

**LANDSCAPES OF LIFE AND DEATH: SOCIAL DIMENSIONS OF A
PERCEIVED LANDSCAPE IN VIKING AGE ICELAND**

by

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This manuscript has been read and accepted for the Graduate Faculty in Anthropology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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ABSTRACT

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by

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The pre-Christian period in Iceland dates from the settlement in the latter half of the 9th century to about the year 1000 C.E. The burials from that time are found across Iceland, singly or in group cemeteries. Prior research on the burials has ranged from surveying, excavating and cataloging them, to comparative analyses of the grave designs and grave inclusions with respect to other contemporary areas of the Viking World. Separately, various types of skeletal analyses have been conducted to assess the sex, age and pathology of the individuals; and also a focus on the origins of the individuals is in progress through the use of strontium isotope analysis. However, little attention has been paid to accumulating the various data sets on the subject and interpreting them in an anthropological context in order to provide an image of the society who created the data in the first place. Such a study yields information regarding differences based on gender and age. Even less has been done with respect to understanding the role that the landscape and seascape played in burial placement and its relationship to cosmology. By reevaluating the grave inclusions, skeletal remains, artifact and animal inclusions, and considering the landscape in which they were originally placed, this study was able to

recognize social positions based on gender and age within and between the burials, and also revealed the significance in the placement of the graves. The gender and age differences led to understanding the social dimensions in Iceland during this time; while placement shed light on the cosmology of the society. All of this underscored the fact that Iceland was indeed a 'new land.'

This work is dedicated to:

My dad, Charlie Maher,
you waited so long for this, I wish you
were here to celebrate with me.

And, to my son, Kjartan,
who gave me the *oomph* to move forward.

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TABLE OF CONTENTS

Chapter 1. Introduction.....	1
1.1. The Argument.....	2
1.2. Written Sources.....	5
1.2.1. Ancient Texts.....	5
1.2.2. Modern Research.....	10
1.3. Foundations of the Research.....	13
1.3.1. Norse Gender Studies.....	13
1.3.2. With Age Comes Standing.....	15
1.3.3. Approaches to Prestige Goods and Social Position.....	16
1.3.4. Reflections on Culture: Lineage and Ownership.....	19
1.4. Definitions.....	21
1.5. Language Conventions.....	24
1.6. Chapter Overview.....	25
Chapter 2. Setting the Scene.....	28
2.1. Geography.....	28
2.1.1. Climate.....	28
2.1.2. Natural Landscape.....	29
2.2. History.....	31
2.2.1. Placenames and Settlement.....	32
2.2.2. Landnam – The Settlement of Iceland.....	33
2.3. Mythology.....	35
2.3.1. Norse Cosmology.....	35
2.3.2. Norse Religion.....	40
2.3.3. Norse Ideology.....	44
2.4. Burial Customs.....	49
2.4.1. The Conventional Icelandic pre-Christian Burial Site and Its Social Implications.....	51
2.4.2. Cremations v. Inhumations.....	52
2.4.3. Graves or Graveyards.....	54
2.4.4. The Significance of Artifact Inclusions.....	56
2.5. The History of the Pre-Christian Burials of Iceland.....	64
2.6. The Tale of Two Sexes.....	66
2.7. Conclusion.....	70
Chapter 3. Theory and Method/Method and Theory.....	71
3.1. Cognitive View.....	73
3.2. Burial and Mortuary Theory.....	77
3.3. Feminism and the Gendered Approach to Archaeology.....	82
3.4. Childhood as a Meaningful Category.....	85
3.5. Landscape Perceptions.....	87
3.6. GIS Theory and Practice.....	93
3.7. Choosing The Icelandic pre-Christian Burials.....	96
3.7.1. Burial Sites.....	96
3.7.2. The Graves.....	99

3.8.	Concluding Remarks on Theory and Method.....	100
Chapter 4. Gender, Age and Grave Goods.....		101
4.1.	Introduction.....	101
4.2.	Human Skeletal Remains.....	101
	4.2.1. Sex and Age.....	102
	4.2.2. Analyzed Skeletal Remains with Burial Sites.....	103
4.3.	Human Skeletal Remains with Artifact Inclusions.....	106
	4.3.1. The Artifact Categorizations in this Project.....	109
	4.3.2. Adornment.....	115
	4.3.3. Boats.....	120
	4.3.4. Commerce.....	121
	4.3.5. Domestic.....	123
	4.3.6. Fishing.....	127
	4.3.7. Non-Utility.....	127
	4.3.8. Weapons.....	127
	4.3.9. Concluding Comments for Section 4.3.....	130
4.4.	Human Skeletal Remains with Animal Inclusions.....	132
4.5.	Analyzed Human Skeletal Remains, Artifacts and Animal Inclusions.....	137
	4.5.1. Adornment.....	138
	4.5.2. Commerce.....	140
	4.5.3. Domestic.....	141
	4.5.4. Horse Equipment.....	143
	4.5.5. Non-Utility.....	144
	4.5.6. Weapons.....	144
	4.5.7. Discussion of Analyzed Human Skeletal Remains, Artifacts and Animal Inclusions Combined.....	145
4.6.	Conclusions.....	150
	4.6.1. Introduction.....	150
	4.6.2. What do the Artifacts Tell Us about the Sex and Gender Roles?.....	150
	4.6.3. What do the Artifacts Tell Us about Childhood and Adulthood?.....	158
Chapter 5. Landscape Perceptions.....		164
5.1.	Introduction.....	164
5.2.	Location and Meaning.....	165
5.3.	Burial Site Locations.....	167
5.4.	Farmhouses in the Record.....	168
5.5.	Distance.....	169
5.6.	Elevation.....	170
5.7.	Viking Period Environment.....	171
5.8.	Burial Site Situation.....	175
5.9.	The Combined Landscape.....	177
	5.9.1. Group 1: Outside the Specified Radius.....	177
	5.9.2. Group 2: Between 1.0 and 0.5 km.....	178
	5.9.3. Group 3: Within 0.5 km.....	179
5.10.	Beyond the Grave.....	180

5.11.	Individuals in the Landscape	181
5.11.1.	A View of Skeletal Remains.....	182
5.11.2.	Placement in the Landscape by Sex and Age	184
5.11.3.	Skeletons and Artifacts in the Landscape	187
5.11.4.	Placement of Skeletons and Artifacts in the Landscape	192
5.11.5.	Skeletons, Artifacts and Animals in the Landscape.....	193
5.12.	The View from Within.....	197
5.12.1.	The Placement of Grave Goods	197
5.12.2.	Site Placement, Gender and Age	199
5.13.	The Worldview of the Icelandic Pre-Christians.....	203
5.14.	Ships and Boats in Scandinavian Prehistory.....	205
5.14.1.	The Study of the Ships and Boats	205
5.14.2.	The Practical, the Polical and the Symbolic	208
5.14.3.	The Meaning of Water	210
5.14.4.	The Viking Cosmology Represented in Icelandic Burials.....	213
5.15.	Conclusions.....	215
Chapter 6.	Conclusions.....	216
6.1.	Introduction.....	216
6.2.	Results of the Study	217
6.2.1.	Burial Location	218
6.2.2.	Social Status.....	218
6.2.3.	Status Revealed in Graveyards	220
6.2.4.	The Gendered Perspective	222
6.2.5.	Perceptions of Childhood.....	224
6.2.6.	Horses: Prestige, Transportation or Cosmology?	225
6.2.7.	The Burial Landscape	226
6.2.8.	The Boat Burials and Cosmology.....	228
6.3	The Future of the Research.....	230
Tables	234
Maps	240
Appendices.....		259
Appendix A:	Icelandic Pre-Christian Burial Sites	260
Appendix B:	Icelandic Pre-Christian Graves Used in Project	273
Appendix C:	Analyzed Human Skeletal Remains	279
Appendix D:	Complete List of Artifacts	284
Appendix E:	Analyzed Human Skeletal Remains and Artifact Inclusions.....	316
Appendix F:	Animals in the Pre-Christian Burial Record.....	328
Appendix G:	Analyzed Human Skeletal Remains with Animal Inclusions.....	333
Appendix H:	Three-Variable Set.....	335
Appendix I:	Located Burial Sites	342
Appendix J:	Farms Associated with Located Burial Sites.....	345
Appendix K:	Burial Sites Relative to their Associated Farm houses.....	348
Appendix L:	The Burial Landscapes	351

Appendix M:	The View from the Grave.....	355
Appendix N:	Analyzed Human Skeletal Remains in the Landscape	360
Appendix O:	Located Graves with Analyzed Human Skeletal Remains and Artifacts	366
Appendix P:	Located Graves with Analyzed Human Skeletal Remains and Artifacts and Animals	381
References Cited.....		392

LIST OF TABLES

Tab. 4.1	Age categories that are used in this project.	104
Tab. 4.2	Distribution of beads among analyzed skeletal remains divided by sex	118
Tab. 4.3	Analyzed human skeletal remains which are associated with the remains of dog.....	136
Tab. 4.4	Analyzed human skeletal remains which are associated with the remains of horse.....	136
Tab. 4.5	Graves included in this portion of the dataset with sex, age and animal inclusion	238
Tab. 4.6	Graves which included beads as part of the artifact assemblage in the three-variable data analyses in descending order by bead count.....	140
Tab. 4.7.	Graves in the adornment category in the three-variable analysis: Brooches and Strap-Ends.....	140
Tab. 4.8.	Graves in the adornment category in three-variable analysis with the less common types of adornment.....	141
Tab. 4.9	Graves in the commerce category in three-variable analysis.....	142
Tab. 4.10	Graves in the three-variable analyses containing artifacts from the various Sub-Categories under Domestic	142
Tab. 5.1	Burial Sites with both primary and secondary situation classifications.....	177
Tab. 5.2	Female/? skeletal remains in the landscape with artifacts	189
Tab. 5.3	Male/? skeletal remains in the landscape with artifacts.....	190
Tab. 5.4	Undetermined sex remains in the landscape with artifacts.....	192
Tab. 5.5	Boat burials recorded in the Icelandic burial record.....	240

LIST OF MAPS

Map 1	Iceland in the North Atlantic.....	244
Map 2	Elevation map of Iceland	245
Map 3	Modern Icelandic Landscape	246
Map 4	Estimated Viking Period Landscape.....	247
Map 5	Project Sites: Rated Pre-Christian Burial Sites.....	248
Map 6	Distance map: Burial Sites in Range of Farm Houses.....	249
Map 7	Burial Sites on Elevation Map	250
Map 8	Elevation of Burial Sites in relation to Farm Houses	251
Map 9	Burial Sites in Estimated Viking Period Landscape.....	252
Map 10	Comparative Cumulative Viewsheds – Farm House and Burial Sites.....	253
Map 11	Cumulative Burial Site Viewshed, general view	254
Map 12	Cumulative Burial Site Viewshed, Optimal Conditions.....	255
Map 13	View from Burial Sites: Size	256
Map 14	View from Burial Sites: Sea Visibility	257
Map 15	Analyzed Human Skeletal Remains in Landscape by Sex	258
Map 16	Analyzed Human Skeletal Remains in Landscape by Age.....	259
Map 17	Artifacts in the Landscape by NAT	260
Map 18	Icelandic Pre-Christian Boat Burials	261

FIGURES

Fig. 4.1	Pie chart showing analyzed human skeletal remains with associated burial sites by sex	103
Fig. 4.2	Pie chart showing the percentage of analyzed human skeletal remains associated with burial sites by age	105
Fig. 4.3	Graph indicating the analyzed human skeletal remains in the project by age and sex	106
Fig. 4.4	Pie chart showing artifacts with sexed human remains	108
Fig. 4.5	Pie chart showing artifacts with aged human remains	109
Fig. 4.6	Graph indicating distribution of adornment artifacts with skeletal remains	117
Fig. 4.7	Artifacts of commerce with skeletal remains	123
Fig. 4.8	Domestic artifacts with skeletal remains by sex	124
Fig. 4.9	Domestic artifacts with skeletal remains by age	125
Fig. 4.10	Aged skeletal remains with weapons	129
Fig. 4.11	NAT value for weapons included in graves with analyzed human skeletal remains	130
Fig. 4.12	Proportional distribution of artifact categories by sex using NAT values	131
Fig. 4.13	Proportional distribution of artifacts by age using NAT values	133
Fig. 4.14	Skeletal remains by sex with animals	134
Fig. 4.15	Skeletal remains by age with animals	135
Fig. 4.16	Three-variable distribution chart	138
Fig. 4.17	Distribution of adornment in the three-variable set	139
Fig. 4.18	Distribution of domestic utility in the three-variable set (NAT values)	144
Fig. 4.19	Weapons in the three-variable set (NAT values)	146
Fig. 4.20	Diverse category inclusion with both horse and dog	149
Fig. 4.21	Graves in the three-variable set with artifacts from each category	150
Fig. 4.22	Graph indicating categories in the three-variable set using the variety of artifact inclusions based on NAT values	150
Fig. 5.1	Environment and Feature chart	174
Fig. 5.2	Burial Sites placed in primary and Secondary Environmental classifications	175
Fig. 5.3	Located analyzed human skeletal remains in the perceived landscape	184
Fig. 5.4	Located analyzed human skeletal remains, artifact and animal inclusions (NAT values)	197

Chapter 1. Introduction

2008: Smalltown, USA. The individual dies and immediately plans begin. The undertaker is called in and sets out a framework of acceptable plans, procedures, services, guests, gifts and the overall ritual from the length of the wake to the service, the funeral procession and the final destination. This entire process is based first and foremost on the religious affiliation of the deceased and his or her family as well as the laws and regulations governing the society. The guidelines are set forth and the normative ritual practice is set out before the family. The length of the ritual is chosen based on costs, numbers of guests and even space at the location. Accommodations and food are organized and provided for those making a long journey, and small remembrance ‘gifts’ are provided to all those who attend.

The deceased is buried in clothing that has some significance to the deceased, to the family, to those bearing witness to the ritual; whether this is his or her finest ‘Sunday dress’ or formal dress which marks his or her social position in a specific organization, it will convey a message to all. Certain ornaments and items of memory are included so that the deceased will not forget loved ones and will take items cherished in life. There will also be religious items to help guide the deceased to the next stage. Some folks will even have their loyal companion interred as well, such as the family dog.

Finally, the procession order is based first on family membership with those closest to the deceased directly behind the casket, then extended family, and after them, there is a social pecking order created by those who follow, some based on wealth or social standing others based on alliances and so forth. This parade is organized by the guests themselves, and becomes politically charged. Finally, the last act in this aspect of

the ritual is performed, usually according to religious ‘rules or laws’ and customs, but could also be chosen by the deceased – interment or cremation, or any other form of disposal that is part of burial ritual in Small town USA.

Those who attended and could bear witness, then take part in another aspect of the ritual, solidifying bonds and ties with the remaining family members. This reinforces ties that were based on the relationship to the deceased, thereby creating a new tie with other members of the family – forming new alliances, strengthening old ones and even establishing new hierarchies socially, in business, in politics or possibly breaking all ties as well.

1.1. The Argument

Many theoretical frameworks can play a part in deconstructing a modern ritual comprised of many stages and mirroring social identity, perceived spaces, memory, economics, politics, tradition, religion and the relationships between the living and the dead. If the modern funerary ritual is this complex, why should the prehistoric ritual have been any less multifaceted?

It is difficult to consider burials in any one theoretical framework. In one, we are asked to regard all the inclusions as a mirror of individual and group identification. (Aleksin 1983; Parker Pearson 1982; Saxe 1971) Another asks that we regard the burial not only as a reflection of the individual within, but as a reflection of the living and their relationship with the dead. (Parker Pearson 1991) A third approach suggests that the humans and the inclusions are separated mentally, socially and spatially and should be considered as separate entities. (Arnold and Wicker 2001) Finally, we are told that one cannot separate the individual from the inclusions or from the culture as a whole. (Olsen

2003) With so many differing theoretical frameworks, it would appear that one must choose between them and follow that course of action. However, as this study suggests, they all have something to add.

Thus, the Icelandic pre-Christian burials should be viewed as more than just the sum of their internal parts. Instead, all of those internal parts, and all the external parts of any burial, together provide information on the intellectual activity that defines social relations and social standing, political agendas, religion and cosmology. Here, I offer a more inclusive line of analysis as a way to understand what the pre-Christian burials of Iceland tell us about the cultural identities of those who lived in Iceland during settlement period.

The purpose of this study is to look beyond the catalogs of data already in the record and put the data in its social context. This study will show that the internal and external aspects of any grave reveal not only information about the deceased, but also about his or her family, society and, most importantly, the ideological realms of the people burying the dead which was, up until recently, not considered accessible from material remains. In so doing, the catalogs of internal data were anthropologically interpreted with the help of external data to provide an image of the society showing differences based on age and gender, gender roles and the role cosmology played in burial placement.

In addition, this study will show that using Geographical Information Systems does not limit research to statements of quantity. In fact, GIS can be used to explore a range of subjects including qualitative analysis. This is achieved by integrating Cognitive, Landscape and Mortuary theory; and Gender and Age approaches to the burial

sites of pre-Christian Viking period Iceland.

The Anthropological approach to archaeology focuses on culture; and culture is made evident by human artifacts and activities. Thus, the approach of this study was to analyze the internal grave structures and artifact inclusions and the external surroundings to draw out the meanings, symbols and behaviors behind these materials which define the culture. Much of the current trend in Icelandic archaeology today is to focus on the quantitative data only, which is advancing our understanding of how the Viking period settlers lived, what they ate, where they came from and what constitutes wealth and status. However, it has rarely been used to explain the lifestyle or ideology or the cognitive relationships to each other and to the perceived environment of the early Icelanders. The vast amount of quality data utilized in this study were expertly collected and analyzed over the years by exceptional scholars both in Iceland and abroad and collected here in an anthropological study to further our understanding of the original culture of Iceland. Similar undertakings that focus on gender, social memory and social approaches to studying the burial ritual are beginning to be pursued in archaeological research there, and this research complements the processual approaches. It is believed that this study is important both for understanding the pre-Christian Icelandic burials in their cultural context and as a timely contribution to the new body of emerging Anthropological Archaeology in Iceland. In placing the lists of data into a cultural context, the first step was to review the various sources which could provide some background on the society under study. The next section will provide details of the written sources and their inclusion into this project.

1.2. Written Sources

1.2.1. Ancient Texts

A number of ancient texts are used in this study. All of these writings needed to be read carefully and an understanding of their context is essential to focusing on the historic information and cultural images that reflect the Viking period accurately because these texts were written either contemporaneously, but through the eyes of a foreigner, or by someone looking back at the earlier culture. All of these texts were written with a specific purpose pertinent to their own space and time. If these factors did not make their use complicated enough, it also must be kept in mind that all of these texts were written almost a millennia ago and not only have they been translated from other languages, including earlier versions of Icelandic, but also these texts are often copies of copies of copies. Thus, mistakes are bound to have been made even with expert transcription skills (see, for example Sawyer 1962:17-18). By comparing texts regarding the same events but from different sources, mistakes have indeed been caught; however, it is not unreasonable to assume, due to the paucity of original source material, that many more errors have gone unnoticed. (Sawyer 1962:32-47)

There are two ancient texts referred to in this research that are contemporary with the study period, though they were written by men from other cultures. The first is the Anglo-Saxon Chronicle which is an annual record of historic events important to the Anglo-Saxons. The annals were first written in the 9th century CE, in England, and after that, copies were sent to monasteries across England asking the monks to record events in each area. Some recorded events more acutely than others and no originals survive today. (Ingram 1996) Some of the accounts are clearly biased, omitting unfavorable events as well as exaggerating others. Still, these chronicles are a good source of information

about the impact the Vikings had on England and the clash between the two cultures. Unfortunately, they do not describe any amicable meetings between the two cultures, although there surely must have been a few. The texts were written in Old English, and one version was even written in Middle English.

Another source used in this study is the observations made during the journeys of an Arab traveler who reported his encounters in foreign lands to the Caliph in the 10th century. His name was Ahmad ibn Fadlan ibn al-Abbas ibn Rasid ibn Hammad, but he is also referred to simply as Ibn Fadlan. During his travels, Ibn Fadlan described a group that he met along the riverbanks near Bulgar, Russia as *Rus*. It is believed that these Rus or Varangians are indeed the Vikings of the eastern expansion, most likely from the Swedish area of Scandinavia. He described them as traders with rather filthy hygiene and the men and women's figures and manner of dress were also detailed. One of the most important contributions to this study is his discussion of the funeral of a chieftain which paints a vivid picture of the long funerary ritual from the moment of death until the cremation. (Frye 2005:67-69; Warmind 1995) Obviously, translations of the text create some questions about its usefulness to scholars of the Viking World. The significant issue is who, exactly, Ibn Fadlan was writing about – though the general consensus among scholars is that it was indeed about Norse traders. Another issue pertaining to this study is that Ibn Fadlan's accounts are about an eastern expansion group and do not reflect the ways and traditions of the western expansion group. My contention is that they reveal one aspect of the Viking society which concerns their cosmology, religion and ideology, widely shared throughout the Norse cultures, that can be, at least partially, considered applicable to those Viking period Norse in Iceland. (Frye 2005:63-71; Parker Pearson

2001:1-3; Sawyer 1962:47)

The Book of Settlement, possibly written by Sturla Þordarson or even Ari Þorgilsson, and the Book of Icelanders most likely by Ari Þorgilsson, are believed to have been written closest to the period under study, early in the 12th century. The book of Settlement describes in great detail the initial land-taking of Iceland by at least 430 men and those who joined them, including family and others in the household in the latter half of the 9th century. In the descriptions of each of the original settlers, information is also given about their ancestors and descendants. It also reports important events which took place in the Viking World at that time. (Jónsson 1986:21-241; Pálsson and Edwards 1972) The Book of Icelanders records major events in Icelandic history. For this study, the relevant chapters are the first through the seventh. The book begins at the initial settlement and states that most of the settlers immigrated from Norway. It tells of the few Irish monks or hermits who inhabited Iceland but left when the heathens arrived, then goes on to discuss how the laws came to Iceland and how the Althing or general assembly was established, then how Iceland was divided into judicial quarters, the discovery and settlement of Greenland, and finally the conversion to Christianity around 1000 CE. (Jónsson 1986:1-12) These are invaluable sources contributing greatly to the history of Iceland. However, as with all of these ancient texts, they were subject to transcription errors and especially to subjective story-telling as they were written after the fact and were intended for a specific audience and for a specific purpose. (Sawyer 1962:12-47)

Gragas or The Gray Goose Laws, were enacted during the Commonwealth period (930-1262 CE). Prior to their being written down in the early 12th century, these laws

were traditionally recited at the Althing (the national parliament held annually at Thingvellir) by the lawspeaker. (Dennis and Foote 1990, 2006) Although they are concerned mostly with Christian times in Iceland, they contain a lot of information about the reasons the laws were created and provide insight as to the situation prior to their enactment. For instance, the act of writing down a law stating that horse meat should not be eaten and that this old practice is not Christian and should be abandoned, infers information about diet during the pre-Christian period. Many insights into the social roles of men and women and the politics between them in the earlier society can be derived from the laws regarding divorce, politics and even infanticide. (Dennis and Foote 1990, 2006) Though these are only hints into the Viking period society, they are very useful tools if used with caution. (Sawyer 1962:12-47)

The final sources that contributed greatly to this study are the family sagas from which were gleaned the social, familial, political and even cosmological and religious practices in the prehistoric period outlined above. The sagas offer a picture of the Viking period Icelanders through their descriptions of families, places, clothing, events and even battles which provide the reader an opportunity to imagine how adornment and weapons were worn, ships sailed on the water and people moved from one stage of existence into the next. (for example, Kellogg and Smiley 1997; Magnusson and Pálsson 1960, 1965b; Pálsson 1971; Pálsson and Edwards 1972, 1976, 1978, 1989; Thorsson and Scudder 2000) These sagas have been the focus of various studies over the years about the nature of the writings and their usefulness (Byock 1982, 1990; Faraday 1906; Friðriksson 1994; Guðmundsson 1993; Hastrup 1981), and about their efficacy in providing an accurate image of women's position and roles in society. (Borovsky 1999; Clover 1988; Damsholt

1984; Jacobsen 1978; Jochens 1995, 1996; Smith 2004; Stalsberg 1991, 2001).

The Sagas of the Icelanders are considered by most to be an amazing source of information on the Viking period. Although they were written at least two hundred years after the events they describe, they do provide some insight into the history, genealogy and family ties of the Icelanders by including various aspects of settlement, such as who chose to immigrate to Iceland, from where, why and with whom. These sagas also describe farm life, connections to the landscape, land tenure, marriage, infidelity, alliances, laws and democracy, gender roles, division of labor, social position, religion, worldview, politics, morals and many other aspects of the lives of the families who lived in Iceland between the 9th and 11th centuries. The authors of the majority of these sagas are unknown. However, Snorri Sturluson is believed to have contributed to at least one story about the life and family of a man known as Egil. (Byock 1982, 1990; Damsholt 1984; Friðriksson 1994; Sawyer 1962)

The sagas are a source of useful information about the Viking culture – mostly due to their being written relatively close in time to the subject matter – but they are an historic artifact themselves. They were written by Christians about a period in their own very recent past when their ancestors were considered by many to have been heathens and barbarians. For this reason, some expected the sagas to paint a pejorative picture of the Vikings, especially when discussing women and that many characteristics that were not considered to be those of a good Christian woman would be assigned to the women in the sagas. Also, the fact that the sagas were written by later, powerful, Christian males lead some to assume that they depicted Viking females who were subordinate to the males as a reflection of their own society. (Gilchrist 1999; Jacobsen 1978; Jesch 1991;

Jochens 1996) Others maintain that the archaeology and law codes support the fact that there was differentiation of power and freedom based on sex. (Gräslund 2001; Smith 2004) The sagas were written close enough to the Viking period to surely be correct about the gender roles, division of labor and social positions of women in the Icelandic society. Had the women been more equal to men in all aspects of power, prestige and politics, it is more than likely that such a fact would have been over-exaggerated by the authors, to show that such a condition was unchristian. Since it is not, it seems more likely that the sagas were not deliberately misrepresenting the pre-Christian perception of male/female relationships. However, it will be shown below that while the data suggests clear differentiation in the roles and the perception of females and males by the Viking period Icelanders, it is not so clear that women held a subordinate position during that time.

Not only were ancient texts used to gain insight into the society under study, but also the wealth of research derived from historians and scientists over the years. The next section outlines how this more contemporary research contributes to this study.

1.2.2. Modern Research

The pre-Christian burials of Iceland are quite numerous and are thus a major source of archaeological material regarding the Viking period in Iceland. Most of the early research on the burials focused on confirming the sagas. Thus, for the most part, the archaeology was linked to an historical tradition in archaeology where the texts explained and pointed to the location of sites and the sites confirmed the authenticity of the texts. (Friðriksson 1994:6-8) In Iceland, for instance, in 1882, Kristian Kaalund created the first catalogue of burials which he had surveyed during his travels around Iceland, based on sites mentioned in the sagas. (Friðriksson 2000:12) At times, comparisons were made

between the Icelandic and Norwegian corpus of burial remains. Since the Icelandic materials were sparse in comparison, an assumption was made that the Icelandic Vikings were poor in comparison to their Norwegian contemporaries and their meager graves were evidence of a politically egalitarian group. (Friðriksson 2000:12-15)

Although pre-Christian burials (*kuml*) have been excavated and recorded by amateurs and scholars alike for over a century, it was not until Kristján Eldjárn wrote his dissertation in 1956, *Kuml og Haugfé* (Pre-Christian Graves and Grave goods) that a complete catalogue of the pre-Christian graves, independent of saga citations, was compiled and systematically reviewed. (Friðriksson 2000) His research marks the change from a more historic approach to the burials to an archaeological approach in Icelandic archaeology. His catalogue describes the morphology of the burials, their orientation, the placement of artifacts, grave associations, a history of their discovery and excavation, osteological analysis and artifact typology, amongst other things. (Friðriksson 2000) From the first, Eldjárn had begun to compare the burials of Iceland to those of other Norse areas and he was the first to discover remarkable similarities with those found in Scotland. (Eldjárn 1958, 1984)

In 2000, Adolf Friðriksson updated *Kuml og haugfé* by adding pre-Christian burials discovered after the original publication in 1956 until 1999. He provided up-to-date information with respect to each burial and incorporated English summaries; his work on burials continues with research into and archaeological surveys of potential burial sites and patterns. Based on his theory of placement, he has since located and excavated previously undiscovered burials, for example at Saltvík and Litlu-Nupar. Also, he has contributed greatly to the overall examination of burial topography in Iceland.

(Friðriksson 2000, 2005; Friðriksson, et al. 2005) Hildur Gestsdóttir has reexamined the available skeletal remains in order to determine age and sex. She is currently carrying out a palaeo-pathological study of the corpus of Icelandic skeletons, including those from pagan graves. (Gestsdóttir 1998a, 1998b, 2007) Strontium isotope analysis is also underway which has been providing indications of the origins of individuals in the burial record. (Gestsdóttir and Price 2003) There have been various studies of the blood groups of the Icelanders (Bjarnason, et al. 1973; Einarsson 1994) as well as studies identifying their genetic code. By studying their DNA, scholars hope to form a better understanding of who the original Icelanders were and what their connections were to Norway, the British Isles and Scandinavia. (Helgason, et al. 2001; Helgason, Sigurðardóttir, Gulcher, et al. 2000) The work continues today with the most recent discoveries (H. Roberts 2008; H.M. Roberts 2008, pers. comm.; Zoega 2007, pers. comm.). Gender studies in archaeology have begun to be undertaken, in one case looking at issues of gender through adornment (Smith 2004), and the first cremation has even been discovered in Iceland. (Byock, et al. 2005; Byock, et al. 2003)

This work was built on many aspects of the past scholarship noted above. However, it includes further quantitative and qualitative analyses of the data and asks questions regarding age, gender, landscape perceptions and the meanings behind the positioning of the graves. By doing so, it may expand our image of the world of the Viking period Icelanders. (Maher 2005; Maher 2004a, 2008). Gender is of particular interest to this study and the next section will explain the resources contributing to this project.

1.3. Foundations of the Research

1.3.1. Norse Gender Studies

Over the years, many aspects of the Viking World have been studied and recorded. Prior to the feminist revolution in Anthropology, most studies did not address gender, *per se*. Based on contemporary western attitudes, gender roles were binary and males and females did not overlap. Artifact associations were interpreted according to these assumptions and the role of children, unless there were atypical inclusions among their grave goods that indicated an elevated status, were hardly mentioned.

Once archaeologists began to ask questions about gender, women's roles in the Viking period were being addressed. One of the earlier studies involved a very complete analysis of the Book of Settlement, an historic account of the Settlement period of Iceland, by Jacobsen. (Jacobsen 1978) Her thesis has since been referred to by others applying gender research strategies to the Norse. (Jochens 1995) When Conkey and Spector (1984) came out with their ground-breaking article about gender and archaeology, a new journal was first published in Norway by the name of K.A.N. Women in Archaeology (K.A.N: Kvinner i arkeologi i Norge). (Engelstad 2007:217) Since then, in Scandinavia there has been growing interest in gender research for the Viking period from various fields, including folklore, history, anthropology and archaeology. (Borovsky 1999; Damsholt 1984) Much of the research focused on gender differentiation derived from the ancient writings, and the later studies incorporate archaeological material as well. As previously mentioned, Jacobsen worked with the sagas, particularly the Book of Settlement where she first suggested a 6:1 male to female ratio during the settlement period of Iceland. (Jacobsen 1978:24-32; Jochens 1995:86)

As gender studies continued, archaeological material was used in conjunction

with the sagas. Damsholt addressed the issues of female production and her contribution of homespun to family status and wealth. (Damsholt 1984) Jochens and Jesch both sought to draw on the sagas, history and archaeology to provide a well-rounded image of the Norse, rather than the one-sided view so often put forth, and in particular they both sought to make the invisible visible and bring to the fore that the Norse women did appear in history and brought them to light today. (Jesch 1991; Jochens 1995, 1996) Clover discussed the relationship between men and women and how power manifested itself and was perpetuated by the system. (Clover 1988, 1993) Today, we see empowered Viking period women running the household and contributing to its social standing, because of the research of Stalsberg (Stalsberg 1991, 2001), Dommasnes (1998), Graslund (2001), and many others who have contributed to gendered research on the Norse.

A wealth of information is gained from these studies; however, some seem contradictory. On the one hand, it is argued that the ancient writings paint the 'pagan' females in a poor light because they were written by Christian males. On the other hand, there are many images of socially respected, strong women who not only helped to support their own households, but also their husbands and families, without being censured by some Christian male authors. More than likely, both arguments hold true. More females were probably presented pejoratively because of the Christian male bias. That being said, the gender roles, division of labor and the politics of gender and age were probably not too distorted since some of these texts were written not long after the period in question and because there are other writings, such as the law codes, that also describe these roles and relationships. (Gilchrist 1999; Smith 2004)

A study of the role of women in trade during the Viking period, revealed that women in the eastern expansion were often associated with artifacts of trade. Prior to this study it was accepted that trade was a male domain, so individuals buried with trade artifacts must be male. (Stalsberg 1991, 2001) In fact, what has been shown here is that in the Icelandic context there were only a few artifacts that could be designated as being either male or female, but gender has also been identified in other aspects of the burial rite. More interesting was that age seemed to be a factor and although there were some inconsistencies, a strong connection could be made between artifacts and age. These results might open the door to new assumptions regarding artifact association, but caution is needed when making them as they are estimates based on a percentage of identified remains with many unknowns in the mix. The following section will describe the background of age as an inclusion in the research.

1.3.2. With Age Comes Standing

Women and children are usually placed together in the private sphere. As discussed with respect to gender and gender roles, especially through time, age categories are just as arbitrary. Age like gender are both biological conditions which create noticeable differences between individuals in households, communities and social and political groups. It is very likely that, similar to gender, the age divisions of labor, roles, and social position within a society changed from culture to culture and over time. (Joyce 1999; Kamp 2001) In legal documents from “the 7th century Anglo Saxon Britain, 10 was the age at which children became adults, but by the 10th century the boundary had been raised to age 12.” (Crawford, 1991 as cited in Kamp 2001:4).

However, contemporary thought leads us to pursue the archaeology of childhood based on the much later age that we consider adulthood in western society today.

Examining other cultures across the globe, there are clear variations for division of labor based on age as well as the age of maturation to adulthood. Many societies do not take into consideration the biological age division, but focus more on skills, intellect, mental and physical readiness to tackle particular tasks and various other attributes. This project will reveal age as a major contributor to differentiation in burial rites during the study period.

Two of the main assumptions of this project have thus been outlined – that age and gender differences will be evident in the archaeological record, The final two, which are based on years of archaeological research, will be addressed. Here the understanding of prestige goods and their use for interpreting social position will be discussed in the context of this study.

1.3.3. Approaches to Prestige Goods and Social Position

The archaeology of prestige and power is not new and the power and prestige found in chiefdom societies is well documented. (Arnold 1995; Byock 1990; Carneiro 1981; Driscoll 1988; Earle 1987, 1997; Nelson 1997; Parker Pearson 1991; Trinkaus 1995; Vésteinsson 2000) Similarly, the assumptions regarding wealth, status and prestige goods in this research are not new, nor am I adding any new information *per se* to the body of knowledge on that subject. However, by focusing on the Icelandic corpus and organizing the various artifacts, including the so-called ‘prestige goods’ into categories based on function as measures of differentiation within and between the sexes, interesting results were reached. Thus, it becomes necessary to briefly describe the background regarding the quantity and quality of the artifact inclusions and their implications for the dataset.

Much of the burial data in this project are derived from the work of Kristján

Eldjárn who discussed and compared the data within the broader Scandinavian context. My study, however, focused on Iceland, although reference is sometimes made to the broader context of Norse burial style. His view stated that the graves in Iceland were modest and that social differentiation was measured by quality and not quantity. Such an assessment was based on the comparison of the Icelandic Viking period burial sites to the burial sites found in other parts of the Viking World, especially Norway, where there have been numerous, exceptionally wealthy graves recorded by archaeologists over the years. See, for example (Bruce-Mitford 1979; Carver 1995; Ingstad 1995; Sjøvold 1954, 1985; Sørensen 1997; Wamers 1995). Although comparing the Icelandic burials to those of the rest of the Viking World is relevant, particularly in placing them into a wider social context, it seemed more productive to study them as they related to other Icelandic burials in order to understand the shades within the social hierarchy of this place and time, rather than simply labeling them rich or poor without establishing the specific social, political and economic differences.

Many of the known Viking period farms in Iceland show architectural and zooarchaeological signs of substantial wealth, even by continental standards, but artifact finds from excavations as well as burials are modest in quality (especially the precious metals) and many imported items show evidence of long curation and repair or the use of local materials as substitutes for imported goods. (Edvardsson 2003; Einarsson 1994; Vésteinsson 2002) Whether the long-held view that the majority of the Icelandic settlers were simply poor was accurate, or Iceland's position on the periphery and distance from the major market centers artificially depressed the quality and quantity of artifacts available for signaling wealth and power, is uncertain and controversial.

Whether there is a direct or indirect relationship between burials and the social practices of the living has been a subject of debate for quite some time in archaeology. However, as Nielsen states: “burials do reflect real life, but only when the historical context and [other] factors...are taken into consideration. It is clear that an expensive burial rite is pre-eminent only in certain situations, depending not just on social mobility, but also on the religious allegiance and personal success, not of the deceased necessarily but of his descendants.” (Nielsen 1997b:110) Quantifying the artifact assemblage of the Icelandic burial context has provided similar results. First, it shows that in all societies, even one claimed to be marginal by comparison, differences in the perceived power and prestige of individuals will be visible in the burial inclusions. Second, the more prestigious the burials, the fewer there will be, while the less prestigious graves will comprise the majority. In the Icelandic context, a small percentage of graves contained items categorized as leisure and prestige clearly indicating social inequality in Iceland and, as will be shown in the chapters ahead, these make up only about 10.7% of the artifacts. There are also non-local items and artifacts that quite possibly signaled status-creating ventures in the collection that were also prestigious. Similar to other studies, the burials here were assessed based on grave goods, thus the term ‘poor’ when used here is relative to this particular body of data. (Crumlin-Pedersen 1995) However, the project is aware that the seemingly poor graves may in fact be individuals from a different cultural group living within the society under study. Thus, although it is possible to evaluate indicators of wealth in the burial record, it is almost impossible to assign a ‘poor’ status based on lack of artifacts, at least in the context of this dataset.

The final assumption which needs some explaining is how lineage and ownership

have been defined and applied in archaeological contexts around the globe and how it applies to the Icelandic corpus.

1.3.4. Reflections on Culture: Lineage and Ownership

As noted by Friðriksson, it is impossible to rely on certain man-made features dating from the settlement period because of various human and environmental factors. This means that the prehistoric farm boundaries are very difficult to assess and use in modern analyses. Still, he finds that burials are commonly found near to tracks and roads. (Friðriksson 2005:15-16)

It is relevant that farm sizes could vary drastically and based on the type of farm probably affected burial location. Thus, it seemed useful to study the burials in an area which included a possible Viking period farm, regardless of its boundaries, to assess how close the relationship was between the living and the dead. It was believed that for this project an arbitrary boundary beyond the possible farm house position would serve the project best. At the core of the research was the assumption that for the most part the burials were placed to convey an association between the living and the dead, and that regardless of their relation to property boundaries, burying the deceased on one's own farm provided sufficient evidence of claim. (Chapman 1995) Also, it seemed clear that by placing a burial site on a prominent feature in the landscape such as a hill, cliff and even hillock, the Icelandic pre-Christian burial sites were declaring their rights to the land, as well.

There are a number of prehistoric and more contemporary cultures who buried their dead close to or even under the home. For example, the much earlier Bronze Age Argaric of Iberia were buried under house floors with artifacts revealing the personal wealth and position of the individual and thus, the family occupying the house. (Lull

2000) Also, the Oneota of North America employed various burial practices including ‘within-habitation cemeteries’; leading researchers to conclude that households were occupied by the same groups repeatedly. (Gilman 2001; O’Gorman 2001:29). Closer to the subject period, during the British Bronze Age, previously mummified bodies of ancestors were buried under round-house floors to preserve lineage and family ties at Cladh Hallan. The bodies were found under various layers of jewelry, lamps and even animal remains. (Pearson, et al. 2004:74-82) These are just three examples where personal and family wealth, ancestry and land ownership are clearly demonstrated in the archaeological record.

However, there are many more peoples in historic and prehistoric times who adopted the tradition of separating the dead from the living. In many societies, especially in the North Atlantic region, the distances tended to be much greater than in Iceland. The Christian practice of burying the dead in churchyards is obviously notable since these were the contemporaries who regularly interacted with the Icelanders. In the Roman period many burial sites were located along roads at the outskirts of towns and in various places during the Medieval period, we see that burials were also placed beyond habitation areas, whether they were towns or smaller hamlets. (Aries 1994; Chapman and Randsborg 1981a, 1981b; Daniel 1998; Davies 1999; Goldstein 1981; Parker Pearson 1991, 2002) Of course, there are variations within each of these examples. It is important to note, however, that the Viking period Icelanders had a choice and analysis shows that they had reasons for their preferred locations.

Drawing from the position of the pre-Christian Icelandic burials we can see that it is likely that their positions in the landscape suggest a society that was not only creating a

lineage through their burials, but also staking claims to their land – creating a history for the descendants of the first settlers and connecting the Icelanders to their new homes in their new landscape.

With the goals, resources and assumptions underlying this project characterized, it is necessary to define terms and abbreviations used throughout the text.

1.4. Definitions

The majority of terms used are not uncommon, however, some of the terms need to be defined to narrow and clarify their use in this dissertation. Other terms are unique to certain computer applications and might be useful for a reader who is not familiar with such language.

- ***Burial Site***. The specific location where one or more pre-Christian burials are located and identified by a specific Burial Reference Number (“*BR no.*” or “*Burial Site No.*” is used to refer to each site) which was originally based on Eldjárn’s chronology with the newly discovered sites continuing in the numbering sequence. These Burial Sites are usually called by their farm names, for example the “Litlu-Nupar” burial site, or by their general location, for example the “Berufjord” burial site.
- ***Cemetery or Graveyard***. Both these terms reflect the concept of an area being used for the burial of humans. However, here, the terms have been used to differentiate between Burial Sites with only a few graves and those Graveyards or Cemeteries with four or more Graves.
- ***Distance***. All distances are in metric and most have been measured using handheld GPS devices (described below) during various surveys of the region.

- ***Elevation***. Elevation data is based on either surface maps created for landscape analysis or GPS coordinates collected during archaeological survey of the burials, in which case the datum is the WGS84 spheroid and points are measured in meters above sea level (asl).
- ***Environmental/Vegetation Maps***. A map representing the vegetation of Iceland, also known as a Vegetation Map. The Settlement period map is an estimated landscape created by Eyþór Einarsson and Einar Gíslason in 2001. Both the settlement period and the modern environmental landscape maps are being used with the express permission of Nátturufraeðistofnun Íslands.
- ***Farms***. In Iceland today, although there are cities, towns and hamlets, the majority of archaeological sites discussed here are located on farms around the country.
- ***Geographical Information Systems (GIS)***. A computer-based relational database with the ability to integrate, store, manage, edit, analyze, query and display spatially/geographically referenced data.
- ***Global Positioning System (GPS)***. A satellite-based navigational system, in this case used to record the coordinates of the Burial Sites and the Farmhouses used in this study.
- ***Grave***. This term refers literally to the hole in the ground. One Burial Site may contain one individual grave, a multiple grave (where more than one individual is interred in one or more holes) or numerous graves (as described above) as in a cemetery or graveyard. When individual graves are being discussed and the provenience for skeletal remains, artifacts and/or animal

inclusions is known, graves were referenced by their specific grave numbers or “Gr. no.”

- ***Interpolation.*** A process of predicting unknown values by using and calculating a number of known values around the unknown value. Most often applied to point elevation data in order to create a continuous surface.
- ***Line of Sight.*** A graphic line between two points on a surface that shows whether or not the view between the two points is clear or obstructed.
- ***Norse.*** The term used to describe the Scandinavians as a cultural group (the people of Norway, Sweden, Denmark, the Faroe Islands, Iceland and Greenland) and the individuals are known as “Norsemen.”
- ***Placement.*** There are many ways that this term can be interpreted when working with burial data. For the purposes here, this study regards the placement of the burial in terms of location. Thus the placement of the burials are being researched in order to understand the location of the burial within the landscape: elevation, vegetation, region, distance from associated or possibly associated farms, etc. The orientation and positioning of the skeleton or grave are not addressed by this term.
- ***Querying.*** A method of questioning the data in a database so that the entire database can be searched and relevant information can be separated from the rest.
- ***Relational Database Management System (RDBMS).*** Drawing on the definition of a DBMS which is a software system that supports the creation, maintenance and use of an electronic database; an RDBMS may be a DBMS

in which data is stored in the form of tables and the relationship among the data is also stored in the form of tables.

