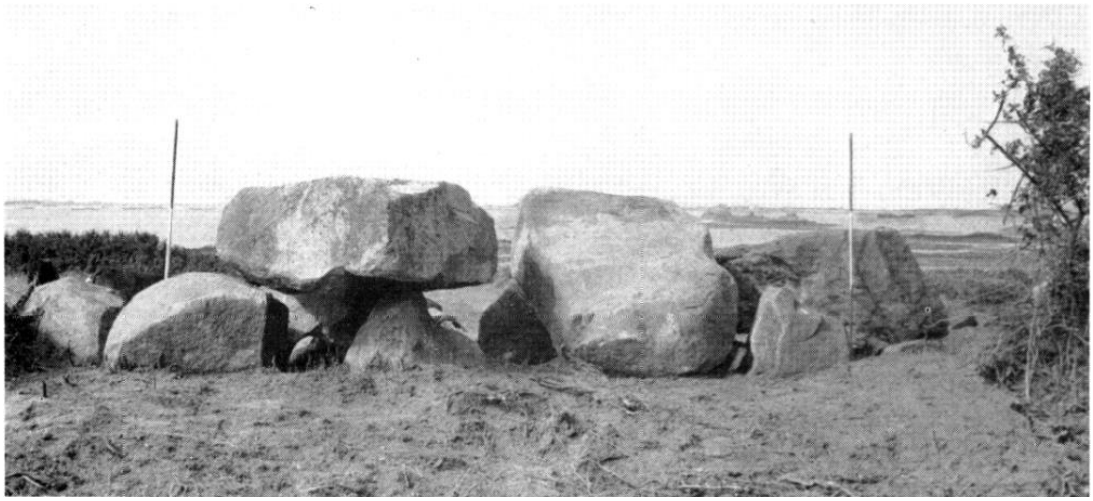

Figure 4.3: Image of the southern side of Men-ar-Rompet during the excavation (Giot et al., 1958, p. 68)

Men-ar-Rompet is 8 m long when including the fallen capstone, and 7.5 m long when the fallen capstone is in its original place. The interior width is 1.2-1.5 m while the overall width is 2.5 m. The interior height is approximately 1 m high (Giot et al., 1957, p. 495; 1958, p. 67).

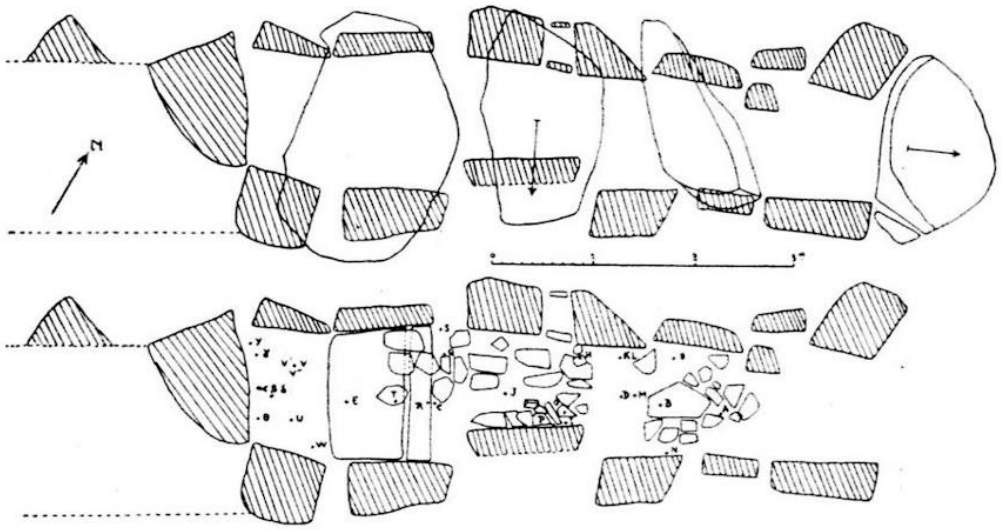

Figure 4.4: Site drawings of Men-ar-Rompet. Upper: Drawing plan of the uprights and capstone. Lower: Drawing plan of the uprights, paving, finds, and slab in the western end (Giot et al., 1957, p. 495).

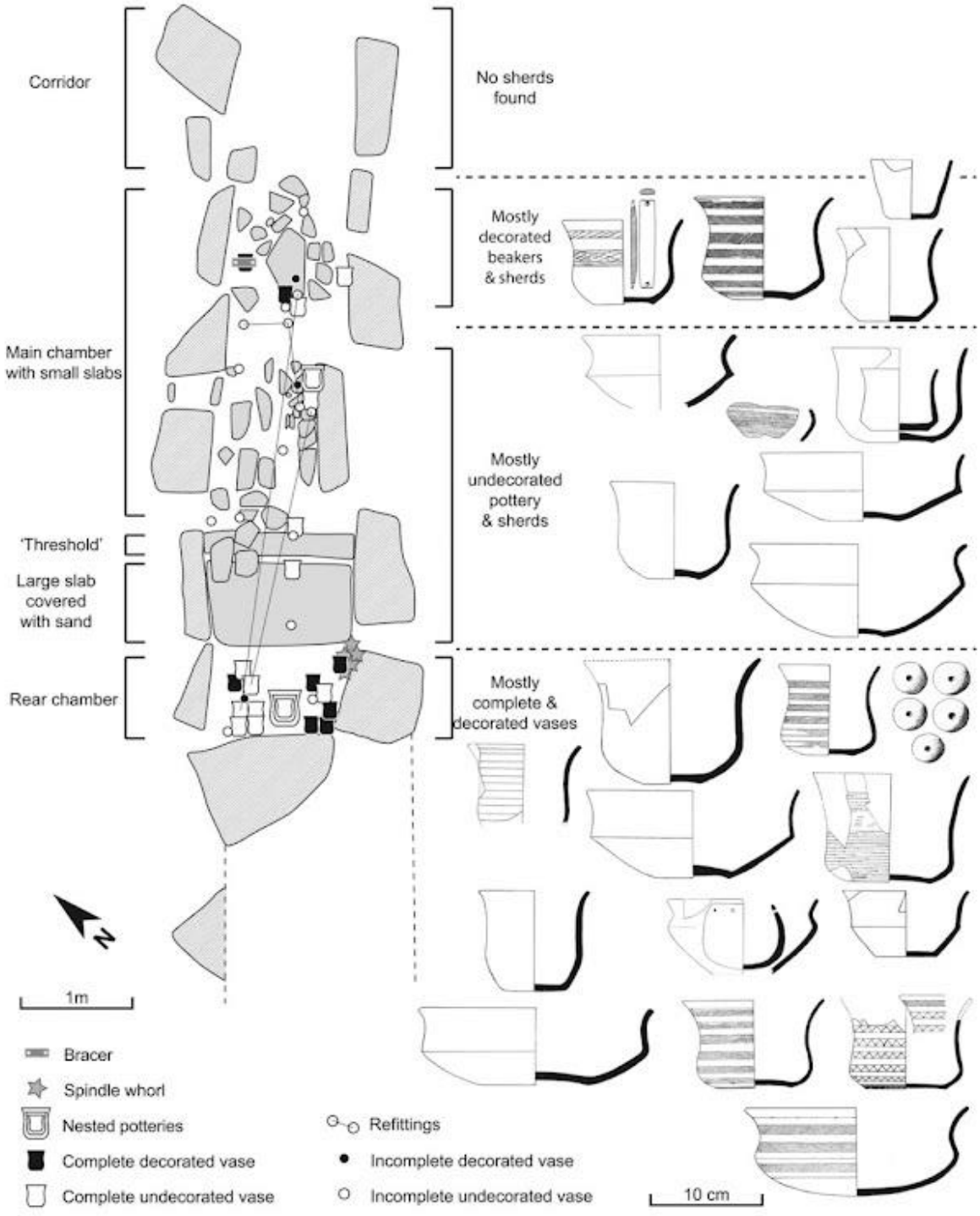

Figure 4.5: Drawing plan of Men-ar-Rompet, including finds locations (Favrel & Nicolas, 2022, p. 298)

4.3 Landscape association

Men-ar-Rompet is located 25 m from the Tréguier estuary (Latitude: 48.843100N; Longitude: 3.1801W). The local bedrock is granite (Giot et al., 1957, p. 493; 1958, p. 67; TheMegalithicPortal, 2007). All stones used to construct Men-ar-Rompet are roughly-shaped

granite (Giot et al., 1957, p. 495; 1958, p. 67). Based on this, I suggest that the stones used to build the monument were probably locally quarried, rather than transported (glacially or otherwise) as the stones appear to match the local bedrock.

Additionally, another monument was documented in close association with Men-ar-Rompet both before and contemporary to the excavation. Traces were discovered of the base of a round tumulus, approximately 50 m south of Men-ar-Rompet in plot A507 and A510. A singular upright of what appears to be a small dolmen with a circular corbelled chamber has been deduced from the tumulus plans (Giot et al., 1957, p. 493; 1958, p. 67; Société archéologique de Finitere, 1911, p. 94; Société archéologique et historique des Cotes-du-Nord, 1883, p. 287).