- **Viewshed.** A map created from the analysis of topographic surfaces that depicts all locations visible from a predetermined viewpoint.
- **Viking.** A Norseman who went by sea on expeditions to raid, trade and colonize foreign lands from the 8th to 11th centuries CE.
- **Visibility.** The measure of the distance at which an object can be clearly discerned.

As was the case of the defined terms, it is also necessary to explain the spelling, pronunciation and variations of both throughout the text. The next section attempts to clarify the Icelandic text for English readers.

1.5. Language Conventions

Over the years translations of Old Icelandic have been used with many different writing conventions and spellings for names and places. My goal here, is to make it easier for those readers unfamiliar with Old Icelandic to read the Icelandic terms at the same time that I preserve the names and places as much as possible. Old Icelandic has three characters which are particularly difficult, the letter Þ or þ, the letter Ð or ð and the letter Æ or æ. The Þ is voiceless and is pronounced “*th*” as in the word *ether* and is always found at the beginning of a word; in English, we tend to substitute “*Th*” for this letter, thus Þor becomes Thor. The Ð is voiced and is pronounced “*th*” as in the word *either* and is never found at the beginning of a word; in English, we tend to substitute “*d*” for this letter thus Óðin and fjörð become Ódin and fjörd. The Æ is pronounced like the English word “*eye*”; in English, the original character has been retained since using “*AE*” does

not make it easier to read. Accents have been removed in the English version of words so that á, é, í, ó, ö, ú and ý have become a, e, i, o, o, u and y. These conventions have been used throughout this text, except in direct quotations where the spelling from the source material was retained as they were in the references cited throughout so that the materials can be located.

Icelandic case endings are omitted: Egill is Egil, Odinn is Odin, Skallagrímur is Skallagrím. However, there are still spelling issues that cannot be so easily resolved. There are times when words are spelled one way in one source and spelled differently in another and in Icelandic spelled yet a third way. In such cases, I attempted to choose one spelling and use it throughout. In most of this text, I chose to use the English as this thesis is written in English and will also be in a digital format and not all non-Scandinavian systems will be able to handle or print the Icelandic characters. However, there are a few examples throughout where the Icelandic characters will be used – usually italicized and in the Appendices, so that the data is kept in its original form.

Finally, outlining the organization of this work was deemed the best means for clearly preparing the reader for the arguments, data, outcomes and suggestions for future research in this subject matter to follow.

1.6. Chapter Overview

I have used the data obtained from the burial sites and graves by others together with data obtained during my archaeological survey of the Burial Sites and their surrounding landscapes and spaces to understand the individuals and groups in the context of their social and political affiliations. In order to understand any social meanings of the artifact assemblage within its perceived environment, much more than

bodies and artifacts were needed to present a rich, full image of the culture and the symbolic connections to their world. I have therefore chosen to organize this work in the following manner:

- **Chapter 2** provides the context of this research by describing the island in the North Atlantic encountered by the Norse travelers, its history and the world of the original settlers. This chapter also introduces the reader to the burial practices of the Icelandic pre-Christians which were the focus of this project.
- **Chapter 3** introduces the theoretical and methodological approaches applied to the dataset including a relatively new one: the use of cognitive theory and cognitive GIS in conjunction with the quantitative data analyses.
- **Chapter 4** breaks down the burial data into their respective Graves, illuminating the individuals who occupied the Graves and the meanings of the artifacts and other inclusions related to the dead and to each other. Of particular interest are the patterns emerging with respect to age and gender differentiation.
- **Chapter 5** continues the analysis focusing on the data external to the Graves particularly with regard to how the spaces surrounding each Burial Site were perceived and the ties to their land. The focus of the previous chapter is further developed to understand the differences in burial rites between age categories and gender. The final sections explore the possible interpretations that could be drawn from the dataset, quantitatively and qualitatively. In doing so, the analysis reaches beyond the obvious grave good associations to the symbolism and the mental processes behind their deposition in order to

understand the social positions and relations, and political affiliations and the religious and cosmological foundations.

- *Chapter 6* concludes this work with a discussion of how the interpretations drawn in *Chapters 4 and 5* relate to the expectations set forth in this thesis, where this work fits into the current research on pre-Christian Viking period burials of Iceland and other regions, and the next steps for continued research.

Chapter 2. Setting the Scene

2.1. Geography

The study area is the country of Iceland which is located in the Sub-Arctic region, between continental Europe and North America. Iceland is an island with the North Atlantic Ocean on its southern and eastern coasts, the Greenland Sea on its northern coast and the Denmark Strait along the northwest. (See Map 1) The country is approximately 200 km east of Greenland, 400 km northwest of the Faroe Islands, 800 km northwest of Scotland and 900 km west of Norway. Its coordinates range roughly between 63°22'3.64"N and 66°7'42.23"N latitude, and between 13°28'12.22"W and 24°37'6.24"W longitude, creating a landmass that is wider than its length. The island itself is approximately 103,125 km², almost the same size as the state of Kentucky in the United States. (Nordal and Kristinsson 1975:1-2)

2.1.1. Climate

As an island in the North Atlantic Ocean, Iceland has a maritime climate with the oceans influencing the temperatures. The North Atlantic Drift is the major current affecting the Icelandic climate as it pushes the warm Irminger Current north along the western coast of Iceland. In most years it also creates a surface current along the north coast as well. The Norwegian Atlantic Current is also created by the North Atlantic Drift and its current moves east and north along Iceland's southern and eastern coasts. (Ogilvie 1991; Ogilvie and Jonsdóttir 1998; Ogilvie, et al. 2000:36-37)

Iceland falls within a temperate climate zone, usually without extremes of precipitation and temperature, thus the norm for Iceland is damp, cool summers and mild, windy winters. However, due to its proximity to Greenland and the cooler Arctic

currents, it can be marked by frequent changes in weather where all four seasons may be experienced in one day where clouds can bring about a sudden drop of temperature changing the temperature from warm to chilly. As a result of the Arctic currents, the western and southern regions of Iceland tend to have much more rain than the north and east. (Hanna, et al. 2006; Ogilvie, et al. 2000)

2.1.2. Natural Landscape

Due to the nature of this study, the Icelandic terrain requires particular explanation. Iceland is mostly a plateau that is broken by mountain peaks, ice fields and glaciers. The coastline is almost 5,000 km long riddled by deep fiords on all but the southern coast. The elevations of the island range from sea level to the high point of 2,110 m asl at Oræfajökul volcano in the south. Approximately 24,700 km² fall within an elevational range between sea level and 200 m asl; 18,400 km² are between 201-400 m asl; 22,200 km² range between 401-600 m asl; and 37,700 km² are over 601 m asl. (Nordal and Kristinsson 1975:7) (See Map 2)

Today, glaciers cover almost 12,000 km², which is about 11.7% of the total area of Iceland. Although Iceland is a relatively large landmass, the vast majority of the interior is uninhabitable desert. (See Map 3) As can be seen, the desert is located to the north and west of Vatnajökul glacier and there are large areas of washed-out plains created by the glacial rivers which continuously change course. The resulting wastelands measure approximately 64,500 km² which is 62.6% of the total area of Iceland. This leaves only 25.7% of Iceland suitable for habitation and 11.2% of this is made up of lakes and rivers. Vegetation covers only 23,800 km² and lakes and rivers cover about 2,700 km². (Einarsson 1991; Nordal and Kristinsson 1975:7-10)

The Icelandic soils can be broadly grouped into two types: mineral soils and

organic soils. The mineral soils are mostly eolian, built up by powerful physical forces such as volcanic eruptions. They have a low acidity (pH 6-7). Bogs form about 40% of the total soil cover and their composition is about 40-60% mineral soil. The organic soils also have a low acidity (pH 5-6) and with substantial amounts of human intervention by way of fertilization are quite good for agriculture. Unfortunately, Icelandic soils do not contain enough clay, therefore they are susceptible to various types of erosion. Also, investigations near some of the icecaps of central Iceland show that pressure and winds are markedly affected by the presence of the icecaps under various conditions. Ashwell explains that “[t]he main effect is of wave formation and descent of dry air, coming predominantly from Polar or Arctic air masses, and the descent of this air is associated with a belt of severe soil erosion in south and central Iceland. A similar effect can also be detected in northern Iceland.” (Ashwell 1966:538-540; Einarsson 1991; Nordal and Kristinsson 1975:7-10)

Although natural processes have greatly contributed to the various phases of soil erosion around Iceland, the final phase was exacerbated by human activity. Enkhtuya et al. indicate that many of the desert areas were previously fully vegetated and covered with fertile andisols. (Enkhtuya, et al. 2003) Although wind contributed to a great amount of the erosion seen in Iceland’s wastelands today, it is not the only culprit. Erosion induced by human activity in the past years has removed almost all the original soil and vegetation cover of these areas and exposed the underlying soil horizons. (Enkhtuya, et al. 2003:209-210; Ólafsdóttir and Guðmundsson 2002) Since the arrival of humans, Iceland has been dramatically altered. The first major alteration made by the settlers was to clear land in order to make it suitable for livestock and farming. The birch

forests and scrub were cut down and/or burned and Iceland was introduced to herbivorous mammals such as sheep, goats, cows and horses as well as the omnivorous pig. (McGovern, et al. 2000) With the woods gone and the overgrazing of the animals, the very delicate environmental balance was quickly disturbed, creating the ever increasing erosion fields that are common today. Soils were blown away (Enkhtuya, et al. 2003; Ólafsdóttir and Guðmundsson 2002) and today “about half of the land area below 400 m asl, which was previously covered by vegetation, is bare....” (Nordal and Kristinsson 1975:21) Understanding the nature of the landscape is important when attempting to understand the history of the society who occupied and altered the land. Before then it was a pristine environment, so the Viking landscape begins with the settlement of Iceland.

2.2. History

The history of the Icelandic landscape played an important role in settlement strategy as well as illustrating some of the causes of farm abandonment in the more vulnerable regions of Iceland. (Dugmore, et al. 2000; McGovern, et al. 2007) Understanding the nature of the landscape, the limitations on the landscape for sustaining agricultural practices and the rate of landscape change due to both nature and human impact, enabled this study to extrapolate backwards from the modern landscape to the landscape that attracted those first settlers in order to comprehend the relationships between the settlers and their perceived landscape. Using a landscape that is closer to that of 1000 years ago, even if it is an estimated one, provided this research project with more accurate data for interpretations of landscape perceptions at settlement and burial sites. (See Map 4)

2.2.1. *Placenames and Settlement*

The Book of Icelanders mentions Christians, called Papar, living in Iceland when the Norsemen arrived, who left because they could not live with heathens. (Jónsson 1986:2) The Book of Settlement provides even more information and says that “more than 120 years before Iceland was settled by the Norwegians ... there were other people there, called Papar ... they were Christians ... it was clear they must have been Irish.” (Jónsson 1986:23; Pálsson and Edwards 1972:15) According to the Irish monk, Dicuil, in his work entitled *De mensura Orbis terrae (A Summary of Geography)*, a group of islands about a six-day sail from Britain were visited by monks on hermitage. (Jónsson 1986:2; Sveinbjarnardóttir 2002:98-99) Although such stories, as well as place names such as Papey and Papafjord, indicate that Iceland may have been home to Irish hermits, there is no concrete evidence to suggest that their presence was long-term or left any distinguishing marks on the landscape. (Ahronson 2002; Karlsson 2000; Sveinbjarnardóttir 2002) It is clear that the Norse were the first humans to set up permanent settlements on the island, which was separated from the Norse homelands by a great distance. Such a situation provided the settlers with the opportunity to create a society based on the Norse ideals of the time. It is very possible that being in such a position affected every aspect of the lives of the settlers from land taking, to politics, social structure and economy which may be evidenced by studying the placement, inclusions and symbolism of burials.

After their arrival, the great distance allowed the settlers to develop their chieftain societies, divide their new lands as they liked and govern themselves in a manner that suited their own interests without interference from owners of previously marked or worked land. Discovering an untouched landscape provided the opportunity for the

settlers to place farms and burials in locations of their own choosing, without having to avoid areas due to prior activity or any other restrictions. They also were faced with uncertainty when they found their new lands were not as environmentally stable as those from which they came.

The earliest settlement farms were acquired on a first-come-first-served basis and those first settlers more than likely acquired the lands most suitable and with more resources for an agricultural lifestyle first, after which the next wave of settlers took any land in Iceland that was capable of supporting life. The later settlers were probably limited to less suitable lands and eventually newcomers were allotted property on lands already claimed, until all were eventually settled. (Pálsson and Edwards 1972, 1976; Vésteinsson, et al. 2002) These waves came in swift succession; and more than likely, the process of settlement was quick and the new landscape was established earlier than was once believed. (McGovern 2009, pers. comm.) The Book of Settlement lists the number of settlers at approximately 420. (Jacobsen 1978; Jónsson 1986; Pálsson and Edwards 1972; Smith 1995:320) However, this number does not include households, servants and any other individuals associated with that settler. Clearly, as will be shown in Chapter 3, the burial data represents only a fraction of the population of Iceland during its pre-Christian period.

2.2.2. Landnam – The Settlement of Iceland

The Viking Age began during the latter half of the 8th century when traders, settlers, explorers and pirates began to travel beyond their homelands in modern Continental Scandinavia – Norway, Denmark and Sweden – and came into contact with other cultures, with varying results. These Vikings traveled east, as far as the Volga in modern Russia, and south to the Byzantine Empire, usually raiding, trading and moving

on. They settled into areas along the Baltic and along rivers in Russia and became an integral part of the eastern trade system during this time, as well as becoming part of the region's political agenda. (Edgren 2000; Graham-Campbell 1994; Noonan 1991; Pálsson and Edwards 1972, 1976; Stalsberg 1991, 2001) They went westward, raiding coastal areas in Scotland, Britain, Wales, Ireland, France and Spain. (Haywood 1995; Price 2000a) They also created a trade network, even establishing trading centers in York and Dublin. (Batey 2000; Hall 1990, 1994; Ó Corráin 1997) Finally, they settled further west, in Scotland, the Faroe Islands, Iceland, Greenland and even established a short-term settlement in North America. (Arge 1993, 2000; Arneborg and Seaver 2000; Baldwin 1978; Barrett, et al. 1999; Berglund 2000; Buckland, et al. 1993; Debes 1993; Jones 1984; Lynnerup 2000; McGovern 2000; McGovern, et al. 2007; Vésteinsson, et al. 2002; Wallace 1991, 2000)

In the Anglo-Saxon Chronicles, first contact with the Viking world is mentioned in 787 C.E. in Portland when three ships were mistaken for merchant ships. When approached, the Norsemen (Danes) killed the reeve and his men as they attempted to redirect the unknown merchant ship to the "king's town." (Ingram 1996:27) However, this was a minor altercation when compared to events recorded six years later when Vikings raided the monastery located on Lindisfarne, an island off the eastern coast of England – the event that traditionally marks the beginning of the Viking Age in the British Isles.

“A.D. 793. This year came dreadful fore-warnings over the land of the Northumbrians, terrifying the people most woefully ... the harrowing inroads of heathen men made lamentable havoc in the church of God in Holy-island, by rapine and slaughter....” (Ingram 1996:28)

The end of the Viking Age is traditionally marked in England by the failed invasion attempted by Harald Sigurdsson, who was defeated by the Saxon king Harold Godwinson in 1066 and soon thereafter Viking control was lost in neighboring regions as well. (Graham-Campbell 1994; Haywood 1995)

Knowing who chose to immigrate to the uninhabited Icelandic landscape, helps to better understand their belief system and what motivated their actions. Section 2.3 focuses on their social background as it was drawn from the ancient texts.

2.3. Mythology

2.3.1. Norse Cosmology

The cognitive aspects of this project consider three of the categories of human intellectual activity defined by Flannery and Marcus (1998) (cosmology, religion and ideology), a description of the first two categories of the Norse worldview will aid in clarifying this project's focus: facets of the Icelandic ideology during the Viking Age. (Flannery and Marcus 1998:37-45)

Cosmology is the philosophy of the origin and general structure of the universe. Thus, it is different for distinct societies in separate periods of time. This general structure in turn aids in defining the rules, codes and ethics by which a society lives. Thus cosmology is closely related to and affects both religion and ideology. The sources providing insight into the Norse worldview have their limitations due to the possibility that there are variations in the worldview created by both space and time. That being said, one plausible version is found in the Prose Edda written by Snorri Sturluson (1179-1241) (Young 1964) and various explanations and interpretations of that work by scholars over the years. (Anderson 1888; Andersson 1977; Cotterell 2000; Davies 1999; DuBois 1999; Hastrup 1981; Litchfield 1890; Page 1990; Young 1964) The universe in

which the Norse believed was fashioned around a tree of life named *Yggdrasil*. There, the nine worlds of the universe existed: Muspelheim (the world of fire), Asaheim (the world of the gods), Ljosalfaheim (the world of the light elves (minor fertility gods)), Vanaheim (the world of the Vanir (major fertility gods), Mannaheim (the world of man), Jotunheim (the world of the giants), Svartalfaheim (the world of the dark elves), Helheim (the world of the dead (not the same place Christian or even contemporary society pictures), and Niflheim (the world of mist). (Anderson 1888:186-187; Page 1990:56-58; Young 1964:32-47)

The description of the Norse universe also comes mainly from Snorri Sturluson's work. This work is comprised of three books, the first of which, *The Deluding of Gylfi*, is a "sophisticated guide to Northern mythology based on poems, some of which are looked on as older than any skaldic verse." (Young 1964:17-18) In his work, Sturluson explains the mythology surrounding the creation of the world and how the lands of Scandinavia fit into this story. In the beginning, nothing at all existed, just an open gap (Ginnungagap). At the lower part of the gap was a world filled with ice, darkness and cold; this was the world known as Niflheim. At the upper part of the gap was a world filled with warmth, fire and light; this was known as Muspelheim. Eventually the fires from Muspelheim came into contact with the ice of Niflheim and a giant by the name of Ymir arose from the mist. When he slept a man and woman formed from sweat under Ymir's arm and his two legs created a son. This is how the family of frost ogres came into being. Ymir lived on the milk of a great cow that formed from the frost, Audhumla. In an interesting tale the first god, Buri, emerged from a salty iceblock licked by Ymir's cow. In due course, there came to be three brothers who were descendants of Buri, Odin, Vili and Ve. These

three brothers were able to defeat the frost giants and kill Ymir. From his corpse, Odin and his brothers created the universe. The middle portion of the earth which was created for men, known as Midgard (middle world) was created from Ymir's flesh, his bones became the mountains, his teeth became rocks, his blood became the seas and lakes. His skull became the sky, held up by the dwarves, Nordri, Sudri, Austri, Vestri one at each of the four corners. Clouds were formed from Ymir's brains; the sun, moon and stars were created from the sparks of Muspell. The sun and moon were carried by chariots across the sky, driven by Day and Night, perpetually chased by wolves who occasionally devoured them, only to release them when they heard the cries of the people of Midgard. All aspects of the universe that were observed by humans were explained in this way, for example, including the setting and rising of the sun and moon as well as the times when there was no moon or sun, the extent of the sky, the ever-present ice in the north and the warmth in the south, to mention a few.

Once Midgard was created, humans followed. A woman was created from a branch of an elm tree and her name was Embla; and a man was created from the branch of an ash tree and his name was Askur. Similar to the Adam and Eve story from the Bible, these two humans procreated and all humans came from them. The gods watched over these humans. (Young 1964:29-93)

As in other cultures, the Norse cosmology contained a vision of the end of the world, *Ragnarok*. It will not happen overnight. There are various portents that will indicate the beginning of the end. Then, after the destruction of the gods and the world, when all settles, a fair new world will appear in which life will spring independently (fish will thrive in the waters, crops will grow unattended) and in the forest a man and woman

(Lif and Lifthrasir) will survive and create an all new race of humans and a new age will begin. (Young 1964:86-93) Many cultures have such an End of Days view of their universe but the Norse mythology is different in one respect. The outcome has already been foretold and all the gods know their destiny. Yet, they still fight valiantly showing their courage. (Anderson 1888; Young 1964)

There are many stories in *The Deluding of Gylfi* that divulge not only the strengths and powers of each of the gods, giants, and other prominent players of the Norse mythological world who define the religion of the Norse, but also examples of how the landscape was formed. Thor traveled to the land of the giants and met Skrymir, a giant. While Skrymir slept, Thor struck him three times with his great hammer, Mjollnir, though seemingly without impact. However, it was revealed to Thor later that he was deceived by spells and before his hammer struck, the giant put a hill between himself and Thor, thus his hammer did indeed have an impact, just not on the giant's skull: "where you saw a saddle-backed hill close to my stronghold and in it three square-shaped valleys and one very deep – they were the marks left by your hammer." (Young 1964:77) Another example is when Thor drank from the great horn which he could not empty. The giant had the end of the horn in the ocean and no matter how much Thor tried, he could not empty the horn in three sips. However, we learn that he did drink much more than was expected and when they looked at the ocean it was lower than before – in this way ebb tides were explained. (Young 1964:77)

The Prose Edda also provides a bit of insight into the beauty and status of certain materials which also may explain the power that can be found in the materials. For instance we know that the goddess Freyja searched the earth for her husband, Od, and

during her search she wept for his loss and her tears were gold when they fell onto land and red gold (amber) when they fell into the sea. (Page 1990; Young 1964:59) Amber was considered a very powerful material by the Norse and was often made into talismans and amulets. Such beautiful materials were worthy of the gods as in the great hall of Glitnir which had walls, posts and pillars of red gold and a silver roof. Another great dwelling called Valaskjalf, owned by Odin, had a roof of pure silver. (Young 1964:46)

We also gain an understanding of the desirable and undesirable qualities for which humans should strive, by recognizing both the strengths and weaknesses of the gods. Obviously, being a strong warrior and dying in battle are very good traits to have, which is why Odin sent those who fell in battle to the great hall, Valhalla, where they enjoyed food, drink and the opportunity to practice battle tactics all the days, which prepared them to serve in Odin's army when the great battle was near. However, not all those who were slain in battle went to Valhalla. Freyja chose half of the fallen and the rest went to Odin. Those chosen by Freyja went to her hall, Sessrumnir. This division of the dead warriors indicates that warriors were not only men of great skill in battle (Odin represents these traits), but also men of strength of heart (Freyja represents love, poetry and honor). Together, these qualities make up the most successful warrior. (Anderson 1888; Young 1964) Even those who were good could fall prey to weakness as seen when Freyja lost her husband, Od, because she betrayed her husband for the chance to own the necklace *Brisingamen*. (Page 1990:55) Loki, in too many examples to list here, epitomized deceit. The best example was his role in the death of Baldur, where he disguised himself and went to the goddess Frigg to find out if there were any elements in the world who did not swear an oath never to harm Baldur. He discovered that the

mistletoe was too young to be asked for such a promise. Loki then tricked a blind man into throwing a twig of the mistletoe at Baldur. He told the blind man that it would be an insult not to participate since everyone was doing the same to show Baldur he could not be harmed, the mistletoe thus caused Baldur's death. (Anderson 1888; Young 1964:80-81) These few examples show how the Norse cosmology provides a foundation for the Norse, a base not only for their religion, which will be discussed next, but their ideology and iconography as well. (Anderson 1888; Faraday 1906; Page 1990)

2.3.2. Norse Religion

Another aspect of cognition considered in this project is religion. Religion comprises a set of beliefs in a superior being(s). This being has control over the universe, dictates the rules a society follows, how people should live and die and what happens to them after death. Although the line is blurred between cosmology and religion, this section should help to make the distinction between religion as a concept and cosmology clearer. (Flannery and Marcus 1998:37-45)

The pantheon of gods, giants and monsters found in the Norse religion was created to represent all aspects of human nature, good and bad. The Norse gods, just as the gods, saints and angels of other religions, guided humans through life, explained events that took place in the natural world, helped them through various trials and tribulations, aided in the healing process, offered hope when there was none, gave them strength in battle and eased their souls in death.

In the Norse religion, there were two groups of gods, the Aesir and the Vanir. More than likely, this division is much older than its appearance during the Viking period, as it is found among other Indo-European peoples who believed there were major gods (Aesir) and minor gods (Vanir). However, by the Viking period, the difference

between the major and minor gods was only slight. (Page 1990:27) The most well-known of the gods is Odin of the Aesir. He is the ‘All-father’, the oldest of all the gods. He created heaven, hell and all things in between, he watched over the human race at all times and knew everything that was taking place on earth. He is known for his poetic inspiration and as being the patron of warriors. His wife, Frigg, knew the fates of all men. They had children, one of which was Thor, a warrior god who defended the others with his great hammer, Mjollnir, and wore a belt that doubled his already superhuman strength. Njord was the god that controlled the wind and was the god of seafaring and fishing. Baldur was considered the fairest of them all, the wisest and most merciful and very sensitive; all were upset by his death – brought about by trickery and deceit on the part of Loki. Tyr was the boldest, the most courageous and had power over victory in battle. Freyr and Freyja were of the Vanir; they were beautiful to look at and powerful. Freyr was invoked for peace and plenty and brought about prosperity while his sister Freyja represented love, poetry and fertility. Eir was a great physician and Gefjon “is a virgin, and women who die unmarried served her.” (Young 1964:59) There are too many to list here. However, this small sample is used to show how the gods epitomized – to the extreme – all the traits and virtues humans endeavor to attain or to avoid. See (Young 1964:48-93) for more information on the various gods. (Anderson 1888; Page 1990; Young 1964)

The sagas are very good indicators of the level of religious commitment found within the Norse community, particularly the Icelandic community, since the majority of sagas took place there. We can see from Eyrbyggja Saga how Thorolf declared that “he would settle at any place in Iceland where *Thor* chose to send the pillars ashore ... Where

the pillars came ashore, Thorolf named it Thor's Ness ... He established a great farm which he called Hofstad and had a large temple built there. The whole building was considered a sanctuary." (Pálsson and Edwards 1989:28-29)

There are many examples of bravery in battle and dying with honor in the sagas. Egil's Saga has quite a few good examples. For instance, in the verse where Kveldulf and Skallagrim learn the events surrounding Thorolf's death: "Kveldulf questioned him on every detail of the events at Sandness when Thorolf was killed. In particular he wanted to know what Thorolf had done to his credit before his death." (Pálsson and Edwards 1976:64)

When telling of a death, religion plays a strong role. In various sagas mention of a mound being erected over the dead is typical. Although the funeral pyre has been described in other areas of the Viking world, it is unknown thus far in Iceland. (Friðriksson 2000; Frye 2005) However, the account depicted in Ibn Fadlan's story of a Viking-Rus funeral does provide insight into the offerings included with the burials and connects religion to burial. (Frye 2005; Parker Pearson 2001) In Ibn Fadlan's account, it is obvious that the burial ritual was performed in order to usher the dead to the next stage. There was an existence beyond the living and basic supplies were needed for the dead to complete the journey to the next stage.

Archaeology has contributed to the knowledge we have of the religion of this time with the burials providing the bulk of the information. In the ship and boat burials we see not only the great wealth of some of the more prominent individuals, but also get a glimpse of the religious burial rites as well. For instance the Oseberg Ship burial contained the remains of 14 horses, an ox and three dogs, four decorated sleighs, a four-

wheeled wooden cart, also decorated, and a wooden chest. Everyday household items and agricultural tools were also present. (Ingstad 1995; Sjøvold 1985) The Gokstad Ship burial contained three smaller boats, a sleigh and riding equipment. Both of these, as well as other ship burials, were located under substantial mounds. (Sjøvold 1954) In burials of lesser status, we find many with small boats or in some cases no boat but an outline of a boat created with stones – a representational boat. According to various interpretations of inclusions of Viking period burials not only were grave goods and boats placed into the graves as a display of status, prestige, social position for the deceased, or more likely for his or her descendants, but also boats and the horses were included to help the deceased travel to the otherworld. Other animals in the graves are interpreted as being placed there as companions or as a food offering. The warrior's burial included weapons while others might have tools of their trade. Thus, all were placed into the grave to serve the individual(s) in the next level. (Batey 1993; Friðriksson 2000; Gräslund 2001; Härke 1997c; Jensen and Nielsen 1997b; Jørgensen 1997; Nielsen 1997a; Pedersen 1997; Randsborg 1981; Ringtved 1997; Sørensen 1997)

The Icelandic pagan burials included in this project provide a good measure of the people who settled Iceland as the record is considered to date from the beginning of the settlement period in the latter half of the 9th century to the Christian conversion approximately 1000 C.E. (Jónsson 1986; Vésteinsson 2000:17-18) Although it is handy to place the pre-Christian burials into this small bracket of time, such a strict temporal division is unrealistic. Burial rites, customs and religion do not necessarily go hand-in-hand with history – or each other. It is highly reasonable to expect pagan burial rites to continue past this time, as it is just as reasonable to expect Christian burial rites to begin

before 1000 C.E. (Andersson 1977; Bagge 2005:108-110; DuBois 1999; Graham-Campbell 1989; Vésteinsson 2000:24-26) Ideology is the final focus of this project. Not only did this work begin with a basic understanding of the current perception of the Viking period Icelandic ideology, but it expanded on the current view as well. Here, it is explained in more detail.

2.3.3. Norse Ideology

As defined by Flannery and Marcus, “ideology falls within society and politics, not religion. It may be defined as the body of doctrine, myth and symbolism of a social movement, institution, class or a group of individuals, often with reference to some political or cultural plan, along with the strategy for putting the doctrine into operation.” (Flannery and Marcus 1998:40)

Iceland is the perfect setting for shedding light on the social and political ideology of the Viking age settlers for a few reasons. First and foremost, these settlers found a large, uninhabited island that could sustain their preferred way of life. Whether or not they were able to fully achieve their ideals will never be known, but it is reasonable to assume that under the circumstances, they tried. Second, since the land was unoccupied and because so many of the new settlers probably emigrated from their homelands for similar reasons, they aimed at sustaining their way of life, more than likely their economic status and political power as well. In Iceland they had the opportunity to take cheap or free land, build it up the way they saw fit, bury their dead in locations that would show ownership and in a particular manner and style suitable to their politics, social status, religious customs and beliefs. They were also able to control their own lands and surroundings by joining forces with their neighbors to settle disputes and other problems in the traditional Norse way, or in a manner to which they were accustomed.

The sagas and research indicate that Iceland was settled by individuals from Norway and the British and Irish Isles, for various reasons. Some were attempting to start anew: “Kveldulf and Skallagrim ... were in complete agreement that they could no more remain in Norway than any other of the King’s enemies.” (Pálsson and Edwards 1976:68) Like so many others they chose Iceland, not only because others had already made such a move and they would have friends there, but also because there was still a lot of available land so they would be able take as much as they wanted and choose where they wanted to create their new home. Sæmund of Sognefjord, Norway, chose not to risk his life for the king’s sake and when he met his foster-brother, Ingimund, he was told: “I know ... that it is not your lot to live in peace, and I think it would be a good idea for you to go away ... It seems to me not a bad idea for you to head for Iceland, as many worthy men do these days who cannot be sure of defending themselves against the power of King Harald.” (Thorsson and Scudder 2000:202-203) Others were banished: Thorvald and his son, Eirik the Red, “left their home in Jæderen, Norway, because of some killings and went to Iceland, which had been extensively settled by then; so to begin with they made their home at Drangar, in Hornstrands.” (Magnusson and Pálsson 1965b:49)

The sagas provide many examples of the role of the chiefs, whose elevated status was based on wealth, prestige in battle and/or intelligences. (Andersson 1977; Byock 1990; Magnusson and Pálsson 1960, 1965a; Pálsson and Edwards 1976, 1989) Such chiefs served as lawspeakers and, according to some sources, possibly held some sort of priestly function as well. (Byock 1990) This latter belief is based on the Norse term for chieftain – *godar* (pl.)/*godi* (sing.). There have been arguments about the application of this term to a religious background. The word itself is obviously related to *gud/god* in

Icelandic, meaning god. According to Karlsson this shows that the “governing system of Iceland grew up around persons who simultaneously had religious and secular tasks thus they were referred to as godar.” (Karlsson 2000:19) It is difficult to tell just how much religious power was connected to the position of the chieftain in the Viking period in Iceland and what this meant for any long-term position of power. Power was indeed perceived through the gatherings which took place in the Viking halls and although it is tempting to attribute ritual and religion to these gatherings (see Friðriksson 1994:48-74 for a more detailed description of this tradition), it is far more realistic to follow the archaeological evidence and, as Vésteinsson points out, the large Viking halls filled with prestige objects are archaeological support for social stratification and it is reasonable to assume that to enhance this status, holding large feasts on or near to your home reinforced it. Thus, “we do not need to know the nature of the gatherings that took place in the chieftains’ halls to appreciate that they were one of the principal means through which power was maintained and exercised.” (Vésteinsson 2000:7-8)

Although the sagas can be used as an aid to understanding the society and culture under study, once again it should be noted that they were written a few hundred years after the events that they describe, and during Christian times. Therefore, these writings, although helpful, also reflect their own times which may have influenced not only the image of an organized pre-Christian religious structure, but also the position of women in the society and the structure of the early governing body of Iceland. That being said, it can be seen in the following excerpt from Eyrbyggja Saga how one can be elevated in society and eventually earn a position as both chieftain and priest: “Snorri was soon running his farm in fine style, with plenty of men to follow him ... He was a very shrewd

man with unusual foresight, a long memory and a taste for vengeance. To his friends he gave good counsel, but his enemies learned to fear the advice he gave ... As Snorri was now in charge of the temple, he was called Snorri the Priest. He became a man of great power and some people envied him bitterly, for there were plenty who thought themselves just as well-born.” (Pálsson and Edwards 1989:44-45) From this passage it is also clear that being privileged as well as shrewd in business was useful in society. Not only did such men achieve chieftain status, but possibly also priestly status. As noted in a footnote clarification in *Njals Saga*, the Lawspeaker was elected by the “priest-chieftains.” (Magnusson and Pálsson 1960:64) *Njal’s Saga* is filled with important information on the laws, the legal system, compensation for damages and murder, women’s rights in society and at the court (Althing), banishment and exile as well as the shortcomings of this system and what happens when it breaks down or does not work. It makes very clear the fact that chieftains in the Viking period wore many hats. (Magnusson and Pálsson 1960) As mentioned earlier, the Althing was not established until Iceland was settled c. 930, therefore, the insights provided by some of the sagas about matters of law and the later issue of how the switch to Christianity took place at the Althing, should be used cautiously when applied to the early settlers and their social and political situation when they first arrived in Iceland. (Jones 1984; Karlsson 2000; Magnusson and Pálsson 1960; Pálsson and Edwards 1972; Vésteinsson 2000)

The Icelandic laws were brought to Iceland sometime around 920 from Norway by way of an individual by the name of Ulfljotur who modeled these laws on those of the area in Norway from which he had come. (Jónsson 1986:3-4) It is believed that the chieftains assembled and agreed on the laws and chose a time and place as well as an

elected Lawspeaker to head the meeting. The meeting was held annually from the Thursday falling between June 18-20, to the Wednesday falling between July 2-8. It was held at Thingvellir. The Lawspeaker was elected in three-year terms. The meeting was known as the General Assembly or Althing. (Dennis and Foote 2006:246) There was a General Assembly for all of Iceland as well as smaller assemblies held in the spring and autumn which were held locally in designated thing-sites around Iceland. (Dennis and Foote 2006:240) This creation of laws, rules and some sort of governing system for all those inhabiting Iceland clearly indicates a separate society with its own identity. Whether or not these settlers referred to themselves as 'Icelanders' is unclear, but they certainly distinguished themselves from other Scandinavians by putting together their own legal and political system. (Karlsson 2000:63-65)

The Norse burial sites have provided a wealth of information on this society as a whole, providing information regarding dress (Ewing 2006; Jesch 1991), afterlife (Graham-Campbell and Batey 1998; Pedersen 1997; Sjøvold 1985; Trotzig 1985), economic and social positions (Eldjárn 1984; Myhre 1992; Sjøvold 1985; Trotzig 1985; Vestergaard 1991), diseases (Gestsdóttir 2007; Price 2000b), lands of origin (Gestsdóttir and Price 2003) and even the differences between Nordic peoples from different parts of the world (Bjarnason, et al. 1973; Helgason, et al. 2001; Helgason, Sigurðardóttir, Gulcher, et al. 2000; Helgason, Sigurðardóttir, Nicholson, et al. 2000; Sigurðsson 2000). From burial practices in Latvia, we have information on animal inclusions, specifically how horse inclusions were connected with Viking burials in cemetery settings. (Bertasius and Daugnora 2001; see also Pedersen 1997: for information gleaned from riding equipment inclusions). Also in the east, further evidence of the trading

connections and gender relationships have brought a new understanding of the Vikings in Russia where females are not seen simply as companions but key players in trade. (Stalsberg 1991, 2001) Much work has been conducted in Sweden where there are more cremation burials than are seen further west as well as, based on runic inscriptions, an enlightened view of gender. (Gräslund 2001) Also, Sweden has provided a wealth of information on Viking period clothing and dress. (Ewing 2006) Burial sites in Scandinavia (Crumlin-Pedersen and Thye 1995; Ellmers 1995; Godal 1990; Kobylinski 1995; Lincoln 1995; Schjødt 1995; Sjøvold 1985; Sørensen 1997) have provided information on women, wealth, changing artistic styles, ships and much more. (Dommasnes 1998; Myhre 1992; Sjøvold 1985) The commonalities between burial sites in Scotland, including its Northern Isles, and Iceland have been brought to light by continuing research in both areas during the past half century. It has also brought our attention to the variation in wealth and styles in the settlements closer to the fringe. (Batey 1993; Crawford 1995; Eldjárn 1958, 1984; Friðriksson 2000) These are only a small sample of past and on-going projects. However, from these, it is evident that burials are particularly well-suited for enhancing our understanding of the Viking age peoples of Iceland.

2.4. Burial Customs

The burial ritual in the Viking period was not necessarily a simple affair. According to Ibn Fadlan, for a poor person a small boat was built, the person was placed in it, then the boat was burned. A wealthy person's possessions were collected and divided into three, one part for the family, another for the burial garments and a third for the mead. However, the actual cremation was only one small part of the ritual. When the

person died, the body was placed in a grave with a roof over it for about ten days while preparations for the ceremony were made – proper burial clothing was sewn and all other accountings were put in order. Plenty of food and drink was placed in the grave with the deceased in order to keep the person well-taken care of during this time. This was done to encourage the deceased to stay in his or her grave, especially since it was well-known at the time that the 'undead' were very hungry. (Chadwick 1946; Faraday 1906) This last point has been made in many of the sagas where the dead make a habit of disturbing the living in various ways. (See for example: Grettir's Saga, the Kings of Norway Saga, Eyrbyggja Saga, the Book of Settlement and other texts). If the deceased was of a high social position, a slave girl might be selected to accompany her master and she too, was prepared for the ceremony. (Frye 2005:67-69)

Although archaeological examination of burial sites presents us with only one portion of this entire sequence of the burial ritual, it is worth noting that there is still much knowledge to be gained from each burial site and that the external and internal characteristics are not mute. They all add a bit of information about the individual, the family, the society, their religion, economy, gender and age roles and worldview. By understanding the burial sites separately, as well as in the Icelandic context, the amount of variability may be weighed to provide information about social and cultural variations as well.

The Viking period burial ritual differed across the Viking World. In the east, cremations were more common than in the west, especially in Iceland where, until recently, none were recorded. (Byock, et al. 2005; Byock, et al. 2003) In Norway, there are many prestigious and wealthy burials very much unlike those of Iceland. (Gjerland

and Keller 2009 (in press)) Despite such differences, the organization of the burials, their inclusions and appearance have many similarities. (Batey 1993; Crawford 1995; Eldjárn 1958, 1984; Keller 2008) Thus it appears that the dissimilarities indicate differing cultural norms within the larger society, where we see variations in approaches to similar customs. The diversity probably stems from many factors, for instance, the landscape, especially the amount of quality land and overall terrain, the distance between cultural groups and the contact and relationships with foreigners, all of which increased the variations from east to west.

2.4.1. The Conventional Icelandic pre-Christian Burial Site and Its Social Implications

On more than one occasion, Kristján Eldjárn has described the typical physical features of the pre-Christian burials found in Iceland, as well as identifying characteristics of artifact inclusion based on sex and the overall wealth of the Norse in Iceland during the settlement period. (Eldjárn 1958, 1984) Typically, a shallow grave was dug, narrower at the feet than at the shoulders, the body was usually placed on its back with some variation in the placement of the arms, or on one of its sides with the knees bent. Orientation was more than likely based on local conditions as it varies. Many of the bodies were not protected from the earth and stones covering them although there are quite a few instances of wooden coffins and even small boats being found in the burials. He goes on to state that these graves were more than likely built to have very little visibility above ground and that gravestones are not known during this period in Iceland. He further states that all the known graves in Iceland thus far were inhumations as no cremations have been found. (Eldjárn 1958:31-32) He adds that the Icelandic Viking period graves are rather modest and that their assessment as poor was based more

on quantity than quality. The few outstanding graves which appear wealthy by comparison were not common and this reflected the fact that this was a democratic society made up of a ruling class of “well-to-do” free farmers and their constituents. (Eldjárn 1984:4)

Eldjárn also noted that horse inclusions were relatively more prevalent in the Icelandic context than in other parts of the Viking world, but argued that since horses were such a common animal in Iceland at the time, they represented somewhat less value in the record. (Brunwasser 2007; Cool 2005; Friðriksson 2000, 2005; Gjerland and Keller 2009 (in press); Keller 2008, pers. comm.; McGovern 1988; McGovern, et al. 2007)

As indicated by Eldjárn (1958; 1984), Friðriksson (2000) and others, inhumation was the preferred method of burial in the Icelandic society; however, the impact of such a preference needs to be better understood.

2.4.2. Cremations v. Inhumations

Until 2001, it was the general consensus in Viking studies in Iceland that all of the pre-Christian settlers of Iceland chose inhumation as their preferred method of disposing of their dead. (Eldjárn 1958, 1984; Friðriksson 2000) Obviously, the subject was brought up and people wondered why there were no cremations. However, without evidence of any, it was just believed not to have been practiced in Iceland. Cremations are not unknown in the Viking world. Indeed, they were more than likely the preferred method for disposing of the dead until the encounters with other cultures began, for example with Christians and Muslims, which eventually influenced the method of disposal. (DuBois 1999:70-72) Ibn Fadlan’s account of the Rus or possibly Swedish Vikings indicates that both rich and poor were cremated though the amount of splendor in the ceremony

depended on the wealth of the individual. (Frye 2005:66-67) Also in his detailed description of the Viking ritual, Ibn Fadlan discussed a conversation between a Viking and his interpreter where the Viking called Arabs “stupid” because they cast their dead into the earth where they were devoured by worms and creeping things whereas the Swedes “... let them burn for an instant and accordingly he enters into a paradise at once in that very hour.” (Frye 2005:70)

With the exception of a site known as Huldaholl in Mosfellsbær (excavated in 2001-2003) where fragments of cremated human bone were found in association with cremated animal bones, ash, charcoal and metal artifacts, at this time there are no other known cremations in Iceland. (Byock, et al. 2005; Byock, et al. 2003) Although this site is an important addition to the burial record of Iceland because it is the first site to provide evidence of cremations, it is also the only burial of this type found, thus making it difficult to assess within the dataset. However, it does appear that cremations were practiced in Viking period Iceland. Where there is one, there are probably more that are undiscovered.

With this recent find one must consider more seriously why others have not been located, by asking whether the lack of cremations could be due to a failure on the part of past researchers to recognize such remains or even more so due to the state of many sites upon their discovery. It is likely that such sites are a rarity in Iceland and there may have been only a small number of cremations in the first place.

Inhumations are the prevalent form of burial in the Icelandic landscape and have been accepted as the cultural norm for the Viking period in this area. According to Dubois, the practice of inhumation was more than likely introduced to the Vikings during

their many contacts with other cultures as traders, settlers and even raiders during the earlier part of this period. (DuBois 1999:72) By the time Iceland was settled, inhumation was not an uncommon form of burial practice; and, with the Gaelic genes found in the Icelandic population, it is more than likely Ireland, at least, was one of the sources of influence. (Bjarnason, et al. 1973; Gestsdóttir and Price 2003; Helgason, et al. 2001; Helgason, Sigurðardóttir, Gulcher, et al. 2000; Helgason, Sigurðardóttir, Nicholson, et al. 2000; Sigurðsson 2000) The idea of inhumation might have been modeled after other cultures; however, the funerary ritual was still very much Norse. This is obvious when looking at the graves and the artifacts associated with them.

2.4.3. Graves or Graveyards

It is very difficult to devise a plan to properly categorize burial sites. In this project I arbitrarily labeled four or more graves a graveyard or cemetery. The word cemetery means a place used for interring the dead, either the body or the cremated remains. So, in theory, all places with burials, individually or in groups, are indeed cemeteries. The purpose here was to underline the stronger connection to the landscape. Burying numerous individuals together suggests they had close ties to each other as well as to the surrounding landscape. Friðriksson distinguishes between individual burial sites and those with two or more burials which he calls cemeteries. (Friðriksson 2000) It is difficult to say which makes more sense. However, it seemed relevant to this study to make a distinction based on a similar situation in use today: the family plot. In this scenario, multiple individuals occupy the same plot, each being positioned at differing elevations below ground. This is quite common for married couples or small family units. Along this line, I include burial sites with fewer than four dead individuals. Some of these include two individuals buried together and others where one person was interred

into an existing grave at a later time. (Friðriksson 2000:590)

Making the distinction between individual grave and cemetery may have been irrelevant since, as Friðriksson notes: “The ratio between single burial sites and cemeteries does not accurately reflect the situation in the Viking period. Contrary to the numeric evidence, isolated burials seem to have been the exception.” (Friðriksson 2000:590) He supports this by adding that some individual burials were placed hundreds of meters apart but were attached to the same farm as well as noting the instances when a single burial site later produced more remains turning the individual site into a multiple burial or more likely a graveyard. This has been further supported by recent discoveries, especially during the past two excavation years (2007-2008) when not only are more boat burials being discovered but also burial grounds consisting of more than a few individuals. In 2008, we have seen the addition of at least four more graves at Br No. 163 (see Ch. 1.4 for abbreviations), where in 2007 three individuals were discovered in a boat grave – bringing the number to seven individuals. Also, Br No. 160 has proven to contain at least four individuals, one with a horse. Of the two most recent discoveries in 2008, Br No. 167, had at least five individuals with a likelihood of finding more and possibly even a boat; and Br No. 168, another graveyard, is being investigated now and has possibly 15 graves just outside the home field of a well-preserved farm complex. Although these new sites are used here to indicate the shift in finds from individuals to cemeteries, it is unfortunate that they have not yet been fully investigated and analyzed for inclusion in this study. (H. Roberts 2008; H. M. Roberts 2008, pers. comm.)

Without enough support, individual burial sites cannot yet provide the time depth gained by studying the graveyards. It is apparent that a prestigious grave is one where

numerous artifacts, particularly leisure items, jewelry and weaponry, are included. Such graves are good indicators of the distribution of wealth and social position during the study period, but can describe only the possible social status of individuals. Technically, one cannot be positive of the association between the landholder and the deceased, although this connection is usually inferred.

Although many aspects of the graveyards are still unknown, if they turn out to have been the norm in Iceland for this period, then, as will be shown, the dataset seems to indicate that overall prestigious graveyards were probably a strong indicator of elite families while the less extravagant may have been the graveyards for the rest of society. Wealthy graveyards suggest the long-term wealth and position of a particular farm or estate. The individuals associated with such graveyards were members of a part of the elite family who owned this land. All who were buried here had the same power, wealth and social position as those buried before and after.

2.4.4. The Significance of Artifact Inclusions

There was cultural motivation in this society to gain material wealth and what constitutes wealth in the Viking society is evidenced by the history of the Vikings themselves. The beginning of the Viking Age in the west is often defined by the first major recorded raid on a monastery where many valuables made from rare gems and precious metals were taken. These items and similar items were later discovered in a variety of places, including burials, across the Viking world. (Cavill 2001; Fitzhugh 2000; Graham-Campbell 1994; Page 1986) According to many of the sagas, a successful Viking acquired such items abroad and returned with enough wealth to support himself and a wife on a farm.

Ibn Fadlan noted the value placed on various items. For instance, Rus women

were described as wearing neck rings of gold and silver, "one for each 10,000 dirhams which her husband was worth ... some women had many. Their most prized ornaments are green glass beads of clay... They trade beads among themselves and pay a dirham for a bead. They string them as necklaces for their women." (Frye 2005:63)

The inclusion of artifacts and animals had many roles in the burial ritual and their source(s) is just as involved. Artifacts could represent wealth and prestige; accomplishments and success, networks, travels and alliances; power and control; or even a glimpse into the cosmology and belief system. The objects found in the various burial may have actually belonged to the deceased, but also could have been gifts to the dead during his or her life, gifts after his or her death (both given from either sex), or even family objects placed within the burial to denote or project real or perceived wealth, prestige and power for the remaining family. Animals, such as horses and dogs may have been placed in association with graves as companions or transport, however, it is fairly certain that any included animal should represent some wealth or prestige due to value in life. However, such things may never be known.

Here, some examples of objects found within the grave context are discussed further. As mentioned above, one role of such items in the burial ritual was to stress the high status of the members of a household within their community. The inclusion of animals, leisure items and even those that possibly indicated a person's skill at or control over a particular craft or trade displayed the prestige of the deceased and his or her family. This would explain the social significance of the specific toolkits found in the graves of a normally frugal society, including artifacts of fishing, weaving, blacksmithing and even trade.

There are symbolic and ritual meanings behind the incorporation of such items as well. For instance, a blacksmith was known as a master of fire and metal and the most skillful of these were held in high regard. (Haaland 2004) Vessels were not only a sign of prestige, but also a symbol of rebirth and fertility. (Ellmers 1995; Ingstad 1995; Kobylinski 1995; Wait 1995) Weaving instruments might divulge the social position of the individual, as in the case of the Oseberg ship where a small loom was included, obviously not meant for everyday weaving. (Ingstad 1995; Sjøvold 1985) There are also metal rods found in graves that are usually referred to as spits, as in the case in the Icelandic context. (Friðriksson 2000:171, 240); however, similar items have been found elsewhere in the Viking world (see, for example, the Oseberg ship burial) and have been referred to as staffs – representing the staffs held by shaman and included in burials as part of his or her religious duties. (Ingstad 1995; Price 2002:197-200; Sjøvold 1985) In the case of the two metal rods noted by Price in the Icelandic context (2002:198-99) which he believed to have been staffs, one found in Br No. 91 and the other in BR 151, he noted that “...both from female burials [although it is now known that one is likely to be male] of the ninth to tenth centuries, but both artefacts were so badly corroded that it is not certain whether or not they originally had a 'basket' construction around the 'handle'. Indeed, in one case only .2 m of the staff was preserved and although the other was .78 m in length when discovered, little remains of it now.” (Price 2002:198-99) Thus for both, it cannot be said for certain if the knobs present on the remains were mounts or corrosion products and, unfortunately, it cannot be said with much certainty whether these items were indeed staffs. If they were indeed staffs, they were not part of exceptional graves in Iceland and cannot compare at all to the Oseberg burial. Thus, these artifacts, for the

time being, remain in the domestic category as spits.

The artifacts found in each grave, tell us, at least, that wealth and material gain were sought by this group for political, economic and social ends. Prestige items form an interesting category as they can take many forms. For instance excess is a good way to display prestige. Obviously, if one could afford to bury items such as gaming pieces, elaborately decorated whalebone plaques and large cauldrons, then one was thinking not only about the impression that such an item might have on the other dead in the afterlife, but the impression such a display made on those witnessing the burial ceremony and gazing upon such fine items. Artifacts of prestige were included in the burial with the sole purpose of indicating social position – real or not, whether or not associated with other artifacts that might indicate a position or role within the society. (Brumfiel 2006) Many of these were objects for leisure time like figurines, dice and gaming pieces, or others non-utilitarian purposes like keys or elaborately decorated objects. Also in this group were iron cauldrons and steatite bowls; such vessels, particularly the cauldrons, represented death and rebirth, fertility of the soil, women and both the human world and the other-world. (Kobylinski 1995:16) When these items were placed into a burial context, they connoted another meaning besides their typical use. These artifacts, when found alone, were impressive. When found with artifacts exclusive to a specific class or role in society, they elevated the individual's position even higher.

Njálssaga mentions that cooking was women's work and not meant for men, but the iron cauldrons are found with men, even warriors. It is also known from the sagas that food could be cooked on a spit because they didn't have a cauldron. In *Sturlunga saga*, when brigands roasted a cow on a spit over a fire, the saga author felt it necessary to

explain that this was because there was no kettle available (Jochens 1995:131; McGrew and Thomas 1970-4). Boiling meat required large cauldrons and meat forks or skewers to spear and lift the boiled meat from the vat. Meat was usually boiled, often being cooked in clay or soapstone pots. Vessels of all styles were also symbols representing not only fertility, but rebirth, thus their inclusion was both practical and cosmological. (See, for example, Kobylinski 1995; Rieck 1995)

Burying an individual in a boat was both a display of social prestige and a burial rite of passage. When a boat was placed into a burial, it was no longer simply a boat, the item now became 'burial furniture' which suggests property, status, social position and the roles the individual played in the social system. (Kobylinski 1995:15) Boats were relatively expensive in Iceland because they were difficult to build with the scarcity of quality wood. Thus, burying someone in a boat that could still have been sailed or recycled was an extravagant display, whatever the size of the boat. For the boat to signal wealth and social position, it needed to be in association with artifacts as well or the boat might be thought to be included because it was unseaworthy or had washed up with the individual. Unfortunately, if the grave were robbed of inclusions during the 1000 plus years before discovery, we would not be able to understand the context of the burial. In these cases, it is difficult to make any further statements about their prestige, only about the ritual aspects of boat burials.

The boats are associated with water, and "any use of water with a religious intention brings together the two basic points in the rhythm of the universe: reintegration in water and creation." (c.f. Eliade 1958:212 in Schjødt 1995:21) Water is presented in the Norse mythology quite often with respect to the dead. Odin is seen carrying the dead

across the river from this world to the next in the Saga of the Volsungs (Morris and Magnusson 1888) The Prose Edda describes the ship of the dead, Naglfar, (a ferry made from their toenails and fingernails) which carries the army to the battle during Ragnarok. (Young 1964) Baldur was placed in his ship, Hringhorni, the greatest ship of all, and the ship was set aflame and pushed to sea. (Young 1964) Although it is largely believed that the water does not hold such a significant position in Viking period burials, as will be shown in Chapter 5, it plays a more important role than once was believed.

Jewelry for both males and females also indicated wealth, and social position and even took on religious symbolism as in the case of talismans. Unlike weaponry, jewelry was functional in the dress of people of all social standing though the amount and type were significant. Just over one-third of the total graves yielded artifacts of jewelry, so, though they were part of everyday dress in this society, these items were not always found in the burial record. What was found ranged in amount and quality, but could be broken down into at least three levels: first, those burials with only one or two items, mostly meant to fasten the typical dress, next, those with three or four items, enough to meet the requirements of the particular style of dress, and finally, there were those with more than five items of jewelry, clearly evidencing surplus in that household. If adornment is considered a measure of social position, the majority, the commoners, (73.5%) had very few items. Another 17.6% seem to represent those free landowners with more opportunity to obtain such items; and the upper-most level (8.9%), chiefly families, were represented by an abundance of expendable jewelry.

Tool-kits are a part of the Icelandic pre-Christian burial record, but depending on how one wants to use and choose categories, identifying objects as such is clearly

subjective. The tool-kit that can most easily be identified is weaponry. Obviously, weapons were necessary on a daily basis and not just for warfare. Axes were used for other than bellicose purposes, and all weapons could be called upon at any time in individual battles with neighbors or other Icelanders. That said, a distinct warrior-class spoken of in the sagas, which is seen in the burial record, as almost one-third of the Viking period graves include weaponry. The majority had only one or two weapons. There appears to have been at least seven well-equipped warriors, and four could probably be considered warrior-chiefs, elevated above the rest of the society.

Almost half (49.2%) of the graves contained animal inclusions, either this suggests, as Eldjárn noted (1958; Eldjárn 1984) that horses were so common that anyone or even everyone could indeed be buried with them; or it suggests that they were indeed a status or prestige item and begins to shed light on who has the right to burial in this society. Therefore those seemingly poor burials may actually be a middle class or some other level of the society with the right to burial, however, they either come from a slightly different cultural group or may not have the means to perform elaborate rituals or even that those graves were subsequently robbed. Alternatively, another view of the horse inclusion is that it is a strong feature of the symbolism found in the burial ritual, reflecting at least part of the journey to the otherworld. As Ellmers noted, the dead would more than likely have to travel from the landing site of the boat to the final destination. (Ellmers 1995:169; Ingstad 1995) This image is clearly projected on the Gotland stones and the Oseberg tapestry. There is a hierarchy among these graves, as 20.8% had no artifact inclusions – only animal remains. There is the possibility that such graves could have been robbed of any artifacts at an earlier time. However, it is also likely that these

were the graves of persons with lower social standing if all that could be included were animal remains, perhaps an old, tired, or partial animal after the other portion was consumed. This cannot be determined at this time since analysis of the animal remains in the graves was never undertaken. However, when animal remains were considered with artifact inclusions, an interesting picture of the individual graves emerged.

There seems to have been a few individuals who may have gained status in the society based on their skill or their ability to succeed in status-creating ventures. These individuals apparently excelled in a particular craft that set them apart from others. The four sickles found in burial sites possibly represent a belief by these families in the walking dead, where a sickle is placed over the body to prevent the corpse from walking. Leaving the folklore associated with sickles aside, the four burials with sickles might indeed represent individuals with unusually successful harvests or good control over farm production. With respect to artifacts dealing with blacksmithing, it is quite possible that local blacksmiths made names for themselves as being exceptional at their craft. There are only three burials with artifacts associated with such an activity and being a successful blacksmith in the Iron Age would have been prestigious. Weaving could have been lucrative for a household. Successful weavers would have stood out in the community as would successful traders of *vadmal*. To project such successes in their burials would have been natural. Fishing is the final skill considered here. Although the fish trade was not quite at the level it would be a few centuries after the Viking period, there was no reason that a successful fisherman could not be honored.

All of these items could have been included in their burials due to circumstances surrounding each individual's death. They could also indicate acknowledgement of an

acquired social status based on their skillful acquisition of a surplus or their control of certain goods. Equally, these items may have been included because of the individual skills involved and the symbolic power these individuals had over that specialty.

The purpose of this section has been to introduce the study region by presenting the landscape and people who settled the area as well as the information on-hand which provides the foundation of the study. The next section will provide background information on the Icelandic burials for this study.

2.5. The History of the Pre-Christian Burials of Iceland

The Icelandic Viking period burials have been the focus of systematic study since the middle of the 20th century. More than 300 individual burials have been discovered across Iceland. Various factors aided in the discovery of these burials including erosion, field leveling, road maintenance/construction and building construction. Most burials have been discovered by accident and very few have been discovered by archaeological investigation. However, this last point may be changing slowly.

Adding to the wealth of information regarding all of the pre-Christian burials of Iceland that were updated and reorganized by Adolf Friðriksson (2000), his current research shows promising results regarding the location of certain types of burials near boundaries and tracks (Friðriksson 2005; Friðriksson, et al. 2005) and aids in locating certain types of new burial sites. (Friðriksson, et al. 2005) Still further research may help to distinguish variations in burial rites and practices. By including the world geographic coordinates of the burial sites (Maher 2002) and understanding the burial sites in their individual surroundings (Maher 2005; Maher 2004a, 2008), as well as including a clear focus on engendered analyses (Maher 2007; Maher 2004b), a more complete

understanding of the societal differences during the Icelandic Viking period were made.

The pre-Christian burials have distinct features which, when combined, help to identify them as being pre-Christian. Such features include, but are not limited to location outside a Christian cemetery, orientation other than west-east (though there are many pre-Christian burials that do have such an orientation), multiple individuals in one grave (again this cannot be used on its own as Christian burials in Iceland have been known to have multiple individuals in one grave, as at the site of Storaborg in Southern Iceland (Snæsdóttir 1988:26), artifact-inclusion and associated animal bones. Although there are exceptions to these characteristics, this seems to be a fair typological assessment of pre-Christian burials of Iceland. (Eldjárn 1958, 1984; Friðriksson 2000) Kristján Eldjárn, published his doctoral dissertation, *Kuml og haugfé*, in 1956, which was the first complete catalogue of the known pre-Christian burials in Iceland. In 2000, Friðriksson updated *Kuml og haugfé* by adding recently discovered burials as well as up-to-date information with respect to each burial and incorporating English summaries; his work continues with the excavations of more recently located burials as well as an overall examination of the topography of burials. (Friðriksson 2005; Friðriksson, et al. 2005) Hildur Gestsdóttir has reexamined the available skeletal remains, which is providing this study with the age and sex of individuals. She is also currently carrying out a palaeopathological study of the corpus of Icelandic skeletons, including those from pagan graves. (Gestsdóttir 1998a, 1998b, 2007) As mentioned earlier, strontium isotope analysis is underway that has been providing indications of the origins of individuals in the burial record. (Gestsdóttir and Price 2003) This project continues the research by adding spatial, gendered, aged and cosmological components. The gendered analysis

contributes greatly to this study and is described further below.

2.6. The Tale of Two Sexes

From the sagas, it would appear that the Viking culture was led by males while females were subordinate to them. A woman could travel, trade and control her own possessions only if her husband gave her permission to do so; otherwise, the man was the custodian of her property as well as her freedom of movement. Whatever power or influence a female had within the family could not transcend that position into legislative, judicial or political realms. (Jacobsen 1978; Jesch 1991; Jochens 1995, 1996) All those associated with the family had a similar standing in the society; thus, children, even foster children, and extended relations shared that position. This will be discussed further in Chapter 5 as one explanation for the grave (Gr. no. 8) containing a younger individual with substantial artifacts and two horses.

A female's social position was dependant upon the social position of the family in which she belonged, and derived from male relations, either her father's status or her husband's. Women were often depicted, both negatively and positively as clever or astute, proud and tough. These qualities, when they furthered and protected the prestige of the family, were considered admirable; however, if used to undermine the husband or for other dishonorable reasons, were frowned upon. (Jacobsen 1978; Karlsson 2000) Thus a woman's image depended on the amount of support, wealth and prestige she could bring to the family and whether she was able to take over the farm and all its day-to-day details when her husband was unavailable; while a woman's social position depended on the social group to which she belonged.

Males, who were also described with some of the same qualities, tended to be

characterized by their skill with weapons, physical strength, trustworthiness and intelligence. These too were described negatively or positively. However, males had an advantage in politics, trade, wealth, matters of law and the freedom to come and go as they pleased. A male had the means and the opportunities to gain prestige and wealth, enabling him to advance his social standing, or just as easily, to lose it. A female did not have those same rights. In marriage, family bonds were formed and partners could gain from the union. Either or both could strengthen family alliances and gain support from or become a part of a well-established family. (Jacobsen 1978; Jesch 1991; Jochens 1995, 1996; Karlsson 2000)

On their face, many of the sagas and laws would lead one to believe that there was a rigid binary gender system in pre-Christian Iceland with women restricted to the private sector while the men controlled the public sector. (Jochens 1995, 1996; Smith 2004) The contention here is that the social roles were neither rigid nor were the social roles of women confined to the private sphere and they often overlapped with the so-called public roles occupied by men. (Brumfiel and Robin 2008; Gilchrist 1999; Hays-Gilpin and Whitely 1998; Nelson 1997) This merging of spheres took place in the day-to-day activities under normal circumstances and particularly during times of change affecting the public realm. Such a flexible sex and gender role system should be evident in the archaeological record. (Brumfiel and Robin 2008)

In death the male and female graves here show social affiliation (see Chapter 4, below). For males and females, their level of prestige are identifiable by their burial inclusions, perhaps as a means of solidifying the family status for the descendants or other family relations that would benefit. This does not account for the entire burial

ritual, including its length and the wealth displayed during the funeral period, nor for any political or other type of affiliation displayed and transmitted to those bearing witness, as such things cannot be derived from the portion of the ritual that we are able to study.

According to studies of the Book of Settlement, “[a]mong the names of four hundred original settlers ... [there were] thirteen women who claimed land on their own ... and ninety wives who accompanied their husbands are included among the original female settlers. Other wives remained nameless and many more women came as sisters and daughters of the first settlers.” (Jochens 1995:86) Indeed, most women are invisible not only in the written record, but also in the archaeological record, due to, among other things, the failure of earlier studies to pursue gendered analyses. Celtic slaves – both men and women – were imported from Ireland and other Norse outposts and females of Irish descent who may have had a higher standing in the society due to their relationship with Norse males, more than likely followed other religious and cultural burial rites. (Jochens 1995:86) Therefore they would be seemingly invisible in the numbers for this project as well. Scholars report that there was a 6:1 ratio between males and females in the Book of Settlement. (Jacobsen 1978:24-32; Jesch 1991:81; Jochens 1995:86) In this data set the overall ratio of males/? to females/? is 2.3:1. This ratio changes depending on the particular dataset being used for analysis, but as will be seen from the total analyzed skeletal remains at the date of this writing and the various types of analyses thus far, it is clear that the archaeological evidence does not support the almost 6:1 male to female ratio described above. This raises the possibility that the ratio may have changed over time or that those written numbers reflect a bias towards women on the part of the Christian authors who wrote down the history in the first place.

In modern Iceland, the ratio is closer to 1:1, however, historically, in many cultures a ratio in favor of males is not unknown. (Balikci 1970; Jiao 2001; Karlsson 2000; Scott 2001) The archaeology supports the existence of a male dominant society during the settlement period, probably a factor of the early conditions of settling and exploration, since males initiated the immigration to Iceland. Though some females of varying capacity were on the journey, others might have settled first and sent for family later and still others journeyed to Iceland unattached. This explains a portion of the unbalanced ratio, and the fact that infanticide was still very much practiced, whether legally or not, and this was a society where sons were valued more than daughters, may help to further explain the ratio. (Clover 1988; Jochens 1995; Karlsson 2000:34; Scott 2001)

Although this would seem to indicate that women were not revered in any way, evidence indicates the contrary. This could be due to the competition to acquire females since they were scarce, or, more likely, it could be a sincere respect for females, their contribution to the household's success and their position as the family matriarch. In Sweden, almost 39% of the rune stones are either erected by or in the name of a female. A superb example which shows not only the commemoration, but also the strength and position of the female in the household is: "The good farmer Holmgöt had the stone set up in memory of Odendisa, his wife. There will not come to Hassmyra a better housewife who runs the farm...." (Gräslund 2001:84) The famous Oseberg ship burial is quite elaborate, even the boat is of the highest quality, and this burial contains two females, obviously of very high social position. (Ingstad 1995; Sjøvold 1985) Similarly, if the elaborate Vatnsdalur (Br No. 54) boat burial in the Westfjords of Iceland turns out

indeed to belong to the female, as postulated by Þór Magnusson (Friðriksson 2000:564), it too indicates a high social position in Iceland. These examples reveal a society which held their females in high regard, not as secondary or of lower status. This display of power seems to contradict claims that what happens in burials may not be a direct indication of what happens in practice. (Brumfiel 2006:38) However, there is the possibility that the burials are an indirect indication of what happens in day-to-day practice. In other words, women may indeed have been substantial players in unifying households, securing power and alliances between families and households and adding to the overall family status within the community which warranted their prestigious and powerful burial rituals – even if they were openly subjugated in the public sphere.

2.7. Conclusion

This chapter has brought together the space, place and society of the early settlers and it is believed that what has been described here creates the setting for an analysis of the cognitive behaviors and perceived landscapes which helped define the culture that put down its roots and became part of a very special island. From this point forward, the information in this chapter provides a platform for the discussions of theory, method and data to allow a better understanding of how these immigrants perceived their new world in this land of fire and ice.

Chapter 3. Theory and Method/Method and Theory

“ For many positivists, theory is a definable set of propositions that can be set up and tested against data. For advocates of middle-range theory ... methods that enable us to test theory against data. For post-processualists ... all archaeology is theoretical, in very broad terms.”

(Johnson 1999)

For the most part, a good portion of the processes of the past cannot be observed, not only because they happened in the past and any interpretation must be inferred, but also because the time scale is often too large for direct monitoring to have been possible. (Binford 1983; Hodder and Hutson 2004; Johnson 1999; Schiffer 1988:461-2) In this project it was believed that the best course of action for creating an image of the socio-cultural dimensions of the Icelandic settlers in their new landscape was to place the data into a cognitive framework and apply gender, age, burial and landscape theories. It was also believed that incorporating the still undefined GIS theory into a more cognitive and interpretive framework would yield a more complete image of the past than using only one theoretical outline alone. (Rajala 2004)

Regardless of the chosen theoretical perspective, the goal of an archaeologist is to understand the behavior behind the material remains found in the archaeological record, by whatever means are necessary. Then, in a post-processual framework a further goal is to understand the meanings behind the actions. (Preucel and Bauer 2001:85) The data used in this project are somewhat biased due to their incompleteness. The total population of recorded burials were used and these burials were scattered all across Iceland. Based on the population size which was estimated using approximately 420

settlement farms in the Book of Settlement, the estimated population was not less than 10,000 and possibly as much as 50,000. (Karlsson 2000:15) For the period of study – approximately 130 years – the number of graves on record (at least 320) is but a fraction of this total (3.2%). However, the incomplete nature of the data is offset by the randomness as well as the duration of time over which they were collected. Most of the burial sites were discovered accidentally during field leveling, road and house construction and erosion over many years and mostly by amateurs from many – or more often no – disciplines and theoretical backgrounds. Despite all this, there is still patterning in the data; and even when data were collected within a specific theoretical framework, they are not necessarily only applicable to that theory as long as the framework is understood. Therefore, reuse is possible. (Hodder 171-2)

Although the randomness of the sample limits possible sampling bias on the part of this project, there are restraints in the data. The sample size leaves open the possibility that not all individuals were selected for the rite of burial. Although, Grágas clearly points out that during the Commonwealth period no one should have been left unburied and that it was a punishable offense (in Christian times) to pass a dead body without covering it (Dennis and Foote 2006:146), the fact remains that with such a small fraction of the population found in graves we cannot know who exactly was being selected for burial rites – or at least for burials that were able to survive until modern discoveries. Thus, while it is reasonable to assume that the wealthy were represented, we can only conjecture about the poor. Are the nearly empty graves indeed those of the poor, or do those graves reflect a differing religious or cultural group within the society under study? Were the poor permitted to hold burial rituals, or was that a privilege awarded only to

landowners and not tenants. These unknowns, of course, affect conclusions regarding the wealth of the individuals and their positions in society.

The data here have been drawn upon to reach an understanding of the meanings invested in burial sites in Viking period Iceland by using a broad range of ideas and methods usually associated with particular theoretical orientations. The goal of this research project was to understand the Icelanders within Viking society as well as in their own cultural setting by interpreting the symbolic meanings and group identities portrayed in the burials, graves and their surroundings. With a combination of theories and reuse of data, new interpretations were reached using established data collection procedures and consequently, illustrating the circularity of theory and method.

3.1. Cognitive View

Humans are more than the sum of their parts, or in this case, their material remains. Humans are made up of their past experiences, their senses, their surroundings and even their upbringing. (Flannery and Marcus 1998; Whitley 1998a) It is quite obvious that humans create a worldview based on these combined experiences which in turn guides their present and future. Humans that live together in a society will usually share a worldview which then becomes the basis for a group identity. Often those with shared worldviews intentionally form a group while others come together and then find that they have, in fact, the same worldview, which seems to have been the case in Iceland. (Flannery and Marcus 1998; Whitley 1998a)

Cognitive archaeology, in the broad sense, is defined as the study of past ways of thinking as inferred from the surviving material remains. However, in the modern framework, the goal is to develop methods by which we can learn how the minds of those

being studied worked and the manner in which their minds shaped their actions, that is, the cognitive forces behind the material culture. (Renfrew and Bahn 2005:41) The human mind is understood as one of the keys to the creation of the material remains; in fact, the mental processes of the past need to be understood in order to interpret the past. Although the human mind is not necessarily different today than it was during the time of this study, it is possible that there may be differences in the thought processes employed by modern humans and those of our human ancestors, particularly those from the prehistoric Viking period in Iceland. As Lévi-Strauss (1995:18) indicates, humans who do not use writing tend to use more of their sensory perceptions and have a higher capacity for observation than those with writing, creating a stronger bond with the symbolic meanings of artifacts, spaces and landscapes than contemporary humans have. Thus, the beliefs of the past are brought to light by cognitive archaeology and it becomes obvious that using present conditions to interpret or explain the past can be flawed, especially when dealing with a prehistoric society since we cannot impose our current worldview when we interpret past worldviews.

Three cognitive concerns are brought up in this project: the worldview or cosmology, the religion and the cultural ideology of Viking age Icelanders. (Flannery and Marcus 1998) As has been already explained in Chapter 2, the worldview and religion of the Viking society distinguished them from many of the other societies with which they came into contact. This is quite evident in the writings about the raids on various monasteries in the British Isles where the Vikings were seen as ‘vile’ heathens wreaking lamentable havoc on God’s church. (Cavill 2001; *The Anglo-Saxon Chronicle*, trans by Ingram 1996:28; Page 1986) The Vikings did not share the same religion or view

of the universe and their choices for raids were made to accumulate the most wealth with the least amount of effort – a tactical strategy, not one based on religion. Unfortunately for the Christians in the monasteries, this meant that they were sitting unarmed atop a treasure chest. (Graham-Campbell 1994; Haywood 1995, 2000; McGovern, et al. 2007; Page 1986; Roesdahl 1987; Sawyer 1962; Wilson 1989) Thus, the long-standing image of the Vikings, created by non-Vikings in the Viking Age, was one-sided and prejudiced.

During the last century or so, researchers, studying this period gained a new respect for the Vikings – one which views them not only as raiders, but traders, farmers, settlers and explorers. It is in this new-found respect that a more complete image of the Vikings and Norse has emerged, focused not only on their mythology and religion, but also on politics, farming strategies, seafaring and ship-building skills, as well as their reasons for going on a *viking*. Religion has also been the focus of much research so it is no longer studied within the category of mythology. The position of the gods and their influence on Viking society have been better explained from the point of view of the Vikings who worshipped them, rather than by those outsider-Christians without respect or regard for the meanings in Viking religion. (Anderson 1888; DuBois 1999; Faraday 1906; Graham-Campbell 1989; Olsen 1928; Sawyer 1962)

This new understanding of Viking cosmology and religion enables us to study the Icelandic culture by focusing on social and political ideals. According to *The Book of Settlement*, many of the Icelandic settlers traveled to Iceland to get away from their places of origin – Norway and the British and Irish Isles, for the most part. (Jónsson 1986; Karlsson 2000; Pálsson and Edwards 1972) One of the major forces in relocation was the loss of individual political power in those home-lands. (Karlsson 2000:15) The

settlement of Iceland had one commonality: the majority of the settlers came from various parts of the Viking world. Although there may have been individuals from other backgrounds, such as Irish, it is generally accepted that those other individuals had little influence on the development of the society as the language and culture are clearly Norse. (Karlsson 2000:14) The Icelandic people gathered during the settlement period, and had the opportunity to create living conditions according to their perceived ideal in a vast, uninhabited landscape.

In trying to understand the social ideology of the settlers, landscape and burial data are combined here and reviewed for their similarities and differences as well as being placed in a GIS to review the connections between various aspects of the burials and graves and the landscape features. In this approach, the ways in which the mind chose the placement of the burial for each type of grave in the burial record can be better understood, which will inevitably add to the picture that we have now of the perception of spaces during the Viking period. The symbolic nature of burial data as well as landscape associations shed light on class divisions and their resultant burial rites. Combining these, it can be seen how social facts (which are those facts about which groups share an understanding), can be brought to light. (Whitley 1998a:10-11)

It is clear that many societies use symbols to structure their lives. By understanding the meanings of these various types of symbols and groups of symbols, we gain a better understanding of the people under study and their interactions with the material remains they left behind. (Flannery and Marcus 1998) Since burials play an integral role in this project and hold the key to understanding the society and their perceived spaces, the next section focuses on burial and mortuary theory in this project.

3.2. Burial and Mortuary Theory

Burial practices are ideal sources of information about society, not only to discern relationships between the living and the dead but also to provide insight into the relationships and connections amongst the living, as such practices very often reflect, either directly or indirectly, the wishes, desires, gendered aspects, and the reality of the society burying the dead. Not only are they a source for understanding material culture, but they also provide a doorway into the structure of cultures and societies themselves. Often, burials are used to understand the more conceptual aspects of a culture such as rank, status, division of labor, age and gender identities. Burials reflect the normative lifestyle of a society and provide a glimpse into the past by providing information regarding ritual, adornment, styles of dress, beliefs and social status. Spatially, burials reveal culturally understood connections between the living and the dead and among the dead themselves. (Arnold and Wicker 2001; Chapman and Randsborg 1981a; Davies 1999; Diinhoff 1997; Goldstein 1981; Härke 1997c; Nielsen 1997b; Parker Pearson 1991, 2001, 2002; Theuws 1999) These can be broken-down into three categories: (i) the relationship between the living and dead; (ii) the relationship between the living and living; and (iii) the relationship between the living and the past. (Parker Pearson 1982:110) Burials can also mark boundaries or they can stake claims to land through the strategic placement of the burials on the land to indicate ancestry.

Burial theory reminds us that burials are an indirect reflection of society, not simply mirrors of the life of the dead person, nor mirrors of the society or family of the dead person. Always present in our analysis is the question of whether the funeral was for the benefit of the living or the dead. Burials can be distorted to suit the living, as in

an example from the year 1463 C.E. of a funeral run by the College of Heralds, "...the heraldic funeral was concerned with the legitimate transfer of status and property from the dead to the living. The whole performance therefore revolved around the living, with the dead person playing little part." (Daniel 1998:206) Also, there are always possibilities that the funeral desired by the deceased was not carried out by the heirs or relatives responsible for the ritual and in lieu of the deceased's wishes, a completely different funerary ceremony was held. Such could have been due to the difficulty of the deceased's wishes, to save the high costs of the funeral, to over-emphasize the wealth of the deceased to gain social status, or any number of other very individual reasons. (Daniel 1998:88) With this in mind, one can still pursue mortuary analysis as both a direct and indirect measure of the individual and the society's belief system and organization based on differences in gender roles and age; however, we must move forward with caution when pursuing answers regarding prestige and wealth in the mortuary record.

In order to understand the relationships between the living and the dead there are two aspects to study in this project. The first is the position of the burial area in the landscape and its placement in relationship to the settlement. This includes the distance, direction or elevation of the burials from the farm, the actual placement of the burial on the farm whether on a rise or hill, on the boundary, or in the homefield/outfield, and the position of the burial in the landscape, that is, its place of prominence, and its visibility to land or sea. The second aspect to study concerns the meaning being conveyed by the burial site or grave regarding the image of the deceased as well as the various relationships between the living and the dead. (Chapman and Randsborg 1981a, 1981b;

Parker Pearson 1982, 2002; Saxe 1971) In Iceland, graves are considered relatively poor when compared to those of their Scandinavian contemporaries (Ambrosiani 1985; Arwidsson 1985; Eldjárn 1984; Myhre 1992; Sjøvold 1985). However, measuring Iceland independently reveals a more complex society with variations in wealth and status, reflected not only by artifact inclusions, but also by the variation in burial style.

The pre-Christian Icelandic Viking age burials provide contemporaneous data in a bounded island setting, creating an excellent dataset for analysis. (Jensen and Nielsen 1997a:34-36) Comparisons between pre-Christian burials from Viking Age Scandinavia and other parts of the Viking world have provided the ground-work for an understanding of the varieties in fashion and style which were part of dress and everyday life, and variables of function, those items which were deliberately placed to convey a message. (Jensen and Nielsen 1997a) In combining a local analysis with the broader, regional interpretations and using both the fashion and function variables, we are left with a more complete picture of the Icelandic society. When further combined with landscape characteristics, we hope to understand the intentional meanings conveyed in the burial ritual. (Arge and Hartmann 1992; Batey 1993; Bertasius and Daugnora 2001; Eldjárn 1984; Ewing 2006; Gräslund 2001; Härke 1997c; Nielsen 1997b; Pedersen 1997; Randsborg 1981; Ringtved 1997; Sørensen 1997; Stalsberg 2001; Zachrisson 1985)

Understanding the relationships among the living is achieved by understanding the relationships among the burials. The first aspect to review are the identities reflected in the ritual burials. In this regard, by better understanding the placement of function-related items, the economic roles such as fisherman, farmer, weaver, warrior or trader may be determined. Material culture, particularly adornment, plays a strong role in this

aspect of the research, as it reflects the perceived image of the individual and family members within society, and the perceived or bolstered wealth and social position of individuals and typical gender roles. (Arnold 2006; Brumfiel 2006; Jensen and Nielsen 1997a) Once this is understood, the next avenue is to see if any social group is left out or under-represented in any way, particularly females as opposed to males or children and/or infants as opposed to adults. In this way, the social organization of the community is drawn from the data. (Arnold and Wicker 2001; Boric and Stefanovic 2004; Gero and Conkey 1991; Gilchrist 1999; Hays-Gilpin and Whitely 1998; Stoodley 2000)

The final relationship to be considered from the burials is what connection the living have to the past. This is especially interesting in a place such as Iceland where the Vikings were the first to settle the island. Since the land had not been claimed or altered prior to their occupation, the Vikings moved to Iceland and set up their settlements in the manner to which they were accustomed, at first using the techniques that had worked in their places of origin. However, the placement of buildings and burials were not determined by previous inhabitants. These sites were chosen based on the topography of the area and, more than likely, personal preference and choice. Under these circumstances, it is not unreasonable to assume that the burials would probably be placed strategically to reflect the wishes, desires, and social organization of the community. However, after some time, what happened to the older monuments? Were these monuments reused, altered in any way or kept as they were? One example of reuse in the Icelandic record is at the site of Vatnsdalur (BR No. 54) interpreted as a female boat burial, with at least six individuals added later. The wealth found in the burial cannot be attributed to any one individual as the associations are unclear although, when originally

excavated, the majority of artifacts within this burial site were all considered to be associated with the female. (Friðriksson 2000:118, 364) There are also a number of pre-Christian cemeteries in Viking Iceland where the individuals were more than likely interred at different times. For example there is the site of Surtsstaðir where a male was originally buried and later a female was added (Gr. nos. 268 and 269, respectively).

In the pursuit of the Viking belief system and social stratification based on such differences, this project follows the suggestion by Härke in separating the data. He notes (1997c:24), burials provide two very separate types of data that contribute to their interpretation. The first is what he calls “intentional” data, the other is “functional” data. Intentional data seems to comprise almost all archaeological data as they are chosen by the community for each individual burial and reflect the religion and customs of the community to which the individual belonged. Intentional data consists of the actual burial type and construction as well as the inclusions in the grave including jewelry, clothing, tools, weapons, religious icons and whole or partial animals. Such intentional data creates the image that the community would like to reflect. (Härke 1997a, 1997b, 1997c:24; Jensen and Nielsen 1997a, 1997b; Parker Pearson 1982, 1991, 2001, 2002; Tarlow 1999) Functional data, on the other hand, cannot be distorted to reflect ideology. Functional data consist of the biological sex, age, health, stature, nutrition, diet, etc. that are learned through skeletal analysis. (Gestsdóttir and Price 2003; Härke 1997a; Parker Pearson 2001) Together, the symbolic nature of the intentional data along with the physical evidence of the functional data can lead to an interpretation that is less distorted than the image created by the burials. In better understanding these combined data, feminist and gendered approaches will now be considered.

3.3. Feminism and the Gendered Approach to Archaeology

Feminist theory in archaeology seeks to shed light on inequalities between the sexes in a particular society. It can focus on the unequal distribution of power, gendered politics and the lack of visibility of women's work, interests and issues in the archaeological record. Feminist theory in archaeology today is a direct descendant of the more radical political feminist movement of the early 1970's, which is why some gender researchers have tried to distance themselves from feminist archaeology over the years. (Sørensen 2000; Wylie 2007a) Gender research focuses mostly on studies of class, ethnicity and sexuality, leaving politics to feminist research. (Engelstad 2007; Wylie 2007a) Gender research usually focuses on gender as a social construct with socially defined masculine and feminine identities and not on biological traits. When Hays-Gilpin argued that all gender archaeology is feminist in nature or is influenced by feminism (Hays-Gilpin 2000:90-93), she made it very clear that whether or not politics are part of a study or are being avoided, gendered research would not be at the level it is today without feminism. (Brumfiel 2006; Conkey 2003; Engelstad 2007; Hays-Gilpin 2000; Wylie 2007a, 2007b)

The social construction of gender within a culture can be studied by understanding differences in the archaeological record. Once the record is interpreted, the opportunity to shed light on family, age and religious groups is available. By including a gendered perspective in all current research, a more precise image of a society can be portrayed.

Prior to beginning gendered research, it is important to understand what gender is and why it is a necessary aspect of all research. First and foremost, it should be clear that

gender is not sex. The term *sex* is used to convey the biological differences between males and females. On the other hand, the term *gender* is used with regard to the social construct of masculine and feminine roles in a society and the various processes by which gender identity is communicated to others. (Arnold and Wicker 2001; Gero and Conkey 1991; Gilchrist 1999; Nelson 1997) “Gender is politically, socially, culturally and symbolically constituted rather than biologically given. Thus, gender is not predictable, stable or static.” (Sørensen 2000:10)

Gender studies are also concerned with the roles that each gender plays in a society. These roles define the division of labor, designate the manner of dress and adornment, and the accessories related to labor. To the archaeologist these are as much indications of wealth and status, as are prestige items. The main reason for including gender in this study is not simply to find it in Viking period Iceland, as this research already assumes the presence of males and females of all ages with certain roles, but to understand how gender differentiation affected the social spheres, dynamics, roles, positions and dimensions of the people who made up the Icelandic landscape during the early stages of Icelandic history. In doing so, a holistic image of the society emerges which includes women, men and children of all ages, classes and origins.

The sagas present an image of the gender roles of the Norse settlers in and outside of Iceland. However, it must be reiterated that the sagas were written a few hundred years after the events taking place and that they too are artifacts and part of the data. Although the sagas imply that there was a strong cultural constraint on dress and adornment as well as on division of labor during the Viking Age, the archaeological record may show that there are also contradictions to those assumed roles suggesting that

certain aspects of gender identities that were previously considered black or white, may indeed actually fall into areas of gray. (Dommasnes 1998; Jacobsen 1978; Jochens 1995, 1996; Maher 2007; Smith 2004; Stalsberg 1991)

The two-gender system seems to be the societal *norm* and individuals within the society were expected to follow rules regarding dress. In particular, we see Gudrun tricking her husband Thorvaldur into wearing female clothing so that she would have further grounds for divorcing him. (Kellogg and Smiley 1997:332) Thus, we see that a male did not have to dress all the time as a female to be considered at fault and provide good cause for a legal divorce; the so-called offense had to take place only once before a witness. Apparently, this worked both ways: “If women go about dressed as men, they invite the same treatment as do men who wear shirts cut so low that the nipples of their breasts can be seen – both are grounds for divorce.” (Kellogg and Smiley 1997:333) There is no indication from these examples that they were common occurrences. However, it does indicate that the society had strong opinions and culturally constructed rules for the standard dress of both males and females. The fact that such a topic was addressed in the sagas and considered a legal justification for divorce, however, indicates that this was not as uncommon as may once have been thought. According to Gragas, the Icelandic Law Book such grounds for divorce in the sagas, however, were not legitimate causes for an automatic divorce. (Dennis and Foote 1990:53-95) These sagas and their indication of cultural norms for dress and adornment help to explain why in the past many grave goods were assigned to the sexes without any room for crossover between them. Thus not only has the sex of individuals in the Icelandic graves been determined by contemporary views about grave goods, but the determination of sex was influenced

by the sagas which were written hundreds of years later by Christians, who possibly held views of male and female roles in society that differed from those of their pre-Christian predecessors. (Jacobsen 1978; Jochens 1995, 1996)

Archaeologists expect sex and gender to be revealed by the archaeological burial record because of the wealth of information that they can provide. Age, like gender, can also provide a wealth of information about the society, particularly between burials and between the living and the dead and are varied based on gender identity. The construction of the grave, grave goods, adornment, offerings, tools and other items all provide a window into the burial rites practiced by peoples of differing wealth, rank, status and gender. (Arnold and Wicker 2001; Dommasnes 1998; Gilchrist 1999; Gräslund 2001; Hays-Gilpin and Whitely 1998; Knapp 1998; Smith 2004; Stalsberg 2001; Weglian 2001) Age has a similar function as it brings to light not only questions of childhood, but also an understanding of rites of passage and incorporation of individuals into the society. This will be further detailed in the next section.