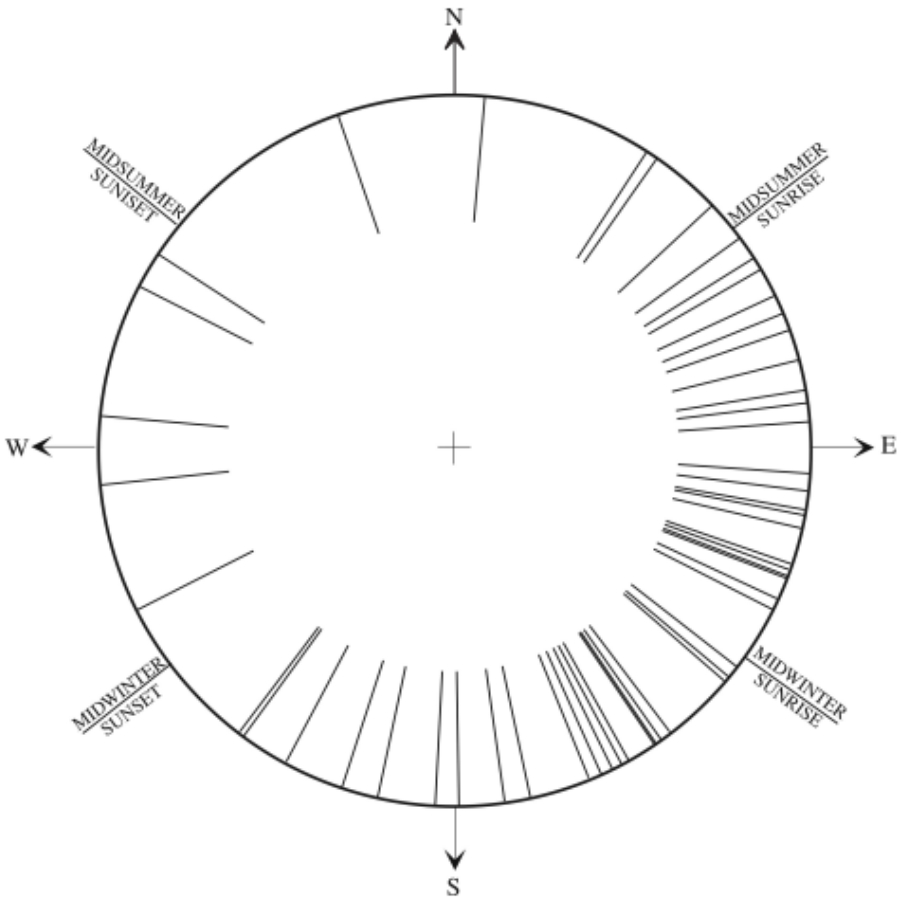

Figure 4.6: Orientations of the northern and western Brittany (52), and Mayenne (1) allées couvertes (Hoskin, 2007, p. 498)

Hoskin (2007; 2008) investigated many megalithic monuments orientation across the Atlantic seaboard, from Iberia to France. In France, he focused on specific regions with higher concentrations of megaliths. His study of Breton megaliths (See *Fig. 4.6*), specifically *allées couvertes*, are relevant to Men-ar-Rompet. He describes *allées couvertes* as 'isolated

and massive structures… lengthy and with well-defined axes, and their orientations can usually be measured with confidence' (Hoskin, 2007, p. 493). Essentially, the passage is usually orientated similarly as the chamber, and therefore, an unanimously similar axis of symmetry, allowing for easier orientation interpretations (Hoskin, 2008, p. 507). Hoskin (2007, p. 495) uses terms to describe the orientation of monuments, including SR (sunrise), SR/SC (sun rising/sun climbing), SD/SS (Sun descent/sunset).

Men-ar-Rompet resides within the 'north and west Brittany' group composing of 52 *allées couvertes* (See *Fig. 4.6*) (Hoskin, 2007, pp. 498-499). Men-ar-Rompet is orientated at 65°, with an east-northeast-facing entrance (Giot et al., 1957, p. 495; Hoskin, 2007, p. 498). Collectively, *allées couvertes* in the north and west of Brittany are SR/SC; however, a minority are SD/SS, and fewer again have north-facing entrances (Hoskin, 2007, p. 501; 2008, p. 511). Men-ar-Rompet at 65° (~ENE) follows a normal SR/SC orientation, much like the average composition of its group.

4.4 Archaeological assemblage

Many different artefacts were recovered during the excavation of Men-ar-Rompet, from organic material to ceramics. Ceramics were found in the largest density (44 vessels), consisting of one of western Frances largest Bell Beaker pottery assemblages (Favrel & Nicolas, 2022, p. 297; Giot et al., 1957, pp. 495-501). Only 2-3 sherds were uncovered in the antechamber, while the majority were excavated in the main and rear chambers (See *Fig. 4.4*) (Giot et al., 1957, p. 496). Pottery in the main chamber was quite fragmented due to earth pressure, root infiltration, and animal burrowing, while vessels in the rear chamber were mostly complete (Favrel & Nicolas, 2022, p. 298; Giot et al., 1957, p. 496; 1958, pp. 69-71).

Vessels, in varying states of fragmentation, were the main find in the assemblage. For example, several vessels had fragmented along the weak points of the coil. Additionally, several vessels were found stacked within other vessels, for example, two bowls (#30 and #31) were found within a legless vase (#39) (See *Fig. 4.6*) (Giot et al., 1957, p. 496).

44 vessels with mostly complete profiles were identified (See *Fig. 4.7*) (Favrel & Nicolas, 2022, p. 297; Giot et al., 1957, p. 498; 1958, p. 71). However, Giot et al (1957, p. 498) argue that there were likely vessels in the antechamber which were removed or destroyed.

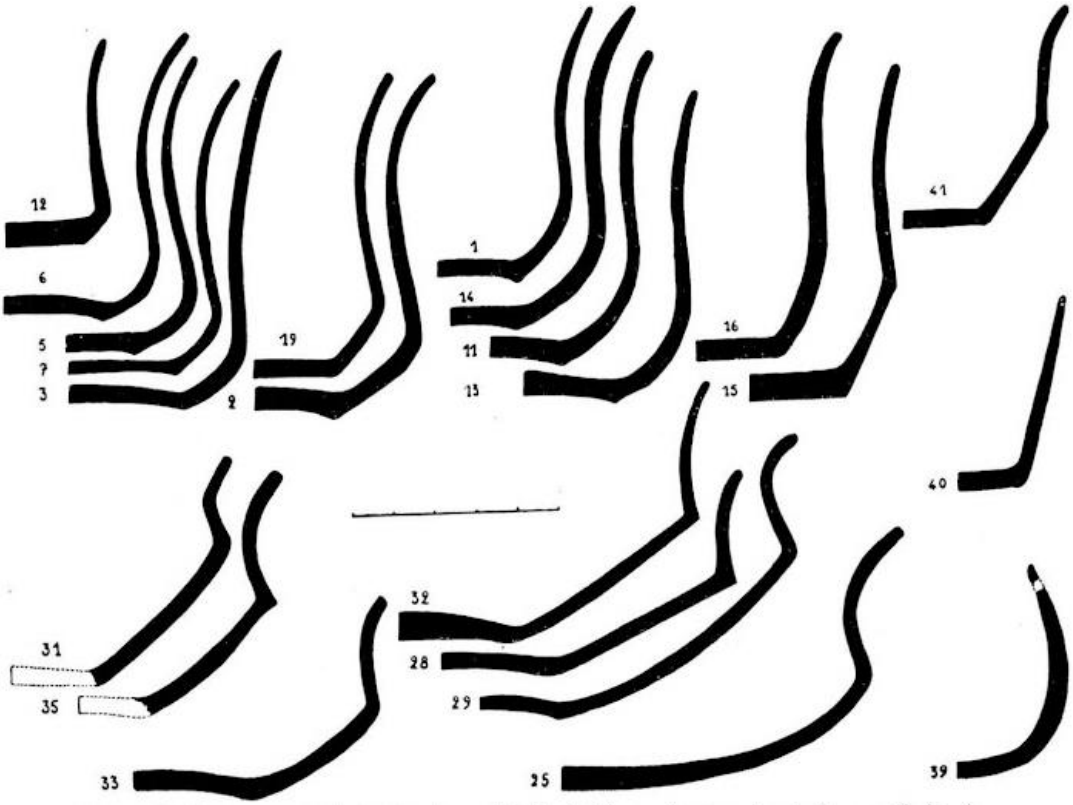

Figure 4.7: Profile drawings of the ceramics (Scale: 2 cm sections) (Giot et al., 1957, p. 492)

Most vessels were Bell Beakers and carinated bowls, although two vessels resembling Late Neolithic wares were also identified. The Late Neolithic vessels were found within a Bell Beaker bowl indicating simultaneous deposition (Favrel & Nicolas, 2022, p. 297).

Vessels have defining characteristics as identified in Giot et al. (1957; 1958). They have been attributed to either the Primary Neolithic or Secondary Neolithic depending on components such as texture, colour, homogeneity, and shape (Giot et al., 1957, pp. 198-500). Pottery associated with Bell Beakers imitated the shape without abandoning the local thick, grainy mixture (Favrel & Nicolas, 2022, p. 293; Giot et al., 1957, p. 501).

Five spindle whorls were discovered under the last capstone. Three were found beneath Cord-Zoned Maritime Beaker (#5), with two nearby (See *Fig. 4.8*) (Favrel & Nicolas, 2022, p. 297; Giot et al., 1957, p. 500; 1958, p. 71).

Limited lithic materials included some miscellaneous flint pieces, a rounded flint scraper, pebbles, and a polished schist archer's armband. The archer's armband was 113 mm long,

23 mm wide, and 9 mm thick with a biconical hole at each end, found within complete, decorated vase (#1) (See *Fig. 4.9*) (Favrel & Nicolas, 2022, pp. 297-298; Giot et al., 1957, pp. 500-501; 1958, p. 77).

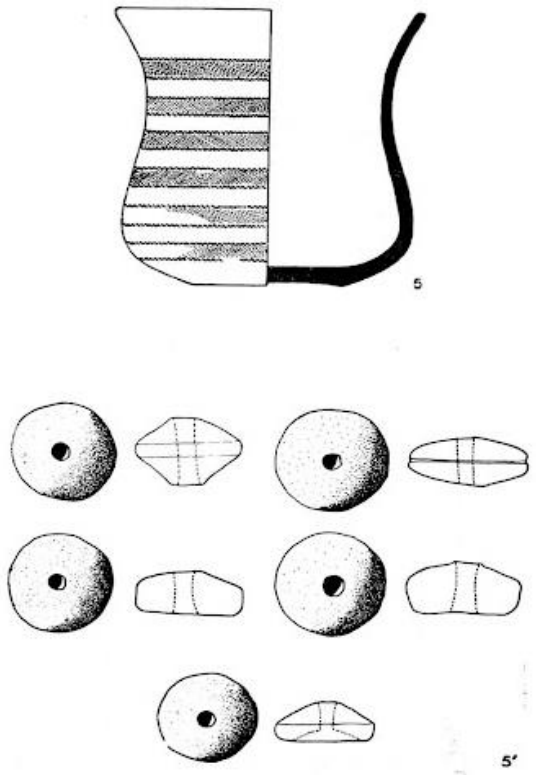

Figure 4.8: Drawing of the five spindal whorls and the vase (#5) by which they were found (Giot et al., 1957, p. 505)

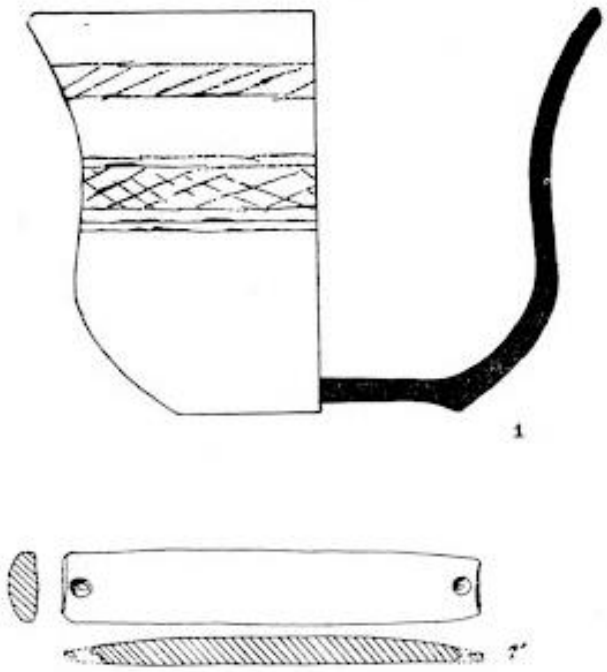

Figure 4.9: Drawing of the archer's armlet and the vase (#1) within which it was found (Giot et al., 1957, p. 503)

Few metal objects were found thrown into the western stone filling by farmers, mostly from modernity. The primary item mentioned was a fragmented bronze heeled axe, likely thrown in from another field by farmers (Giot et al., 1957, p. 501).