3.4. Childhood as a Meaningful Category

Within archaeology the study of age or childhood is nearly nonexistent as gender studies once were. (Lamb and Hwang 1996) During the last few decades, women were forcefully made visible in the archaeological record, despite the androcentric research dynamics and politics within the discipline itself. Still, the idea of children and childhood in archaeology is muted, perhaps because it seems to be too difficult to pursue such an avenue of study due to lack of data or that data on childhood are too similar to those about adulthood to be separated. (Kamp 2001:2) In other cases the lack of attention to the archaeology of childhood stems from the long-standing (mostly) western ideal that

children should be seen and not heard; and long-held traditions of infanticide in various societies over the centuries has also supported their subordinate position. (Finlay 2000; Joyce 1999; Kamp 2001; Scott 2001; Stoodley 2000)

Age and Sex are similar in that they are both biologically determined; however, gender categories and age categories are societal constructs. (Kamp 2001:2) Contrary to modern perceptions, age-scales and the definition of childhood have changed over time and various cultures have differing views on the issue of how children should be treated.

Only one hundred years ago in the United States, children worked and contributed, if only minimally, to family income. (Kamp 2001:3-4) Today at least 250 million children between the ages of 5 and 14 still work for a living in developing countries, nearly half of them full time. (UNICEF 2001) Although today child rights are supported and exploitation of those rights is considered intolerable to the international community as a whole, it is necessary to understand that this was not the norm in pre-industrial societies and during the Viking period life was not so different. Childhood was shorter, and children worked and were expected to take on adult roles much earlier than they do in modern society.

In Iceland during the Commonwealth period and probably earlier, age was divided into three categories, each with a different status: Youth, Adulthood and Old Age. Youth seems to have been from birth to the age of twelve – much shorter than the childhood of contemporary society. “At twelve, boys were considered able to prosecute at courts or sit in courts as judges. Sons of chieftains could even take over their own chieftaincies at that age, with their followers’ permission. At sixteen boys were to receive their inheritance and choose their domicile. ... Also at sixteen, he is the man with

the right to give his mother in betrothal” (Dennis and Foote 1990:7-8, 53; Karlsson 2000:56) A girl, on the other hand, could not be responsible for her own domicile until the age of 20. (Dennis and Foote 1990:8) At the other end, on reaching eighty, one lost the right to marry or sell one’s property without the permission of one’s heirs. (Dennis and Foote 1990:7; Karlsson 2000:56)

For this research, the goal was to understand exactly what meanings differentiation in burial rites by age held for the society as a whole and whether or not such archaeological evidence aligned with the sagas and law book. With such a small number of individuals under the age of 18 in the analyzed human skeletal remains dataset, only commonalities can be addressed, however, it is expected that the work in this area will continue and there will be greater focus on the subject. Having explained the various aspects of analyses focusing on the internal characteristics of the burials, the next section will discuss the theoretical basis for placing the burials into the landscape.

3.5. Landscape Perceptions

“... [T]hat what was once theorized as a passive backdrop or forcible determinant of culture is now seen as an active and far more complex entity in relation to human lives.”

(Knapp and Ashmore 1999:2)

Landscapes defy concepts of time and space because of their apparent permanence despite the fact that they change with time and in personal perceptions of spaces. Landscapes bring together past, present and future both by remaining unchanged and by changing with each new society. Landscapes are also places in which individuals live – they become a part of the human decision-making process and are part of the self-

sustaining bond between humans and their surroundings, where one defines the other at all times. (Gillings 1999; Ingold 2000; Lynch 1960; Maschner 1996; Roberts 1996; Tilley 1994; Widgren 1999; Witcher 1999)

Landscape archaeology studies peoples of the past in a wider context by incorporating the relationship between archaeological data and the natural environment. The natural environment has limitless boundaries therefore this approach is no longer bound by a specific site, but is able to investigate areas far beyond. The extent is determined by the archaeologist. It could be based on regional or natural boundaries, the extent of visibility or any scale that the researcher chooses to consider. Potentially, this will both limit and bias the results though the selection of a boundary only limits the choice of data for analysis, not for collection.

The landscape is a perceived environment. As Lynch notes, the perceived landscape consists of identity, structure and meaning. In reality, these merge to create a response: recognition of the object, distinguishing it from other objects, awareness of their physical relationship to each other and to the observer and finally, the recognition of objects as meaningful. Only then can the environment hold any value for the group and it is also in this way that the image of the environment orients the living space of the groups. (1960:8)

The way in which an individual or a society views the landscape will undoubtedly differ from person-to-person or culture-to-culture because each has brought a different symbology to the organization of the same material of the sensory experience. (Ingold 2000:160) Each individual may have his or her own image of the landscape, but there also seems to be a general agreement about the image among members of the same

group. (Lynch 1960:7) This general agreement can be seen in modern societies when discussing their surroundings or by locating objects that hold significance for the group. “The named environment furnishes material for common memories and symbols which bind a group together and allow them to communicate.” (Lynch 1960:126) An obvious example of such a connection can be found in modern day New York City where, on most days, people move about with their own agenda and mental map for their current route. If someone were to ask directions to a particular location in the City, there might be more than one route given, ultimately with the same results. Most of the time, there are many images of the City being held at one time. However, the mere mention of ‘the Twin Towers’ not only provides a mental map of the City itself, but stirs up images of the city prior to their collapse as well as images of 9/11, which changed this society. It also promotes a sense of loss among many, fear in others, and in still others a sense of unity with the City’s inhabitants. Whether in a modern society or one of the past, landscapes create group histories and reflect group ideals.

Because the same landscape is seen differently by different people and over time, scholars studying a culture or a people can be confused. Due to temporal changes, one culture that evolves from an earlier one, may indeed view the surrounding landscape differently. (Ingold 2000; Lynch 1960; Tilley 1994)

Finally, the perceived landscape is mobile. Individuals carry their perceived landscapes with them. In other words, as an individual walks across a large area, the field-of-view changes, thus creating a new perception of the environment. This is also the case temporally as the perceived landscape changes with the light during different hours in the day, or during different seasons of the year. Therefore, attempting to

understand the perceived prehistoric landscape is a complex matter. (Ingold 2000; Lynch 1960; Tilley 1994)

As Tilley discusses, populations tend to become bound to the landscape and become emotionally attached to various aspects of it including symbology, patterning and design. This attachment is what creates the personal image of surroundings. (Tilley 1994) This is true for Viking period Iceland, as evidenced by various sagas. For instance, in *Egil's Saga* one of the earliest tasks Skallagrim accomplished when he arrived in Iceland was to name his surroundings, connecting ownership and identity. Skallagrim named his farm Borg and the fjord on which it was situated he called Borgarfjord. The place where he came upon a small creek cutting into the coast and saw many ducks he named Andakil (duck channel). When he came to a small headland where people caught swans, he named it Alftanes (Swans Ness). In this way as he staked his claim he developed his perception of his landscape and influenced the perception of others by providing his image of significant landscape features to them so that they too would view and identify with the landscape in his way. (Pálsson and Edwards 1976:73-75) In *Laxdæla Saga* this process can be seen once again as Unnur crossed Breidafjord and stopped for breakfast on a promontory which is now known as Dagverdarnes (Morning Meal Ness); along the way Unnur lost a comb and that place is called Kambsnes (Combs Ness). Later she proceeded to free her slaves and provide them with land after which each share of land was named according to the personal name of each freed slave. Thus, to Vifil she gave Vifilsdal and to Sokkolfur she gave Sokkolfsdal. (Kellogg and Smiley 1997:279-280) In *Hrafnkel's Saga* we are reminded of the place on Hallfred's land where a foreign farm woman by the name of Arndrud died. This place is now known as

Arndrudarstadir (Arndrud's stead). (Pálsson 1971:35) Finally, in *Eyrbyggja Saga* we are introduced to Thorolf's land. He placed his farm at Hofsvog (Temple Creek), the place where he anchored his ship. The name of his farm was Hofstadir (Temple farm), and he placed a large temple there. The name he gave the region, Thorsnes (Thor's Ness), came from the fact that this was the place where the pillars he had cast off the ship at Thor's Temple had come ashore. (Pálsson and Edwards 1989:28-30)

The sagas provide examples of the human need to identify one's surroundings and to create a personal space. The naming is sometimes arbitrary, as in the case of the naming of "Kambanes" because a comb was lost somewhere in that area, but other names indicate strong religious beliefs. All naming is a method of staking claims as well as a method of creating familiarity with the topography. By naming features in the landscape they created the first history for Iceland which was passed along by word of mouth, until they were written down centuries later. For example, this woman died in this location and it had an affect on these people and now she and her story had become part of the perceived landscape. This created history is so strong that it has survived in the Icelandic culture 1100 years later, to this day. Although the societal perception of the landscape has changed drastically, the Icelandic society has chosen to remember and memorialize many aspects of the past landscape by keeping the sagas alive and by retelling local folklore in the modern landscape. There are many more examples that could be used here, but these amply make the important connection between humans and their perceived landscape.

By describing his surroundings, naming them and using them to label his new lands, Skallagrim was indicating boundary markers. Thus ownership was being

conveyed. We see Unnur marking her route towards her new home as well as designating land to loyal companions. In this way she was first claiming ownership of her region, then by granting her companions their freedom and providing them with land she created bonds of obligation with her clients. In Hrafnkel's Saga we see that place names also memorialize people and even mark specific events, in this case, the death of a person who was not even Icelandic. In the final example, we see the strong connection between the perceived landscape and the pagan religious ideals of the Vikings. Not only did Thorolf stake his claim to the land by naming it, he also designated some areas as sacred and off limits, like the mountain Helgafjall. He was showing his commitment to his religious beliefs and connecting the land to his belief system.

Each of these examples not only provides a geographic setting for the reader, but develops various types of connections between the characters in the sagas to his or her perceived landscape. These connections do not run one way, they are circular, in constant motion, entwining *Man, the landscape and the place name*. In the process of becoming bound by the landscape and emotionally attached, eventually there is no beginning or end to the connection, they become one. (Chadwick 2004)

Thus, understanding the perceived landscape of the Viking world provides a better understanding of its inhabitants. This is especially the case in Iceland where the sagas were originally penned. The early peoples of Iceland had a strong connection to their landscape, be it religious, political, economical, or otherwise, and this connection is invaluable for understanding the society that dwelled in this landscape. In order to add landscape perception to this study, GIS was used as both a science in its own right and as a methodological tool. The final theoretical section explains the use of GIS more fully.

3.6. GIS Theory and Practice

The question of whether or not there is such a thing as GIS theory, archaeological or otherwise, has been brought up in numerous articles over the years, and remains unresolved to this day. (See, for example, Gaffney 1996; Gillings and Goodrick 1996; Rajala 2004; Wheatley and Gillings 2002). If one were to see GIS as a purely processual tool, then one could claim that GIS is a middle-level theory bridging the gap between data and interpretation as Middle Range Theory calls for. (Binford 1977, 1983; Gillings and Goodrick 1996; Kvamme; Trigger 1989; Wheatley and Gillings 2002; Witcher 1999) However, if, as post-processualists tend to believe, theory and practice cannot be separated, as all method is conducted within theory, then there is indeed theory in GIS; and since GIS is here being applied to archaeological data, it is apparent that archaeological theory should guide GIS procedures. (Rajala 2004:7.2; Wheatley and Gillings 2002; Whitley 2004)

The initial practice of GIS is performed with theory in mind and the interpretation of the results is definitely theory-driven, thus the use of GIS here takes a cognitive/postprocessual approach, with a more processual data-collection undertone, similar to the work of (Maschner 1996; Whitley 2004) where cognition is measured by way of various GIS applications such as viewshed, visibility, distance measuring, interpolation, querying and quantification analyses. (Wheatley and Gillings 2002:234)

The landscape featured greatly in this research project and when attempting to understand the perception of spaces, it became the basic unit in which all attributes were recorded. The intentional and functional attributes of each grave were recorded within the surrounding landscape; thus a good portion of the interpretation was based on the

connection between the symbolic nature of the intentional and functional attributes to the cultural features which included farm houses as central places and natural landmarks such as cliffs, water routes, and mountains. (Wheatley and Gillings 2002:166-168) By focusing on an archaeology of past spaces and places, past values can be interpreted.

Attempting to interpret individual or communal cognition with only one type of spatial proxy would leave too many holes in the end results. Here it was believed that the only way to form a better understanding of the cognitive behaviors of the past individuals and community was to include several spatial proxies in combination in order to recreate their choice-making processes. (Whitley 2002, 2003, 2004:4.0) Distance can be used to indirectly represent landscape familiarity. Use of this variable was based on the presumption that people are very familiar with their own surroundings and as they travel further from home, they become less familiar. This can be seen in Van Hove's (2004) use of diachronic land-use maps where an intensity of use measure was created. The measurement was based on accumulated human action as seen by surface remains across the study area. The map analysis indicated areas of varying intensity, believed to be potentially linked to different perceptions of space. The zone of highest intensity was thought to have formed the most important part of the social structure of the group under study because of the detailed and intimate knowledge that the group had acquired about this zone. These zones were more than likely central for the society on both materialistic and symbolic levels. Some zones were assigned community values or had no value to the society at all. In these latter zones, Van Hove points out that violence often occurred. Though this suggestion of violence is not true for Iceland, we do find some burials in these unvalued zones. (Van Hove 2004:4.0) Usually, however, we find the burial sites in

high familiarity ranges from the residences in Iceland. As mentioned, distance is a proxy indicator of landscape familiarity and although this project measures distance, the settlers were cognitively assessing spatial familiarity, in a new land, very far from their original home.

Viewshed analyses were also used here to comprehend the social meanings placed on burial site location during the Viking period whether as a means of indicating control over resources, land tenure and/or social relations. (Gaffney, et al. 1996; Wheatley and Gillings 2002) Visibility analysis based on maximum affordances (without vegetation coverages factored into the equation) were used to ascertain that the physical characteristics of a place and its surroundings define the possibilities of perception. (Rajala 2004; Wheatley and Gillings 2002) Using variable distance measuring has created connections between the burial sites and their settings, indicating social ties to the natural environment. Interpolation has created a landscape, within which this society lived, with views of the natural monuments and with connections to their ancestors. Querying the data reveals patterns among and between groups across the region which indicate possible social, economic and political ties. Quantifying the data allows us to understand the differences and similarities among those in the society. The environment was included to get at the value placed on land and to enhance the picture of the typical burial sites in Iceland. Understandably, burials are rarely placed in environments which are important for agriculture and overall survival. The estimated Viking period environment consisted of areas of birch forest, grasslands, wetlands, erosion and areas near various types of water, for example rivers, lakes and the sea. Features on or near which burial sites were located were also recorded to shed light on the landscape

associations preferred for the burial monument.

In a post-processual framework, it is assumed that while individuals make decisions for the group, the group identities with which each individual associates him or herself affects overall perceptions. Thus, the landscape may be perceived by an individual, but gender, age, family and cultural associations have a profound influence on how it was perceived. (Whitley 2004:2.1)

Clearly, GIS has the ability to explore the data in ways far beyond the quantitative and computational tools of the past. Acknowledging that archaeology can be studied using GIS methods which can aid in the explanation of archaeological phenomena when used in an archaeologically theoretical framework creates a circular argument of the unity of theory and practice. Thus, there is no theoretical choice involved as theory is a means of choosing methods which in turn prove theory.

The remainder of this chapter explains the pre-Christian Icelandic burial sites and how the individual graves at each site on record were chosen and used in this research project.

3.7. Choosing The Icelandic pre-Christian Burials

3.7.1. Burial Sites

The burial data was broken down into variables that, when studied both separately and together, provided an overall image of the Viking burial ritual and the significance of variations particular to Iceland. The burials provided not only information regarding wealth, status and gender, but a glimpse into regional differences and similarities that elucidate the power dynamics during the Viking age. The use of a well-defined burial dataset combined with the analyzed human skeletal remains, set the groundwork for the differences found between the sexes and age groups, allowing a gendered perspective to

be incorporated. Analysis of the grave goods, both artifact and animal remains, revealed the specific roles played by people in the rituals and in society. Chapter 5 will further explore this idea by placing these humans, and their relationships, into their cognitive landscape.

The main source of the burial information is based on Kristján Eldjarn's catalogue and the additions Adolf Friðriksson made recently. Information regarding the more recent burials, those discovered and investigated after the 2000 publication, have also been added to the project database. However, provenience and lack of information precludes some from being a part of this study.

At the time of this writing, there were 168 burial sites on record which contain at least 343 individual graves. It was necessary to revisit the descriptions of each burial site recorded and devise a rating system to determine the viability of each for this project. See Appendix A: Icelandic Pre-Christian Burial Sites for a complete list of the burial sites considered for this project, their associated farm names and individual ratings. The ratings are based on a number of characteristics that need to be present in order to perform various types of analyses on the data. Such characteristics include, but are not limited to, the presence of the following:

- (i) human skeletal remains found at the site, with or without artifacts/grave goods
- (ii) evidence of intentional internment where there is no skeleton
- (iii) artifacts/grave goods where there is no skeleton
- (iv) depression left behind (indicative of burial) where there is no skeleton
- (v) site appearance (indicative of burial) with or without a skeleton
 - mound
 - stone setting serving as marker
 - cairn

(vi) burial characteristics with or without a skeleton

- orientation
- animal association

Once each burial site had been reviewed, it was given a rating from 1-3. If there were a human skeleton or human remains (sufficient to prove burial and meet the needs of this project), then a rating of 1 is given. If, however, there were only human bone fragments or no human remains at all, other factors needed to be included in the determination to see if those burial sites provided enough information to be used in the project and this is when the above evidence numbered i-vi are used. A rating of “2” was applied when there was probably enough data to use in some of the various analyses and a “3” was used when there was not sufficient data for the burial site to be included in this project, regardless of the artifacts reported.

The system can be simply explained in the following manner:

- Rating 1. Burial sites with this rating have the characteristics necessary to be included in the pre-Christian burial sites of this study.
- Rating 2. Burial sites with this rating have some characteristics necessary for inclusion with the pre-Christian burial sites of this study, but may not be able to be used in much of the analyses.
- Rating 3. Burial sites with this rating lack sufficient information and cannot be included in the pre-Christian burial sites of this study.

After applying the rating system, 81.5% of the burial sites were Rated 1, 7.7% were Rated 2 and 10.8% were Rated 3. Therefore, 89.2% of the burial sites were eligible for inclusion in the analyses conducted (see Map 5). Although eligible, not all of the burial sites were used in the various analyses. As mentioned earlier, this was the first step in distinguishing the burial sites that could be used. Only those with analyzed skeletal remains were used in the gender portion of the research and only those with viable locational data were used for the cognitive portion of the research. Once Burial

Sites were chosen, it was necessary to determine which graves within each Burial Site were viable for this study.

3.7.2. *The Graves*

Many of the burial sites mentioned above contained more than one individual grave. It was necessary to sort through the information and number each grave individually. A unique identifier was then assigned to each. However, along lines similar to the burial sites, not all graves could be considered in the analyses. Therefore, although a particular burial site was rated as having enough qualities to be used for analysis, individual graves at this location may not have been included. The main grounds for elimination were similar to those used for rating the burial sites. First, if a burial site was eliminated, it followed that the individual graves belonging to that site were also eliminated. Also, any grave that was investigated, but lacked substantial information to confirm its designation, was also eliminated. This included a site with multiple graves where one or more of those so-called graves either were unsubstantiated or turned out to be a horse-burial associated with another grave. Those grave numbers were eliminated as well.

As Friðriksson noted, “the determining characteristic for pre-Christian burials (in Iceland) is the inclusion of grave goods.” (Friðriksson 2000:550) Grave goods include not only artifacts but also animals, and the majority of the remaining burials had one or both of these categories. Final determination of a grave’s inclusion in this project often fell under 'guilt by association' as a grave may not have had any grave goods but may be part of a group of other graves at a particular burial site with grave goods, thus the grave remained part of the project. In the case of recently discovered burial sites where sufficient information regarding position and provenience cannot yet be confirmed, those

burials are also listed. However, they may be designated as having undetermined qualities or lack information altogether. (For the complete list of graves used in this project, see Appendix B: Icelandic Pre-Christian Graves Used in Project.)

Various techniques were utilized to measure the Burial Sites and Graves both quantitatively and qualitatively resulting in ways to evaluate status, wealth, prestige and social position between the sexes, within the sexes, between age groups and even social groups as the next section outlines.

3.8. Concluding Remarks on Theory and Method

As the various theories and methods work together to analyze and interpret the data, what became clearer with each analysis was that by connecting the internal and external parts of the burial and landscape data and using a combination of processual and post-processual theory and method this project was able to place the data into a broader social context in order to better understand the gender roles and identities, age divisions and cosmology of the pre-Christian Icelandic settlers of Iceland. Chapter 4 takes the project into the internal characteristics of the burials through a more quantitative analytical approach to the data and especially explores hierarchies within and between the sexes and age groups.

Chapter 4. Gender, Age and Grave Goods

4.1. Introduction

In order to use the internal and external characteristics of the burials to develop an understanding of the society of the early Viking settlers of Iceland in their perceived landscape, it was necessary to first accumulate the data and then connect them to space and time. The burial data were relatively easy to gather. All the pre-Christian burial sites in Iceland, recorded and analyzed up to the time of this writing, were reviewed and evaluated. A rating system (see Chapter 3, above), which was established for this project, was applied to each of the recorded burial sites and those with higher ratings were selected for use in the project. For research into gender roles and identity based on age, only burial sites and graves with analyzed human skeletal remains were considered in the analysis (see below in section 4.2), which includes grave goods as well. In this way the gender and age interpretations are based on scientific analyses within a controlled setting.

The variables analyzed here, human skeletal remains, artifacts and animal inclusions, were chosen because they have the potential to elicit the personal identity of the buried and the communal identity that defined this person. This is achieved by looking at each grave individually, then noting which characteristics seem to be shared by the overall group under study. The animal inclusions potentially reveal not only the individual's social position within the society, but also the communal worldview.

4.2. Human Skeletal Remains

Many factors contributed to the amount of human remains available for this project. For instance, erosion and construction have often destroyed parts, if not all, of the skeletal remains or have degraded them to where they are unidentifiable and thus

useless in this study. Sites with only fragments of human skeletons were excluded despite the fact that the archaeological record indicated they contained human remains. The excavators' dating and religious designations for a majority of these burial sites were already in place when they were catalogued in *Kuml og Haugfé* (2000). The burial sites investigated after that catalogue was published have been identified by their investigators based on style and grave goods. For this project the main concern is that the sites are pre-Christian, that is, from the settlement (870-930 C.E.) and the earlier part of the Commonwealth (930-1030 C.E.) periods in Iceland.

4.2.1. Sex and Age

Human skeletal remains were not found in all of the graves on record; and when they were, they were not always in a condition to be analyzed for sex and age as the characteristic features that determine such information were missing. The majority of skeletons used in this project were analyzed and reported by osteoarchaeologist Hildur Gestsdóttir in 1998 and thus far more than half have been reanalyzed by her and any changes in the skeletal dataset have been applied. (Gestsdóttir 1998b, 2007) Guðný Zöega provided information on Gr. no. 313. (Zoega 2007, pers. comm.) The analyzed skeletons were matched to the burials being studied and new skeletons, still in the process of being analyzed were also included, although further information regarding the new additions may not be available for complete integration into this project by the time this is published. It is still important for them to be included in the study. Of the 177 analyzed skeletal remains from the pre-Christian period, 15 were excluded because their analysis is not yet complete. Therefore, all analyses in this project which include analyzed human skeletal remains will be based on 162 skeletons from 85 burial sites in Iceland. (See Appendix C: Analyzed Human Skeletal Remains.)¹

4.2.2. Analyzed Skeletal Remains with Burial Sites

The analyzed human skeletons associated with burial sites are sorted by sex and age in Figs. 4.1 and 4.2. Age and sex have been identified and used to help distinguish those differences in the data relating to gender roles, social position and customs. Sex was divided into five categories: Male (M), Probably Male (M?), Female (F), Probably Female (F?) and Undetermined sex (U). The Male and Female categories are made up of

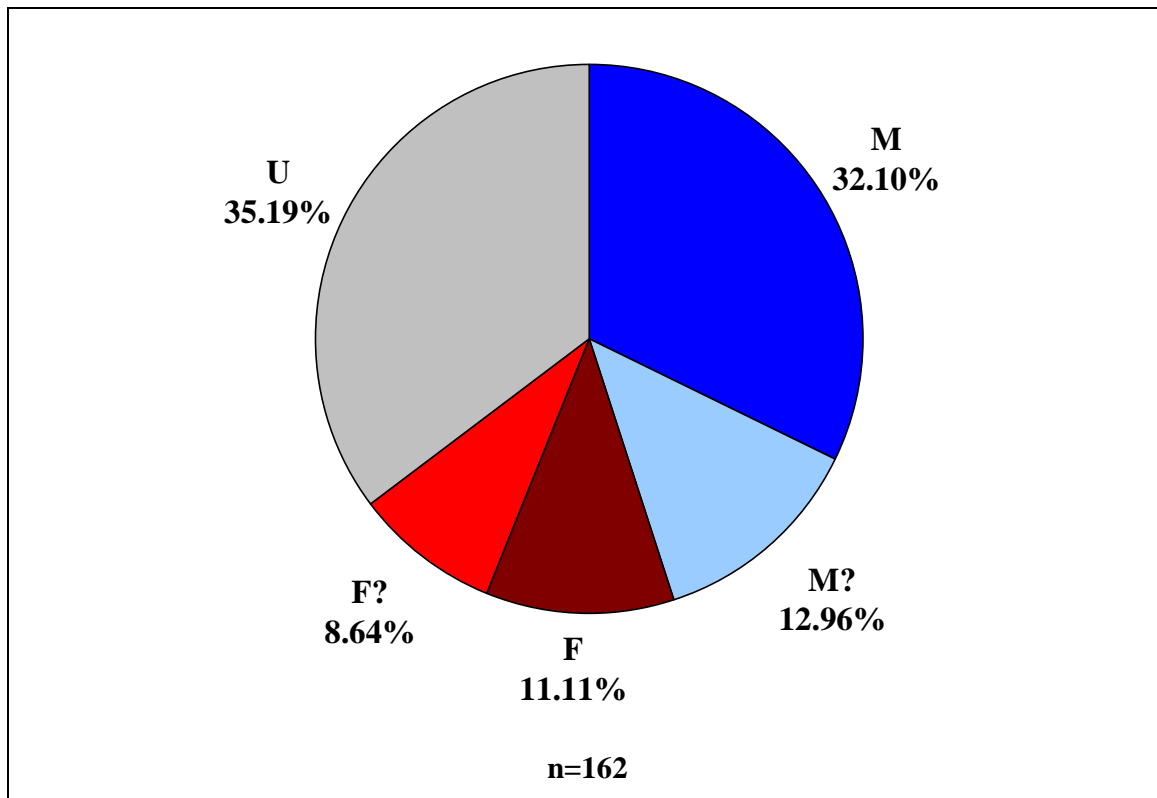


Fig. 4.1 Pie chart showing the 162 analyzed human skeletal remains associated with 85 burial sites used in this project, broken down by determined sex category.

skeletons that have positively been identified as being either male or female as these skeletons have at least the required number of characteristics to distinguish sex. The probably Male and probably Female categories have a few of the characteristics needed, but not enough to state the sex firmly. In order to shorten sentence structure as well as make the text more fluid, when the confirmed sex and likely sex individuals are being

counted together in one category or being discussed together, they will be referred to as: male/?, males/? or female/? and females/?. The Unidentified skeletons do not have enough to be positive about their sex (in two cases, the skeletons have not yet been analyzed in time for this project). The overall ratio of male/? to female/? in the skeletal dataset in this project is 2.3:1. (Gestsdóttir 2007)

Of the 162 analyzed human skeletons, 64.81% have been identified by sex and 71.60% by age, at least to a reasonable amount of certainty. The graves contained in these burial sites are the foundation of the following gendered and age analyses.

The age categories of Gestsdóttir’s original report were adjusted slightly to fit the data on human skeletal remains being used in this project. For instance, there were no foetal, perinatal or younger neonates in this pre-Christian burial dataset, so they were not included throughout the analyses; and, since there are skeletons in the dataset that are considered adult, but not enough characteristics were present to define the age group further, they were placed into a category of their own, “Adult?” or “A?.” The categories used in this project and their abbreviations are:

Age	Category	Abbreviation
0-0.5	Younger neonate	YN
0.5-1	Older neonate	ON
1-4	Younger juvenile	YJ
4-8	Older juvenile	OJ
8-13	Younger subadult	YSA
13-18	Older subadult	OSA
18-25	Young adult	YA
25-35	Younger middle adult	YMA
35-45	Older middle adult	OMA
45+	Mature adult	MA
18+?	More than likely adult - nothing further can be determined	A?
U	Unidentified, not enough material to determine	U

Tab. 4.1 Age categories, derived from Gestsdóttir, that are used in this project.

As can be seen in Fig. 4.2 below, the majority of the aged skeletons are adults

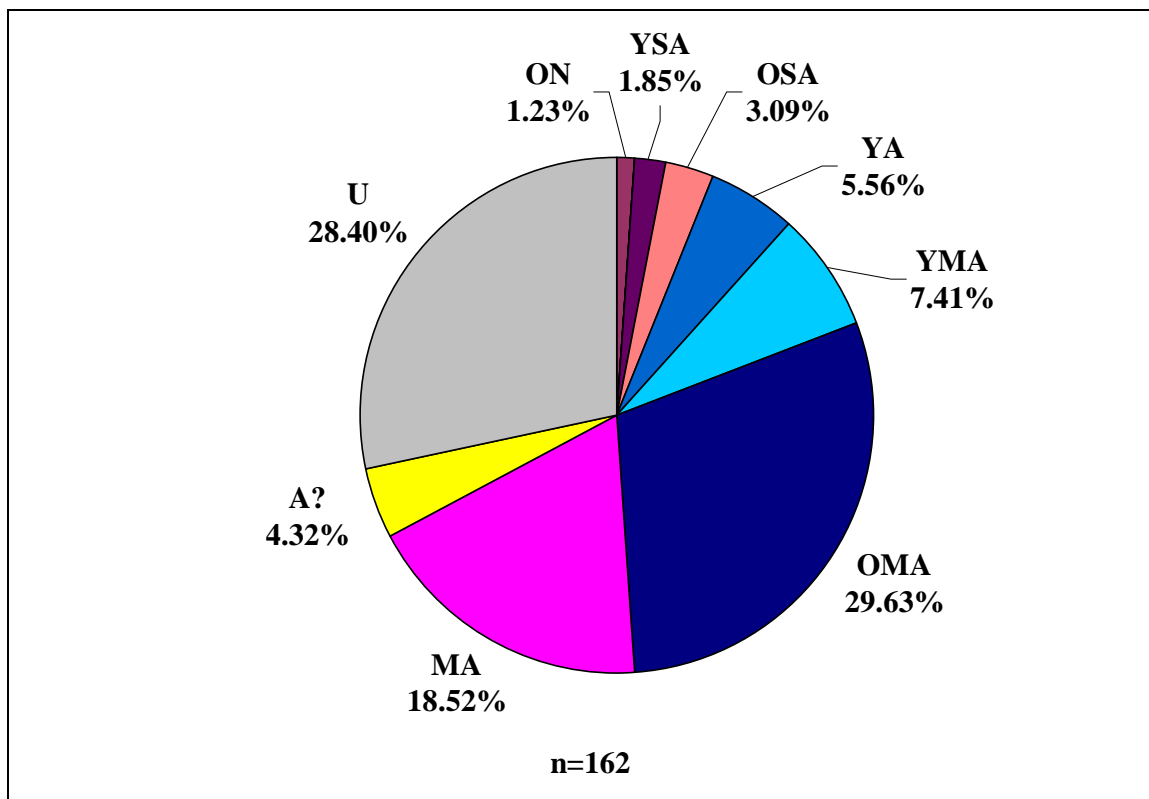


Fig. 4.2 Pie chart showing the percentage of analyzed human skeletal remains associated with burial sites used in this project, broken down by age.

(65.44%) and only 6.17% are under 18 years of age. Also, in most cases males dominate the dataset. Although it may be the case that there were simply more males than females during this period of time, it is also important to remember that female characteristics can be more difficult to assess, especially with poorer bone preservation, which might also lead to such a marked difference in numbers. (Gestsdóttir 2009:pers. comm.)

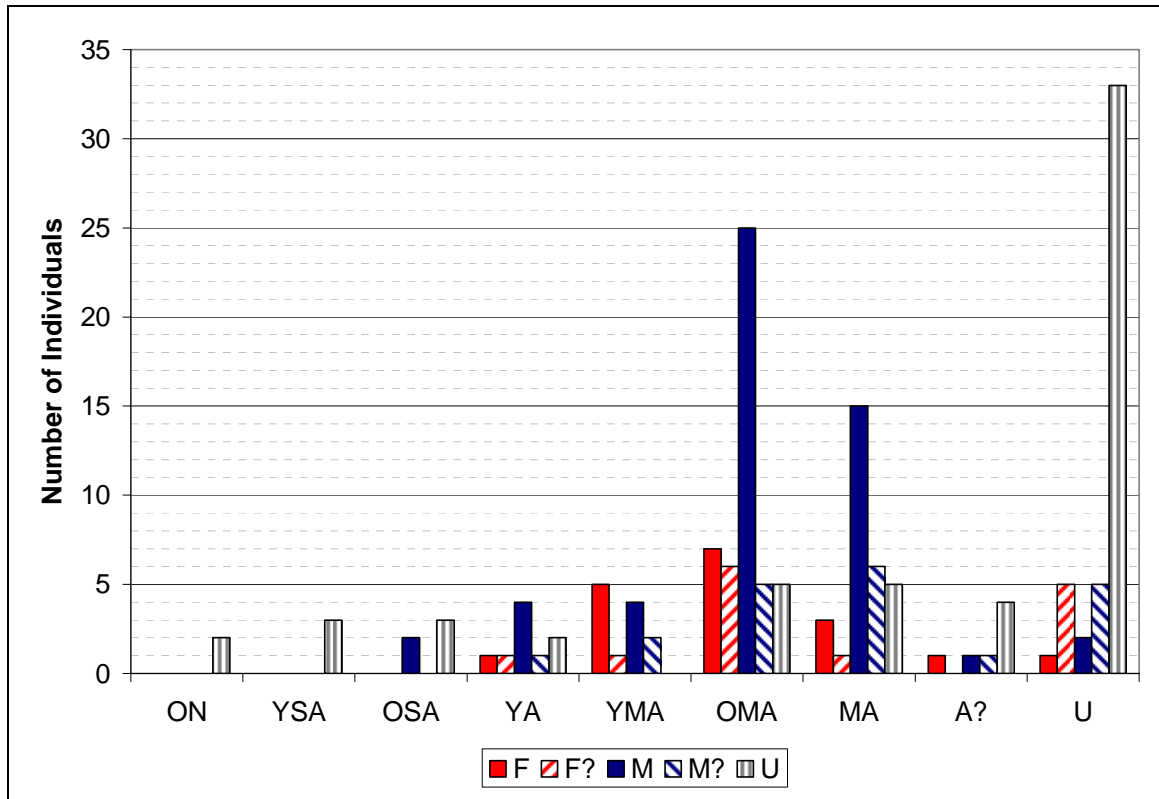


Fig. 4.3 Distribution graph indicating the analyzed human skeletal remains in the project by age and sex. The Older Middle Adults and Males/? clearly dominate, thus age and sex are obviously factors in the burial rite.

As many of the burial sites are made up of more than one individual grave, determining individual graves was necessary in order to connect grave goods to their owners. In doing so, the number of skeletons was reduced due to lack of provenience. This is partially due to the fact that the identification numbers assigned to the skeletal remains when they were originally recorded had been changed as many as four or five times during the years the material had been stored. Thus, in the following analyses involving graves, the total number of human skeletal remains is 148.

4.3. Human Skeletal Remains with Artifact Inclusions

There were 1,732 individual artifacts associated with 89 graves which also included analyzed human skeletal remains, of which 65.9% of the artifacts were

associated with sexed skeletal remains; thus more than half of the artifacts used to aid in associations based on sex. (See Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions in Rated Graves.)

Among the artifacts there were two cases with extraordinary numbers: a male of unknown age with 400+ boat nails (Gr. no. 343) and a young adult of unknown sex with 400+ beads (Gr. no. 313). These two outliers, although the counts are the same, have very different meanings. The former presents a well-defined boat burial, which in itself is quite prestigious. However, the majority of the boat burials are not as well-defined so either through site formation processes and/or early recovery methods, most of the nails have been lost. The *Hringsdalur* grave (no. 343) was excavated in 2007. Grave no. 313, however, reflects the individual associated with the grave. Adornment at this level is, to say the least, uncommon in the Icelandic context and implies a significant level of social status and wealth for this particular individual and his or her family.

The data were standardized to account for the anomalies (see Fig. 4.4 and Fig. 4.5, below), though their effect is still evident. However, the distribution of artifacts is much clearer this way. As expected, male/? graves contained the majority of the artifacts while female/? graves had just under half that amount.

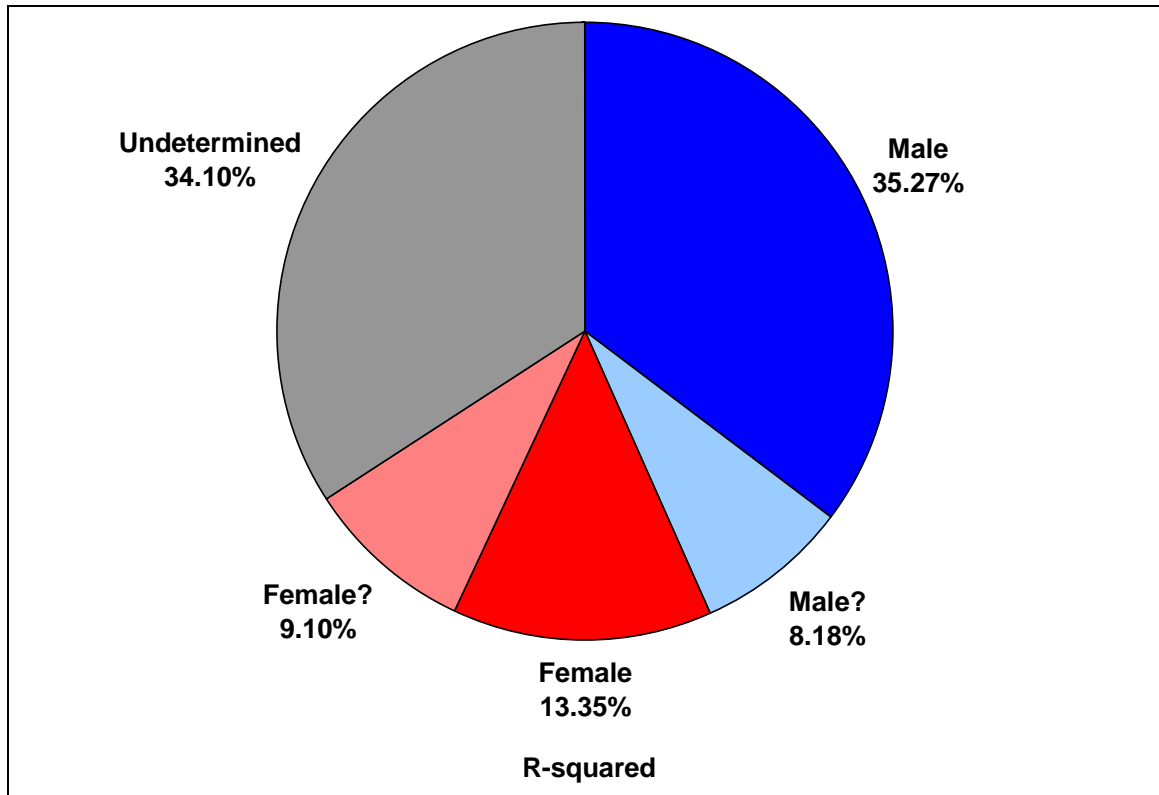


Fig. 4.4 Pie chart showing the 1,762 artifacts associated with 89 osteologically sexed human remains normalized using R-square calculations to account for the outliers with large artifact-type counts. Males/? dominate the artifact assemblage and many unknowns plague the dataset making artifact associations based on sex very complicated.

Approximately 65.82% of the artifacts could be associated with individuals whose ages were determined. Young adults have the majority of actual artifacts (see Fig. 4.5, below), but as a whole the older individuals, 35+, are buried with the majority of artifact types. The young adults are quite impressive in this regard though, because even after standardizing the data to take into account the quantity of beads in this age category there are relatively few individuals in this group compared to the older middle adults and mature adults. The Older Middle Adults have 16.62% of the artifacts in 47 graves; and the Mature Adults have 14.33% of the artifacts in 45 graves. Clearly older adults were revered in death by the form of burial as well as by grave goods, indicating an achieved status. However, as the outliers as well as the presence of grave goods with younger

individuals indicates, an ascribed status was attached to certain individuals.

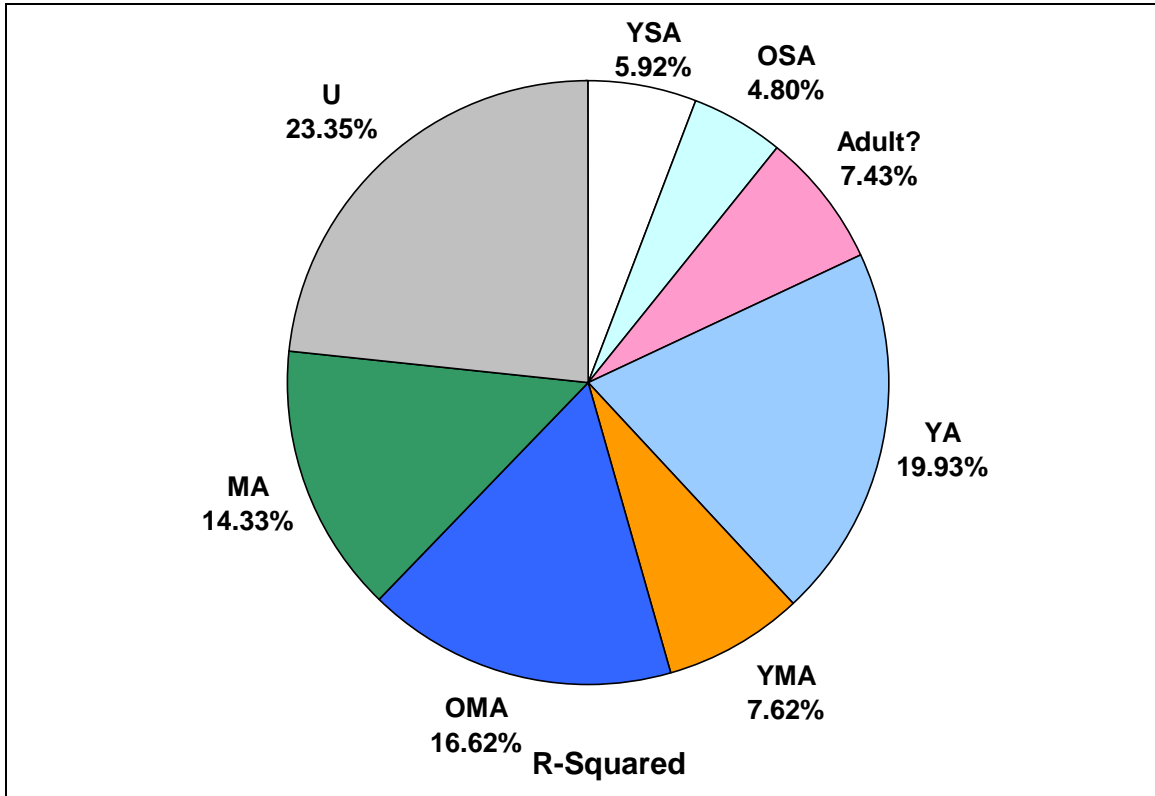


Fig. 4.5 Pie chart showing the 1,762 artifacts associated with 89 osteologically aged human remains normalized using R-square calculations to account for the outliers with large artifact-type counts. Mostly an achieved status is projected, however notable anomalies such as the YA with 400+ beads indicates certain individuals had an ascribed status.