Organic remains were scarce due to the low soil pH preventing good organic preservation. A small bone fragment was found. A few small pieces of charcoal were found close to the surface, likely from recent burnings of overgrown vegetation (Giot et al., 1957, p. 501).

4.5 Associated culture(s)

Allées couvertes construction is associated with the Late Neolithic (4500-2700 BC) Seine-Oise-Marne culture (SOM) (Archaeologs, 2024; Daniel, 1955, p. 12; 1958, p. 18), in addition to other cultures such as Western Neolithic pottery, Bell Beaker, and Chassey ware (Daniel,

1955, pp. 12-15; 1958, pp. 17-18; Favrel & Nicolas, 2022, p. 197). This is likely due to secondary usage of funerary monuments by contemporary and later cultures as seen through reuses of Neolithic funerary monuments by Bell Beaker communities, who turned them from collective burials to individual inhumations (Favrel & Nicolas, 2022, p. 285).

The SOM cultures origins and how it expanded are debated. One theory implies they were an extension of Loire Gallery Graves in western France which moved eastwards. Another theory indicates settlements developed following the Seine from Rouen towards Paris (Daniel, 1967, p. 201). These interpretations include interactions between migrant and indigenous populations, who already grasped concepts of the Neolithic Revolution (Daniel, 1967, p. 206). However, this doesn't allow for the culture to arise simultaneously in independent settlements, which was the most popular theory in the 1960s (Daniel, 1967, p. 201).

The SOM culture was associated with three specific types of burials:

1) Megalithic tombs (*allées couvertes*)
2) Burial caves (which were often reused by, and therefore not completely associated with SOM culture)
3) *Marchets* (stone burial mounds).

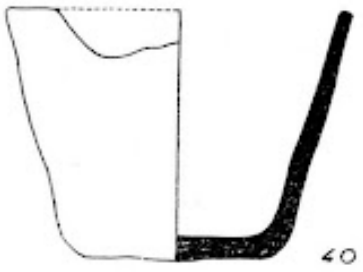

Figure 4.10: Flowerpot style vase from Men-ar-Rompet (Giot et al., 1957, p. 515)

It is also associated with menhirs, although menhirs are not completely understood. SOM pottery is coarse, grainy, dark grey and thick-walled, often with an S-shaped profile and some incised decorations (Archaeologs, 2024; Giot et al., 1957, p. 498; Roussot-Larroque, 1985, p. 13). This is seen in flowerpot vase (#40) from Men-ar-Rompet (See *Fig. 4.9*) (Giot et al., 1957, p. 496).

SOM artefacts include traverse arrowheads, antler sleeves, and crude flat-based, bucket-shaped pottery. Another feature of SOM culture is treated skulls and bones which are often unpreserved due to acidic soils in north-west France (Archaeologs, 2024; Favrel & Nicolas, 2022, p. 285; Gabel, 1958, pp. 103-104).

According to Roussot-Larroque (1985, p. 9), the SOM culture was 'striking for the *unity of its inventory*', relating to the Mesolithic forest substrate. She related this to the usage and

importance of flint in the material and symbolic expressions of the struggle between man versus forest. This was seen through funerary deposits and parietal iconography emphasising hunting, on both an economic and social level as countless arrowheads, and occasional quivers were found in deposits. This indicated the influence of nature on the SOM culture (Roussot-Larroque, 1985, p. 9).

4.6 Conclusion

Men-ar-Rompet is one of many excavated *allées couvertes*. Neolithic Men-ar-Rompet was considerably further from the coast than nowadays. It has a moderate history of research, most notable from around 1883 and 1911, and excavation in 1965. The stones were likely locally quarried as they appear to match the local granite bedrock. Its orientation follows the common eastern (SR/SC) orientation of most north and western Breton *allées couvertes*. Men-ar-Rompet contained one of the largest assemblages of Bell Beaker pottery in western France, with most excavated in the main and rear chamber. Five spindle whirls, lithics including an archer's armband and a flint scraper, and a small bone fragment were excavated. The Seine-Oise-Marne culture likely constructed the tomb; however, *allées couvertes* were often reused by later cultures like the Bell Beaker culture.

Chapter 5: Case Study 3 – Killaclohane Portal Tombs

5.1 Introduction

The Killaclohane portal tombs are located close to Milltown, a village in County Kerry. Both tombs were fully excavated. Their finds were completely analysed, including detailed lithics, pottery, and organic materials analyses. This chapter investigates the final case study. The Brackhill monument is also discussed to a lesser degree as while it was surveyed, it was not excavated.

The structure follows the other case studies with six sections providing details about the background information, the excavation, associated cultures (or lack thereof), landscape associations, finds analysis, and conclusions.

5.2 Background information

Two portal tombs are associated with Killaclohane: Killaclohane I (Ke047 052) and Killaclohane II (Ke047 059) (Connolly, 2021, p. 71; National Monuments Services [NMS], 1997, p. 047-4). Both tombs are dated to the early Neolithic (~4000 BC). A third possible tomb in Brackhill is also associated with these two (See *Fig. 5.1; 5.2; 5.6*). They are, presently, the oldest burial monuments known (*c*. 3700 BC), with Killaclohane I being the oldest structure standing (Connolly, 2021, p. 25).

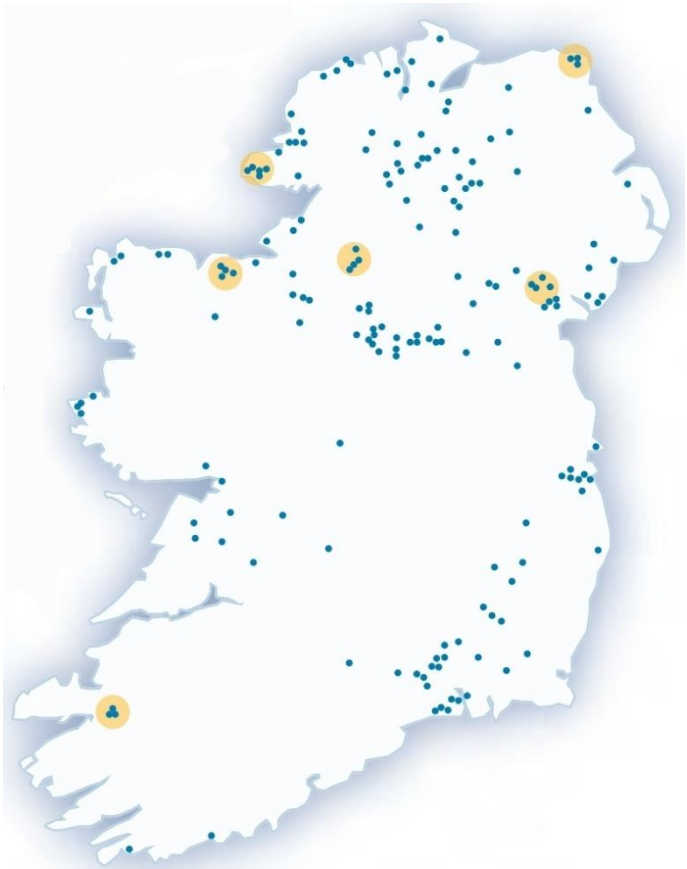

Figure 5.1: Distribution map of portal tombs of Ireland, with yellow circles indicating clusters identified by Kytmannow (2008), and including the Killaclohane cluster in the bottom left (Connolly, 2021, p. 51)

Killaclohane is located east of Milltown village, within Kilcolman (Irish: *Coill an Chlocháin*) parish in mid-Kerry. *Coill an Chlocháin* translates to 'The Wood of

the Stepping Stones; Causeway or Old Stone Structure', which may have originated through Killaclohane tombs, showing the monuments' influence in the general area (Connolly, 2021, p. 71).

Figure 5.2: Distribution of megalithic tombs in Co. Kerry (Connolly, 2021, p. 53)

There are few mentions of Killaclohane tombs before M. Connolly excavated them (2015-2018). De Valera & Ó Nualláin did not mention Killaclohane in their publication investigating Kerry megalithic tombs, nor were they included in early editions of Ordnance Survey maps (Connolly, 2021, p. 71; de Valera & Ó Nualláin, 1982). It was registered by *National Monuments Service* in 1997. In 2018, Killaclohane I was used on the cover page of *Fleadh Cheoil Chiarraí*'s 2018 programme (Connally, 2021, p. 212). Kerry County Museum also released short videos of Killaclohane I's excavation (Kerry County Museum, 2015).

The excavations of Killaclohane I and II occurred in 2015 and 2017-2018 respectively. Killaclohane I was in a state of collapse (See *Fig. 5.4*), which prompted excavation and conservation works, leading to Killaclohane II excavations over two summers (Connolly, 2021, p. 20). When the capstone shifted, it caused the portals to lean east due to increased pressure. The capstone was then mostly supported by the eastern portal (portal 2), which had fallen southwards (See *Fig. 5.3*). The capstone measures 3.75 m long, 2.65 m wide, and 0.50-0.85 m thick.