4.3.1. The Artifact Categorizations in this Project

Similar to Hedeager (1992), the artifacts were analyzed using two different methods: qualitative analysis and quantitative analysis. A qualitative approach illuminated Icelandic trends, brought out the gender differences and stressed the status symbols and ritual traditions evident in the assemblages. The quantitative approach, on the other hand, was used to explain the social positions of the individual graves. This was done by allocating artifacts to categories and then counting the category, not the artifacts – defined by Hedeager as “NAT” (Number of Artifact Types). In this way, if a

grave has two spear heads, a sword and a shield, it is only one NAT value of weapons; or if a grave has two oval brooches, a trefoil brooch and fifty beads, it is only one NAT value of adornment. (Hedeager 1992:96-138) Also, artifacts were recorded in the database by assemblage, not artifact count. For instance, in the case of the 400+ beads in Gr. No. 313, the artifact no. is 706 (not artifact nos. 706-1106).

Here, the artifacts were placed into ten categories based on their purpose or function: adornment, weapons, boat remains, commerce, domestic, fishing equipment, horse equipment, miscellaneous/fragments, non-utility objects and unidentified objects. By using this categorization, the artifacts included with individuals aid in understanding their roles and position within the society expressed not only through direct associations, but also through the indirect symbolic associations of the artifacts with the deceased, the living and their landscapes. (See Appendix D: Complete List of Artifacts in the Icelandic Burial Record.)

Adornment and Weapons

Dress is a social construct which conveys many messages within a culture as well as about a culture. It communicates wealth, status, gender roles and identities as well as background, loyalties, and group membership. Within a burial context, dress might indicate the decedent's role in the society, it might reflect the perceived image of the decedent, the image that the decedent wanted to convey, or social customs. (See, for example, (Arnold and Wicker 2001; Chapman and Randsborg 1981a; Parker Pearson 2001; Saxe 1971; Tarlow 1999) Dress includes more than jewelry, clothing or weaponry. It goes beyond them to include skin art, piercing, scarification, and any other modifications of the body that reflect societal values and express different kinds of identities in different social contexts (Schildkrout 2004:320-22). Here it was decided to

include only jewelry and accessories in the adornment category; thus all rings, pins, beads, brooches, armbands, pendants and items used for fastening clothing or for attaching such accessories were included in this category. Adornment has 985 artifacts divided into seventeen types found in at least 67 graves with or without analyzed human skeletal remains. It was decided that weaponry would be separated into its own category, rather than adornment since it served a particular function as well as being a part of a style of dress and includes both defensive and offensive weapons such as spear heads, swords and shields. By creating this division in dress, this project was better able to address themes often used to separate males and females in many societies. The weapons category has 122 artifacts divided into eight types found in at least 64 graves with or without analyzed human skeletal remains.

Boat Remains

In Iceland, no entire boat has been found in boat burials. There were a few excavated burials with clear remains of boats including many boat nails and wood fragments as well as definite impressions left in burial sites while others had vague impressions with only a few such nails and other materials suggestive of a boat burial. These remains were placed into the category of boat remains. However, such remains do not always indicate that a boat was found at the site. Boats were separated from the fishing category due to the fact that in a burial context, they were removed from their natural function and became symbolic artifacts of ritual and are therefore prestige items rather than conveyances for fishing. As of 2009, there are eight boat burials recorded in the Icelandic context (BR. nos. 37, 54, 88, 89, 120, 134, 163 and 164). Although BR. no. 134 is not a confirmed boat burial, it seems highly likely from the description of the grave (remains of wood as well as 30 rivets) that it was – Eldjárn also thought it could

possibly be a boat. (Friðriksson 2000:222-223) Burial Site no. 163 cannot be quantified at this time as analysis is still underway, but altogether about 223 fragments of nails and wood all associated with the remains of a large boat were found there

Commerce

Trade, in all parts of the Norse World, was an important aspect of the Viking period culture. Instead of focusing on the traded items, this project focused on the business itself, thus determining those individuals who were identifiable on the basis of their regular participation in areas of commerce. The Icelandic assemblage does not contain a large amount of information about this category, only 71 artifacts divided into four types were found in at least 23 graves with or without analyzed human skeletal remains. Lead scale weights make up 87.32% of the finds in this category. A purse found with a wealthy warrior in the east (Gr. no. 286) is in the record along with one coin and four lead weights. The only scale pan was found with a wealthy female (Gr. no. 135) in the north whose grave contained no other items from this category. The seven coins in the record came from five different graves. Cufic coins were found in three of these graves (gr. nos. 79 (2) and 211 (2); and BR No. 54 (1)). Grave no. 286 contained an English coin from between AD 955 and 978, either from King Eadwig (AD 955) or King Eadgar (AD 958). The final coin in Gr. no. 203 has been lost but is believed to also have been English from about AD 924 to 940 (King Ædelstan). All coins were silver, except the coin from BR. 54 which was silver-plated and fragmented. The majority of weights are of lead. Only one was made of copper-alloy (Gr. no. 20).

Domestic

The domestic category is made up of 244 artifacts divided into 32 types found in at least 94 graves with or without analyzed human skeletal remains. Of the 244 artifacts,

208 fall into the Utility sub-category and the rest fall into the other sub-categories such as agriculture, blacksmithing, cooking and weaving. The domestic category is made up of various types of mostly household artifacts that are non-specific; however, they were a part of everyday life and had many functions which formed the sub-categories of utility, cooking (food preparation), agriculture and blacksmithing. Although all these objects are called domestic because they were usually associated with household events that occurred in or around the home, some are objects that were carried with a person, almost as adornment, though they do not fit into that category. Such items as combs, ear spoons, knives and even whetstones fit here. Also, there are items which, in a burial context, become prestige items, such as cauldrons and vessels.

Fishing

Despite the well-established Viking maritime skill and the well-documented diet consisting, to a large extent, of fish (Amorosi, et al. 1997; McGovern, et al. 2000; Morrison 1973; Vésteinsson, et al. 2002), fishing equipment is rarely found in the Icelandic burials. The fishing equipment category is made up of seven artifacts divided into two types – hooks and line sinkers – found in at least three graves with or without analyzed human skeletal remains.

Horse Equipment

This category contains 115 artifacts divided into 9 types found in or associated with at least 46 human graves with or without analyzed human skeletal remains. The largest group is buckles with twenty-six singles, twenty-two pairs and one grave with three buckles; there are twenty-two bridle bits; there are twenty-six nails in nine graves, five bosses in two graves, three loops, two iron rings, two hooks, one set of hobbles and one crampon in this category.

Miscellaneous and Fragments

The category of miscellaneous and fragments contains at least 282 fragments of at least 10 different materials found in at least 75 graves with or without analyzed human skeletal remains. Because fragments are often left unrecorded, especially in the sites investigated earliest, this is very likely an under-estimation. When fragments are described, it is often said that 'a few iron fragments' were found. In English we tend to see the term *couple* used with two objects, the term *few* used when there are at least three objects, but the rest is rather subjective unless a specific number was provided. Even more subjective is *numerous* or a *large quantity*. Fortunately, for the most part, the descriptions used here were usually recorded in the singular, with the word *some* or a specific number given. Fragments make up the largest part of this category, totaling 166, and 139 of these are of iron. The rest include small amounts of bone, wood, shells, lead, charcoal and copper-alloy. Finally, there are miscellaneous items which include various types of stone and pebbles. They are quantified and counted in this analysis because this is sometimes the only category that was found with some of the burials and indicates that grave goods were included, but due to a multitude of factors, including, for instance, erosion, grave robbing, borrowing and field and road construction, they no longer exist or could not be collected. Although quantified here, the information that items from this category provided was limited and did not contribute much to the analysis.

Non-Utility

The non-utility category contains 56 artifacts divided into six types found in nine graves with or without analyzed human skeletal remains. This category is made up of items which do not serve a working purpose. Instead they denote leisure and/or prestige. The so-called prestige items include plaques made of copper-alloy or decorated whale-

bone as well as decorated objects with no straightforward use other than symbolic: decorated bone, (BR no. 9), a small lead object with an engraved cross (BR no. 54), and a small whale tooth decorated in Mammen style. There is one boss made of copper-alloy (Gr. no. 83) which is decorated as well. No further description of the boss is given; however, such bosses were sometimes used on dress shields not intended for battle or affixed by rivets to the cheek piece of horse bits in order for the horse to be presented fully dressed as well. Either way, this is a prestige item intended to indicate status.

Unidentified objects

There are only eight artifacts in this category, divided into four types found in five graves with or without analyzed human skeletal remains. There are not many unidentified objects in this assemblage and the majority of the few listed here can almost be identified. However, since the identifications are not certain, they were placed into this category. The five wooden shafts (gr. nos. 44 (4) and 139 (1)) are all probably the shafts of spears. The flat iron object (Gr. no. 130) was thought to belong to a saddle. The corroded iron object (Gr. no. 22) was thought to be part of a weapon and the length of iron found (Gr. no. 42) was possibly a sword. All these are unconfirmed.

Now that the categories have been defined, it is time to describe the artifact data in context with the data on the analyzed human skeletal remains.

4.3.2. Adornment

The term *jewelry* tends to be associated with female burials rather than male burials. Such assumptions have led to errors in the Icelandic literature since assumptions regarding the sex of the individual were at times, before the advent of osteological analyses and in lieu of skeletal remains, based on artifact inclusions. Therefore it seemed appropriate to use the term *adornment* so as not to subjectively classify or label such

artifacts. There are 714 artifacts of adornment found in 32 graves with analyzed human skeletal remains. The majority (56%) of the graves with adornment are of persons confirmed as older than 35 years of age. There are only two that are confirmed to be under the age of 18.

As can be seen in Fig. 4.6, 19 of the graves with adornment have only one type while another five have two types, thus 75% of these graves have very little diversity within this category. On the other side of the spectrum, there is one grave with seven types of adornment and one grave with five types, thus 6.3% have great diversity. The remaining six contain four types, two have three types, and make up about 18.7%. The two individuals with the most categories are both over 35 years of age. One is male and the other is of undetermined sex. However, the majority of these individuals are female/? (43.8%) while males/? make up about 28.1%. Therefore it is possible to say that female/? graves are more likely than males/? to contain artifacts of adornment and as will be shown throughout this study, a diversity of artifact types and categories relates directly to social position within gender identities and sex.

It is clear that beads dominate the adornment category overall, and even after standardizing the data, the spectacular quantity of beads from one particular grave (Gr. no. 313) which had 400+ beads is visible. A long-standing understanding in Icelandic archaeology is that a few beads can belong to a male grave, however, more than that must be female. When only considering the beads included with analyzed human skeletal remains it can be seen that the evidence is not completely accurate. There are females/? with very few beads and males/? with more than a few. Also, there are a number of skeletal remains of undetermined sex with amounts that if subjectively placed into the

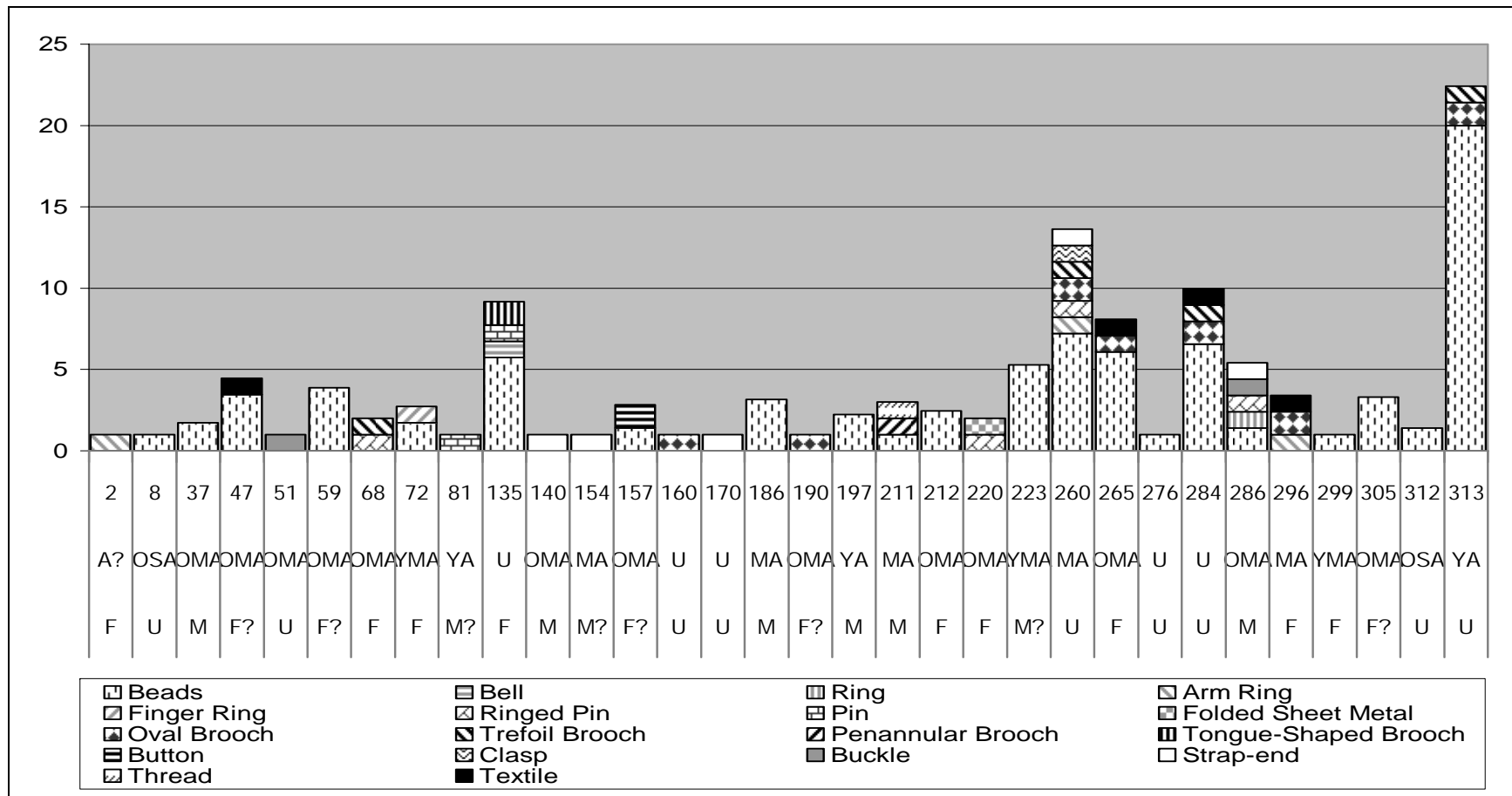


Fig. 4.6 Graph indicating distribution of artifacts from the adornment category with analyzed human skeletal remains. The data was standardized using R-squared calculations. Numbers of adornment by type may indicate social hierarchy, not simply by the quantity of each type, but also by the various types of adornment. As can be seen Gr. no. 260 has seven types of adornment, Gr. no. 286 has five, but Gr. no. 313 only has three, so even though it has many beads, it could be of a lower status.

male or female category based on the number of beads included within their graves, have an even chance of being inaccurately sexed. Similar results were obtained by (Hreiðarsdóttir 2005:119-125) and (Smith 2004:64-65). Clearly, although there is some correlation between having a larger quantity of beads (more than 10) and being female, the same cannot be said of males having fewer beads since the likelihood of being either female or male is equal.

Females/? (9)		Males/? (6)		Undetermined (6)	
<i>Gr. No.</i>	<i>No. of Beads</i>	<i>Gr. No.</i>	<i>No. of Beads</i>	<i>Gr. No.</i>	<i>No. of Beads</i>
47	12	37	3	8	1
59	15	186	10	260	52
72	3	197	5	276	1
135	33	211	1	284	43
157	2	223	28	312	2
212	6	286	2	313	400
265	37				
299	1				
305	11				

Tab. 4.2 Distribution of beads among analyzed skeletal remains divided by sex, indicating the males could easily have larger quantities of beads and females could have very few. making it difficult to place the undetermined sex individuals using such an arbitrary quality.

Arm rings are common to female Viking burials, but are also described in sagas as worn by males. The data cannot support the literature here as the three arm rings with analyzed skeletal remains are found in two female graves and one undetermined.

Brooches were used as clothing fasteners for both males and females. Here, Jesch's (1991) very detailed description of typical female dress during this period warrants a lengthy quote:

“These brooches...served the highly practical purpose of keeping a woman's dress up!... [A] woman would wear an outfit consisting of two or three layers. [A] shift...[with] the neck opening...held together by a small

disc brooch. Over the shift...a strapped gown.... Holding the gown up were looped straps over the shoulders...which were joined...by means of two oval brooches.... The strings of beads found in many women's graves could be hung between the oval brooches. Pendants of amber, jet or silver could be strung between the beads at intervals...[or] a small silver cross. Useful implements, like scissors and knives, could also hang from the brooches on straps or rings. Another garment...worn in addition to the basic shift and gown was a tunic worn between them.... Over all these garments...a woman might wear a sleeved caftan or a cloak...[fastened by] a disc brooch, a trefoil brooch [or] an equal-armed brooch....” (Jesch 1991:17-18)

Disc, oval, tongue-shaped and trefoil brooches are predominantly associated with females and penannular brooches with males. Round brooches have been associated with both sexes. The oval or tortoise brooches functioned more like buckles than brooches as they passed through loops to fasten clothing, however, they are considered brooches all the same. (Jesch 1991:69; Smith 2004:69) Although there are no round brooches associated with analyzed human skeletal remains here, there was one found in Gr. no. 62 along with two oval brooches, a trefoil brooch and beads. Women wore round or circular brooches instead of oval Brooches in the more Northern reaches of Scandinavia, most notably in Finland. (Edgren 2000:112) Men also wore round and circular brooches, regardless of cultural background. Buttons are usually associated with the presence of caftans. However, buttons were also known to be a part of purses and other items that needed fastening. (Ewing 2006:60-1, 126)

4.3.3. Boats

As of this writing, five burial sites where analyzed human skeletal remains were connected with the remains of boats, were included in the project. One of these burials is the unconfirmed burial mentioned above in section 4.3.1. If this is indeed a boat burial, it contained a Young Sub-adult of undetermined sex. Burial site no. 54 was interpreted by its excavator as being “originally a woman’s grave, with the bones of other individuals being added at a later time.” (Friðriksson 2000:564) If this is the case, there are only two females identified among the human skeletal remains, however, it is not possible to determine which female he was referring to at the time. Three of the four are Adults, one is over the age of 45 while the other two cannot be assigned to an age group. Still, there is the younger individual in a possible boat burial (Gr. no. 250). Thus, it would appear that age is not necessarily a factor in the ritual of burying people in boats. Also, with two of the individuals being of undetermined sex and with another grave lacking positive provenience, we cannot know for certain if the boat burial was indeed a female. All that can be said at this time is that there were two boat burials belonging to males/? and another is assumed to belong to a female, more than likely based on artifact inclusions.

The best way to look at these burials is not simply through the individuals buried within, but by their associated grave goods. Grave no. 189 contains an adult of undetermined sex. Along with the remains of a boat, this individual did not possess much more than the boat, a buckle and the remains of dog and horse. Similarly, grave no. 250 had only a fragment of a spear-head and other iron fragments, the likely remains of a small boat and dog remains. Also, Gr. no. 343 had only the remains of a boat and the individual – however, this is a newly discovered burial and more information may be revealed after the 2009 field season. While the remaining two graves had more grave

goods, they were obviously from different social strata. In Gr. no. 271 there was a small axe, a lead weight, two pebbles and a knife; and BR no. 54 contained, among other things, various adornment: 30 beads, a silver Thor's hammer pendant, another pendant, two arm-rings, a finger-ring, a bell, a wooden pin; domestic items such as at least three bone combs, a comb-case, a knife; and items of commerce, including fourteen lead weights and a Cufic coin and remains of a dog – from the inclusions, especially the types of adornment, it is easy to see why this was interpreted as a female grave.

Having considered both the human skeletal remains as well as the grave goods, it can be seen that the ritual of including a boat in a burial can be very prestigious. In Iceland boats are no less valuable than in other areas of the Viking World. However, since the materials were not indigenous to Iceland, they may signal a higher level of prestige for the more common graves. (See, for example, Ballard, et al. 2003; Kobylinski 1995; Schjødt 1995; Wamers 1995) However, including a boat is more than a representation of wealth and social position. From the data, it appears that such an inclusion goes beyond the material and into the area of ritual symbolism as will be discussed further in Chapter 5.

4.3.4. Commerce

In other areas of Scandinavia during this period, there was a high correlation between females and commerce (Stalsberg 2001), however, here the connection is not certain due to the size of this category. As can be seen in the graph below, the majority of objects of commerce are found in male graves. Although it would be nice to be able to put the 14 lead weights and Cufic coin (discussed in section 4.3.3 above) onto this chart, as that would suggest the possibility of a female associated with a large number of artifacts of commerce, as previously mentioned, it is not possible to definitively associate

the artifacts with any of the individuals. As seen in Fig. 4.7, however, the provenienced skeletal remains with artifacts show that, as at Stalsberg, the only scale pan in the Icelandic record is connected to a female. With respect to age, a single lead weight is associated with each of the youngest age groups represented (YSA and OSA); the remainder of the artifacts are predominantly associated with individuals 35 years of age and older (OMA-four, MA-five).

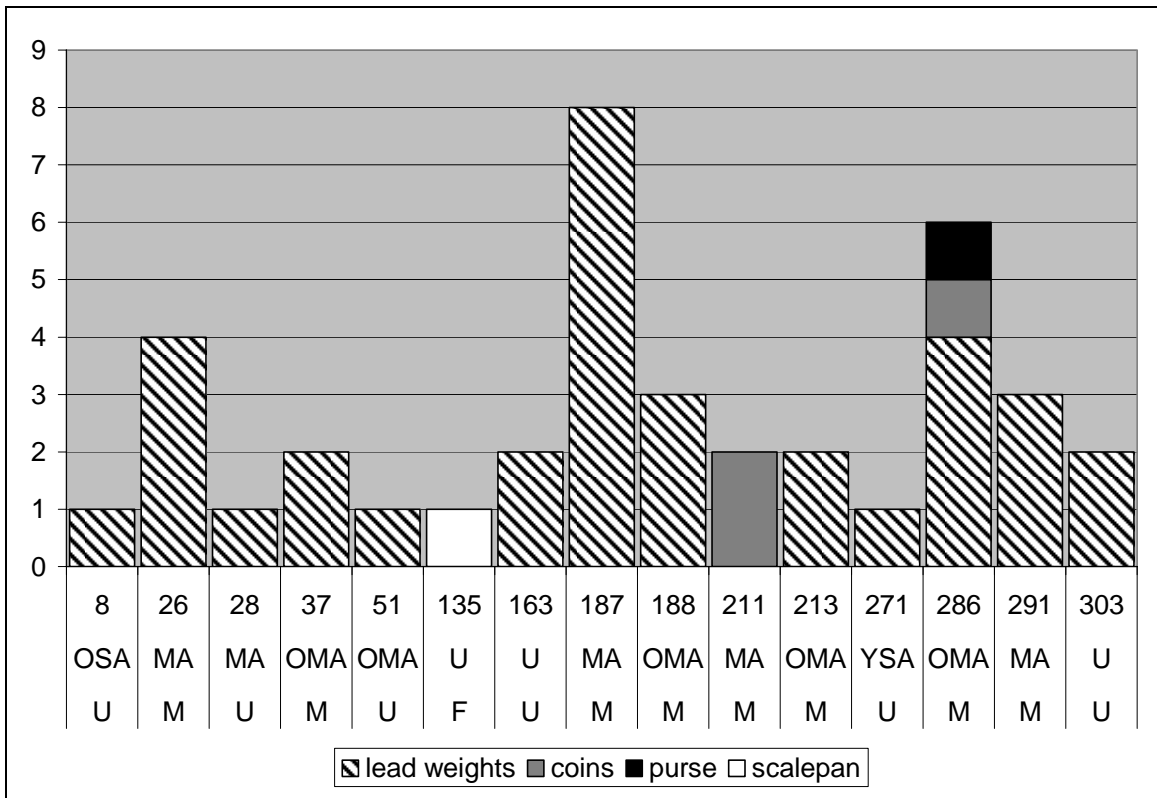


Fig. 4.7 Artifacts of commerce associated with the results from analyzed human skeletal remains showing that males/? are more typically associated with items of commerce than are females whose association with scale pans is similar to other parts of the Viking world.

The data suggest that, for the most part, those in the business of trade may have achieved success over time, thus the association with older individuals. Although a highly subjective interpretation, in Iceland it appears that males/? were more involved in commerce on a regular basis than females/?.

4.3.5. Domestic

There are 140 domestic artifacts in 54 graves. As can be seen in Fig. 4.8, below, the majority are found in male/? graves and a considerable amount of artifacts in this category are with the undetermined sex group, therefore it is difficult to label this as a private sphere category and also, difficult to label this as female. Certain artifacts in this category are more common to one sex than the other, for instance combs are found with both males and females, but are more common in female graves. Knives are found in both. Vessels and spits seem to belong to male and female graves equally. On the other

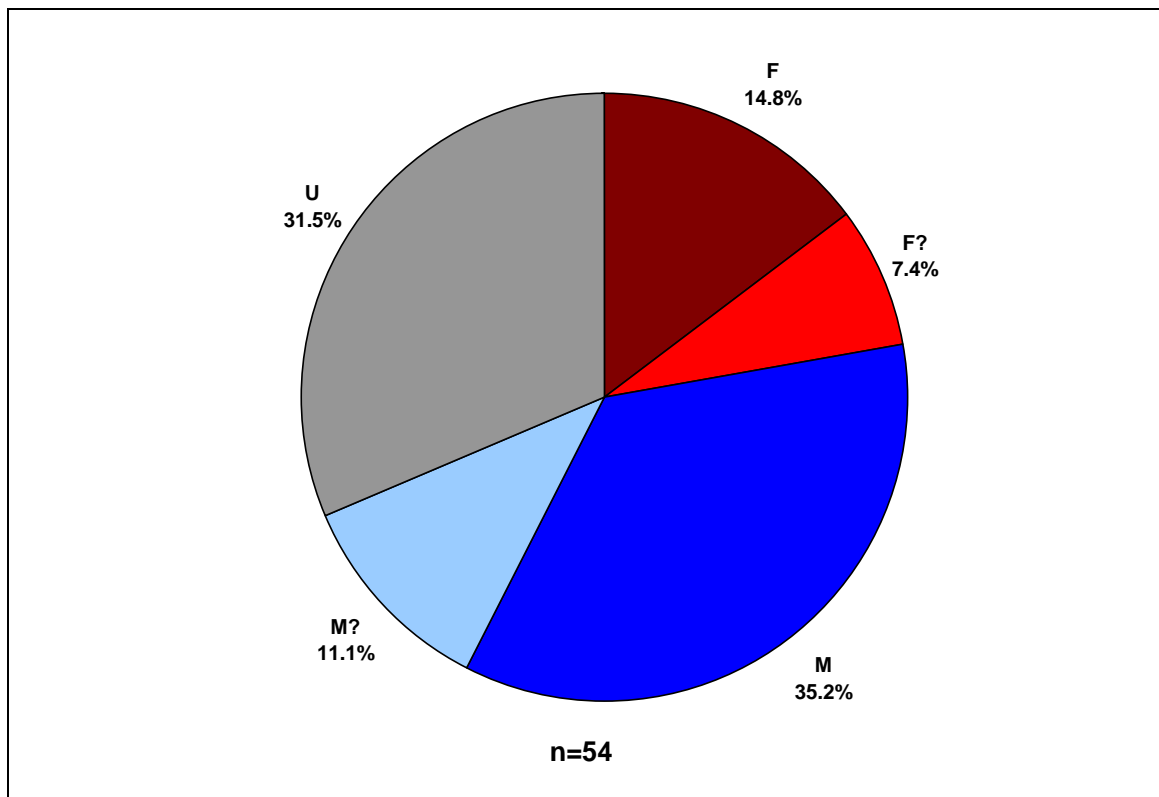


Fig. 4.8 Pie chart representing percentages of analyzed human skeletal remains with determined sex associated with artifacts from the domestic category. Regardless of contemporary ideas, males/? clearly dominate this category, therefore the public sphere is more than a female domain.

hand, fire starters are found in both male and female graves but more common to males and strike-a-lights, which are directly related to the fire starters are found only in male

graves. Although whetstones would seem to be of use to both sexes, there is only one from a confirmed female grave and the rest are found with males.

Age also seems to be a factor (see Fig. 4.9, below) as 51.8% of the artifacts are found in the 35+ graves (OMA and MA) while the other age categories only represent about 20.4% of the dataset altogether and the rest fall into the undetermined age category.

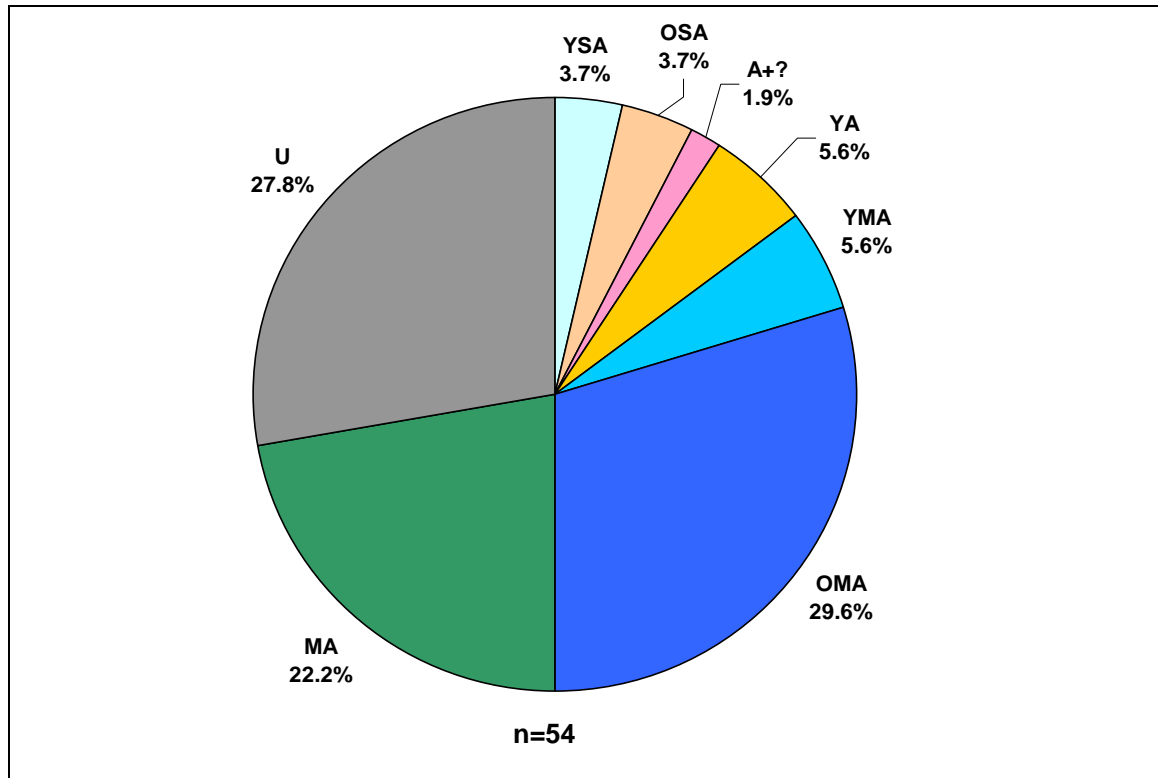


Fig. 4.9 Pie chart representing analyzed human skeletal remains with determined age associated with artifacts from the domestic category. Those over 35 possess the majority of Domestic items.

With so many of the artifacts included in the older categories, it is interesting to note which artifacts were included with the younger individuals. The youngest group represented here is the younger sub-adults. There are only two individuals in this category and both have knives (Gr. nos. 177 and 271). There are another two individuals in the next age group, older sub-adults, and again knives are represented in both of these graves as well. Although one grave is marked with only one artifact (Gr. no. 312), the

other seems to be rather wealthy with four artifacts, a knife, whetstone, fire starter and a comb (Gr. no. 8). There are seven adults under the age of 35 with domestic artifacts. Three adults are in the 18-25 (YA) category, all three with knives (Gr. nos. 290, 253, 81). The YA group is all male/male?. There are three adults in the 25-35 (YMA) group, one female with a comb (Gr. no. 72), one female? with a whetstone (Gr. no. 196) and one female with a nail, which may not have any major significance (Gr. no. 299). Finally, there is one adult over 18, with both a comb and a fire starter (Gr. no. 2) who cannot be placed into a more age-specific adult group.

Bone combs are included in twelve graves: six female, three male and three undetermined. The females are of differing ages, all adult while the males are over 35 years of age. Combs appear to be interred more often with females of various ages, but in general it appears that combs were included with young and old, males and females.

There are twenty-three artifacts in this dataset that are typically used to start fires. Strike-a-lights are metal objects which, contrary to common use, are striking a rock. The strike-a-lights are carried about by their owners. There are only a few found in Iceland. There are four in this dataset, all found in graves with igniters (Gr. nos. 26, 27, 211 and 303). The strike-a-light found in Gr. no. 303 is the only one intact. The igniters are rocks of varying material, but mostly of flint and jasper though sometimes quartz is used. The majority of these are found with males/? over the age of 35. Two female adults and an older subadult grave are found with them, also. Fire starters are used in connection with strike-a-lights.

Knives are quite common and are found in thirty-five graves. Four are female, three female?, fourteen male, four male? and ten undetermined. Therefore, knives are not

indicators of sex in any way. Knives are found in two Younger Sub-Adults and two Older Sub-Adults, three Young Adults, thirteen Older Middle Adults, nine Mature Adults and six of undetermined age. It is interesting that they are lacking in the YMA group, however it does seem that age is not a determining factor either. More than likely knives are included because they were a common implement with multiple uses. A bone needle case was found with a mature adult, female (Gr. no. 25). As mentioned earlier, such items were commonly suspended from belts and/or even brooches as part of female accessories. Shears were also commonly worn in this fashion. There are shears found in five graves (Gr. nos. 135, 162, 260, 284 and 296). Two of the graves (135, 296) are female, the rest undetermined. Two of the graves (260, 296) are mature adults, the rest undetermined. There is one pair of tweezers, also commonly suspended from belts, found with grave no. 135.

There are three sickles in the dataset. The first was found with an older middle adult female? (Gr. no. 47), the other two were found with individuals of undetermined sex. One is located with a mature adult (Gr. no. 260) the other with a person of undetermined age as well (Gr. no. 162).

There are three spindle whorls in two graves (260(2) (MA), 284(1)(U)) both of undetermined sex. One “weaving implement” (Gr. no. 24 (U/U)), one weaving sword in the northern quarter (Gr. no. 135 (F/U)) and two wool bone combs (Gr. no. 260 (U/MA)) are also included in the dataset. A vise and slag were both found in male graves (26 and 290, respectively). The vise was with a mature adult and the slag with a younger adult.

Whetstones are found in fourteen graves (Gr. nos. 8, 26(2), 27, 28, 70, 164, 187, 196, 210, 211, 248, 284(2), 286(2) and 288). Only one belongs to a probable female (Gr.

no. 196), while seven of the graves are male (Gr. nos. 26, 70, 187, 210, 211, 248, 286, 288) and one probable male (Gr. no. 27). The only young individual with a whetstone is an older sub-adult (Gr. no. 8), while the rest are over 25 years of age: one YMA (Gr. no. 196), five OMAs (Gr. nos. 70, 210, 248, 286, 288), four MAs (Gr. nos. 26, 28, 187, 211).

Vessels are a sign of wealth and status and are buried with both males and females. In Iceland there are five vessels that can be connected with analyzed skeletons. (gr. nos. 70, 135, 154, 190 and 286) Three of these vessels are iron cauldrons (gr. nos. 70, 135, 154) and two are steatite bowls (gr. nos. 190 and 286). Four of the skeletons were aged and sexed. They are older individuals (gr. nos. 70, 190 and 286 were OMA; Gr. no. 154 was MA), and there are two males (gr. nos. 70 and 286), one probable male (Gr. no. 154), one female (Gr. no. 135) and one probable female (Gr. no. 190).

4.3.6. Fishing

There was only one grave containing both analyzed human remains and artifacts relating to fishing in the dataset. As mentioned in section 4.3.1 above, there were not many from this category to begin with. This grave (Gr. no. 26) contained a mature adult male with three fishing hooks.

4.3.7. Non-Utility

There were three graves in this category. Grave no. 68 had a female (OMA) with a whale-bone plaque. Grave no. 196 also contained a female (YMA) with nineteen bone gaming pieces. The third grave (no. 164) contained skeletal remains that could not be sexed or aged with a decorated whale-bone object.

4.3.8. Weapons

There are 61 artifacts in thirty-three graves in this category that are associated with analyzed human skeletal remains. Weapons do indeed have a positive correlation

with males. Of the 61 artifacts, there is only one female associated with any type of weapon, a spearhead (Gr. no. 72). Forty-two of the weapons are associated with male/? skeletal remains and twenty are found in unsexed graves. Approximately 68.9% of the weapons are found with males/? and 67.21% are found with individuals over the age of 35 years, it appears that older males were more commonly buried with weaponry.

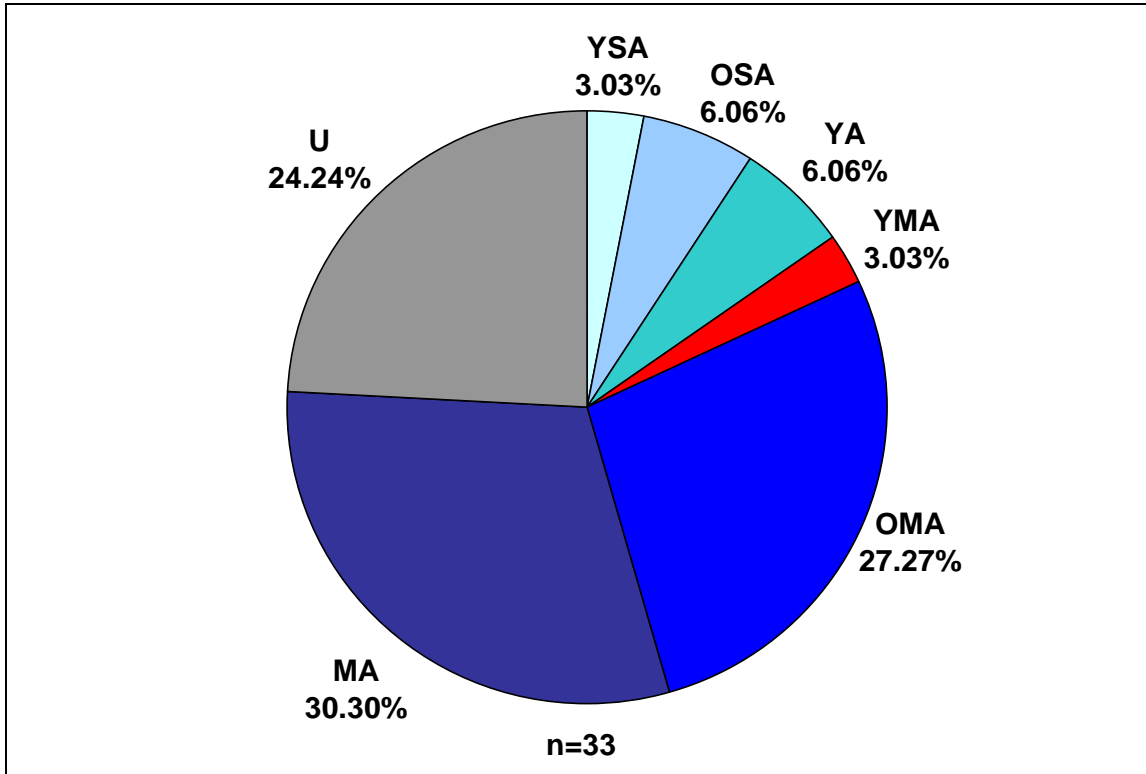


Fig. 4.10 Pie chart indicating the number of osteologically aged analyzed human skeletal remains with weapons. The only female/? in this category is also the only Young Middle Adult. It is evident that the weapon burial rite is achieved as there are more adults over 35 years of age with weapons.

As can be seen in the following graph, the spear-head was the most common and is found in 81.8% of the graves with weapons. There were only a handful of well-equipped graves (Gr. nos. 286, 70, 210 213 and 286) all males and all with swords. There is a second level with two to three weapons and of the 21 single-weapon graves, the majority had only spearheads.

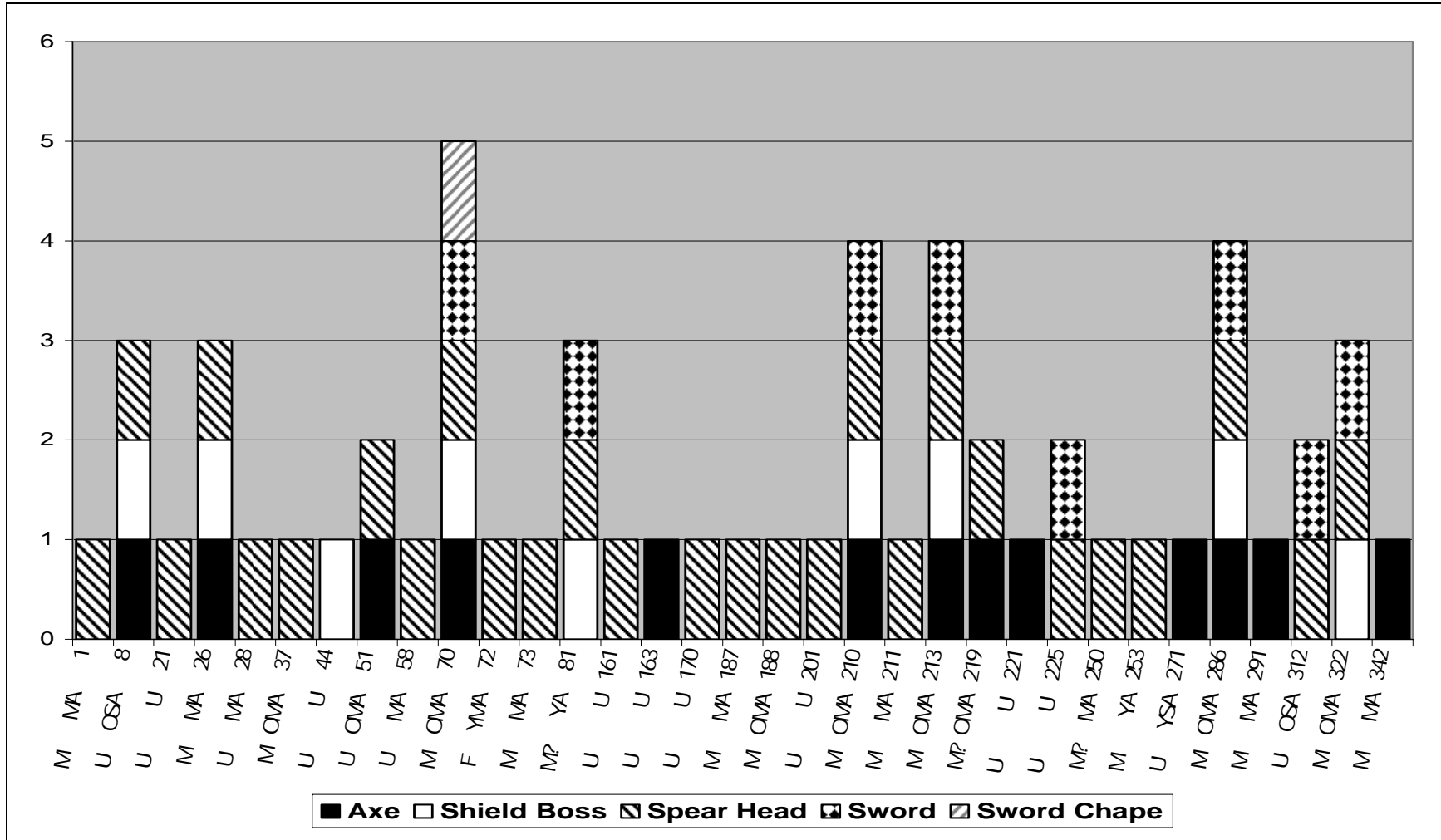


Fig. 4.11 Graph indicating the NAT value for weapons included in graves with analyzed human skeletal remains. The spear was a common weapon in the Viking period as is clearly evidenced here; while having a complete toolkit is not at all common. This could be due to borrowing or robbing or may indicate social status.

4.3.9. Concluding Comments for Section 4.3

Of the 89 graves with 162 individuals, there are five categories that are able to provide some insight into artifact association by sex. By using NAT values for the overall categories denoting differences in sexual designation and using a proportional graph, artifact associations are presented in an interesting light. First of all, although it is common to say that particular artifacts usually belong to a certain sex, the chart below indicates otherwise. As can be seen, from the adornment, when only comparing male to

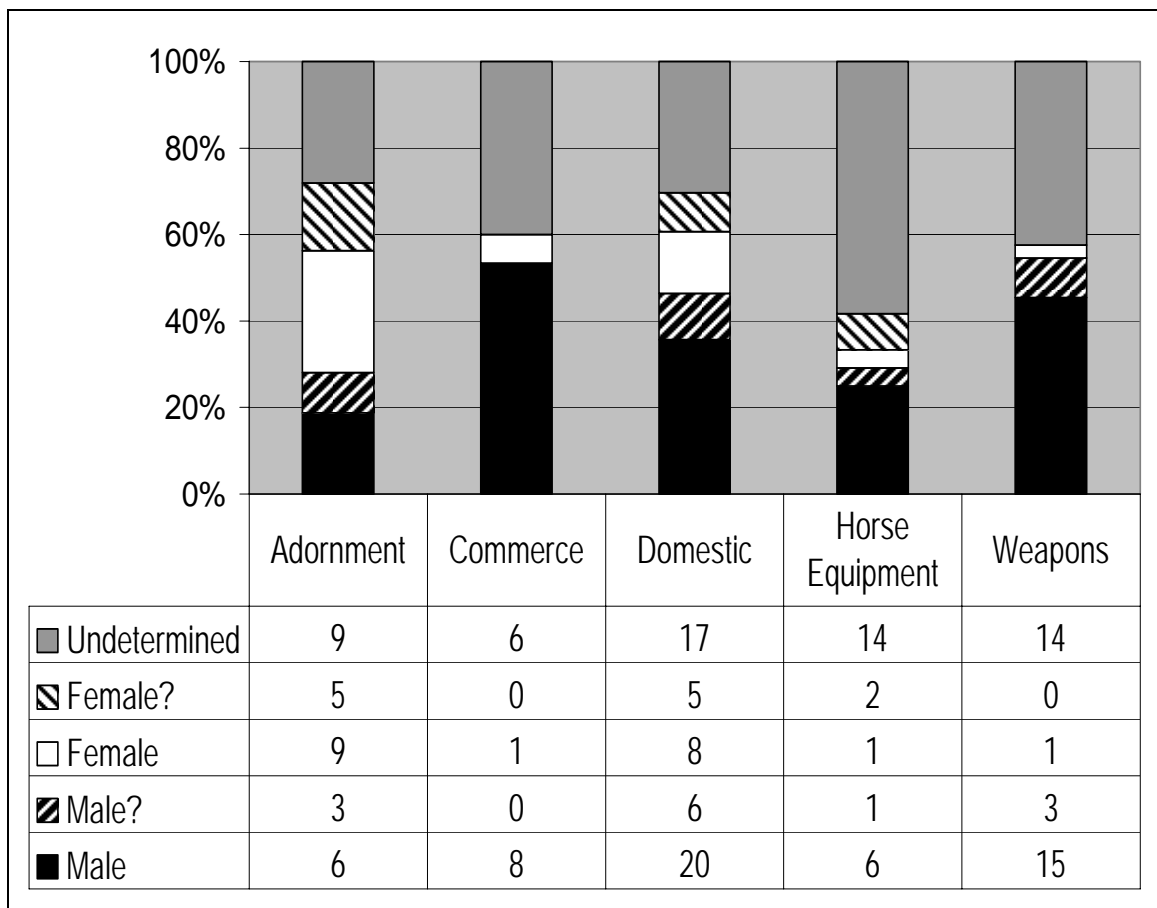


Fig. 4.12 Proportional distribution of artifact categories by sex using NAT values, showing that the large proportion of undetermined sex individuals makes it very difficult to attempt sex-based generalizations of artifacts.

female graves, the data do favor female graves, however, almost 30% of the graves with adornment have an undetermined sex. Horse Equipment is found with almost 60% of

undetermined sex. With such high numbers of unsexed individuals, it is very difficult to show any truly positive correlations between the sexes when there are too many unknowns. Commerce does seem to be predominantly male as well as weapons, however, there is a female presence in both. Domestic has a ratio of 2:1 for males/? to female/?, which is slightly better than the ratio of the skeletal dataset in this project. Although the numbers are too few to bring to light any patterns, it is interesting that the only fishing equipment in this portion of the dataset is associated with a male and the three graves that contain non-utility artifacts have two females and one undetermined. With a closer look at each category, even more light is shed on the dataset. (See Fig. 4.12, above.)

By looking at the breakdown of the artifact categories associated with the various age groups, it can be seen that the older groups, OMA and MA, have the greater number of artifact inclusions. There is an obvious connection between age and artifact inclusion, clearly indicating an achieved wealth or status for most of this society. Though, it would seem that younger individuals of a higher ranking family may indeed have artifact inclusions as well, this is not as common as their association with aging.

Overall, certain individual and communal images have been drawn from the data as it developed using the two variables discussed thus far, analyzed skeletal remains and artifact inclusions, in connection with the specific graves. There are indeed differences in social position clearly evidenced by this data as well as age and gender differences which were brought to light by drawing out the data on artifact associations by age and sex.

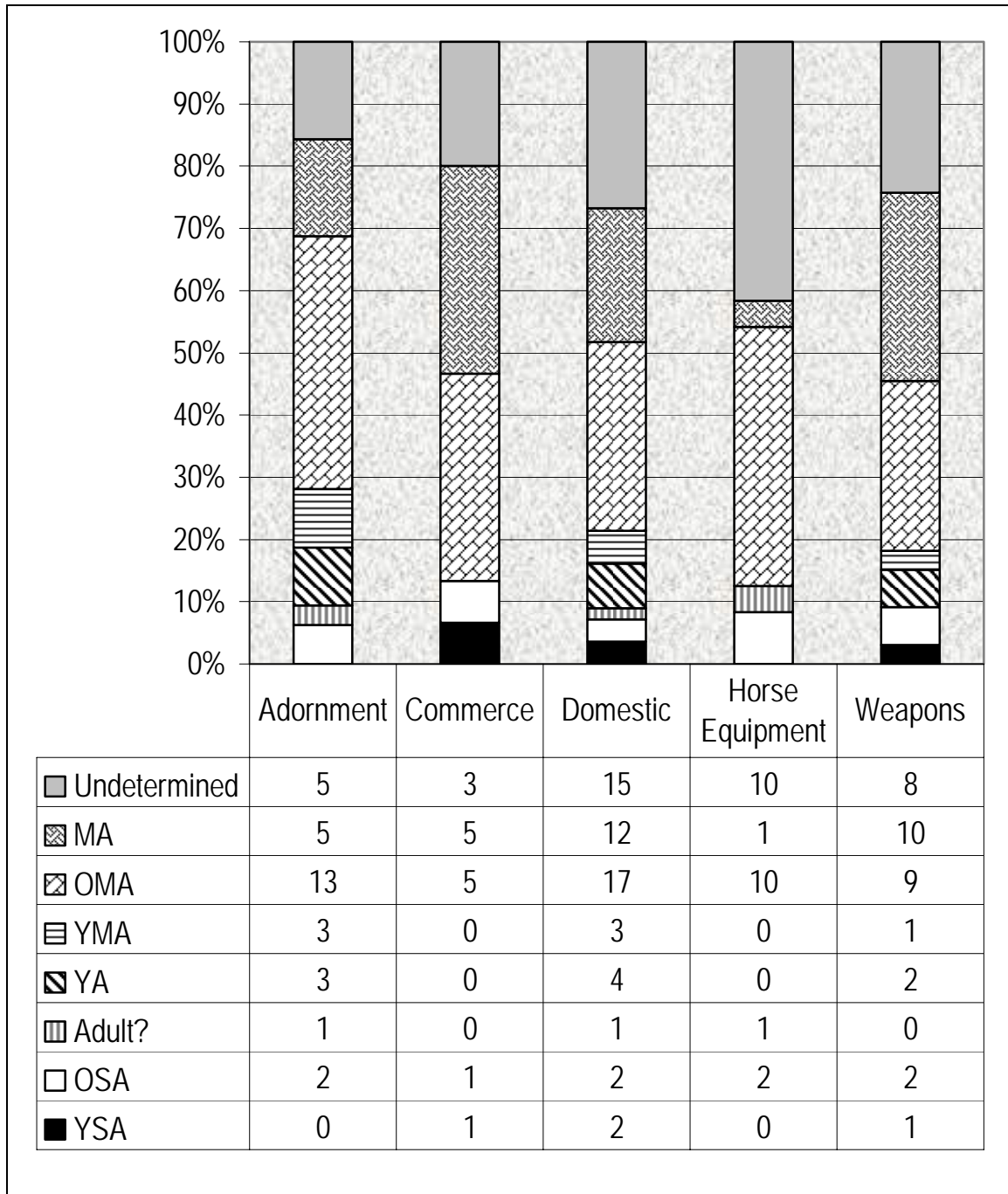


Fig. 4.13 Proportional distribution of artifacts by age using NAT values. Similar to those by sex, the undetermined make generalizations complicated, however, achieved status in the burial rite is indicated..

4.4. Human Skeletal Remains with Animal Inclusions

In furthering the overall understanding of the individuals and societal values

represented in the pre-Christian burials of Viking period Iceland, another variable was added to those already considered above – Animal inclusions. (For a complete list of

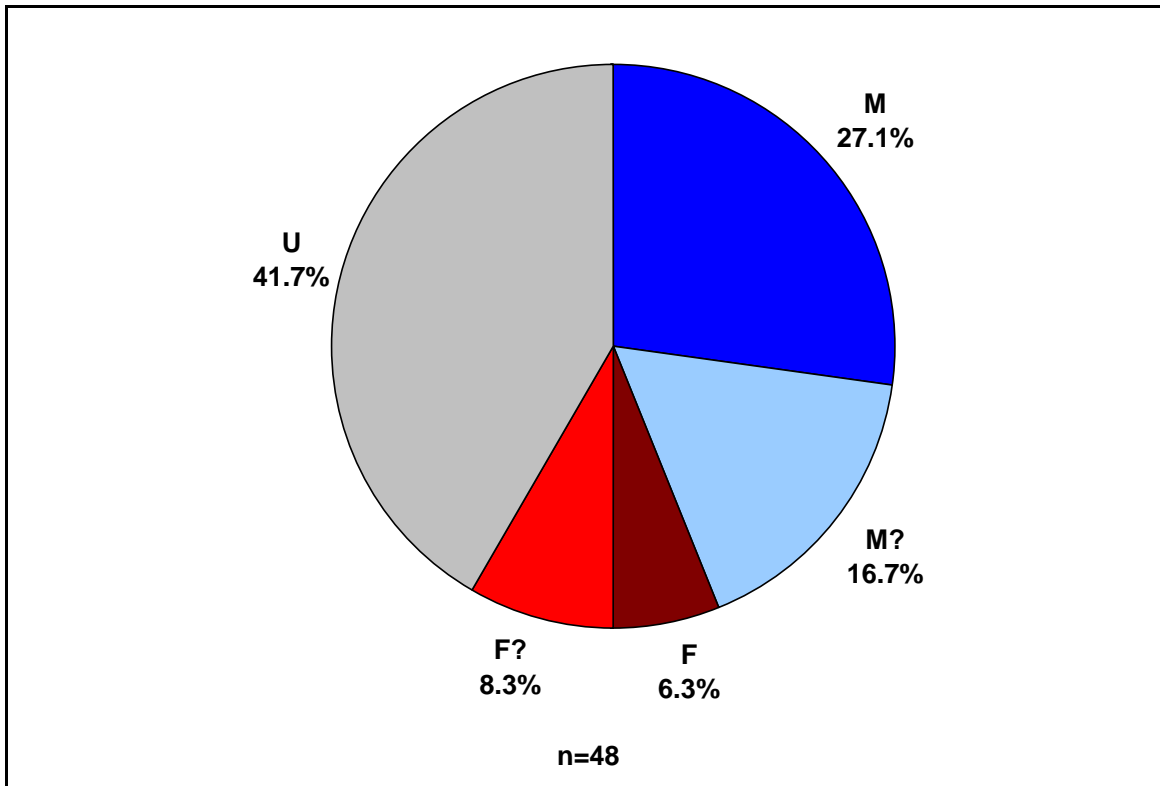


Fig. 4.14 Pie chart representing the analyzed human skeletal remains by sex which are associated with animal remains. The male to female ratio is consistent with the rest of the dataset.

animal remains in the Icelandic burial record, see Appendix F, and Appendix G for Analyzed Human Skeletal Remains with Animal Inclusions) Many of the burials have such inclusions and, although horse was the dominant animal, there were variations in animal inclusions which made this worthy of a more thorough review and incorporation into the analysis. Animal inclusions were evaluated, tabulated and then incorporated into the broader database. Afterwards, only those animal inclusions that were associated with the burial sites being used were considered for the project. Once these data were selected and had become part of the database, the various types were combined with the Analyzed Human Skeletal Remains and then with artifacts.

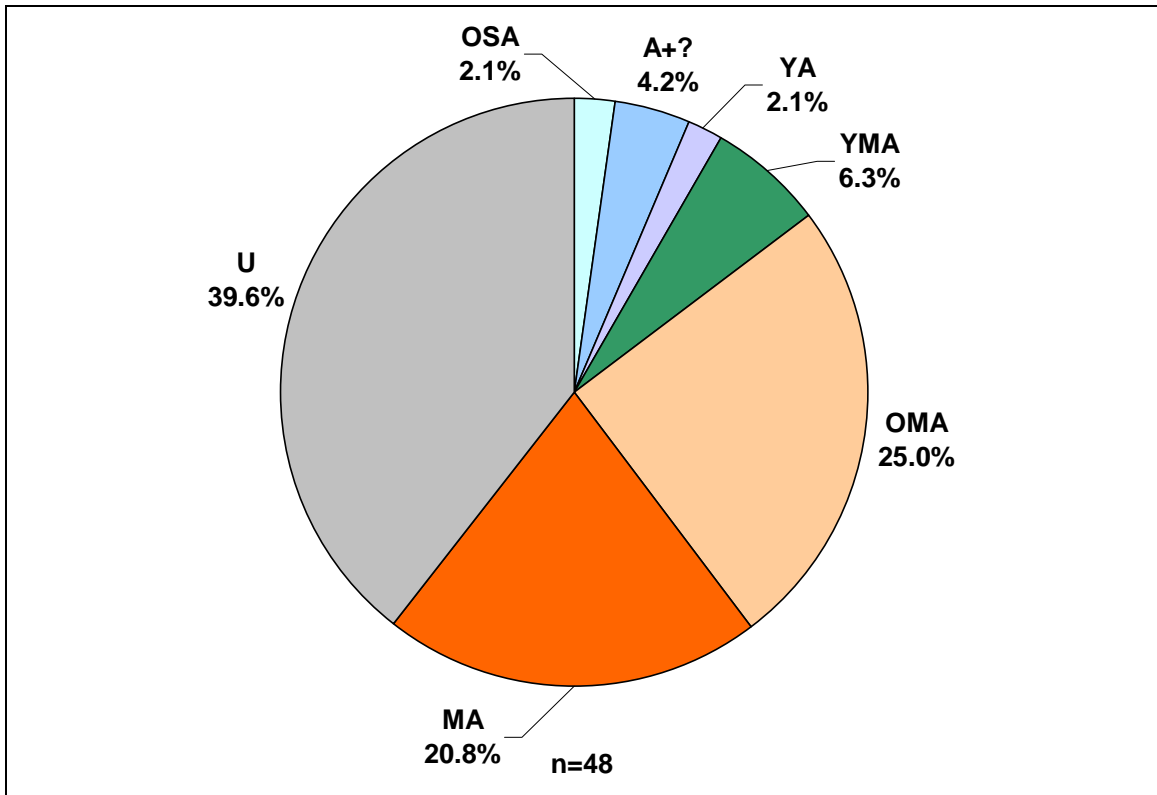


Fig. 4.15 Pie chart representing the analyzed human skeletal remains by age which are associated with animal remains. Age is a factor as there is only one individual under 18 years of age.

Though 48 graves can be matched to 57 animal inclusions, we learn little of interest regarding gender issues from the first combination. Females buried with animal inclusions are outnumbered by males 3:1 (see Figure 4.14, above), their numbers are only slightly below the male to female ratio. Females were as likely to be buried with dogs, horses or both as males.

Figure 4.15 suggests that with the exception of the OSA in grave no. 8 – whose burial inclusions altogether indicate that his or her status was anomalous – there is a distinct bias revealed by the data toward burying both horses and dogs with mature and older mature adults. Tables 4.3 and 4.4 not only support this conclusion, but the burials containing both horse and dog include only one female whose age was uncertain lending

weight to the idea that it was older males for whom both animals were interred together.

Analyzed Human Skeletal Remains with Dog Inclusions				
Gr. No.	BR No.	Sex	Age	Note
44	25	Unidentified	U	Both Horse and Dog
70	40	Male	OMA	Both Horse and Dog
73	40	Male	MA	
135	63	Female	U	Both Horse and Dog
154	74	Male?	MA	Both Horse and Dog
189	89	Unidentified	Adult?	Both Horse and Dog
196	89	Female?	YMA	
248	118	Male	OMA	
250	120	Male?	MA	Both Horse and Dog
251	120	Male?	U	
260	126	Unidentified	MA	
288	145	Male	OMA	

Tab. 4.3 Analyzed human skeletal remains which are associated with the remains of dog.

It is known that horses were a status symbol in Iceland as in most of the Viking world as well as transport to the afterlife, so the 6 graves with only dogs raise more questions than the 42 graves with horses. Some of the possible answers to these will be presented in a later chapter.

Analyzed Human Skeletal Remains with Horse Inclusions					
Gr. No.	BR No.	Sex	Age	Count	Note
5	3	Unidentified	U	1	
8	5	Unidentified	OSA	2	
24	15	Unidentified	U	1	
26	17	Male	MA	1	
27	18	Male?	U	1	
41	24	Unidentified	OMA	1	
43	25	Unidentified	U	1	
44	25	Unidentified	U	1	Both Horse and Dog
45	25	Unidentified	U	1	
50	28	Unidentified	U	1	
70	40	Male	OMA	1	Both Horse and Dog
135	63	Female	U	1	Both Horse and Dog

Tab. 4.4 Analyzed human skeletal remains which are associated with the remains of horse (continued).

Analyzed Human Skeletal Remains with Horse Inclusions					
Gr. No.	BR No.	Sex	Age	Count	Note
140	67	Male	OMA	1	
143	70	Male?	U	1	
144	70	Unidentified	U	1	
146	72	Male	YMA	1	
154	74	Male?	MA	1	Both Horse and Dog
157	76	Female?	OMA	1	
158	76	Unidentified	U	1	
159	77	Male?	OMA	1	
161	79	Unidentified	U	1	
162	79	Unidentified	U	1	
164	80	Unidentified	U	1	
166	81	Unidentified	MA	1	
170	85	Unidentified	U	1	
187	89	Male	MA	1	
189	89	Unidentified	Adult?	1	Both Horse and Dog
190	89	Female?	OMA	1	
191	89	Female	MA	1	
194	89	Male	Adult?	1	
197	89	Male	YA	1	
200	91	Male?	OMA	1	
201	92	Unidentified	U	2	
202	93	Male?	MA	1	
213	98	Male	OMA	1	
221	102	Unidentified	U	1	
250	120	Male?	MA	1	Both Horse and Dog
252	121	Female?	YMA	2	
262	128	Male	MA	1	
265	130	Female	OMA	1	
276	136	Unidentified	U	1	
286	144	Male	OMA	1	

Tab. 4.4 Analyzed human skeletal remains which are associated with the remains of horse).

4.5. Analyzed Human Skeletal Remains, Artifacts and Animal Inclusions

Thirty-nine graves contained all three variables: analyzed human skeletal remains, artifacts and animal inclusions. (See Appendix H, for a list of all three variables

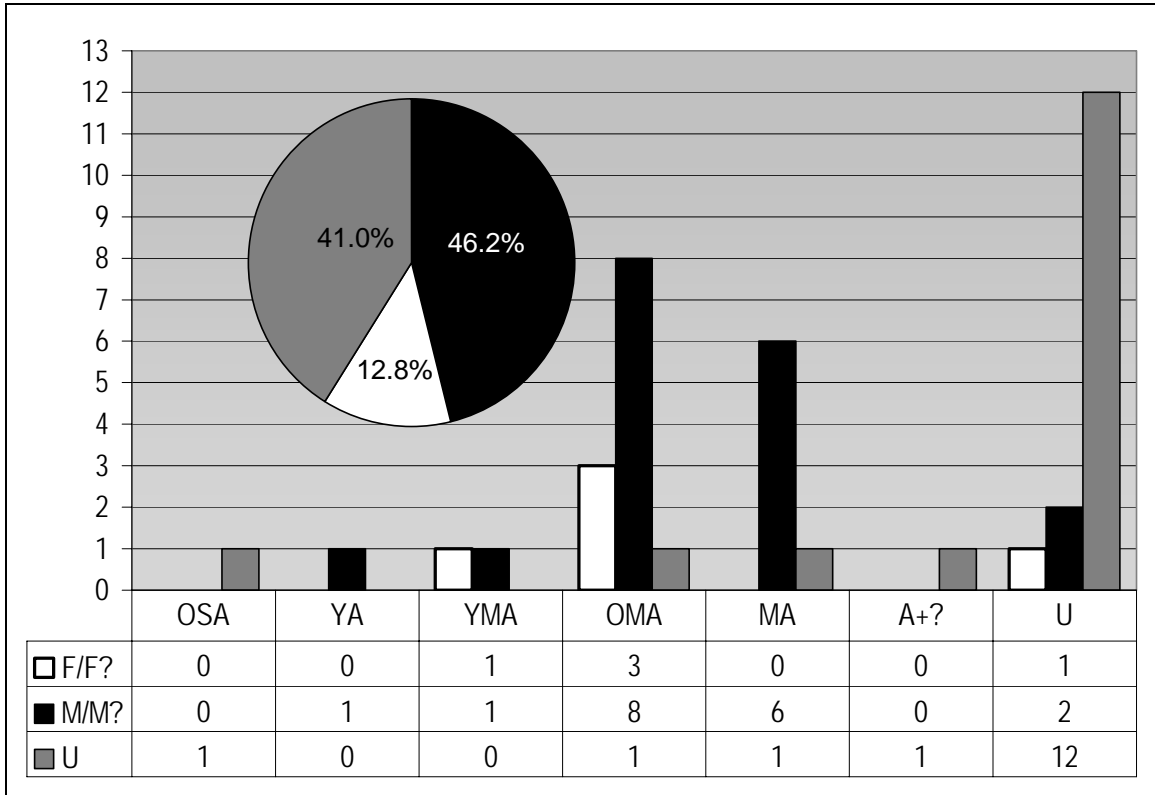


Fig. 4.16 Age and sex distribution of those analyzed human burials with both artifact and animal inclusions. indicating that older males are more likely to receive differential burial treatment in the form of grave goods.

together.) However, not all contained the same animals. There are twenty-seven graves with horse remains, six with both horse and dog remains and six with dog remains. In Fig. 4.16 above, the male to female ratio increases to 3.6:1.

Women are generally under-represented and even more so when it comes to being buried with both artifact and animal inclusions. Seven age groups are represented in this portion of the data and it was very clear that the predominance of males over the age of 35 years continues. (See Vol. II, Tab. 4.5)

4.5.1. Adornment

Of the 39 graves with analyzed human skeletal remains, animal inclusions and artifacts, there are 156 artifacts of adornment in twelve graves. As can be seen in Fig. 4.17 below, beads continue to dominate the dataset at 85.3% and no other adornment can even come close.

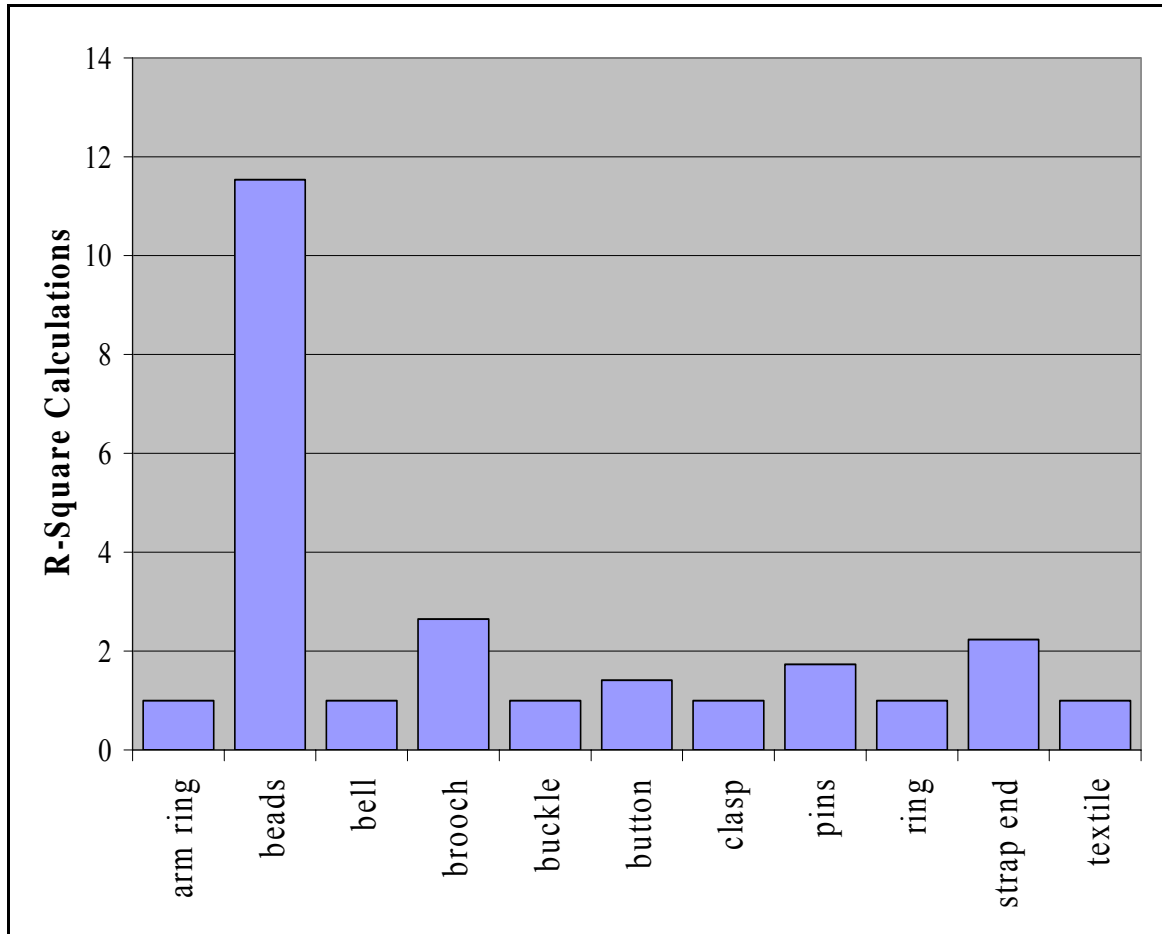


Fig. 4.17 Distribution of adornment in the three-variable set, standardized using R-square calculations. In the twelve graves with adornment, beads are the most common artifact in this category.

There are only eight graves with beads. The higher numbers are in female graves, although the top count is with an individual of undetermined sex. Once again, we see

more individuals over 35 years of age (OMA and MA) with beads. The top two clearly indicate an achieved status.

Three-variable dataset: Graves with Beads				
Grave No	Sex	Age	Animal	Bead Count
260	Undetermined	MA	dog	52
265	Female	OMA	horse	37
135	Female	U	horse/dog	33
197	Male	YA	horse	5
157	Female?	OMA	horse	2
286	Male	OMA	horse	2
8	Undetermined	OSA	horse	1
276	Undetermined	U	horse	1

Tab. 4.6 Eight graves which included beads as part of the artifact assemblage in the three-variable data analyses in descending order by bead count.

Brooches (4.5%) and strap ends (3.2%) are the next most common items in this category. Although they haven't the numbers of the beads, brooches are found in four graves and strap ends in five graves. All of the brooches in this portion of the dataset are those types typically found in female graves (Smith 2004:69) so here the data supports the general assumptions. The strap ends appear in three of the five identified male graves. The one grave with both brooches and strap ends (Gr. no. 260) is of undetermined sex. However, this grave includes two oval brooches and one trefoil brooch, which is typically found in female burials.

Three-variable dataset: Brooches and Strap-ends					
Grave No	Sex	Age	Animal	Amount	Name
135	Female	U	horse/dog	2	brooch
140	Male	OMA	horse	1	strap end
154	Male?	MA	horse/dog	1	strap end
170	Unidentified	U	horse	1	strap end
190	Female?	OMA	horse	1	brooch
260	Unidentified	MA	dog	1	strap end
				3	brooch
265	Female	OMA	horse	1	brooch
286	Male	OMA	horse	1	strap end

Tab. 4.7. Graves of Adornment in the three-variable set: Brooches and Strap-Ends.

As for the remaining adornments, two of the graves have three items each (Gr. nos. 260 and 286). The textile noted in Grave no. 265 was more than likely a small fragment still attached to the brooch, noted above. Grave no. 135 has a pin and a bell, most likely part of the elaborate necklace with the thirty-three beads noted above. Grave no. 157 does not have many items of adornment and with only a few beads and a button is one of the more modest graves in this category.

Three-variable dataset: Less Common Adornment						
Grave No	Sex	Age	Animal	Count	Name	Style
135	Female	U	horse/dog	1	bell	
				1	pin	
157	Female?	OMA	horse	2	button	
260	Unidentified	MA	dog	1	pin	ringed
				1	clasp	
				1	arm ring	twisted wire
265	Female	OMA	horse	1	textile	
286	Male	OMA	horse	1	ring	
				1	buckle	Borre style
				1	pin	ringed

Tab. 4.8. Graves of Adornment in three-variable set with the less common types of adornment in this portion of the dataset.

4.5.2. Commerce

There are twenty-two artifacts of commerce in six graves in this portion of the analyses. The majority are weights which are found in all six of the graves. Grave no. 186 has the most with eight weights. There is only one coin in this category, a silver coin, English, dated to approximately AD 955-75. There is only one female in this category, of undetermined age, and she was buried with a scale pan – the only scale pan in the Icelandic corpus, and she had quite a substantial amount and diversity of grave goods included in her grave, as did all of the graves with artifacts from this category.

Three-variable dataset: Commerce					
Grave No	Sex	Age	Animal	Amount	Name
8	Unidentified	OSA	horse	1	weight
26	Male	MA	horse	4	weight
135	Female	U	horse/dog	1	scale pan
187	Male	MA	horse	8	weight
213	Male	OMA	horse	2	weight
286	Male	OMA	horse	1	purse
				4	weight
				1	coin

Tab. 4.9 Graves in the commerce category in three-variable analysis.

4.5.3. Domestic

In the domestic category there are 78 artifacts in twenty-four graves. Sixteen of these artifacts belong to the smaller sub-categories. (see Tab. 4.10)

Three-variable dataset: Domestic Sub-Categories							
Gr. No	Sex	Age	Animal	Count	Name	Style	Sub-Category
24	U	U	horse	1	weaving implement		weaving
26	Male	MA	horse	1	vise		blacksmithing
70	Male	OMA	horse/dog	1	vessel	cauldron	cooking
135	Female	U	horse/dog	1	vessel	cauldron	cooking
				1	weaving sword		weaving
154	Male?	MA	horse/dog	1	vessel	cauldron	cooking
162	U	U	horse	1	sickle		agriculture
190	Female?	OMA	horse	1	vessel	bowl	cooking
200	Male?	OMA	horse	1	spit	rectangular rod	cooking
260	U	MA	dog	1	cylinder	small	miscellaneous
				1	sickle		agriculture
				2	spindle whorl		weaving
				2	wool comb		weaving
286	Male	OMA	horse	1	vessel	bowl	cooking

Tab. 4.10 Graves in the three-variable analyses containing artifacts from the various Sub-Categories in the Domestic Category.

As can be seen, there are two sickles, one interred with a dog (Gr. no. 260) the other with a horse (Gr. no. 162). There is not much information regarding the individual

in the graves only that the person buried with a dog was a mature adult. Only one artifact represents iron working. A vise is found with a mature adult male and horse remains (Gr. no. 26). One spit remains in the dataset when all variables are combined and it is found with an older mature adult, a probable male, with horse remains (Gr. no. 200). The vessels are still strongly represented when the variables are combined. There are five vessels in five graves, three of which are iron cauldrons (Gr. nos. 70, 135, 154) while the other two are steatite bowls (Gr. nos. 190, 286). All three of the iron cauldrons are among both horse and dog inclusions but only horse inclusions are found with the two steatite vessels. Four of the individuals are over the age of 35 and one is undetermined. Three are male/? (Gr. nos. 70, 154, 286) and two are female/? (Gr. nos. 135, 190). Thus, sex does not seem to be a deciding factor of vessel and/or vessel type inclusion, but age may be. It is difficult to sum up the weaving group as sex and age are mostly undetermined. There is one female present (Gr. no. 135) and one individual is a mature adult (Gr. no. 260). The main three animal inclusion types are present (horse, horse/dog, dog), thus there does not seem to be anything in this variable that can add to an understanding of this subcategory when considered on its own.

The 62 artifacts that remain are all listed under the generic term *utility*. It is difficult to give much meaning to the presence of nails as their use is uncertain. The remaining artifacts are distributed among all these burials with interesting results. There are two rather high ranking burials (Gr. nos. 8 and 26) with quite a few artifacts of this category. Three are middle ranked (Gr. nos. 260, 135 and 27) and the rest seem to be of a more average or common rank with some having just enough inclusions in this category to make a statement. There seem to be more graves with dog inclusions in this category,

five with dogs, and three with both horse and dog remains. However, due to sheer

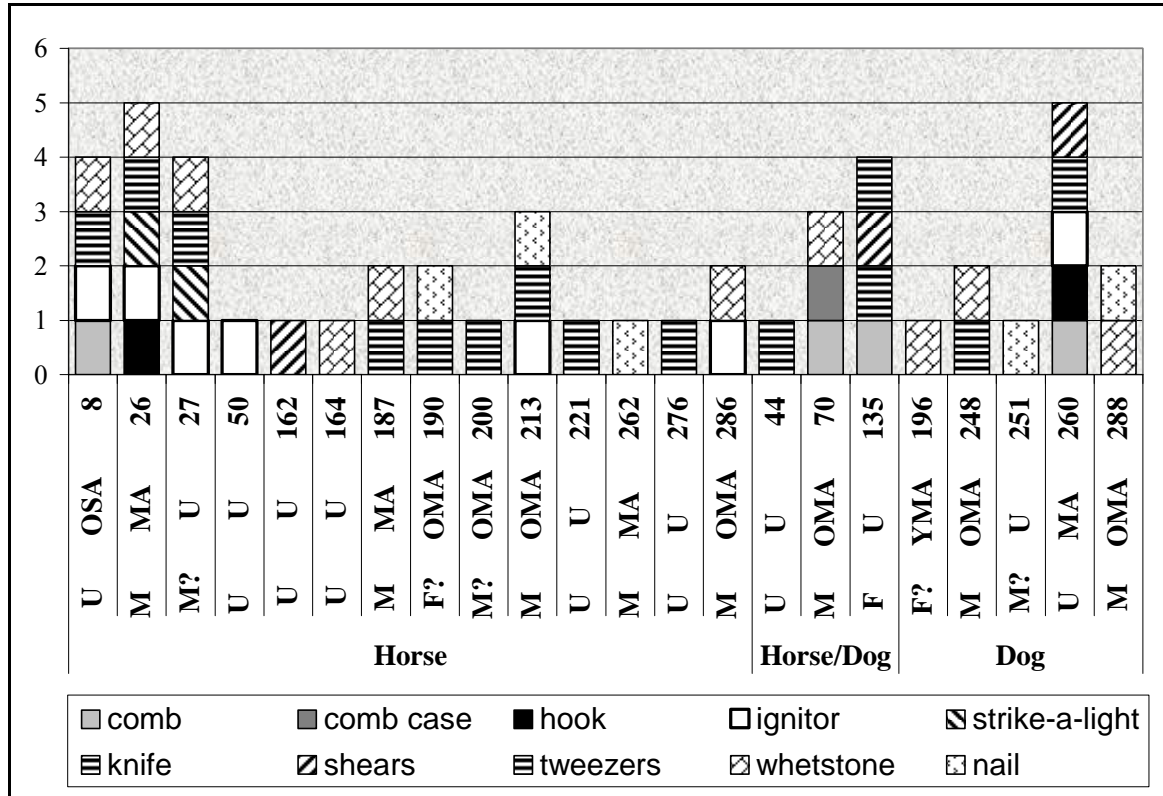


Fig. 4.18 Human graves with artifacts of domestic utility associated with animal remains in the three-variable analyses using NAT values. Males dominate the Domestic utility category almost 4:1.

numbers, the fourteen graves with only horse remains still dominate. Knives are found in thirteen of the twenty-two graves and whetstones are found in ten. These are usually two of the more common items found in graves and tend to be found in those with only one artifact inclusion. Combs also seem to be more common in burials with dog inclusions. Grave nos. 26 and 260 have the highest NAT values with 8, 27 and 135 right behind.

4.5.4. Horse Equipment

There are 47 artifacts in twenty graves. Three graves (gr. nos. 44, 70, 189) have both horse and dog remains, the other seventeen contain only horse remains. Grave no. 8 contains the remains of two horses. Half of the graves were sexed and contained seven

males/males? and three females/females?. Eleven of the graves were aged. Eight were identified as older mature adults, one was a mature adult, one an adult+? and one an older sub-adult. The bulk of the artifacts are buckles and bridle bits. There are nineteen buckles in thirteen graves (gr. nos. 44(4), 190(2), 221(2), 286(2)). There are eleven bridle bits in eleven graves (gr. nos. 8, 24, 26, 43, 44, 50, 70, 161, 213, 276, 286). There are thirteen nails in four graves with grave no. 286 having the majority (eight nails). Nails were more than likely a part of a saddle, thereby indicating that the saddle may have been included in the burial. Grave no. 221 included two copper-alloy bosses. These were a bit extravagant and represented formal dress for the horse. Found also was one hook and one iron ring, each part of the horse equipment.

4.5.5. Non-Utility

There are twenty artifacts in two graves for this category. The first artifact is a whale-bone object of unknown use decorated in Mammen Style which was buried with an individual of unknown sex and age and the remains of a horse (Gr. no. 164). The other nineteen artifacts are bone gaming pieces which were found with a probable female younger middle adult and the remains of a dog.

4.5.6. Weapons

The burial ritual includes the act of dressing the dead in clothing befitting the person's status in life. Warriors were placed in full dress with weapons, horse, companions, food and any other objects necessary for the journey to Valhalla. (Brown 1981; Frye 2005; Gräslund 2001; Härke 1997a, 1997c)

There are twenty-eight artifacts in thirteen graves in this category in this portion of the analysis. The majority of these individuals are over the age of 35 (OMA and MA), with the exception of the individual in grave no. 8 who, as noted above, is somewhere

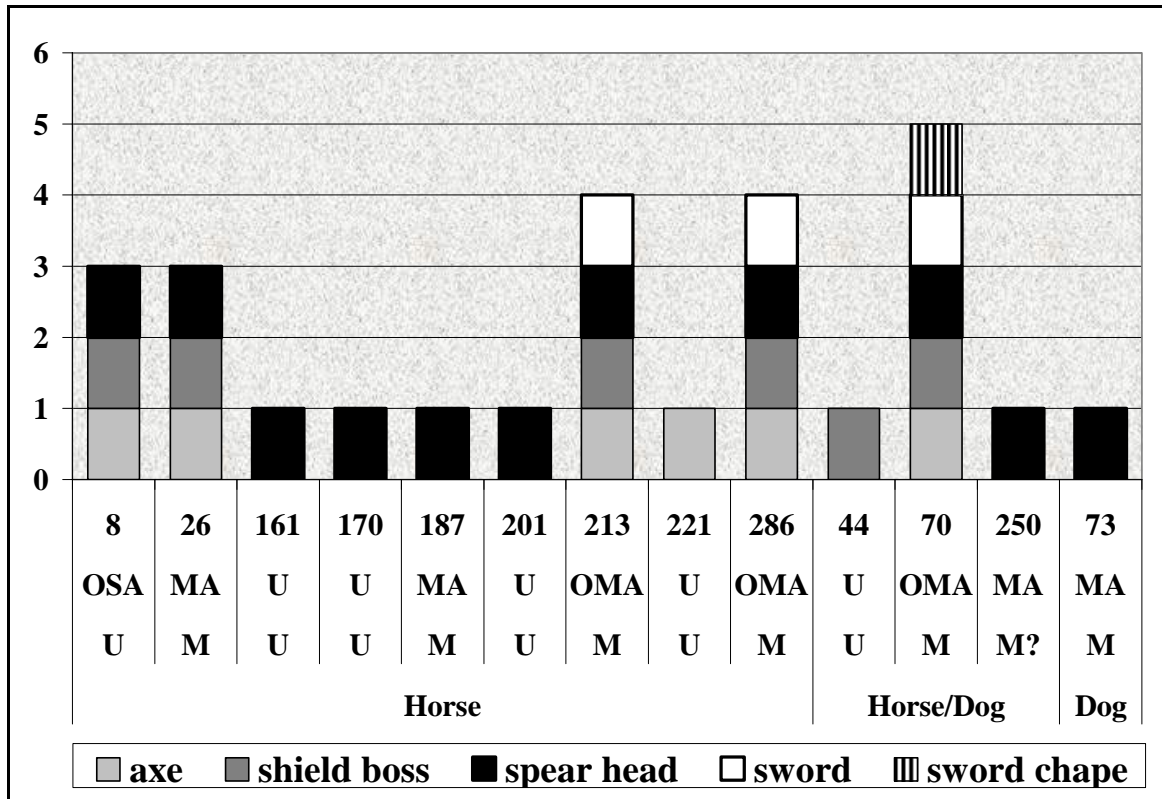


Fig. 4.19 Graves in the three-variable analysis which include artifacts from the weapons category, organized by animal inclusion using NAT values.

from 13-18 years of age. Three graves stand out as being exceptional (Gr. nos. 70, 213 and 286) with a more diverse and better equipped weapon assemblage included. Grave nos. 8 and 26 are close behind with three artifacts of weaponry each. Grave no. 73 is somewhat different as it is the sole grave here with dog remains in the burial. However, it is very similar in other respects to five other graves containing only spear head.

4.5.7. Discussion of Analyzed Human Skeletal Remains, Artifacts and Animal Inclusions Combined

As more variables are combined, the sample size decreases. Each section thus far has a different sized dataset. There are 163 burials with 328 graves from which our data are derived. Since a large portion of the data needs to be correlated, it is more relevant to the study to connect the variables to the graves. Therefore, of the 193 analyzed human

skeletal remains 144 could be provenienced with the graves, 2,460 artifacts were able to be connected to 163 graves and 113 animals were associated with 96 graves. Once Analyzed human skeletal remains were connected to artifacts, there were 1,314 artifacts in 85 graves with analyzed human skeletal remains. When animals were added, the dataset had 57 animals in 48 graves containing analyzed human skeletal remains. When artifacts were connected to animals, the dataset had 987 artifacts in 76 graves with animals. Once all three of the variables are connected to a grave, the dataset has 555 artifacts with 47 animals in 39 graves with analyzed human skeletal remains. Clearly, there is enough variation between these graves to indicate differences in social position. There are also obvious differences based on sex and age as well as gendered roles and identities.