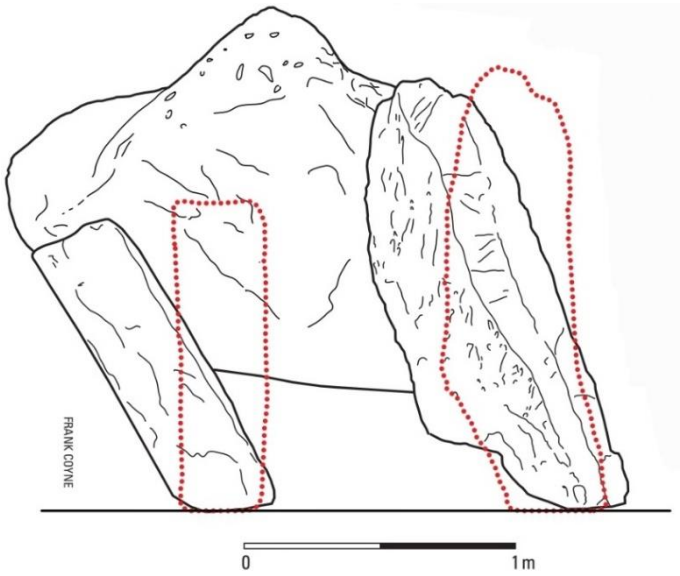

Figure 5.3: Positions of portals before correction post-excavation (Coyne, F. in Connolly, 2021, p. 98)

Additionally, there is a height difference between the portal stones, which was explained by the capstones uneven thickness and the placement of portal 1 sticking out from under the capstone (Connolly, 2021, pp. 144-152).

Figure 5.4: Killaclohane I before excavation and conservation (Connolly, 2021, p. 145)

Killaclohane II had collapsed, with the capstone broken into two pieces (See *Fig. 5.5*). Before breaking, it measured 4.5 m long, 2.35 m wide, and 0.45 m thick, weighing approximately 13.3 tonnes, similar to Killaclohane I's 13.5 tonnes (Connolly, 2021, p. 144; Wyse Jackson, 2021, pp. 63-64). Killaclohane II also had a surviving side wall, possibly used during construction.

Figure 5.5: Killaclohane II pre-excavation (Connolly, 2021, p. 83)

The locations of both Killaclohane and Brackhill were likely chosen as that was where the capstones were deposited, and consequently dug out of the ground and raised above the pit from which they originated with two portals placed beneath them forming the entrance. These portal tombs follow the simpler three stone structure (Connolly, 2021, p. 213).

5.3 Landscape association

Killaclohane portal tombs were constructed using green sandstone of varying descriptions. Killaclohane I's capstone and portal 2 had identical stone types, while portal 1 was fine-grained with a quartz vein running through. Killaclohane II's capstone was different to its portals and stone wall, which were identical (Wyse Jackson, 2021, pp 65-66).

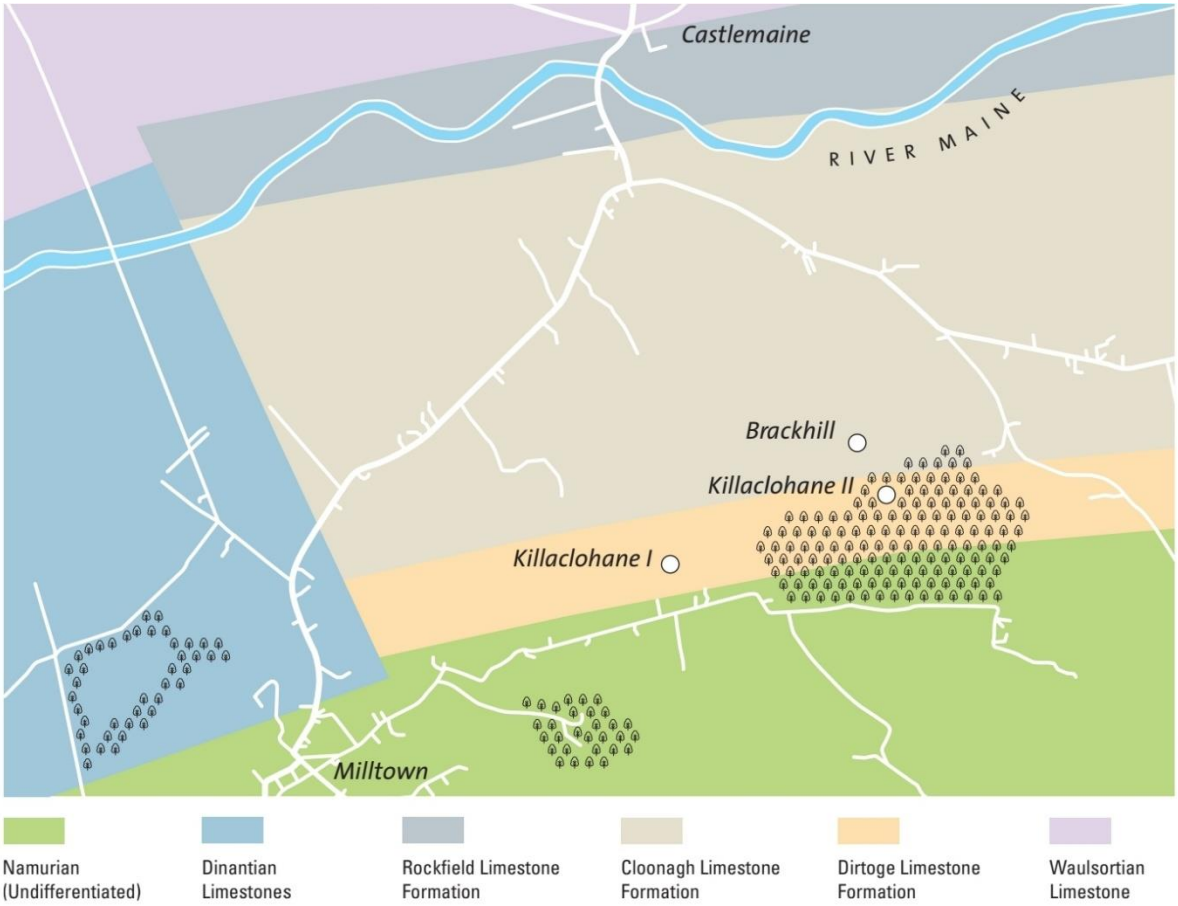

Figure 5.6: Bedrock geology of mid-Kerry (Wyse Jackson, 2021, p. 64, based on Pracht, 1996)

According to Wyse Jackson (2021, pp. 68-69), neither monuments' stones resemble local geology and are therefore not locally sourced. The Lack Sandstone Formation is the closest resembling bedrock, which is *c*. 5 km away, north-west of Castlemaine, making manual

transportation unlikely. Instead, Wyse Jackson (2021, p. 69) proposes the capstones (and portals) transportation to the monument's current positions via glaciation.

Bedrock could potentially influence the location of portal tombs. Mercer (2015, p. 53) comments on the location of many portal tombs on different bedrocks boundaries and boundaries (visible) influence the landscape. However, she did not comment further on this. Mercer does not discuss Killaclohane, but her study is relevant to the later research Connolly conducted stating the Killaclohane tombs sit close to bedrock boundaries (See *Fig. 5.6*) (Connolly, 2021, p. 51; Mercer, 2015, p. 53).

Figure 5.7: Sea level map - 6 m decrease (dark beige) indicating exposed land due to the lower sea level (Connolly, 2021, p. 61)

During the Mesolithic and Neolithic, evidence suggests that the Killaclohane area was heavily forested, with limited deforestation during the early Neolithic, and no definitive evidence of cereals before 3750 BC (Connolly, 2021, pp. 60-61; McClatchie et al., 2012, p. 213; Monk, 1993, pp. 48-51). The coastline was further due to lower sea levels; however, there was a gradual rise since approximately 6000 BC, with the sea level remaining within 2-3 m of present levels since *ca*. 2000 BC (See *Fig. 5.7*) (Connolly, 2021, pp. 61-62).

Kytmannow's (2008) study included portal tombs' orientations. While she only lists the Killaclohane portal tombs, her general results have proved useful. She states that portal tombs often have easterly orientations (45%), possibly due to ritual beliefs of rebirth. Killaclohane I is aligned north-south, with a northerly, downslope facing entrance (See *Fig. 5.8*). Kytmannow (2008, pp. 119-120; Connolly, 2021, p. 79) only mentions 14 examples of north-facing portal tombs. While Killaclohane II's entrance is harder to ascertain due to the

broken capstone, it was determined as west-facing, with a north-south alignment (Connolly, 2021, p. 85).

Brackhill's monument, a likely portal tomb 265 m north of Killaclohane Wood, was built using green sandstone, with an east-west orientation and east entrance (See *Fig. 5.9*) (Connolly, 2021, pp. 86-89).

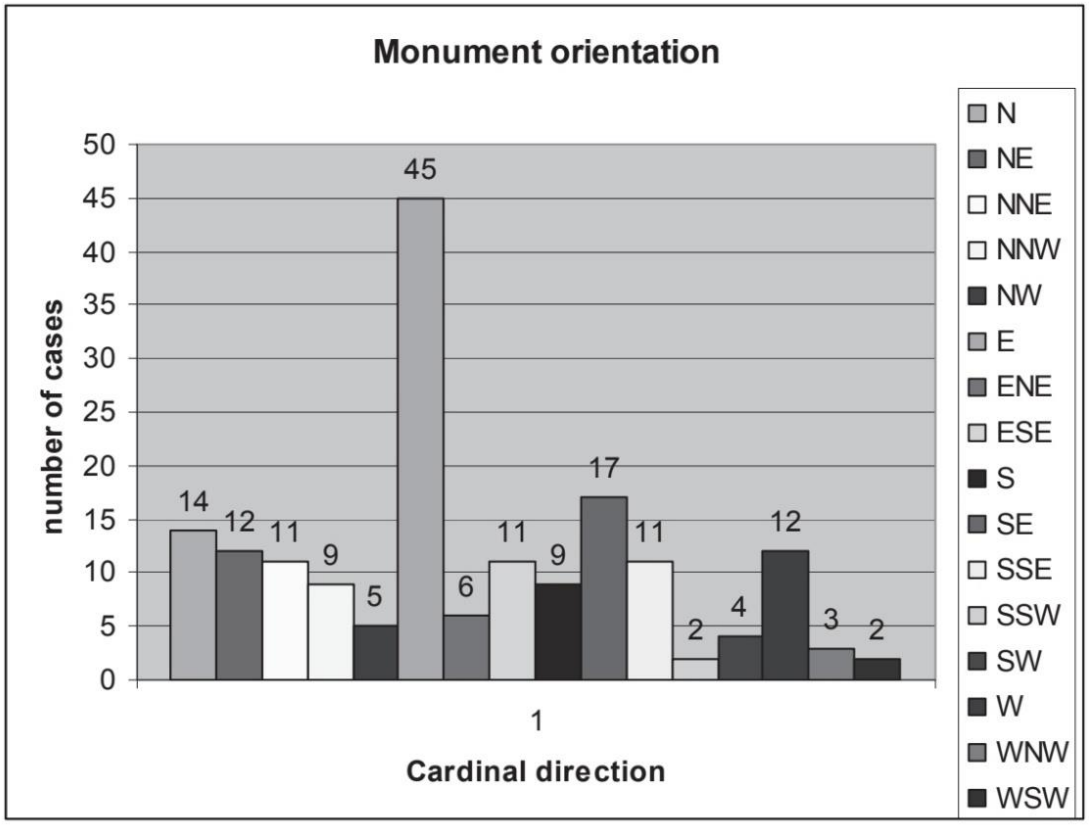

Figure 5.8: Orientation of portal tombs (Kytmannow, 2008, p. 120)

5.4 Archaeological assemblage

There was a broad reuse period at Killaclohane I and II, from Neolithic to contemporary (Connolly, 2021, pp. 182-194). Connolly (2021, pp. 224-227) created a register of finds unique to Killaclohane I and II, providing information about the item, number, context, and description.

A large lithic assemblage was uncovered between both tombs. Killaclohane I contained seventeen lithics (16 flint, 1 chert). There were roughly equal quantities of retouched artefacts and 'unmodified knapping by-products' including a large knife, three leaf/lozenge arrowheads (See *Fig. 5.10*), a hollow scraper, and a flake with hafting/wrapping traces. The

knife (15E0103:24:5) was the largest retouched artefact from Killaclohane I (See *Fig. 5.9*) (Mallía-Guest, 2021, pp. 230-232). It was submitted for use-wear analyses which suggested it was used to process (silica-rich) vegetal materials and the proximal end potentially had a wooden handle (Mallía-Guest, 2021, pp. 234-238). There was also a large fragment of a red sandstone saddle quern (15E0103:36:5) found (Connolly, 2021, p. 228).

Killaclohane II had various pieces of coarse stone artefacts, including chert, rock crystal and sandstone cobbling (Connolly, 2021, p. 229). It had less lithic artefacts than Killaclohane I with three lithic finds from two contexts (11 and 16). These include a debitage flake, a utilised flake, and a leaf-shaped projectile head. Use-wear analyses carried out on the leaf-shaped arrowhead concluded it was likely hafted (Mallía-Guest, 2021, pp. 246-249).

Figure 5.9: Drawings and images of the largest flint knife (15EO103:24:5) from Killaclohane I (Nylund, S. in Connolly, 2021, p. 233)

Figure 5.10: Leaf/lozenge projectile heads from Killaclohane I (Connolly, 2021, p. 239)

Less pottery was recovered than lithics. Killaclohane I had three rim, one shoulder, two neck fragments, seven body sherds, and eighty fragments of approximately eleven vessels. Those include three early Neolithic carinated bowl (3800-3600 BC) fragments (See *Fig. 5.11-5.12*); up to seven middle Neolithic bipartite bowl (3700-3500 BC), with seven decorated fragments (See *Fig. 5.13-5.14*); fifty-two sherds from middle Neolithic globular bowls; and sherds from one Early Bronze Age cordoned urn from Killaclohane I. Most pottery was poorly preserved (Roche, 2021, pp. 260-265). Only one Late Bronze Age bucket-shaped vessel sherd was uncovered in Killaclohane II (Roche, 2021, p. 269).

Figure 5.11: Early Neolithic carinated bowl (Connolly, 2021, p. 261)

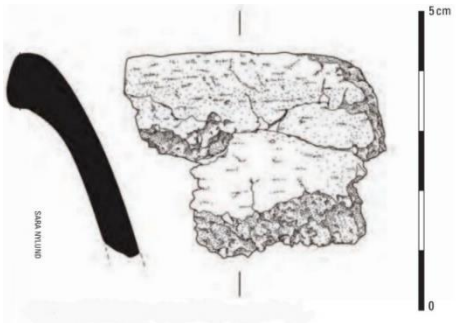

Figure 5.12: Early Neolithic carinated bowl drawing (S. Nylund, in Connolly, 2021, p. 260)

Figure 5.13: Middle Neolithic bipartite bowl from Killaclohane I (Connolly, 2021, p. 263)

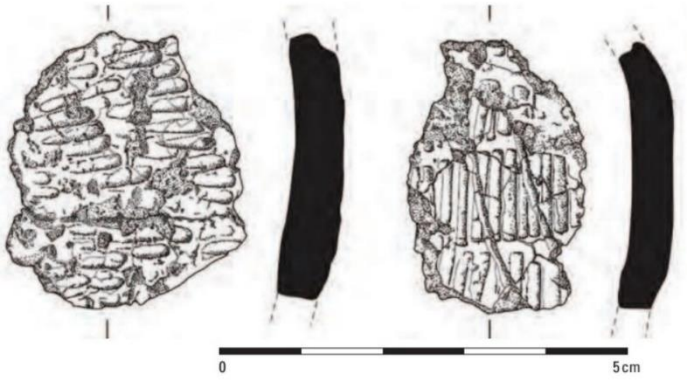

Figure 5.14: Middle Neolithic bipartite bowl illustration (Nylund, S. in Connolly, 2021, p. 262)

Figure 5.15: Copper hair ring from Killaclohane II (Becker, 2021, p. 273)

Four copper alloy artefacts were found in Killaclohane II, including two small fragments, and a hair ring originally covered in gold (See *Fig. 5.16*) (Becker, 2021, p. 272; Connolly, 2021, pp. 270-271). One intrusive find was a Henry VIII silver groat in Killaclohane I by the eastern portal (Connolly, 2021, p. 275).

Many fragments of mostly cremated human remains were discovered in Killaclohane I and II (See Table 2a and 2b in Lynch (2021, pp. 280-283)). More was preserved in Killaclohane I (122.1g) than Killaclohane II (67.9g). Lynch (2021) conducted a full osteological analysis of the humans remains from both tombs. Killaclohane I contained cremated bone and dental

fragments (See *Fig. 5.16-5.17*). Some of the bone fragments contained green staining, likely from a copper alloy (Lynch, 2021, pp. 278-284). Killaclohane II contained cranial and long bone fragments. Two fragments were submitted for AMS dating. This revealed two phases of Early Bronze Age burial: one around 2044-1908 BC, another around 2350-2193 BC. Both tombs had multiple internments over different burial phases (Lynch, 2021, pp. 285-286).

Specific fragments also underwent ancient DNA analysis, but only approx. 0.2% of the DNA recovered aligned with the human genome due to poor preservation of DNA after cremation. However, the individual was determined to likely be male based on the recoverable DNA (Sirak et al., 2021, pp. 301-302).

Figure 5.16: Cremated remains (Lynch, 2021, p. 279)

Figure 5.17: Cremated dental (root and enamel) fragments (Lynch, 2021, p. 279)

5.5 Associated culture(s)

In Ireland there are no specific cultures related to portal tombs. Additionally, culture titles are not often used due to multiple differing technological or 'cultural' groups influencing material and cultural developments within Ireland (M. Connolly, personal communication, March 19, 2024). Instead of directly discussing cultures (See *2.5 Portal tombs*), there has been a scholarly movement towards interpreting cultures, albeit slightly hesitantly more recently, using material finds. While the Western Neolithic style is most often associated with portal tombs, there are often localised styles associated with areas (Cummings & Fowler, 2015, pp. 3-4; Sheridan, 1995, p. 17).

As there is no specific cultural relation with portal tombs, I will discuss the Western Neolithic style pottery, which is often found in association with them. The Western Neolithic ware has been associated with methods of interpreting Irish Neolithic cultures through typologies. This acknowledges that the communities interacted sharing methods, designs, and adaptations from different regions, both inside and outside Ireland (Sheridan, 1995, p. 17).

The Western Neolithic ware is now typically defined by Early Neolithic carinated bowls, like those found in Killaclohane I (Darvill, 2008, p. 498; Roche, 2021, p. 260; Sheridan, 1995, p. 17). Carinated bowls are one of the earliest Neolithic pottery types in Ireland (*c*. 3800-3600 BC). While generally few carinated bowl sherds are found during excavations, they are an important factor in portal tomb (and court tomb) assemblages. There are also few from Kerry, so those found in Killaclohane add to the small collection, providing more information about early Neolithic activity, both in Kerry and Ireland (Roche, 2021, pp. 260-262). The presence of carinated bowls has been suggested to track the movements of people or ideas across areas by tracking pottery styles and adaptations (Sheridan, 2015, p. 12).

5.6 Conclusion

Killaclohane portal tombs have been well studied, from surveying to excavation and thorough analyses of the monuments, their orientation, and the excavated artefacts. While Killaclohane I has more diverse artefacts than Killaclohane II, Killaclohane II also offers insights into both portal tombs, their assemblages and the area's archaeology. The Brackhill tomb, while unexcavated, could also offer more information, adding a definite third portal tomb to the repertoire in Kerry. An important factor to consider is that Ireland does not have specific cultures associated with portal tombs and culture titles are not used largely due to different groups majorly influencing Irish developments.

Chapter 6: Discussion

I will discuss the research questions in this chapter by examining and critically analysing the previous chapters. Due to the rich history of research surrounding European monuments, including extensive investigations, excavations, and surveys, much information is readily available as early as 1600s in some places (Scarre & Laporte, 2022, p. 1254).

Many developments occurred throughout Neolithic Atlantic Europe, with much evidence of funerary monuments and less evidence of settlement (although that is increasing with further research), and the exchange of a hunter-gatherer lifestyle to the introduction and adoption of agriculture (Bradley, 1998, pp. 3-10). Monument evidence often dates simultaneously to the emergence of agriculture (Bradley, 1998, p. 10; Scarre & Laporte, 2022, p. 1258), so unlike popular belief of megalithic structures solely before agriculture, they, instead, likely arose independently, albeit simultaneously in many regions. Additionally, in northern (and western) France, monuments are also found to be considerably earlier and more diverse than Irish, British, or Dutch ones, having been established after the associated origins of agricultural. However, in Ireland and Britain, megaliths are associated around the Mesolithic-Neolithic transition (~4000 BC), with first farming communities rather than after them like the French monuments (Scarre & Laporte, 2022, p. 1258).