Using NAT values for the presence of artifacts from particular categories, Fig. 4.20 below, provides quite a bit of information regarding the dataset that now remains once all three variables are combined with the graves. Overall, the graves are ordered according to animal inclusions. As can be seen, it is quite obvious that horse inclusions are the most common (69.2%), while a combination of horse and dog burials and the burials with only dog remains are equal at approximately 15.4% each. In this portion of the dataset, burials with dog remains do not include any horse equipment at all. The dataset is dominated by domestic items. Of the thirty-three graves that include horses, only 63.6% have horse equipment. Thus not all burials with horse remains also included equipment.

It is interesting that in the three-variable portion of the analysis there are only two graves with non-utility items, yet these two graves are not the wealthiest graves. Indeed,

they are simply average in this regard and they are both quite similar.

It is not surprising that Miscellaneous and Fragments are found in the majority of the graves as many of the material remains have greatly deteriorated during these past 1100 years. It is also not surprising that not much information can be gained by studying this category, except that they show how much cannot be known. The number of artifacts in the Horse equipment category is not surprisingly high either since, as noted earlier, the majority of the Icelandic graves with animal inclusions contain horse inclusions. The domestic category is also an unsurprising category as many of these items are every-day-necessities which would be extremely useful for an individual of any rank to take with him or her into the afterlife: knives, whetstones, shears, etc., are common everyday items. It is interesting that adornment and weaponry are so very close. (See Fig. 4.21, below.) These are two of the more status-oriented categories that are symbolic of wealth and position in the society. Although adornment is not specific to females, weaponry in the Icelandic corpus is more specific to males thereby indicating a gender difference in the society.

Another interesting point in evaluating these variables together is the amount of graves with numerous artifact categories included. Clearly, graves with more artifact inclusions from many differing categories are fewer (see Fig. 4.20, below).

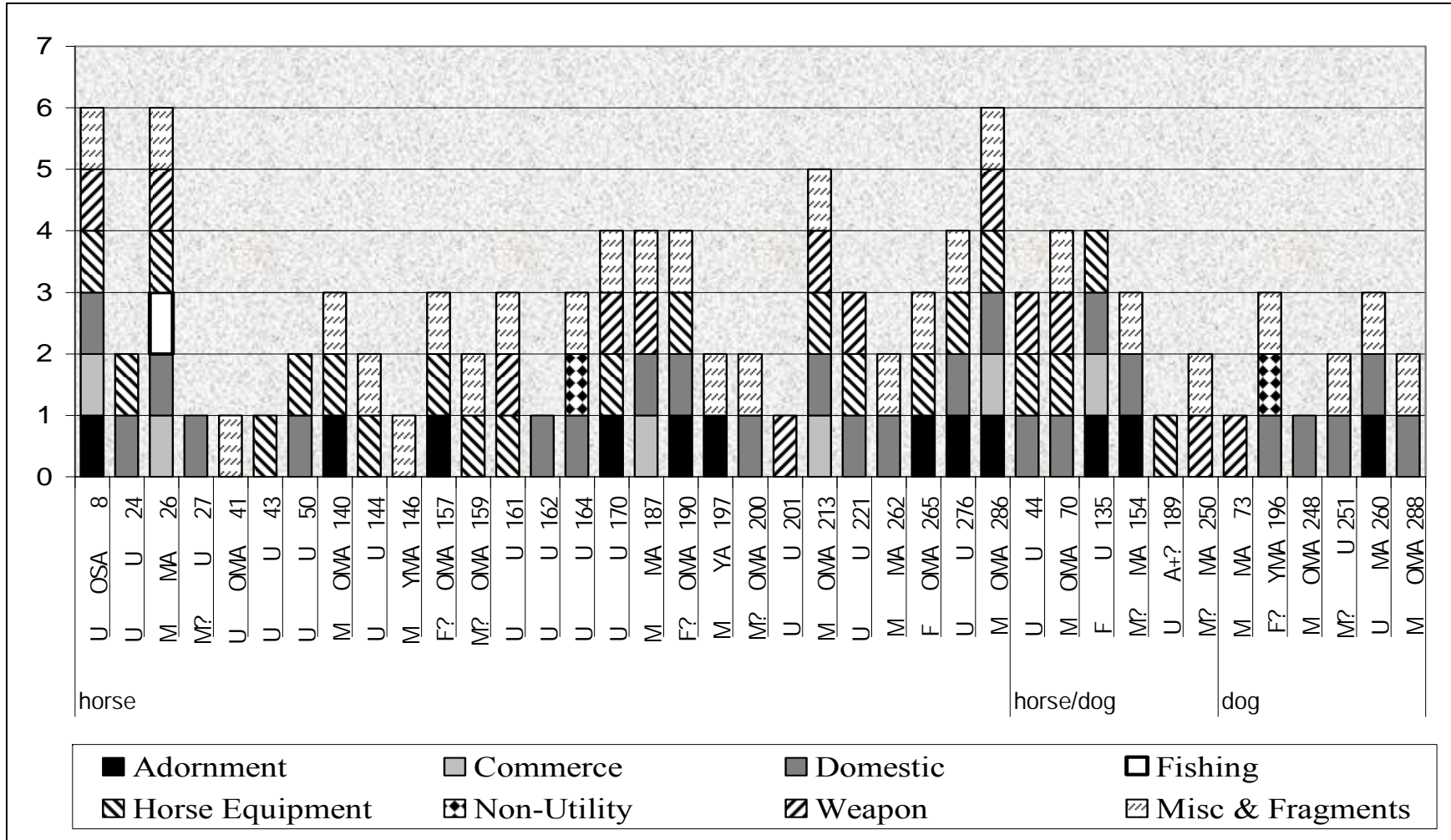


Fig. 4.20 Graves in the three-variable analysis broken down by NAT values based on category showing status by diverse category inclusion, as well as between horse or dog inclusions.

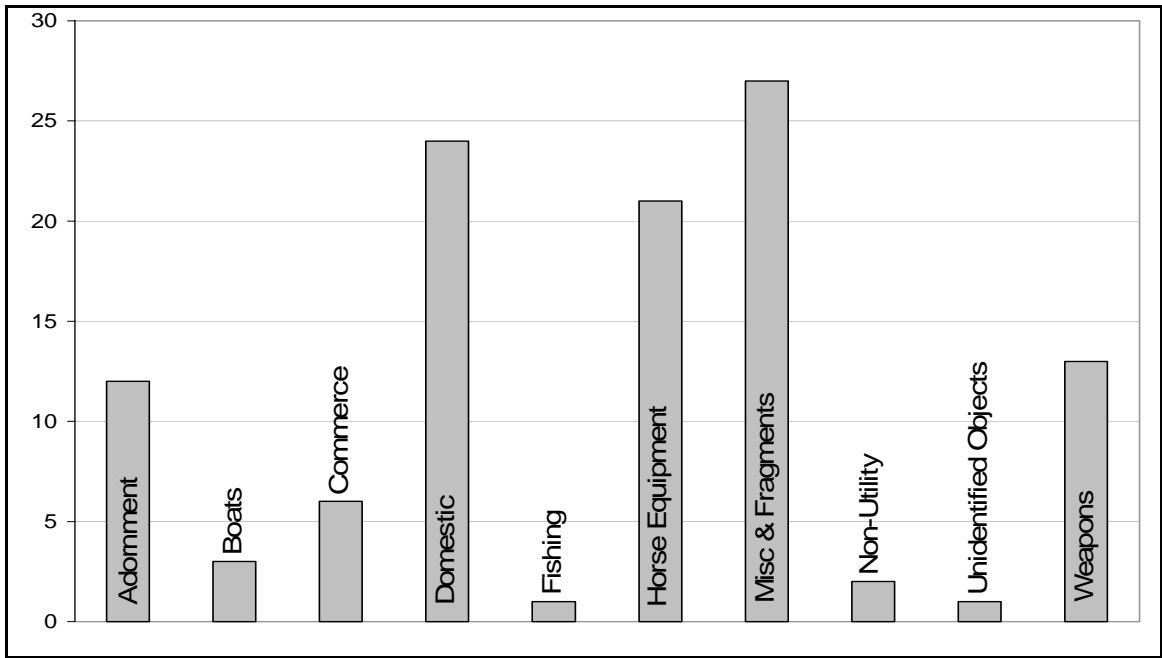


Fig. 4.21 Graph showing the number of graves in the three-variable analysis that have artifacts from each category. In this structure, the pattern of artifact inclusions is visible and commonalities evident.

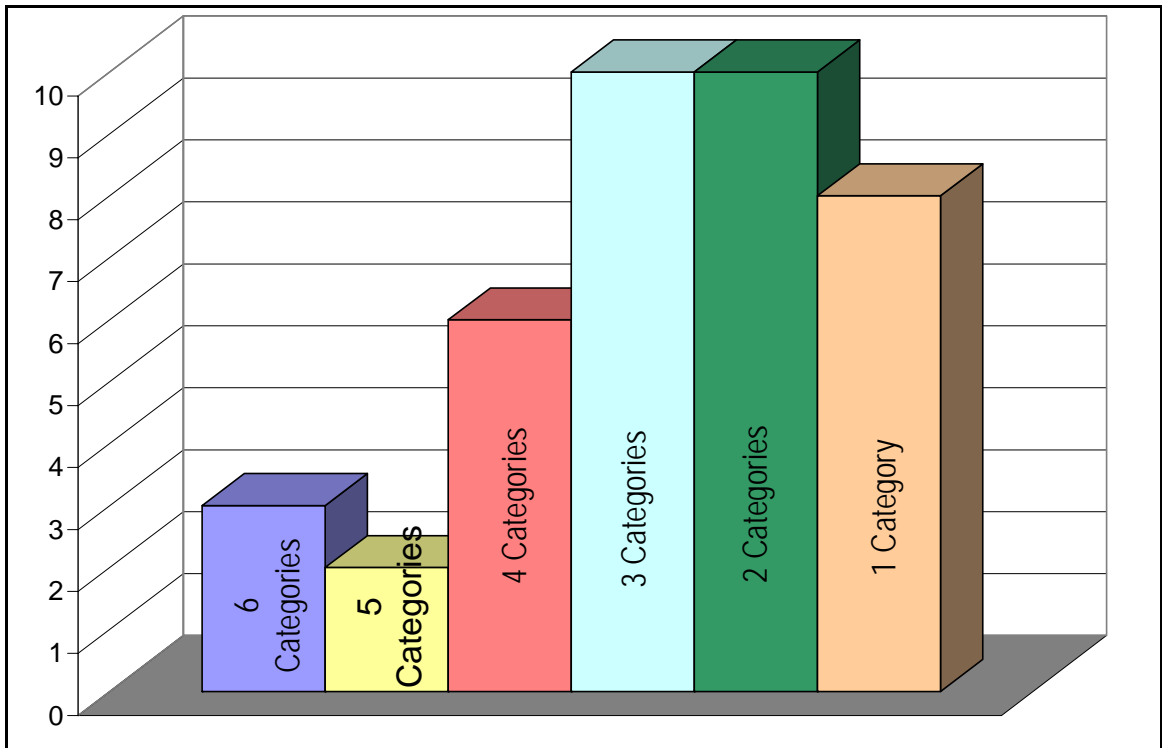


Fig. 4.22 Graph indicating categories in the three-variable set using the variety of artifact inclusions based on NAT values. Interestingly, those with fewer categories are not largest which argues that less does not necessarily mean poor and we do not know who is selected for burial.

4.6. Conclusions

4.6.1. Introduction

This chapter focused on the quantitative and qualitative nature of the internal data. In this way, it was able to describe the gendered differences in the dataset – indicating social stratification not only between the sexes, but within the sexes as well. Also, such an analysis began to open up the potential for making differences based on age visible. The following will further outline the results of the analyses in this chapter.

4.6.2. What do the Artifacts Tell Us about the Sex and Gender Roles?

Artifacts have a long history of being associated with particular gender roles which were considered to be based on biological differences between the sexes. (Conkey and Spector 1984) A binary system was constructed where artifacts were associated by sex and males were associated with “tool-making, hunting, trade and warfare” and activities that were considered female were ignored, such as “food-gathering, food-processing and parenting.” (Brumfiel and Robin 2008:2) Other artifacts were also assigned based on modern social norms.

The following shows how the categories defined in this study were distributed between the sexes. In the past, jewelry tended to be associated with females, but adornment is often a utility associated with the form of dress and as such a functional necessity for both sexes, which is why the use of the analytical category Adornment was used here, instead. There were only slightly more female graves with Adornment than males but those artifacts that were particularly associated with one sex or the other fell into the clear categories as was noted in Smith (Smith 2004:69) and outlined again in this chapter. Items from the Non-Utility category tended to be those of leisure indicating status without a designation based on sex. However, in the small sample here, such items

were found with females and not males.

Artifacts of trade or commerce were usually seen as male, but there is a female with a scale-pan and again, if the Vatnsdalur burial artifacts belonged to the female, lead weights can be associated with females. Domestic items appear in the graves of both. However, within the domestic category, subcategories were developed to distinguish between and sometimes counter the stereotypes of sex-based artifact associations as with agricultural, blacksmithing, cooking and weaving tools. To view agricultural work and cooking as women's duties has been somewhat countered by the data as artifacts from each of those subcategories were found with both males and females, leading one to believe that the inclusion of certain categories were symbolic rather than functional. Cooking has been divided between the sexes as in the case of the Iron Age Israelite societies where cooking was indeed done by females while communal feasts or activities were prepared by males. (Faust 2002:59) Artifacts for fishing were deemed tools of hunting; and as such, were associated with males. Horse equipment could be considered either way. In the United States, prior to modern times, horses were ridden almost exclusively by males while females often used carriages or carts for transportation. Thus, it would be fair to say that many interpretations of horse equipment were based on the western attitude toward this equipment and its role in the household. However, in the burial record, horses were interred with both sexes so such assumptions need to be reconsidered.

Weapons were associated with males because of their use in warfare and hunting. For the most part, they were found only with males in the burial record.² There is only one instance in Iceland where a spear head was recovered from a female burial. The

assumption made when this spear head was found was that it could not really be associated with the female because she would not have a weapon. (Friðriksson 2000:561) Any number of reasons could account for a spearhead being found with a female. For instance, it could indeed have been part of another grave and during excavation was somehow mixed-up. Or, she could have been killed by that weapon. It could also have been an item that the individual owned and used herself. It will never be known and for the most part is not relevant because regardless of how unusual it may be, it was still in a female grave. Its presence there means that in the Icelandic corpus there is only a 98.4% likelihood that weapons will be associated with males. Therefore, when finding a burial with weapons, it is a reasonable assumption to say that 98.4% of these will be male which means that there is less than a 0.3% probability that the 20 individuals of undetermined sex buried with weapons will be female. The data further support the already established assumption that male burials in Iceland will have weapons and that it is unlikely that female burials will. However, that 1.6% should not be ignored completely and all possibilities need to be considered.

There were too few items from the Non-Utility category that could be associated with analyzed skeletal remains to make any definitive statements, but only females were noted in this category. Such items are status symbols and may indicate household status as well as the elevated social position of the women of these households without indicating a gendered division of the use of these artifacts.

Horse Equipment is found with both males and females in a 3:1 ratio. As this is consistent with the overall ratio of the dataset, it seems that associations with this category are not based on gender or sex roles.

The only analyzed skeleton that could be connected with an artifact from the Fishing category was male. Although the same is too small to make any identifying statements, it is possible that including such an artifact was similar to including weaving implements to represent an individual's success in that activity and again engendered associations could not be confirmed nor denied.

The two artifacts from blacksmithing were identified with males while the spits and vessels were evenly distributed between the sexes. Artifacts of everyday utility, from the Domestic category, show a similar distribution between the sexes. However, of the three sickles, one is attributed to a female? while another was found with various artifacts from the Adornment category and with weaving implements generally associated with females.

Weaving was a very important task in Viking period Iceland. Icelanders needed to trade in order to gain wood, wax, flour and many other items that were not produced there. As already noted, Icelanders subsisted mainly on farming and animal husbandry, and though weaving was probably a domestic activity to meet the needs of the family, it could and often did add to the overall wealth and standing of a household. (Damsholt 1984; Ewing 2006; Jacobsen 1978; Jesch 1991; Jochens 1995) It was also not unusual for women of high status to take part in weaving. As indicated by the small loom weight and many tapestries at the Oseberg ship burial, such an act was a sign of status. Ingstad does note that such high-status women would more than likely only weave quality tapestries while lower status women would use a normal sized loom weight and create the cloth used for clothing and other similar items. (Ingstad 1982, 1995) Wool, called *vadmal*, was used for cloaks, work clothes and even sails. The sails required a high

quality cloth to handle the conditions under which they were used, thus requiring specialized skills. (Andersen 1995) Most likely increasing the value of women who excelled at this task. It was in high demand throughout the Viking period and into the Early Middle Ages, at which point the demand for the wool dropped.

The spindle whorl is one of the most commonly found tools in female graves of the Viking age. In the Icelandic context, four of the eight graves (with or without skeletal remains) in this category had spindle whorls. More than likely the majority of women must have taken part in such an activity; however, it is even more likely that skill varied greatly from person to person and quite likely that it was indeed a specialist task. As can be seen from the textiles from the Oseberg ship burial, proper and careful planning from the beginning stages of choosing the quality of wool to the final product was taken to ensure the finest quality cloth. (Ingstad 1982, 1995; Sjøvold 1985)

It would appear that artifacts distinguishing one as a person who produced *vadmal* were a status symbol indicating prosperity, as items of trade do. The sagas indicate that the production of homespun was a woman's domain; the archaeological evidence in Iceland neither disproves nor supports this claim. Four of the five graves that could be matched to artifacts of weaving were quite prestigious and contained a fair amount of jewelry as well as weaving implements. Only two of the five could be confirmed as female. The claim cannot be disproved as the remaining three burials were of undetermined sex. However, one of the graves held a spindle whorl and a sword while another grave had a spindle whorl with a spearhead and an arrowhead. Using the logic above, this would mean that the first could be viewed as either a female or a male grave. Why would there be weaving artifacts in a male grave if weaving was a female domain?

One obvious explanation is that it was the grave of a successful trader of *vadmal*, or of someone from a household which had had great success in creating surplus and quality *vadmal* for trade. What this suggests, is that it is unreliable to depend on only one artifact type to determine sex. What does help to answer the question of sex, are the artifacts included with the weaving implements. It is highly probable that those individuals with a certain quantity and type of jewelry associated with females would be female and those with weaponry or jewelry associated with males would be male. Based on previous studies, especially those presented in Smith's research, certain types of jewelry can be attributed to a particular sex, and others are worn by both. (Smith 2004:69) Unfortunately, although certain artifacts of jewelry can be deemed male or female, such as feminine oval, tongue-shaped and trefoil brooches, bracelets and bells, and masculine penannular brooches and bone pins, too many artifacts in the Adornment category were worn by both males and females.

Artifacts within the Commerce category were found predominantly with confirmed males, however, as in the assemblages in the eastern expansion (Stalsberg 1991, 2001) the only scale pan found in the Icelandic corpus was associated with a female – a quite successful and socially elevated female (Grave no. 135).

At the time of this writing, the artifacts associated with sexed individuals indicate that there are two categories that are male dominant – Commerce and Weapons – but none that are solely male. Due to insufficient information, there are no real female-dominant categories as a whole, but within categories there are particular types of artifacts that are found mostly with females and in combination with artifacts from other categories create an assemblage that demonstrates female associations. Although it is

difficult to make broad statements from the small dataset in some of the categories, what is very clear is that conclusions about sex based on artifact inclusions can be made loosely but only if all the artifact inclusions are considered. However, it still seems that this is not congruent with the textual evidence for the Icelandic culture, and does not consider those who do not fit into contemporary rules of thumb. Overlapping can be seen in the burial record suggesting that this society's social categories cross binary gender lines and are based more on kin groups, households and classes.

What can be ascertained by looking at the sexed individuals with artifacts, is that a broader selection of artifact categories is associated with males/?. Female/? graves contain up to four categories of artifacts. There are only three such graves and eight with three categories. Also, these eleven graves, contained a higher quantity of artifacts than those burials with only one or two categories. Ten of the eleven had artifacts of Adornment, in varying quantities and quality. Nine of the eleven had artifacts from the Domestic category and as expected, the categories of Commerce, Weapons, and Horse Equipment were sparse. This explains the assumptions of artifact-association, but does not make the assumptions argument-proof. Males/? have up to six artifact categories; but there are only two graves with that many. The first grave included an artifact from the Fishing category as well as a vise and quite a few everyday items from the Domestic category; the vise and the fishhook are both relatively rare in the dataset. He also had an axe, a shield and a spear. Therefore, although there were artifacts from six categories, they were not of particularly high quality. The other grave, however, was quite impressive, with many items from the Adornment, Commerce, Domestic and Weaponry categories. Not only does he have ample Adornment, he was successful in trade, was

buried with a high status steatite vessel, and was a well-equipped warrior with a sword. The differences between these two graves are significant and may reflect the differences between a prosperous peasant landowner and a warrior-chief. There are another four burials with five categories and it would seem that these are similar in character to the two above, indicating individuals of an elevated social position. A few of the burials with three and four categories had quality items, such as a vessel in one, many items of Commerce, numerous Weapons in another and even a boat in one of them, but not much else. There can be many explanations for this, including grave robbery, death away from home, either in Iceland or abroad, or this could have been an unsuccessful landowner. The third group, those with very few artifacts and from only one or two categories, may have been among the most unsuccessful or the poorest, but whether they were landowners, tenants or even servants, cannot be determined.

Distinctions in wealth and position are revealed by the analysis of the artifacts. During this time, private sector activities, such as weaving, were high-status and not a mark of oppression. Male-dominated spheres do not necessarily exclude females as evidenced by females entering the public realm of trade. Also, those spheres considered exclusively female were evidently entered into by males as evidenced by the inclusion of artifacts representing activities usually considered specifically female, like artifacts of cooking and weaving. The data suggests that few tasks were ever carried out by only one sex. To uncritically engender an artifact based on a binary scheme, distorts the image of pre-Christian Icelandic society. Often people must respond to changes in the public realm by reorganizing the private. Thus, when males were off raiding and trading or had not returned from such ventures, females were left responsible for all aspects of running

the household and farm. This response of the domestic sphere to evolving economic and political conditions suggests that “household labor is a flexible, adaptive and dynamic element of sociocultural systems and it is best studied in relation to a broad array of environment and social variables.” (Brumfiel and Robin 2008:4)

4.6.3. What do the Artifacts Tell Us about Childhood and Adulthood?

The question that still cannot be answered with respect to the Icelandic burials is: What are they doing with their young? Viking period Iceland, is no different from other pre-industrial societies, thus it is very likely that “mortality rates for children, especially those under the age of 10, were high.” (Norman 2002:302) However, there are only ten individual under the age of 18 who could shed any light on this question. Five of these belonged to the older subadult category, three to the younger subadult category and two were older neonates. This is a seemingly small proportion considering the size of the dataset, but not completely uncommon. It is very unusual to find burials of children from the Beaker period in Scotland. If they are found at all, they usually were buried with adults. (Small, et al. 1988) At the fifth century C.E. burial site of Yasmina Cemetery, in Roman Carthage, the children were all placed in one area of the cemetery, separate from the adults. (Norman 2002:306) Also, unbaptized infants in Ireland were placed in children’s burial grounds which were located in insignificant areas to reflect the perceived nature of their character. Often such burial sites also held suicides. (Finlay 2000:407)

The two Icelandic neonates were both found in cemetery settings, which included adults, and neither grave held artifacts; however, one child was interred in a coffin. Although it could be argued that the lack of grave goods represents a belief that the very

young were accorded a low status in the society (Stoodley 2000:458), the care and preparation of the few on record here could just as easily be interpreted as care and love being expressed in the burial placement. These few burials were placed within a family setting and were treated in the same way as the adults, with the one exception of not having grave goods. Not all graves had artifacts in them, even in the presence of graves with artifacts. This care and symbolism is similar to the Danube burial sites and their treatment of the neonates where the death of pregnant women, children or both resulted in burials showing strong, loving connections between the adult and child, or for the child, when buried alone. (Boric and Stefanovic 2004)

There must have been some rite of passage after infancy and childhood because there was a change in burial custom when the young reach an age somewhere between 7-12 years old. There were three young Subadults in the dataset, all found in the context of cemeteries. The first cannot offer too much information since the artifacts were not provenienced. The other two, however, do indeed have grave goods. Grave no. 177 had one artifact, a knife. The other had artifacts from at least four categories, CDMW. The weapon was a small axe, possibly for practicing a skill, or a toy (serving the same purpose).

Two of the older Subadults have stood out in this project since they were buried with various types and quantities of grave goods (see below). Of the remaining three, two were buried together in the Vatnsdalur burial site (BR No. 54), but there is no provenience for the artifacts to tell us if these individuals had any themselves. The third of these (Gr. no. 243) was also buried with one other individual and again, there is no artifact provenience.

What has become clear in the analysis based on age is that social position, at least as defined in the burial ritual, is earned over time. There are only three exceptions where individuals from younger categories have burials on par with the older adult categories. Two were from the Older Subadult category: the first individual (Gr. no. 8), held artifacts from six categories, including Weapons – a spear, a shield and an axe. This individual was also associated with two horse burials; and the second individual (Gr. no. 312) was buried with four categories of artifacts including a sword and a spear. Based on the likelihood of males having Weapons as well as female graves containing only up to four categories of artifacts, it is very likely that these were male graves. Thus, their status could have been achieved since their ages were somewhere between 13-18 years and more than likely initiation into manhood depended more on skill, maturity and character, than biological age. Although probably not frequent, it was not unlikely for a male in this age group to have the ability to control his own home or even chieftaincy as well as having the ability to travel abroad for any number of reasons, including trading and/or raiding at a young age. This likely depended on which end of the age-range scale the individual was situated as well as skill. If he were closer to 18, then status could have been achieved, but if he were closer to 13, it was more than likely ascribed, though there were always exceptions. For instance, in the fictional tale of the Saga of the Jomsvikings, Vagn is given a company of men and two warships by his father and his maternal grandfather. “No one of those in his company was older than twenty, and no one younger than eighteen except Vagn himself, who was twelve.” (Hollander 1955:73) It also seems likely that if these had been female graves, they would have signaled an ascribed social position. We have already discussed the position of females, as opposed to males, in this

society. The same can be said of a very young male.

The third outlier is that of a Young Adult (Gr. no. 313) who was found with two oval brooches and one trefoil brooch along with over 400 beads. Based on the artifacts, this individual has been assumed to be a female of substantial wealth. However, in all three cases, these interpretations are based entirely on artifact associations which cannot conclusively support the assumptions.

Excluding the outliers, Older Middle Age and Mature Adults have quantity, quality and diversity on their side. In all the graves with analyzed skeletons, the majority of the artifacts were found with individuals in these groups; and the average ratio of males and females, 2.5:1, in the over 35 years of age group, reflected that of the entire society. Overall, the most prestigious individuals fall into the male/? category above the age of 35. While the more prestigious females are between 35-45, those between the ages of 25-35 are close behind.

What we see is that women play a key role in this society and although at times they seem somewhat restricted compared to females in contemporary Western societies, some Norse women enjoyed a much higher social position than their peers. Not only were they able to take care of the farm and stores, especially when their male relatives were absent, they were also key to forming and maintaining important political and economic ties. According to the stories of female infanticide, women were devalued as children. However, their scarcity created a fierce competition among men to find suitable female partners, forcing them to go abroad to find wealth and prestige so they would be more eligible to marry the available females back home. This is a significant argument that in practice women were far less restricted and subjugated than the law book implies.

Beyond the burial sites, the addition of the landscape as a variable provides a few possible meanings that the landscape might hold for the Icelandic Vikings, including boundaries, religion and worldview. However, it also reflects gender identities and roles in this community as both age and gender were not only evident in the internal qualities of the pre-Christian burials of Iceland, but also in burial placement. Chapter 5 further explores these differences in the perceived landscapes of the dead as well as explores the cosmology of the burial landscape.

Endnotes

1. The majority of the skeletons used here were analyzed by Hildur Gestsdóttir who followed standardized procedures, as specified in her analysis (Gestsdóttir 2007:5-6), to determine, among other things, the age and sex of the individuals. Osteologically, skeletons under 18 years of age at the time of death are classed as juveniles, and those over 18 years, adults. The methods for determining the age at death of juvenile and adult skeletons differ. To age juvenile skeletons, analysis mostly depends on the development of the bones and teeth: (i) the development of dentition; (ii) state of fusion of the secondary ossification centers and epiphyses of long bones; and (iii) comparative measurements of long bones. The age at death of adult skeletons was determined mainly by degenerative changes to joint surfaces: (i) the auricular surface ageing method; (ii) the Suchy-Brooks method of pubic symphysis ageing; and (iii) cranial suture closure.

H. Gestsdóttir also analyzed the human skeletal remains for the sex of the individuals. Juvenile skeletons could not be analyzed for sex due to the fact that they lack the diagnostic characteristics needed to do so, or the characteristics were not yet fully developed. (Gestsdóttir 2007:5-6). The adult skeletons relied on the comparison of sexually diagnostic characteristics of the cranium and pelvis as well as measurements of the width of several particular surfaces. In cases where preservation prevented some characteristic details to be identified and the results were inconclusive, a probable male (male?) or probable female (female?) designation was given. (Gestsdóttir 1998:3-4, 2004:15-16, 2007:5-6)

2. There is no reason to believe that under extreme circumstances, a female did not take up arms to defend herself, her family or her home. Such an event could indeed account for weaponry in a female burial. As noted in Eirik's Saga when the Skrälings (barbarians) were attacking the Norse in great numbers, Freydis shouted at the Norsemen for "fleeing from such pitiful wretches," but when no one stopped to resume the battle, she tried to join them. However, since she was pregnant at the time, she could not keep up with the men and when she came across the sword of a fallen Noreman, "[s]he snatched up the sword and prepared to defend herself. When the Skrälings came rushing towards her she pulled one of her breasts out of her bodice and slapped it with the sword. The Skrälings were terrified at the sight of this and fled back to the boats...." (Magnusson and Pálsson 1965:100)

Chapter 5. Landscape Perceptions

5.1. Introduction

Once the internal aspects of the graves were considered and analyzed quantitatively, it became necessary to place the burials into their likely surroundings in order to present an argument for how the landscape related to the burial sites. In this way the dots on the maps became more than points with connecting lines; they became social groups made up of individuals with group identities and interpretations of burial rites according to the group with which they identified themselves. This phenomenological approach enables a better understanding of the social relationships derived from applying the data on-hand to the landscape using both the physical surroundings as well as GIS applications. (Ingold 2000; Rajala 2004; Tilley 1994:16-18; Whitley 2004)

The first step was to include aspects of the landscape surrounding the burial sites. Once the surroundings were defined, the graves were placed back into the landscape from which they were removed in the earlier chapter and each area was reviewed separately. This was done by looking at the burial sites, rather than individual graves, to better understand placement. Finally, the individuals were placed back into the landscape to appreciate the connection each individual had with his or her surroundings.

By combining internal and external variables, questions regarding burial location and placement can be answered, such as: How important sight visibility was for burials; how important the relationship was between burial and farm and whether visibility mattered; how important were location and placement, what were they used for; what did placement indicate and what connection did it have with the burial rituals; and were there notable differences in burial placement based on sex and/or age.

Such a combination of variables also better explained agency and community in the Viking period Icelandic society. The internal variables considered here were both personal in that each grave was considered separately to learn about social position and gender roles, and communal in that the graves were grouped with others of their own type to rank them and compare them to the entire dataset in order to understand the community preferences and worldview. Artifacts, animal inclusion, sex and age have been considered and were presented on an individual basis. Analysis of this data allowed this project to study the burials individually, which helped to understand each grave, the engendering of the person interred, and the effects of age on these roles. In this section, variables such as the environment, the situation of the burial, the distance between the farmhouses and their associated burial sites, the elevation of the burial sites relative to the farmhouses as well as the burial sites' surroundings and visible landscapes are first presented on their own, then combined with the burial inclusions to create a better image of the possible perceived landscapes and what that landscape might have meant to the various social groups. While landscape is often in a description of community, here it is believed that both individual and community can be explained since each of the burials in Iceland have personal qualities and unique spaces. (Tilley 1994; Whitley 1998b; Whitley 2004: 4.0) The aim here, then, is to understand how these spaces were perceived by both the living and, in the minds of the living, by the dead.

5.2. Location and Meaning

Location is a very broad term describing not only the physical point where the burial was found, but also the view from this point. In this way, a possible image of the burial site's perceived surroundings can be put forward so that the process of choosing

the location for the burial site can be assessed. Attempting to understand if the choice of burial site location was made by the deceased, by family or by a friend is impossible. However, it may be possible to create an image of an ideal location and the meanings that these locations held for the Vikings. This image, for the most part, is created by drawing the landscape from the point of the burial site. Such a drawing is based on the environment in which the burial sites are placed, the features that the burial sites are placed on or near to, the overall view from the burial sites, and the distances from the burial sites to their likely associated farmhouses. These drawings are then assessed to create the possible perceived spaces for the burial sites. It was this project's aim to attempt to understand what this view meant to the individual as well as the group. Together the landscape variables provided insight into the landscape rooms surrounding the burial sites as well as the limits of their visibility and helped to explore the relationship of the burial sites to those landscapes beyond visible limits. None of these views were separate or even parallel events, they were harmonies blending together into one social space. (Ingold 2000; Tilley 1994:14-20)

This overall space is not a mirror reflecting the view of the deceased; it is more like a prism with the light shining onto the burial site, which is the main view being considered, so that through refracted beams of light various views of the landscape are revealed from the point of the burial. However, from each of the various positions in the landscape there is only one view of the burial landscape, so that people at each outside location perceived and interpreted the burial differently. Unfortunately, not all outside locations can be considered here. However, there are a few ways this project attempted to bring in such outsiders. The first was to consider the possible farmhouse or farm

mound locations and the view or connection, if any, from the farmhouse to the burial site. Natural landscape features were also considered in order to make similar connections from the surroundings to the burial site and *vice versa*. Finally, natural boundaries, as opposed to man-made ones, were considered towards the same end. Natural boundaries are more stable and more likely to have remained constant since the time the burial site was in use. Man-made boundaries, such as farm boundaries and tracks, may indeed have been constant, but their existence and position from any current features cannot be confirmed to the satisfaction of this project.

5.3. Burial Site Locations

Placing the burial sites into the landscape could only be done when the burial sites were reliably located. This meant that a new rating system needed to be created and applied to the 150 burial sites being used in this project. In 2001, 85% of the burial sites listed in *Kuml og Haugfé* (Friðriksson 2000) were surveyed. (Maher 2002) Many of the locations were investigated based on old farm maps and information generated by farming landowners from the earlier part of the 20th century. Some of the farms are no longer in existence or have moved due to the unsuitable conditions created by erosion, among other things. Some sites could not be located at all because the descriptions of the burial sites were too vague to mark an accurate location. Any subsequently discovered burial sites were added and rated using the same system. The original system had 4 levels of accuracy:

- Level 1: burial site is within 5m of the survey point.
- Level 2: burial site is within 20m of the survey point.
- Level 3: the point taken is in the general area, but nothing more accurate can be provided.
- Level 4: no location could be found.

For the purposes of this project, only farms with a suitable location rating were considered, therefore only burial site locations with a rating of “1” and “2” were used here. After applying the rating system, 104 burial sites could be used for landscape analysis. A list of the located burial sites, with coordinates, is provided in Appendix I.

The majority of these burials were surveyed in 2001 using a standard handheld GPS unit receiving an average 5m accuracy, using WGS84 datum collected in decimal degrees. As much as possible, when weather conditions and satellite timing rendered poor quality coordinates, surveying was suspended until better conditions existed. (Maher 2002) Data collection during the survey focused first on the physical location of the burial, after which the surrounding landscape was noted and another GPS point was taken at either the visible farm mound or the modern farmhouse if no signs of an older occupation were present. These locations made up the data that have been rated (according to burial site). Other landscape data were incorporated with these to provide information about gender and age relations and the Viking perception of their surroundings.

5.4. Farmhouses in the Record

It then became relevant to this study to understand the relationship between the farmhouses and the burial sites with respect to both the vertical and horizontal distances between these two groups. Also relevant was the elevation of burial sites in relation to their surroundings and in the Icelandic geographic landscape. Many of the farmhouse locations were noted and recorded at the same time burial sites were recorded. The farmhouse was described as being either ‘Old’ with prominent ruins, an obvious farm mound, or even an excavated skáli (Viking period long house); ‘Modern’ where

contemporary structures were used as the main house (or recently abandoned structures); “Both” – a modern structure sitting atop an obvious farm mound (also considered to be the location of the farmhouse for many generations, probably back to the earliest settlement); or ‘Church’ – denoting a church which is now located on a farm believed to have been a settlement farm (and the church could more than likely be in the same location as the earlier structures). The farmhouses were also rated, as with all other data, and only those that were within a reasonable accuracy of distance were included here. In this case, the included ratings were ‘1’ (within a 5 m accuracy) and ‘2’ (within a 20 m accuracy); all other distances were excluded. Ninety-three farmhouses were associated with burial sites being included in this study. (See Appendix J, for the complete list of farmhouses matched to the 104 located Burial Sites used in this project.) There are thirty-nine farmhouses listed as Old, twenty-seven as Modern, twenty-two as Both and six are listed as Churches. This means that 65.6% of the farmhouses being considered in this study are likely to have a long occupation period, possibly back to the settlement period. Modern farmhouses represent 29.0% of the data and Churches 6.5%. The modern farms were recorded based on the premise that the majority of Icelandic farms have not been subject to drastic moves and changes, unless there was a clear reason such as sudden landscape changes – as when abandonment is brought on by various volcanic eruptions (AD 1104, Hekla) (Vésteinsson 1998, 2004; Vésteinsson, et al. 2002).

5.5. Distance

Distance is a landscape feature that is being included here in order to understand the relationship between the farmhouses and the burial sites. A selected radius of 1 km was applied to the farmhouse dataset in order to obtain a reasonable measurement of

distance between a farmhouse and a burial site. Of the 93 farmhouses used in this portion of the analysis, 72.0% have burial sites within this range. The majority of the farmhouses with nearby burial sites (54.8%) are within a 0.5 km radius. With the majority of burial sites falling close to the farmhouse, it is clear that this practice was the norm during the study period. (See Map 6 for the distribution of these sites; and Appendix K for the located Burial Sites and their distances relative to the farmhouse.)

The farmhouses that were included in this range were mostly (70.1%) within the categories Old and Both. The remaining percentages are Modern farmhouses (25.4%) and Churches (4.5%). Therefore, it is believed that an argument can be made for a strong relationship between burial sites and related farmhouses.

There are a variety of reasons for burial sites falling outside of the arbitrary 1-kilometer radius: (i) the farm the burial was associated with is outside the range; (ii) there is no farm within any reasonable range with which this burial is associated; (iii) the likely farm associated with this burial has not yet been located, thus the particular area around the burial site would benefit from further investigation; and (iv) only a very modern farm can be located and no evidence of earlier structures in or around the area exist. Therefore, all that can be said about the burial sites outside the radius is that at this time, they have no farm associated with them.

5.6. Elevation

Elevation is another landscape feature that seems to be significant. There are two main types of elevation that are relevant here. The first is the overall elevation of the located burial and farm sites geographically situated in Iceland. Such information aids in the general settlement choices during the period. These choices were more than likely

based on environment, wealth and opportunity and quantifying this information helps to explain site placement. The second is the elevation relationship between each farmhouse and its associated burial site. It is to be expected that the elevation of burial sites and farm elevations are correlated because the distances between the farmhouse and burial sites are close in range thereby making any drastic elevation highly unlikely. Thus, if a farm is at sea level or if it is 300 m above sea level, the burial site will be at similar elevations. The measurement of elevation in this portion of the study is concerned with the relationship between the burial site and the particular farmhouse that was recorded.

The 104 burial sites that could be located are mostly at elevations less than 42 m asl; and 73% of all the burial sites are below 95 m asl. (See Map 7 for an elevation map of the located Burial Sites.) Only a handful of burial sites are located between 205-391 m asl (6.7%), and two of these sites are outside of the one-kilometer radius from the farmhouse. Of the 68 burial sites with associated farmhouses, more than half are situated below the farmhouse (54.4%). Burial sites above the farmhouses make up 30.9% and those at a level with the farmhouses, 14.7%. (See Appendix K for a list of the Burial Sites relative to their associated farm houses; and Map 8 for a map of the Burial Site elevations relative to their associated farm house.)

5.7. Viking Period Environment

There were 104 located burial sites that were used based on characteristics already outlined in Chapter 3. The first description was based on the Viking landscape and the likely environmental classifications of where the burial sites were placed. There were five classification groups that were applied to the data: Birch, Grasslands, Wetlands, Erosion and Water. Birch indicates the burial site was placed in an area that was

dominated by birch forest at the time of settlement. Grasslands are areas that were dominated by grasslands at the time of settlement. Wetlands refers to the more boggy areas of Iceland at the time of settlement. Erosion indicates that the area was rather dry and barren at the time of settlement. Water does not indicate the burial sites were actually in the water; it indicates burial sites located very near to water. It is important to note that this environmental data is an estimation of the Icelandic environment at the time of settlement. It does not consider any of the severe environmental changes that took place immediately after settlement began; however, it is a better estimation of the environment than contemporary landscape data. The environment changed quickly once settlers arrived. Birch forests were cleared for agricultural purposes and areas of grasslands were utilized for farming purposes. Wetlands were “farmed” for peat and eroded areas were not as barren or massive as they are today. (Einarsson 1991; McGovern, et al. 2007) (See Map 9 for the distribution of the burial sites in their estimated environment; and see Appendix L for their environment and feature classifications.)

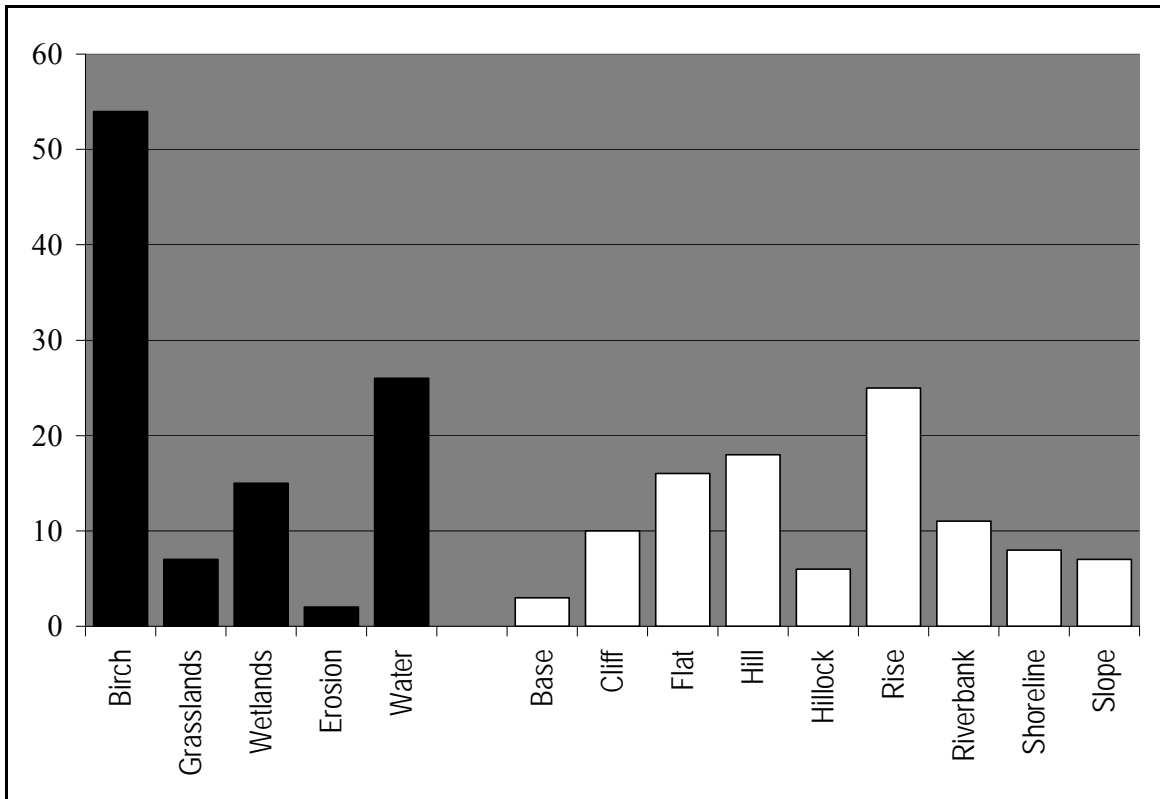


Fig. 5.1 The two landscape characteristics strongly featured in the analyses were environmental classifications (in black) and feature settings (in white). Some placement could be explained economically, particularly why so few were placed on grasslands; however, if the environmental characteristics are studied in relation to the features more is understood.