As French megalithic monuments (~4500 BC) were constructed earlier than Irish monuments (~3800 BC), this is consistent with the chronology. Following a diffusionist explanation, this gap between monument origins allows time for information, ideas, or people to spread across continental Europe and the sea to Britain and Ireland.

There are more differences in developments in Ireland, an island context, versus France or the Netherlands, which follow similar continental influences. While some Irish megaliths likely follow certain north-western French architectural influences (e.g. ‘passage tomb, long mound, and perhaps the transepted chamber form’) resulting from earlier exchanges (Scarre & Laporte, 2022, p. 1258), and others follow new, distinct forms (e.g. portal tombs) which bear little to no resemblance or related comparison to those on continental Europe (Bradley, 2024, p. 1; Scarre & Laporte, 2022, p. 1267).

As portal tombs are only found around the Irish Sea (Ireland, Cornwall, and Wales), this indicates the exchange of ideas and traditions through maritime connections (Scarre &

Laporte, 2022, p. 1267). This is likely a reason for development differences in Ireland versus the continent. Ireland had a slightly more limited (although not underestimated) communication network with the continent, where ideas are easier exchanged in more constrained areas, offering general influences from the continent, with more influential exchanges in smaller areas. Additionally, depending on the availability of large stones in an area, smaller monuments might be more easily constructed if no other stones are imported.

6.1 General similarities and differences

Hunebedden, *allées couvertes*, and portal tombs are unanimously agreed to at least be burial monuments, although further explanations or theories surrounding specific monument types are also present (Bakker, 2010, p. 6; Connolly, 2021, p. 25; Cummings & Richards, 2022, p.133; Daniel, 1955, p. 8; Favrel & Nicolas, 2022, p. 285; González-García & Costa-Ferrer, 2003, p. 219; Scarre & Laporte, 2022, p. 1274). For example, Cummings & Richards (2022, p. 140) suggested social implications surrounding the success of the construction of portal tombs, thereby focusing on the 'overall effect that these monuments created'. Specifically, they emphasise the social implications of construction, including the planning and success or failure of the construction, and what that implies for the organiser and his kin group both socially and potentially religiously (Cummings & Richards, 2022, p. 138). However, Cummings & Richards (2022) do not say what these specific implications could be other than that they were likely there.

The three tomb types fall within a similar period of construction, estimating to around one millennium BC (4000-2700). Absolute dating of portal tombs can be ambiguous due to limited information; however, with available information from lithic and pottery assemblages of portal tombs, relative dating is much more relied on (Kytmannow, 2008, p. 25). This consensus regarding the difficulty of dating megalithic tombs is shared with *allées couvertes* and *hunebedden*. Both use relative chronologies to assign a cautionary date to the tombs (Bakker, 2010, p. 119; Daniel, 1958, pp. 3-5).

All three case study monuments indicate multiple varying stages of reuse. The assemblage of D26 suggests two reuses of the tomb: the first between 2800-2500 BC, the second around 800 BC (Bakker, 2013, p. 18). Available information about Men-ar-Rompet does not directly

say it underwent multiple phases of use; however, it can be inferred through the archaeological assemblage that there were multiple stages due to different chronological artefacts (Giot et al., 1957, p. 493). Killaclohane tombs had different stages of reuse, following similar trends of secondary burials, particularly in the Neolithic and Bronze Age, and later disturbances (Connolly, 2021, pp. 182-194). These similarities reinforce the importance of the monuments in their own localities, and to the people living beside them. This is identified through site revisits, primarily for burials in earlier uses, and as a monument of local significance and curiosity in later contexts.

The construction methods follow similar trajectories in the placement of uprights/portals and capstones, while allowing for the remaining uniqueness of each monument. All have at least two uprights supporting a capstone, sometimes with features such as stone walls or stops. Differences emerge in the dimensions and the entrances' positions. Portal tombs are considerable shorter than either *hunebedden* or *allées couvertes*, both of which deviate in length (Bakker, 2010, pp. 13-14). This could indicate the differences in developments between the tombs, with portal tombs developing earlier and in an island context. Whereas *hunebedden* and *allées couvertes* developed around the same time, implying they amassed of a broader continental Late Neolithic family (Scarre & Laporte, 2022, p. 1275).

6.2 Types & origins of stones

The type and origins of stones can offer information about the intentions of the constructors; whether they imported a stone from further afield or quarried it locally, and the potential significance of those decisions.

Information available on D26 did not indicate the specific rock type used to construct the monument. However, generally glacial erratics deposited by the Pleistocene Ice Age (Saalian or Weichselian) glaciers near the *Hondsrug* were used to construct the *hunebedden*. The stones originating from Fenno-Scandia, were composed primarily of gneiss and granite (Bakker, 2010, p. 8; Naturhistoriskariksmuseet, 2020; Kuipers, 2024). Therefore, it can be inferred that the stones used in D26 were not locally quarried and instead moved from the *stonefield* to its location in Drouwenerveld, Borger. This is due to the stones not matching

the local bedrock, and other *hunebedden* were also constructed from stone erratics brought by the glaciers.

Similarly, the Killaclohane portal tombs consist of green sandstone glacial erratics from the Lack Sandstone Formation which were deposited in the location of the monuments, while the portal stones were deposited locally (Wyse Jackson, 2021, p. 69). This can be inferred as the capstones would have probably been too heavy to have been imported through human methods, like maritime transport. Additionally, there was a pit in the ground from which the capstones were elevated for both Killaclohane I and II (Connolly, 2021, p. 164). This also makes glacial transportation more likely.

Men-ar-Rompet deviates from this pattern as the stones used are granite (Giot et al., 1957, p. 493). While there are no studies indicating a direct match with the local granite bedrock, it can be inferred that the stones were likely quarried locally, rather than imported or naturally deposited from further away.

Additionally, relating to the bedrock, Mercer (2015, p. 53) briefly commented on the placement of portal tombs on or close to bedrock boundaries and the influence of the boundaries on the monument's location. This has not been investigated on *hunebedden* or *allées couvertes*, and only briefly on portal tombs so further investigation could contribute to greater understanding of the symbolism surrounding landscape surrounding megalithic tombs.

The types of stones used, their origins, and their placement in the landscape can offer information regarding the views and intentions of the builders of those monuments. Whether the stone was locally quarried, imported, or deposited from further afar could indicate the importance of both the stone and the landscape: whether or not the monument was created using quarried stones important to an already significant landscape, or whether the deposited stones were possibly significant before construction (Cummings & Richards, 2022, p. 138; Rap, 2016, pp. 26-27).

Men-ar-Rompet appears to use local stones, meaning they could have either been significant to the landscape before construction, or adding another layer of symbolism to the landscape. While D26 used imported glacial erratics, meaning they were likely intentionally placed rather than built where they stood originally, adding to the symbolic landscape.

Whereas Killaclohane I and II were built where the capstones were deposited, so they were likely already significant before construction, and the construction added another layer of symbolism.

The origins of the stones used could have further influenced the decision of the builders to construct a monument close to the location the stones were deposited in or quarried from. They could have been part of an already significant landscape, and by using them to construct a monument, they could reinforce and add to the symbolism of that landscape without extracting from pre-existing significance (Bradley, 2000, pp. 104-107). Men-ar-Rompet and Killaclohane tombs show this in different manners as Men-ar-Rompet likely used locally quarried stones while Killaclohane used deposited stones which were likely significant to the landscape before construction. In contrast, the stones could have been imported from a greater distance as identified with D26, adding significance in a different manner as identified through a recent study by Bradley (2024). He investigated linkage between monuments, the origins (and distance) of their stones, and if they could be paired with stones of other monuments which had varying degrees of success (Bradley, 2024, pp. 1-4). While D26 does not follow this study substantially, it does allow interpretations of how far stones travelled for construction, at least relating to other *hunebedden*.

6.3 Orientation in relation to the landscape, and construction/topography

This section investigates the questions surrounding the tombs entrance orientations, and their interpretations. *Hunebedden*, *allées couvertes*, and portal tombs all have a proclivity towards an east-facing entrance; however, deviations often occur, as observed in Chapter 5 (Bakker, 2010, p. 30; Gonzalez-García & Costa-Ferrer, 2003, 223; Hoskin, 2007, p. 501; Kytmannow, 2008, pp. 119-120). Additionally, their locations in relation to the landscape generally adhere to the entrance facing a lower elevation, as identified in *hunebed* studies (Rap, 2016).

Additionally, during *hunebedden* construction, the TRB culture intentionally built them in specific areas, taking the surrounding landscape into consideration (Klok, 1987, p. 904). Rap (2016) develops further on this topic (See *3.3 Landscape Associations*). Bradley (2000, pp. 104-107) also discusses this more broadly, in relation to monuments being constructed in an

already significant landscapes, and thereby adding another symbolic layer to that landscape. This is done through multiple means: firstly, the general presence of a monument in a significant landscape and the changing characters of those places. Secondly, the scale in which a monument is built, which has social implications (because of the required workforce) alongside landscape symbolism. Thirdly, the investment and addition of monuments to significant landscapes adds further layers to the landscape (Bradley, 2000, pp. 104-107).

Orientation tendencies are likely due to ritual or cosmological beliefs (González-García & Costa-Ferrer, 2003, p. 225; Hoskin, 2008, p. 508; Kytmannow, 2008, p. 8). This is identified through: *hunebedden* entrances commonly facing a certain direction (lower elevation) to the ridge they were constructed on (Rap, 2016, p. 30); *allées couvertes* orientate commonly based on astronomical observations (Hoskin, 2008, pp. 508-509); and portal tombs are usually located parallel to a valley, with capstones orientated towards significant landmarks (Kytmannow, 2008, p. 119). This causes portal tombs to be a middle point between celestial-orientated *hunebedden* and *allées couvertes* as portal tombs can often be interpreted using both methods. Unlike *hunebedden*, there are often more prominent landscape features such as mountains and valleys with which to orientate portal tombs instead of astronomical features like stars or the moon or sun which are more often associated with *hunebedden* or *allées couvertes*. This does not prevent astronomical observations from taking a role in the orientation of portal tombs either, making both potential methods of orientation construction available for portal tombs where they are not easily applicable to *hunebedden* or *allées couvertes*. D26, like most *hunebedden*, have few prominent landscape features (González-García & Costa-Ferrer, 2007, p. 207). Men-ar-Rompet is also located in a relatively flat area with few significant features. This makes *hunebedden* orientation more likely to be based off celestial bodies than landscape feature unlike the Killaclohane portal tombs.

Both D26 and Men-ar-Rompet conform to the norms surrounding tomb orientation, while Killaclohane I and II do not (Connolly, 2021, pp. 79-85; Giot et al., 1957, p. 495; González-García & Costa-Ferrer, 2003, p. 224; Hoskin, 2007, p. 495; Rap, 2016, p. 29).

Hoskin (2007) proposed and González-García & Costa-Ferrer (2003, p. 225; 2007) followed a model which indicated the chamber construction (of *allées couvertes* and *hunebedden* respectively) was oriented towards the sun or moon, with offerings by the entrance.

González-García & Costa-Ferrer (2007, p. 207) explained *hunebedden* orientations as following the moonrise, specifically a full moon around the equinox or at the end of October based on the chambers' 70°, east-west orientation. The significance of the October date is that Samhain, a Celtic feast dedicated towards the cult of the dead, occurs concurrently. This period follows a similar significance throughout most of north Europe. Therefore, it is possible that all three regions potentially followed a similar construction pattern based on ritual beliefs.

Astronomical-based interpretation is not independent to *hunebedden*, it is also applied to *allées couvertes* (Hoskin, 2008, p. 508-509). However, there is more variety in orientation direction of *allées couvertes*, especially in Brittany, which has been interpreted as the further from the source of a custom, the more diverse and relaxed those customs become (Hoskin, 2008, p. 511).

Kytmannow (2008, p. 121) interprets the east-oriented portal tombs with the sun rising in the east as a symbol of rebirth. This could be plausible with easterly oriented tombs, but examples like Killaclohane I and II fall outside this interpretation. That could potentially be explained by the heavily wooded environment causing a different, physically darker, and more ritualistic atmosphere (in relation to the tomb for burial and other potential social uses), particularly in Killaclohane II.

Connolly (2021, p. 169) speculated the tombs' locations as intentional based on the sun's movement on June solstice. The sun would be partially visible between the mountains throughout the day (See *Fig. 6.1-6.2*). The builders could have constructed the tombs in accordance with the landscape features and the mountains' ritual purpose. Additionally, due to the heavily wooded area in the Neolithic, Killaclohane I and II would not have been very visible in the landscape. Instead, they would have been invisible until reached partially due to their location at the base of an east-west ridge (Connolly, 2021, pp. 168-169).

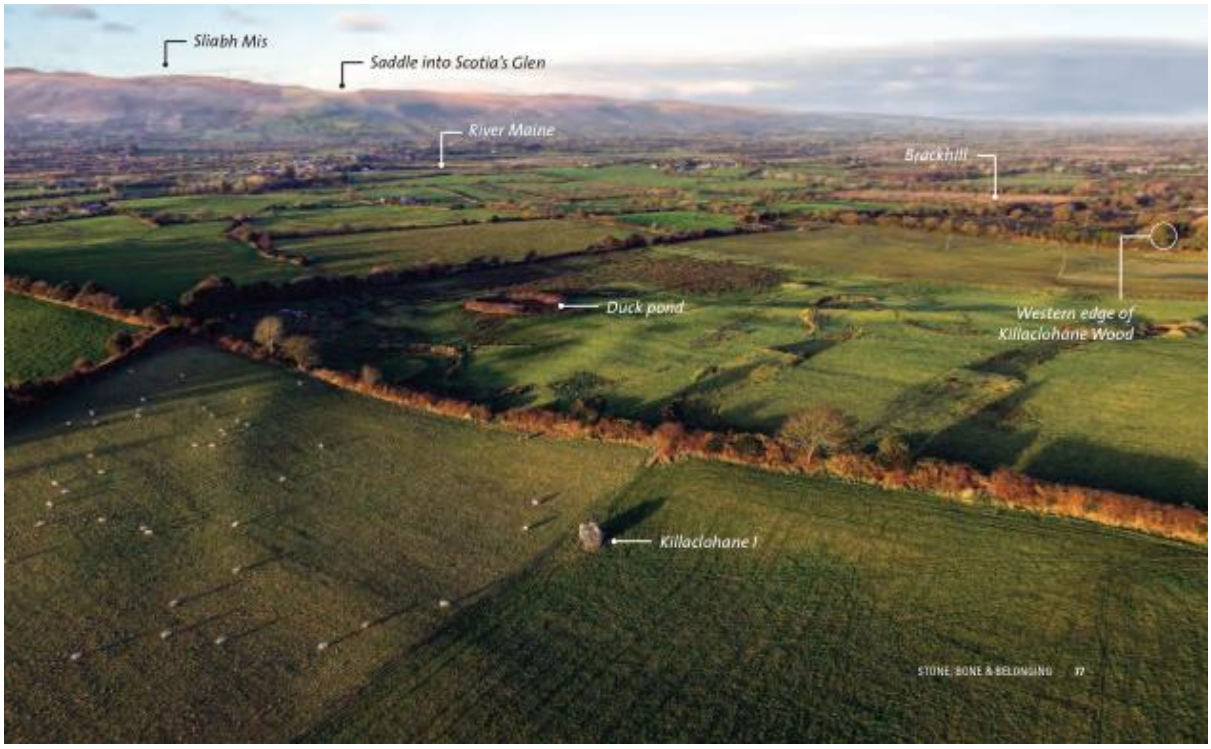

Figure 6.1: Aerial photo looking east towards the Sliabh Mis mountain range, including certain landscape and monument features (Connolly, 2021, p. 77)

Figure 6.1: Aerial photo looking west towards Castlemaine Harbour and River Maine estuary (Connolly, 2021, p. 57)

Contrasting this, *hunebedden* would likely have been much more visible in the landscape as in the Neolithic, the *Hondsrug* would likely have been a ridge surrounded by bogs (González-García & Costa-Ferrer, 2003, p. 223). This means there was probably less tree cover, and their placement on a ridge would elevate them higher in the landscape as well, promoting their visibility to people in the area, unlike Neolithic Kerry, which was covered in forests.

It is more difficult to discuss Men-ar-Rompet in relation to its Neolithic environment as not much research has been conducted about it. The main information is that the coast was much further away than at present (Giot et al., 1957, p. 493). However, another study about the palaeoenvironment of two *allées couvertes* (Kemic and Lerret) in northwestern Brittany offer insights into Men-ar-Rompets coastal Neolithic landscape (Gorczyńska et al., 2023). According to Gorczyńska et al. (2023, p. 742), the coastal sedimentary sequences fluctuated greatly over the last 6000 years, with specific dune mobilisation during specific phases, including 2300-2150 BC which is the closest date to Men-ar-Rompet. Therefore, it is likely that both Men-ar-Rompet and other coastal *allées couvertes* were quite visible in the landscape in the Neolithic, much like the *hunebedden*.

This indicates that portal tombs (at least Killaclohane I and II) were more hidden in the landscape than tombs like *hunebedden* and *allées couvertes*, although this also depends on their locations as potentially seen through coastal versus inland *allées couvertes*, although more research is needed to conclude fully. I argue that the presence of certain landscape features can influence whether a monument is orientated and constructed using astronomical methods alone, combined with landscape features or landscape features alone, although the last one is least likely as some cosmological feature is often also observed.

6.4 Relation to each other & close monuments (within 3km)

There are a general lack of settlement remains where monuments are present (Bradley, 1998, p. 10). Instead, there are often other funerary or ritualised monuments in the local area. While settlement traces were found in the general area around the Killaclohane portal tombs, there was none in the immediate vicinity (Connolly, 2021, pp. 202-206). D26 likely did not have settlements in the direct vicinity either; however, due to the lack of settlement sites uncovered in the Netherlands (Bakker, 2013, p. 19), this is difficult to conclude on. Men-ar-Rompet, to current research, likely did not have nearby permanent settlements due to little settlement evidence (Scarre, 2001, pp. 306-307). This draws parallels between all three monuments, in which they often have little to no evidence of settlements close by, although Killaclohane has the highest settlement history of the three case studies.

There are eight *hunebedden* (D19-D27), two round barrows, two standing stones, and a stone circle within 3 km of D26 (TheMegalithicPortal, 2001). D21 (1.7 km) and D22 (1.7 km) were used as comparisons as they were within the range and have a similar orientation. The main difference between D26 and D22 is that D22 is the smallest *hunebed* at 4.5 m long, while D26 is 12 m long. D21 falls in the middle of the two (7.7 m long). While both have known chamber orientations, the entrance of D22 is unknown (Hunebedcentrum, 2021a; 2021b). This adds speculation to whether it would match D21 as its pair, or if it would deviate. However, it is discernible that all three fall under a similar categorisation, with similar (known) orientations, finds, and location (See Table 4).

Less can be determined about Men-ar-Rompet as the only monument documented within 3 km is the remains of a round tumulus. While it appears to have been a circular corbelled chambered dolmen, not much else can be discussed (Giot et al., 1957, p. 493; 1958, p. 67).

Killaclohane I and II are approximately 1 km of each other. When including Brackhill, they form a triangle with Killaclohane I 1 km away from the other two (See *Fig. 6.1*) (Connolly, 2021, p. 77). All three maintain different orientations from each other; however, during the Neolithic they all would have likely remained in a similar wooded environment. The main difference between Killaclohane I and II is that Killaclohane II would have likely been darker and more hidden due to being surrounded by trees and shrubs while Killaclohane I would have been more open, in a clearing (Connolly, 2021, p. 169).

Figure 6.3: Satellite image indicating the locations and distance between Killaclohane I, II, and Brackhill (Connolly, 2021, p. 77)

Generally, similar types of monuments were built in close proximity to each other as seen through clusters of *hunebedden* and portal tombs. Additionally, settlements are lacking near monuments. I argue that they could be intentionally kept separate from each other as places of the dead versus living, or the other factor could be a lack of evidence through excavation in the surrounding areas.

6.5 Similarities and differences between cultures and finds

All three tomb types display similar archaeological assemblages composing of pottery, lithics, and human remains, albeit to different degrees. Differences are observed in the preservation of the assemblage, for example, D26's and Men-ar-Rompet's assemblages primarily compose of various types of pottery, while Killaclohane I and II have very poorly preserved pottery fragments (Roche, 2021, pp. 260-269). The opposite is true regarding lithic assemblages, with them dominating Killaclohane I's assemblage.

There are further variations in assemblages as seen through D26, which contained 48 amber beads as well as more comparable artefacts (Bakker, 2013, p. 18). Men-ar-Rompet contained multiple metal artefacts and a schist archer's armlet, which deviates from the comparable artefacts shared between the three sites (Giot et al., 1957, pp. 500-501). Killaclohane I and II also contained copper-alloy artefacts, but they are considerably different to those from Men-ar-Rompet (Becker, 2021, p. 272). This indicates that while the three sites have common baseline artefacts, they retain regional individualities (See Table 4). This means that while certain types of artefacts appear throughout various assemblages of similar monuments, they have key artefacts or features that indicate the continuous implementations of local factors, for example, in Men-ar-Rompet, some specific vessels retain the local variation and techniques, while adopting newer cultural traditions (Giot et al., 1957, p. 501).

While D26 and Men-ar-Rompet have definitive cultures associated with them, Killaclohane I and II do not (See Table 4). Irish archaeology does not use direct linkage between cultures and monuments like portal tombs or court tombs as aforementioned which makes direct comparisons harder between portal tombs and the other megaliths. Instead, the main

consensus indicates local communities interacting, sharing concepts, methods, and adaptations.

Hunebedden are related with the Western Funnel Beaker (TRB) group which is mostly understood through funerary aspects including monuments and ritual hoards/deposits which are used to track artefact transportation (Bakker, 2013, pp. 11-13). *Allées couvertes* are often associated with multiple cultures, however the SOM is most often associated with the construction of them (Favrel & Nicolas, 2022, p. 285). SOM culture is also associated with funerary monuments, specific pottery styles, artefacts, and ritual deposits much like the TRB culture.

In addition to this, while it is likely that Men-ar-Rompet was constructed by the SOM culture, the assemblage generally does not indicate usage before the Bell Beaker period (2550-1950 BC). Instead, it indicates secondary usage during the Bell Beaker period (Favrel & Nicolas, 2022, p. 297; Giot et al., 1957, p. 501; Vander Linden, 2024, p. 32). Favrel & Nicolas (2022, p. 297) commented that they believe the Bell Beaker community removed earlier Neolithic remains as there is no decisive evidence indicating allées couvertes were constructed by them.

TRB and SOM show straightforward links between certain aspects including funerary traditions, and ritual hoards or deposits which can indicate something about the economy of the time and what is deemed significant or common enough to deposit as well as more general, while the lack of Irish cultures makes it significantly harder to connect. However, aspects such as local community interactions can be seen throughout all three regions as seen through continued usage of local ceramic mixture at Men-ar-Rompet.

Table 4

Summary of the important information regarding the case studies

	D26-Drouwenerveld	**Men-ar-Rompet**	**Killaclohane I**	**Killaclohane II**
Tomb type	*Hunebed*	*Allées couvertes*	Portal tomb	Portal tomb
Excavation **- Year** **- Excavators** **- Restoration**	- 1968-1970 - J.A. Bakker - A. Van Giffen - W. Glasbergen - Restored	- 1965 - P.-R. Giot - J. Briard - J. L'Helgouagh - Restored	- 2015 - M. Connolly - Restored	- 2017-2018 - M. Connolly - Restored
Measurement	- 12 m long - 3.8 m wide	- 7.5 m long (when restored) - 2.5 m wide - 1 m high	- 3.75 m long - 2.65 m wide - 13.5 tonnes	- 4.5 m long - 2.35 m wide - 13.3 tonnes
Stone type	Granite	Granite	Green sandstone	Green sandstone
Orientation	- Entrance faces lower elevation (common trend) - 66° orientation (70° is average)	- 65° orientation (East northeast) - Follows the common SR/SC trend	- North-south alignment - North-facing orientation	- North-south alignment - West orientation
Assemblage	- 160 vessels - 48 amber beads - Lithic tools and weapons - Burnt bones (animal and human)	- 44 vessels - 5 spindle whorls - Limited flint pieces (including archer's armband) - Fragmented bronze axe - Small bone fragment	- Large lithic assemblage (17 pieces) - Sandstone saddle quern - Pottery fragments ranging from early Neolithic to Bronze Age - Cremated human remains (122.1 g)	- 3 lithic finds - 1 Late Bronze Age bucket-shaped vessel - 4 copper alloy artefacts - Henry VIII silver groat - Cremated human remains (67.9 g)
Culture	Funnel Beaker (West Group)	Seine-Oise-Marne Bell Beaker	No associated culture	No associated culture

Chapter 7: Conclusion

Much can be concluded about megalithic monuments in Atlantic Europe based on the research goals. Major similarities and differences occur between all three monuments. The main similarity is that *hunebedden*, *allées couvertes*, and portal tombs are considered funerary monuments constructed during a similar time period (4000-2700 BC), with multiple phases of reuse. Additionally, absolute dating of those tombs also carries uncertainties, due to often containing limited datable organic materials. All three were built using similar baseline plans and styles, with two uprights supporting a capstone. However, the methods of construction likely contained local variations, while maintaining a similar methodology. Additionally, *hunebedden* and *allées couvertes* appear to follow a closer construction trajectory than the two share with portal tombs. Different elements also emerge, with some monuments containing a stone wall while others might contain stone stops.

Certain things can be understood from the types of stones used including the intentionality of the construction in a specific area as that is where the stone(s) were uncovered originally, or whether the stones needed to be imported from further afield. This also impacts the significance and symbolism of the landscape. D26 appears to use either granite or gneiss glacial erratics, rather than local stones much like the majority of the *hunebedden*. Killaclohane I and II also use glacial erratics of green sandstone. In both these cases, it can be inferred that the stones were deposited close to the monuments' current sites due to the stones not being local. Meanwhile, Men-ar-Rompet was constructed using granite, most likely from the local bedrock. This is a major difference from the other two in which they were using transported stones, while Men-ar-Rompet uses local. This could influence the intentionality of the builders by choosing a specific construction location based on where the stone was found or by choosing a location based on specific intent.

All three megalith types primarily orientate east-wards, with deviation quantities fluctuating per megalith type. East-orientated proclivities are likely based off ritual or cosmological beliefs as seen through *hunebedden*, which have little to no landmark features of which it could be based. This is replicated in *allées couvertes*, in which they were studied to have likely been constructed around the sun or moon rising. Opposing this, portal tombs, while potentially based off cosmological observations, are also likely to have been orientated based on landscape features as seen in Killaclohane. This could be interpreted as

ritualistically orientated due to the entrance placement in relation to the mountains and sun's path through them. In essence, while *hunebedden* and *allées couvertes* orientations are likely astronomically-based, portal tombs can be interpreted using both. See Table 4 for a summary of the main information regarding the case studies.

The case studies support Bradley's (1998, p. 10) theory of few settlements being located in close proximity to monuments. Of the three studies, only Killaclohane has definite settlement traces in relatively close proximity, while D26 and Men-ar-Rompet do not. However, this could be interpreted not as a lack of settlements being present, but a lack of settlements being found and excavated. All three studies have at least one monument in close proximity, but D26 and Killaclohane have multiple, both of the same type and different. D26 has various *hunebedden*, at least two of a similar orientation. Killaclohane I and II, and Brackhill all have different orientations. Men-ar-Rompet, D26 and Killaclohane I would have been located in a different environment to that of today, while Killaclohane II remained mostly the same, in a wooded environment. As a whole, the three studies display similar characteristics with mostly other funerary monuments in close proximity and a lack of direct settlements. However, their Neolithic environments would have deviated more so.

The artefacts from all three regions follows a similar baseline which includes pottery, lithics and human remains, with study-specific deviations including an archer's armlet, and metal objects. While all three tomb types display similar archaeological assemblages composing of pottery, lithics, and human remains, albeit to different degrees, they keep their own individual cultures and local variations. However, Ireland's lack of direct cultures deviates from the other two countries from the beginning, making it more difficult to interpret the similarities and differences between Irish cultures and the TRB and SOM. TRB and SOM show connections between (funerary) monuments and ritual hoards/deposits specifically, while all three countries show similar locally-based characteristics remaining within the whole.

Future studies into Neolithic monuments could further investigate connections between island-based developments versus continental development to a larger scale by including a larger number of monument types, and range within those monuments. Investigating the reuses of those monuments could further elaborate on how cultures and communities interacted with one another over greater distances, tracking exchanges of ideas, peoples, and monument styles.

Abstract

Generally, many studies have been conducted on megalithic monuments worldwide, and more specifically in certain regions. In Atlantic Europe, there has been much research done on Neolithic megaliths; however, much of this has not included cross-study analyses, especially relating to certain types including *hunebedden*, *allée couvertes*, and portal tombs. They mainly focus on the immediate region certain tombs dominate.

This thesis intends to broaden this scope by investigating both specific and broader similarities and differences between three specific megalith types: *hunebedden*, *allée couvertes*, and portal tombs. This is investigated through a literature study review, which includes three case studies: D26-Drouwenerveld (Dutch *hunebed*), Men-ar-Rompet (French *allée couvertes*), and Killaclohane I and II (Irish portal tombs).

All three monument types have many similarities and differences. Primarily, they are all considered Neolithic funerary monuments, following similar basic constructions, albeit with local variations. Stone types used offer information regarding construction and intentionality, depending on where those stones originated. This adds to the symbolic landscape regardless it's symbolism before construction. The tombs orientation provides information about construction and ritualistic beliefs considered during construction.

Additionally, there is a general lack of settlement around areas with many monuments, although that is likely interpreted as a lack of evidence. Artefacts associated with the specific monuments often indicate the cultures associated with them, offering insights into the tombs, their uses, and other factors including economy, and re-uses of the tombs.

Developments often differ throughout Atlantic Europe as seen in Ireland's island context, versus France or the Netherlands continental context. While Ireland continues to see continental influences in passage tombs, there are also newer forms of tombs, for example, portal tombs (also found in Cornwall and Wales), which have few comparable examples on the continent. Whereas France and the Netherlands share similar developmental trajectories (variations of passage tombs).

While this thesis offers insights into these developments, more research could offer further understanding of them in a larger scale, including greater periods of reuse and what that may imply.

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