Overall, as can be seen in Fig. 5.1, birch classification is the most common (51.9%) environmental classification for the burial sites here. Placement near water is second (25.0%).

The majority of burial sites (73.1%) are placed at the edge between two classification types or, in some cases, overlooking another classification. By establishing the trends in this information, the data will provide an insight to the decision-making process of choosing burial site locations.

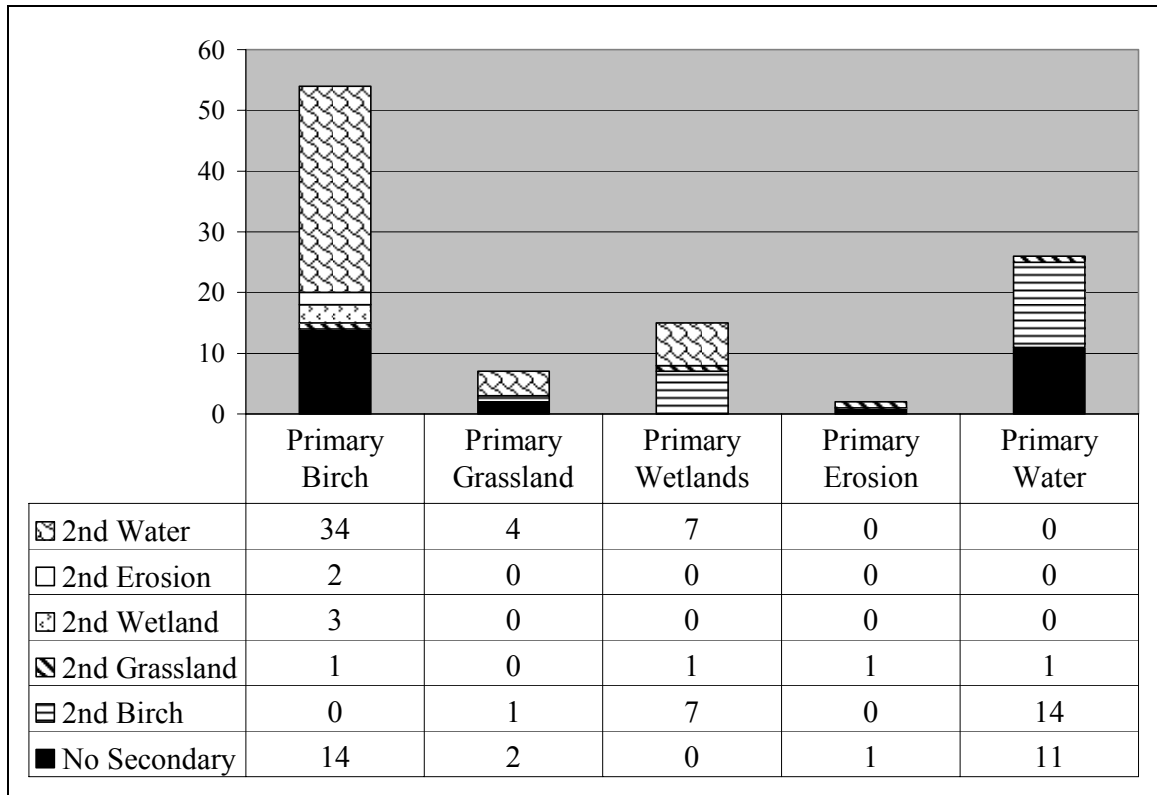


Fig. 5.2 Environmental classifications with secondary classification associations. Here it can be seen that areas of birch or water or both dominate as choices for burial placement.

Clearly, no classification had a majority of burial sites placed squarely within it. The placement of burial sites in areas of erosion is atypical for this period, thus, although economics may play a certain role in location choice, the placement is not always based on economics. There were 54 burial sites placed into the birch category, with another 22 burial sites where birch was a secondary classification; thus 73.1% of the burial sites were connected to birch. There were twenty-six burial sites in the water category, with another 45 burial sites where water was a secondary classification; thus 68.3% of the burial sites had a connection with water. These were obviously two very important placement areas for the Vikings and it is even more obvious when looking at those two classifications together. The combination of birch/water or water/birch combined with those of the birch and water classifications without secondary classes makes up 70.2% of

this dataset. These appear to be the preferred environments for the placement of burial sites in Iceland during this period.

5.8. Burial Site Situation

Not only is the environment in which the burial site was located important, but the situation of the burial site is as well. (See Appendix L) Here, this means the natural landscape features that framed each of the burial sites and made up their surroundings. The primary surroundings in which the 104 Icelandic pre-Christian burial sites were found are varied. Nine general groups are found: *Cliffs*, lands that are relatively *Flat*, *Hills*, *Hillocks*, a *Rise* (or ridge), *Riverbanks*, *Shorelines* (lakes or seas), *Slopes* and a *Base* (wherein the site is at the base of a major landscape feature, such as a mountain). As can be seen in Fig. 5.1 above, the majority (24.0%) of the sites were located on a Rise. Hills and burial sites that are found on relatively even, flat areas (15.4%) are the next most common situation (17.3%). Riverbanks and cliffs are similar, not only in percentages (10.6% and 9.6%, respectively) but also in their overall style. Many of the burial sites located along riverbanks are somewhat raised above the rivers, not necessarily on a cliff, but on a bank overhanging the river. Burial sites located on cliffs tend to overlook rivers, though elevation creates a considerable distance between the two. Burial sites located primarily on Slopes only make up about 7.7%, those located along Shorelines 6.7%, on Hillocks 5.8% and at Bases 2.9%. However, it is more revealing to view the data in groups. Elevated areas (Rise, Hills, Cliffs, and Hillocks) make up 56.7% of the dataset. Placement on a Slope could be perceived as either uphill or downhill. Flat areas and Bases were grouped together (18.3%) as are those areas situated with water, Riverbanks and Shorelines, (17.4%). It is clear that prominent features in the landscape

were contributing factors in burial placement.

There are twenty burial sites with secondary surroundings that describe the situation of the burial site further and aid in understanding why particular sites were chosen. Forty percent of these can be further described as being located near riverbanks.

BR No	Primary Situation	Secondary Situation	Notes
37	Shoreline	Lake	
38	Rise	Riverbank	
40	Rise	Shoreline	
44	Shoreline	Sandbank	At the sea
47	Cliff	Shoreline	On a rise
56	Shoreline	Riverbank	
68	Cliff	Riverbank	
69	Cliff	Shoreline	At the sea
76	Cliff	Riverbank	
80	Hill	Slope	
88	Flat	Shoreline	Near the seashore
98	Hill	Slope	
103	Cliff	Riverbank	
115	Hill	Shoreline	On a lake
127	Cliff	Shoreline	
133	Rise	Slope	
142	Slope	Hill	
144	Rise	Riverbank	
149	Rise	Riverbank	Where 2 water sources meet
159	Slope	Riverbank	On a mountain

Tab. 5.1 Table of burial sites with both primary and secondary situation classifications. Only those sites that are located at more than one situation are listed here.

From this table, it can be seen how significant water is as 80% of the burial sites with secondary characteristics are situated near various types of water. 17.4% of these are Riverbanks. Fifteen percent are situated near two types of water and 5% are physically located near two waters meeting at a primary situation.

Clearly landscape features played a part in position and being elevated in one's surroundings was desired. It is clear that being visible in the landscape had its meaning. More than likely to stand out in some way – even marginally as these were not grand

burial monuments in any way. Eleven of the elevated features (cliff (6), hill (1) and rise (4)) have secondary water features (i.e. riverbanks and shorelines); the flat surface was at a shoreline and one of the two slopes was on a riverbank. Thus, 30.8% of the located burial sites are found along waterways. Whether the connection to water was to strengthen networks, demarcate territory or show the deceased the path to the next world will be discussed further below.

5.9. The Combined Landscape

The analyses based on distance from the associated farm mound as well as elevation relative to the farm mound were discussed above in the context of the analyzed human skeletal remains. In this section, the overall placement is considered, regardless of sex, age or gender using the 104 burial sites.

The burial sites locations were divided into three groups, the first were those located outside the 1.0-kilometer radius, the second were those positioned between 1.0 and 0.5 kilometers from their associated farm mounds, and the third fell within a 0.5-kilometer radius. The burial sites in these groups were reviewed with the information drawn from the previous subchapters to shed light on practices based on distance from the home base.

5.9.1. Group 1: Outside the Specified Radius

There were thirty-six burial sites that were outside of the 1-kilometer range or for which an associated farm mound is not yet found. By combining the primary and secondary environments, about 77.8% were located in or near to the water environment and another 52.8% at a water feature. Thus, 83.3% were directly associated with water in one way or another. In comparison, 58.3% – almost 20% fewer – burial sites were located in or near to the birch environment was Approximately 41.7% were elevated

compared to their surroundings which is just over 10% fewer than those placed on a waterway.

5.9.2. Group 2: Between 1.0 and 0.5 km

Of the burial sites with associated farmhouses, there were only seventeen that were positioned more than 0.5 km from the farmhouse, but within 1 km. In this group, 88.2% were located in or near to the birch environment, while 70.6% were in or near to the water environment – almost 18% less. This is the reverse situation from Group 1. In this group, it is also seen that being on elevated ground was more desirable than being connected to a waterway. Here it is noticeable that 23.5% of these burial sites were in or near to the wetlands environment while in Group 1, there were only 5.5% in such an environment. The situation changed as the burial sites got closer to the farmhouse. There were more elevated burial sites (sites at a higher level than their immediate surroundings), 64.7% than in the previous group (52.8%) and the connection with the waterway decreases substantially.

Another way to consider the distance of a burial site from its likely associated farm mound was by using line of sight calculations. In this group it was revealed that only 23.5% of the burial sites would not be visible at all from the farmhouse. This number does not take into account physical obstructions like vegetation as it would be too subjective to attempt to draw conclusions about the state of the coverage at the time the sites were constructed. It should also be clear that the Icelandic burial mounds were not substantial monuments in the landscape and calculating a distance up to one-kilometer means that although line of sight is possible, the concept of social memory regarding the burial site is being applied. A particular location becomes memorable to the family and a point of reference is fixed in the mind. Therefore a person is able to look at a particular

area and pick out something “memorable” in the landscape which allows that person to directly reference the burial site if the site is not actually visible.

As expected, the views from both the burial sites and the farm sites overlap considerably. (See Map 10 (areas of overlap are purple.)) There are slightly more areas of Iceland that can only be seen from burial sites (2.9%) than there are areas than can only be seen from the farmhouses (2.6%).

5.9.3. Group 3: Within 0.5 km

The final group contains the burial sites within 0.5 km of the recorded farm mounds. Almost half of all the burial sites considered here (51) were found within this range. Since 65.6% of the farmhouses in this project were possibly in or about the same location as the earlier settlement farmhouses, there is a strong likelihood that the burial sites within such a short radius have a better chance of being correctly associated with their associated farmhouse.

The combined primary and secondary environments show that in Group 3, 78.4% were located on or near to the birch environment and 60.8% were located on or near to the water environment. In this case, water as a primary environment only represented about 15.7%, therefore it was much more important as a secondary feature rather than a primary one, while where in the previous two groups, birch and water were nearly equal in the primary environment. Wetlands represent more here with 21.6% of this group. The interesting turn is that for 46.2% of the sites, water becomes a key secondary feature closer to home. Also close to home, grasslands make an appearance with 13.7%. It is interesting that no burial sites in Group 2 were found on grasslands.

Consistent with Group 2, elevated burial sites were the usual with 64.7% of the burial sites close to the farmhouses, which is but relatively level burial sites increase to

19.6%, fewer than in Group 2 (23.5%). Burial sites associated with waterways, either at or overlooking such features represent 25.5%.

Line of sight calculations for this group show 100% visibility, again not taking into consideration vegetation growth that possibly could have obscured the feature at the time. This was to be expected with the two types of sites being within such close proximity.

5.10. Beyond the Grave

As previously mentioned, from any one point outside of the burial area, there was only one view of the burial. However, from the burial site, there were many perceived spaces in its field of view. (See Map 11 for the typical viewsheds from each Burial Site.) It is clear in Sections 5.9.2 and 5.9.3 above, that having some visibility or frame of reference to the burial site from the farmhouse was desired and that from the burial site the farmhouse was also visible may have been desired as well. Nevertheless, what else might have been important in the burial site's field of view? Using viewshed analysis with each of the 104 burial sites, this question was addressed and the results bring this project to an entirely new area to be interpreted from the data – cosmology.

To do this, I first created a surface from a contour map of Iceland for the purpose of understanding the burial data in association with landscape form. By applying viewsheds to each of the known burial site locations, not only was the visible expanse from each burial site brought to light, but also the connection to the sea was made visible. The human eye's line of sight is limited to about 4 km at ground level, and this number increases when elevation increases; however, large objects such as mountains and oceans can obviously be seen at greater distances. Weather conditions also play a part in

visibility as it is possible, on the clearest days to see Snæfellsnes Glacier from Reykjavik – a distance of approximately 100 km. In addition, the human eye is not necessarily the point from which to measure; it is the view from the burial, a symbolic view, that carries the meaning here and this is the one considered. (See Map 12 for viewshed calculations based on optimal conditions from the Burial Sites.)

The viewsheds from the burial sites were broken down into three categories, based on natural breaks, by degree of visibility. (See Appendix M: Views from Burial Sites and Map 13) A view could be Vast, Moderate or Limited. Only 11.5% had a Vast view of their surroundings; 21.2% had a Moderate view of their surroundings; and 67.3% had a Limited view. Taking into consideration the view of the sea, the viewshed calculations show that 70.2% of the 104 burial sites potentially had a full or partial view of the sea during optimal weather conditions. (See Map 14) The 73 Burial Sites from which the sea was visible were then separated into three categories by degree of visibility. It could then be seen that the 12 with a Vast view all had a view of the sea, while 18 of the 22 with a Moderate view also had a view of the sea; and 43 of the 70 with a Limited view also had a view of the sea. From this, it can be seen that there is a common thread among the burials: whether the view is great or small, it is important to have a view of the sea.

5.11. Individuals in the Landscape

As mentioned in 5.1, once the internal aspects of the grave were considered, the buried individual(s) could be placed back into their surroundings in order to present an argument for the connection of the landscape to the burial site. Here, they are now presented as social groups made up of individuals with group identities and perceived

notions of burial rites particular to the group with which they identify themselves. (Ingold 2000; Rajala 2004; Tilley 1994:16-18; Whitley 2004)

The individuals were placed into the landscape to explore associations between their gender and age and their surroundings. In combining the internal and external variables, questions regarding burial location and placement were answered, such as: whether differences in burial placement were based on age and/or sex; if such differences reflect the worldview of the society; and if the results support or refute the perceived social spheres in the ancient texts and in contemporary thought?

5.11.1. A View of Skeletal Remains

The first variable to merge with the landscape data comprises the analyzed human skeletal remains. There were 148 analyzed human skeletal remains combined with the 104 located burial sites, thereby leaving 133 individual graves for this analysis. See Appendix N for the full list of graves with analyzed human skeletal remains in the landscape. The two features of the analyzed human skeletal remains considered in connection with their surroundings are the sex and age of the individuals. Of the 133 skeletal remains, 83 were sexed and put into the categories noted earlier (62.4%), and 92 were aged according to the preset categories (69.2%).

In keeping with earlier established ratios, the male to female relationship continues to be male-dominant at 2.8:1. Of the 22 female/? graves, only 13.6% did not fall within the 1-kilometer radius and 68.1% were within the 0.5-kilometer radius. Males/?, on the other hand, had 31.1% outside of the 1-kilometer radius and 60.7% within the 0.5-kilometer radius. Clearly, females/? were less varied in their placement with respect to the farmhouse.

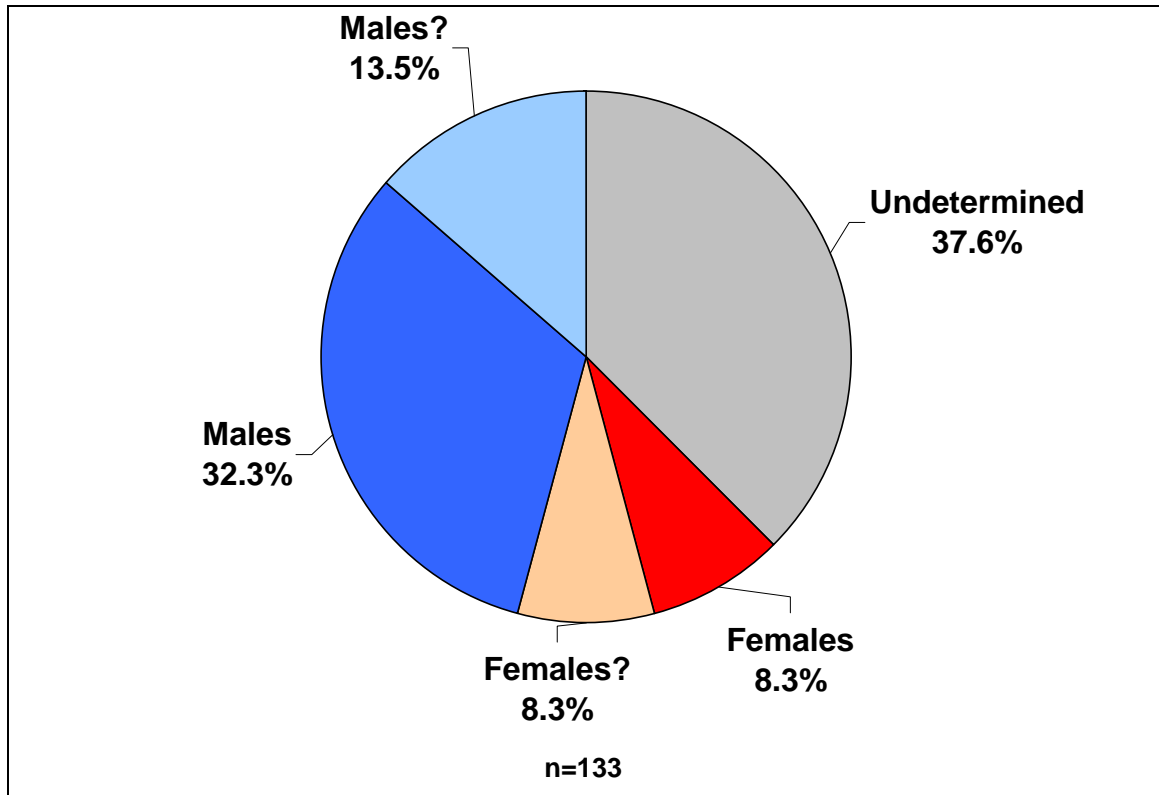


Fig. 5.3 Located analyzed human skeletal remains in the perceived landscape. Here it can be seen that the male to female ratio is similar to earlier ratios, however, it is also evident how many in this group are undetermined, which affects the dataset.

When it is possible to relate the elevation of the burial to the elevation of the farm mound, only 11.3% of the graves were at elevations slightly above that of their associated farms; and more than half of these were male/? (53.3%) while the rest were unidentified. Thus, there were no known females/? buried at elevations above the associated farm mounds. There were 16 considered equal to their associated farm mounds, the majority of which were of undetermined sex (68.8%); the remaining included two females/? and three males/?. The problem with the burials equal to the farm mound is whether or not they were truly meant to be such. Other factors could be contributing to this seeming parity, such as depth perception of the family members who chose the site or erosion and/or accumulation at either site over time. The others were clearly below or above the

farm mounds. The final 47.4% were located below the elevation of the associated farm mounds: 31.7% female/? and 49.2% male/?.

It appears that burials located below the level of the farm mound were more common and that males/? and females/? were likely to be placed in such a situation. However, it is also clear that the placement of males/? is more varied and only through continued analyses can likelihood become certainty.

Approximately 64% of the burials in this portion of the analyses were adults – individuals 18 or more years of age, while only 5.3% were under that age. Indeed, 48.1% were over the age of 35 years with OMA at 30.1% and MA at 18.0%. The majority of graves above the farm mound were adults, with the exception of Gr. no. 243 which was that of an older subadult. Both the ‘equal to’ and ‘below’ graves were too varied in age to form any clear patterns, thus making such a placement typical of all age groups. All graves outside the 1-kilometer radius which could be aged were adults. Thus, the majority of graves above their farmhouses were adults over 18 years of age and seven were 35+ years of age. All graves found equal to or below the farmhouses, whether male/? or female/? are of varied status and age, while those above seem to be associated only with adult males/?.

5.11.2. Placement in the Landscape by Sex and Age

Both males/? (77.2%) and females/? (80.0%) were more likely to be placed in birch or water environments, however, males/? exhibited somewhat more variability in where they were placed in the environment. Where the other 20.0% of females/? were located in the wetland environment, 8.8% of the males/? were buried in wetlands, 10.5% in grasslands and even 3.5% in areas of erosion. Approximately 45.0% of female/? burial sites were placed on elevated landscapes, but when primary and secondary features were

combined, clearly the preference for females is to overlook a waterway (55.0%). Males/? on the other hand reversed the pattern with 42.1% placed on waterways and 54.4% on elevated land. Interestingly, both sexes were rarely found on flat features (approximately 15% each). Clearly, placement on elevated land was more typical for both males and females, however, in lieu of elevated burial sites, females were more likely to be associated with waterways than their male counterparts.

When it comes to visibility, males/? and females/? were both as likely to have the same views. Males/? and females/? had an average 10.25% for a Vast view, 16.25% for a Moderate view, and 73.5% for a Limited view. Thus, it would appear there was no duality based on sex when it came to the overall view, however, approximately 85% of females/? had some view of the sea while males/? had only 73.2%. This is once again in line with the above idea where females were more likely to be associated with waterways. (See Map 15)

There was a division between the ages when considered with the landscape. Almost all the burials clearly followed similar patterns by age as by sex. However, for the most part, those between 18-35 do not fit the patterns. For instance, birch and water strongly dominate the dataset. For those over 35 years, there was an 85% mean. For those under 18, just under 60% and young adults are also about 66.7%. However, for young middle adults the mean is only 33.3%. Those over 35 tended to be elevated (mean 56%) but for being on waterways it is only a 38% mean. Those under 18 followed a similar pattern with 71.4% elevated and 42.9% on waterways. However, 50% of those in between 18 and 25 were elevated and 66.7% on waterways; and those between 25 and 35 had 55.6% elevated and 55.5% were on waterways. Once these differences are noted, the

rest of their situations are once again similar and follow the overall patterns where the majority (more than 80%) have a view of the sea and those with a limited viewshed represent the majority and those with a vast view the minority. (See Map 16)

The differences in age could be pointing to variation in the ability to achieve social standing. There may be a rite of passage that distinguishes groups based on whether or not they have performed such a passage. Those individuals in the YA category whose sex have been identified are male/?, while those in the YMA category are equally male/? and female/?. The young may adopt a burial ritual on par with their family since they had not had an opportunity to do so on their own. There may have been some point at which he or she was expected to earn his or her own standing and differentiation in burial placement was affected. Another explanation is that this is not a reflection of status, but cosmology. The YA category is mostly male. However, the individuals in the YA category were typically associated with waterways, which overall seems to be more typical of females. In this case, one cannot help but think that since they have not had an opportunity to reach a certain social position on their own, their placement in the landscape was chosen in the same style as was females', not to disgrace or dishonor the males, but as the position allotted to those males who had not achieved a level of status consistent with gender expectations. Similarly, in the next category, YMA, the males and females received the same treatment, but this is atypical of the remainder of the dataset.

Thus, there was likely a distinction in burial placement based on social standing in particular age groups, however, with this portion of the dataset being so small, it is difficult to make a strong connection. Similar to other parts of this data, we are left

wondering who is represented in the burials as there are so few. Where are all the other children who died during this pre-Christian period. Were there different burial practices for the younger individuals who did not achieve a certain level of status; or more likely, was there a different burial practice for all of the younger individuals and for some reason the individuals included here somehow had the right to this burial rite – whether ascribed or achieved. It would seem that had all those under 18 had the opportunity for similar burial rites as the adults, there would be a more representative sample than the one here.

5.11.3. Skeletons and Artifacts in the Landscape

There were 133 located graves with analyzed human skeletal remains and 120 located graves with artifact inclusions. Combined, the dataset in this portion consists of 77 located graves containing both analyzed human skeletal remains and artifacts aggregating 1,602 items. See Appendix O for the full list of located graves with analyzed human skeletal remains and artifact inclusions in the landscape.

As can be seen in Tab. 5.2, there were 13 female/? graves. All of the aged individuals were adults and nine of the 13 were over the age of 35 years. All were situated below their associated farm mounds. The majority were located within a distance of 0.5 km from their associated farm mound, and two were not within the 1-kilometer radius. The most diverse graves had artifacts from four categories, and there were only two such graves and both contained prestigious grave goods, especially the whale-bone plaque which was used to cover the face of the deceased and the steatite bowl. The majority of those with artifacts from three categories were also quite impressive. The amount and quality of the grave goods seems to drop between those with three to four categories and those with one to two, indicating at least a two-tiered social position among the females of this society.

FEMALE/? SKELETAL REMAINS IN THE LANDSCAPE WITH ARTIFACT INCLUSIONS					
Gr. No.	Sex	Age	Elev. to Farm	Dist. from Farm (km)	Artifact Categories
46	F?	U	Below	<1.0	M
47	F?	OMA	Below	<1.0	ADM
59	F?	OMA	Below	<1.0	AM
68	F	OMA	Below	<0.5	ADMN
72	F	YMA	Below	<0.5	ADW
157	F?	OMA		>1.0	AHM
190	F?	OMA	Below	<0.5	ADHM
196	F?	YMA	Below	<0.5	DMN
212	F	OMA	Below	<0.5	ADM
220	F	OMA	Below	<0.5	A
296	F	MA		>1.0	ADM
299	F	YMA	Below	<0.5	AD
305	F?	OMA	Below	<0.5	AD

Tab. 5.2 Female/? skeletal remains in the landscape with artifacts. The artifact categories may indicate social stratification within the group.

As can be seen in Tab. 5.3, there were thirty-six male/? graves. Seventy-five percent of the male/? graves were over the age of 35 years and all of the aged individuals were adults – over the age of 18 years. There were five males/? situated above their associated farm mounds and all five were within a 0.5-km range; however, as also can be seen, their grave goods were not very impressive. Only one grave was equal to its associated farm mound and similarly, quite unimpressive. Twenty of the male/? burials were situated below the elevation of the farm mound and all but one were within a 0.5-kilometer range of the farm mound. As can be seen in Tab. 5.2 female/? graves generally had a very varied position in the landscape when it came to their surroundings; however, 66.7% of the male/? graves were elevated in their surroundings. Therefore they were placed on somewhat higher ground, regardless of their situation to the farm mound, making their placement slightly more prominent in the landscape.

MALE/? SKELETAL REMAINS IN THE LANDSCAPE WITH ARTIFACT INCLUSIONS					
Gr. No.	Sex	Age	Elev. to Farm	Dist. from Farm (km)	Artifact Categories
10	M	YMA	Equal	<1.0	M
26	M	MA		>1.0	CDFHMW
37	M	OMA		>1.0	ACDMW
70	M	OMA	Below	<0.5	DHMW
73	M	MA	Below	<0.5	W
81	M?	YA		>1.0	ADMW
131	M?	MA	Below	<0.5	B
137	M	MA	Above	<0.5	D
140	M	OMA		>1.0	AHM
159	M?	OMA	Below	<0.5	HM
186	M	MA	Below	<0.5	AM
187	M	MA	Below	<0.5	CDMW
188	M	OMA	Below	<0.5	CMW
197	M	YA	Below	<0.5	AM
200	M?	OMA	Below	<1.0	DM
210	M	OMA	Below	<0.5	DHMW
211	M	MA	Below	<0.5	ACDMW
213	M	OMA	Below	<0.5	CDHMW
215	M	U	Below	<0.5	DM
219	M?	OMA	Below	<0.5	W
223	M?	YMA	Below	<0.5	A
248	M	OMA	Below	<0.5	D
250	M?	MA	Below	<0.5	BMW
251	M?	U	Below	<0.5	DM
253	M	YA	Above	<0.5	DW
261	M?	OMA	Below	<0.5	D
262	M	MA	Above	<0.5	DM
267	M	OMA		>1.0	DM
286	M	OMA		>1.0	ACDHMW
288	M	OMA	Above	<0.5	DM
289	M	OMA	Below	<0.5	D
290	M	YA	Below	<0.5	DM
291	M	MA	Above	<0.5	CDW
322	M	OMA		>1.0	DMW
342	M	MA		>1.0	W
343	M	U		>1.0	B

Tab. 5.3 Male/? skeletal remains in the landscape with artifacts. Here, social stratification can also be seen within this group as well as between this group and those in Tab. 5.2.

The most diverse graves had artifacts from six categories, and there were only two such graves and another three graves had artifacts from five categories. Another significant difference is that in the male/? group, there were graves level with or above their associated farmhouses. In this case, five were above and one was equal. Interestingly, these graves do not have the status artifacts or the diversity of some of the other graves.

The amount and quality of the grave goods seems to drop between those with four to six categories and those with less, indicating at least a two-tiered social position – possibly three-tiers – among the males of this society.

As can be seen in Tab. 5.4 below, there were 28 graves which included individuals of undetermined sex. Approximately 60.7% of these individuals could not be aged. The remaining age range is from young subadults to mature adults – four under the age of 18 and seven over the age of 18. Nine of the 28 graves were not within the 1-kilometer radius and the remaining 19 were found at varying elevations with respect to the farm mound: three above, eight equal, and eight below and 84.2% of the graves within the range were within 0.5 km of the farm mound. However, as can also be seen in Tab. 5.4, one of the three individuals above the elevation of the farm mound was quite impressive. Similarly, one of the eight that are equal to the farm mound was extraordinary as well.

The most diverse graves had artifacts from six categories, and there was only one such grave and one other with five categories. However, in this section it can be seen that there were a few graves that had artifacts from a limited number of categories, however, those artifact assemblages were of a higher status. See, for instance, grave nos.

164 with its decorated bone, 260 with its sheer amount of artifacts in each category, 284 for its elevation as well as quantity and even 313 as it contained artifacts from only one category, however, the assemblage was impressive, nonetheless.

UNDETERMINED SKELETAL REMAINS IN THE LANDSCAPE WITH ARTIFACT INCLUSIONS					
Gr. No.	Sex	Age	Elev. to Farm	Dist. from Farm (km)	Artifact Categories
8	U	OSA	Equal	<0.5	ACDHMW
21	U	U	Above	<0.5	W
24	U	U	Below	<1.0	DH
41	U	OMA	Below	<1.0	M
43	U	U	Equal	<0.5	H
44	U	U	Equal	<0.5	DHUW
50	U	U	Below	<0.5	DH
58	U	MA			W
141	U	YA	Above	<0.5	M
144	U	U	Equal	<0.5	HM
161	U	U			HMW
162	U	U			D
163	U	U			CDW
164	U	U	Equal	<1.0	DMN
170	U	U			AHMW
171	U	U			HM
177	U	YSA	Below	<0.5	D
189	U	A?	Below	<0.5	BH
201	U	U			W
221	U	U	Equal	<0.5	DHW
225	U	U	Below	<0.5	W
260	U	MA			ADM
271	U	YSA	Equal	<0.5	BCDMW
276	U	U	Equal	<0.5	ADHM
284	U	U	Above	<0.5	ADM
303	U	U	Below	<0.5	CDM
312	U	OSA	Below	<0.5	ADHW
313	U	YA			A

Tab. 5.4 Undetermined sex skeletal remains in the landscape with artifacts.

From the analyses thus far, various patterns can be seen to emerge, especially when the focus is on the human skeletal remains combined with artifact inclusions. In both cases, with or without the landscape analysis, the society under study showed

differences when it came to age as well as sex.

5.11.4. Placement of Skeletons and Artifacts in the Landscape

When the artifact types in connection with the skeletal remains were considered in the landscape, there were few patterns that presented themselves. The few cooking artifacts were all found in the water/birch combination, 40% were elevated while 100% were on waterways. The identified males/? were the only individuals on elevated ground. All are at waterways and 58.8% of the graves with weapons are at waterways. This latter pattern is somewhat contradictory because males tended to be elevated and a small percentage on waterways, but here, both elevation and waterways were equal. Again, another small artifact group is non-utility. They are both similarly situated – in the birch/water combination, on a waterway, within 0.5 km of their farm mound, both with a view of the sea and both part of a cemetery.

The final interesting outcome of placing this portion of the analysis into the landscape was that the two Older Subadults stood out as being different. First of all, these two individuals had relatively impressive inclusions for being under the age of 18 years old. One had four categories while the other six. Both included multiple weapons, one even had a sword. Both of these individuals were within 0.5-kilometers of the farm mound and had a view of the sea. Interestingly, one was placed on wetlands and the other on grassland, neither near a waterway and only the one with more artifact categories was placed on elevated land.

From this, it would seem that gender differentiation and social groups are indeed present in the burial ritual in both inclusions as well as placement in the landscape. However, social status presented in the form of grave goods was not differentiated in the landscape, although there may indeed have been very subtle differences between social

groups, the evidence leans more towards equality in burial placement with respect to wealth.

5.11.5. Skeletons, Artifacts and Animals in the Landscape

In the final portion of this analysis, all of the variables were combined to create one final dataset. There were 133 located graves with analyzed human skeletal remains and 120 located graves with artifact inclusions and there were 75 located graves containing animal remains. Combined, the dataset in this portion consists of 34 located graves which contained all three variables. See Appendix P for the full list of located graves with analyzed human skeletal remains and artifact and animal inclusions in the landscape.

In this portion, half the dataset here is of undetermined sex, 41.2% were male/? and 8.8% were female/?. With respect to the ages of the individuals, 58.9% are adults over the age of 18 years, 38.2% are undetermined and there is only one individual under the age of 18 years. The majority (61.8%) of the graves are located within 0.5 km of the farm mound while 26.3% are beyond the 1-kilometer radius. As can be gleaned from this part of the description, already the general patterns are presenting themselves.

As expected, the majority of the graves here contain horse remains 70.6%; 17.6% had dog remains; and 11.8% had both dog and horse remains. Only one grave containing dog remains, either horse and dog or dog, was located outside the 1-kilometer radius, while all of the others were within the 0.5-kilometer radius. The position of those graves with only horse remains was much more varied and reflects the patterns of distribution generally seen in the other areas of analyses.

The graves that contained dog remains seem to have recognizable patterns. For instance, as can be seen in Fig. 5.4 below, those with only dog remains did not contain

artifacts from more than three categories and domestic and miscellaneous & fragments were the most common. Only one of these graves contained artifacts from the weapons category. These graves seem to have a home-based quality to them as they are mostly within the 0.5-km radius and there is not much variation between them in landscape properties. The artifacts too, seem to lean towards activities that might be done more at “home” – there is a spindle whorl, a wool comb and a sickle among this small group of graves; and, although gaming pieces can obviously be taken along on any journey to pass the time, there is also one grave here with 19 gaming pieces, which is also an activity to be done at home during those long winters.

Those graves that contained both horse and dog remains also had similarities. Artifacts from the weapon category were found in three of the four graves and for the most part these graves were not overly prestigious. With the exception of grave no. 70, even though a few had prestigious items and artifacts from up to four categories, these graves with both animal remains do not have any substantial wealth or other indicators of social position. The burials in this section are all within the 0.5-km radius and three of the four are situated below the farm mound elevation, while one is equal to the farm mound.

In these two divisions where dog remains are present, it can be seen that the burials are a bit low-keyed and close to home – physically and mentally.

Graves containing only horse remains present a very different picture. Approximately, 33.3% of these graves were located outside of the 1-kilometer radius, and another 16.7% were located between 0.5 and 1.0 kilometers away from the farm mound. Distance is more recognized with horse inclusions. Also, those individuals with only

horse remains also had artifacts from up to six categories. As expected, horse equipment was found in two-thirds of these graves. Artifacts of adornment and commerce are also present in these graves, but were oddly enough hardly present in those with dog remains.

Clearly there are very prestigious and probably high-ranking graves in this dataset without animal inclusions, however, there seems to be a scale when animals are considered as part of the assemblage and horse inclusions appear to be somewhat more prestigious than dog remains – since they are included in the more prestigious graves. Also, burials with horse remains seem to reflect mobility, during life and in death by having greater distances from farms, being part of more diverse assemblages which include commerce – an obvious connection with trade (local or abroad).

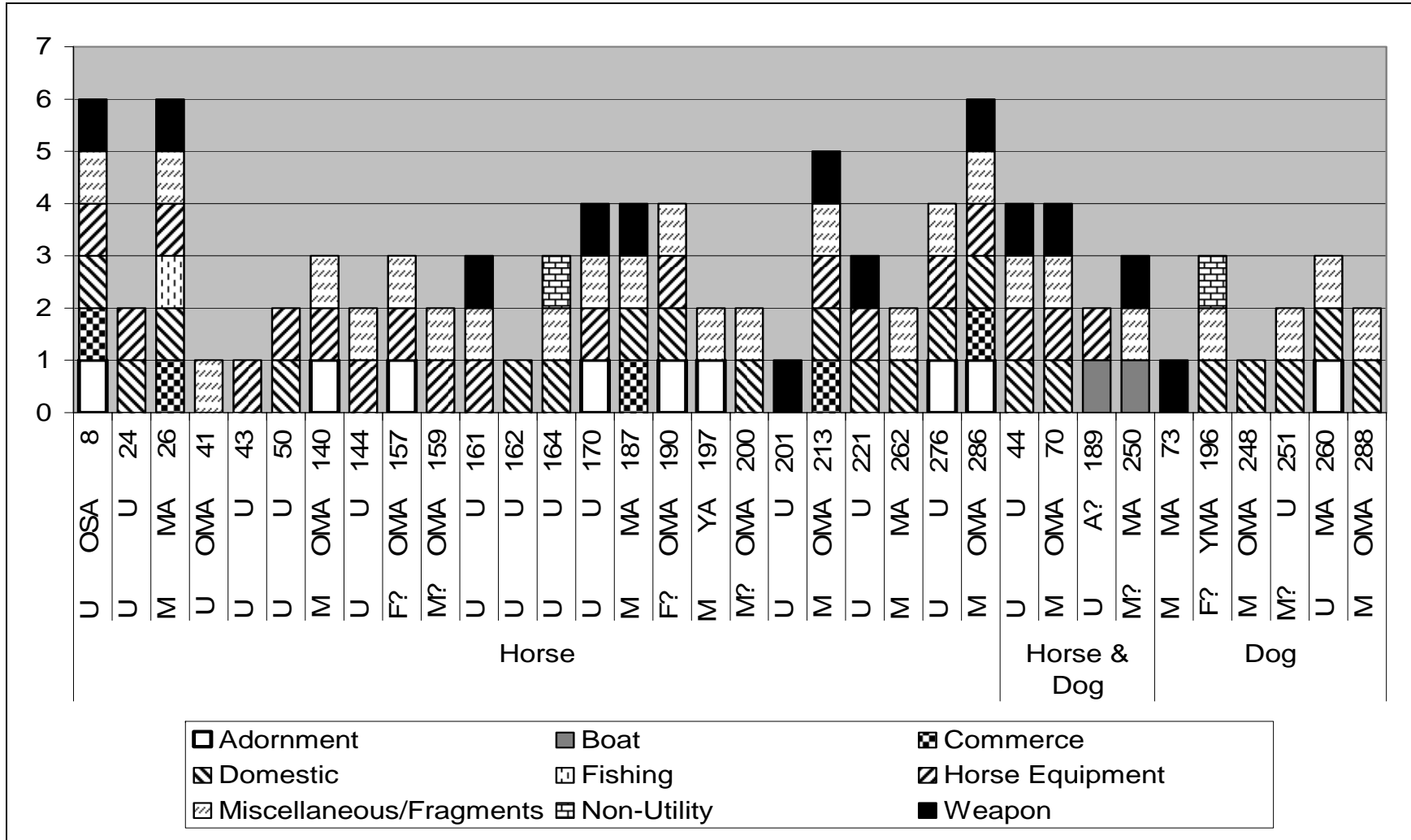


Fig. 5.4 Located analyzed human skeletal remains, artifact and animal inclusions using NAT values by category.

5.12. The View from Within

In combining the landscape features discussed here and factoring in the information previously analyzed with respect to what was buried in the graves, the remainder of this chapter focuses on recreating the possible perception of the burial landscape in pre-Christian Viking Iceland. This was done by connecting these landscapes to the 104 burial sites and to the graves at each site so as to take into consideration the various internal qualities referred to in Chapter 4 and above.

When reintroducing the inclusions within the burial sites, it becomes necessary once again to indicate the difference between the individual graves and the burial sites. The 104 burial sites that were located were matched to specific grave data, thus providing 198 graves that could be used for analysis. As with earlier analyses, the total number of burial sites and graves change accordingly when combined with the skeletal remains, artifact inclusions and animal inclusions.

5.12.1. The Placement of Grave Goods

In this portion of the analyses, the artifacts which were associated with located graves were placed into the landscape to better understand whether or not the choice of burial placement had anything to do with artifact inclusions or, more specifically, the social position of the individuals in the graves. (See Map 17) It was expected that those perceived as being wealthy might have more Vast views, as they seem to be more prestigious or that they would oversee their holdings marking the boundary against newcomers. This last function is difficult to suggest since the general design of the Icelandic burials are not of imposing burial monuments, but rather less obtrusive memories in the landscape. One exception was the cremation burial in *Mosfellsbær* where the partially man-made large ship-shaped mound is indeed imposing.

The results were very different than expected. Although no overall pattern could be discerned, there were some discernable tendencies from group-to-group. The Vast view group (63.6%) was mostly found in the birch and water environments and had 90.9% of their individuals elevated and 45.5% near waterways. There were about 45.4% with barely any grave goods while only 36.4% had quality and quantity in the form of numerous articles of adornment (Gr. nos. 68 and 260) and weapons (Gr. nos. 70 and 81). Grave no. 260 also contained a wool comb, the only “labor” item found in this group. All of these individuals had a view of the sea.

The Moderate view group had 81.3% of their individuals located in the birch and water environments, 31.3% on elevated landscapes and 43.8% near waterways. In this group there were more individuals with multiple artifact categories, however, only 25% had somewhat prestigious inclusions. In this group, there are at least three graves with items of labor (Gr. nos. 26-fishing and vise, 47-sickle, 162-sickle). About 87.5% of these individuals had a view of the sea.

The Limited view group also had about 84.3% of their individuals located in the birch and water environments, 52.9% on elevated landscapes and 31.4% near waterways. There were individuals with one or only a few artifact categories as well as a few with five or six. However, almost 21.6% stood out with somewhat prestigious burials, especially in the number of boat burials in this group. Four of the eight recorded boat burials were found with a very limited view, two steatite vessels and 19 gaming pieces were in this group as well. There were five with labor items (Gr. nos. 24-weaving implement, 200-spit, 284-spindle whorl, 290-slag, 296-spit). Approximately 68.6% had a view of the sea.

Looking at the analyzed human skeletal remains in the landscape in Chapter 4 shed light on the sex-based duality of the Viking period in Iceland by enumerating characteristics which were potentially divided between the sexes. Also, the skeletal remains provided insight into the social groupings based on age. The artifacts, however, made it possible to shed light on social groupings within the society as well as burial customs that appear to be based on factors other than materiality alone. When brought into the landscape, the artifacts were able to shed light on the fact that position in the landscape more than likely serves the purpose of defining property, but that having a large, expansive view was not as important as having a view of the sea, which was a very desirable trait in burial positioning.

5.12.2. Site Placement, Gender and Age

Despite very little prior research on this particular subject, it was hoped that including locational data for the burial sites would illuminate gender and age roles and household relations. It was believed that by comparing the elevations of the burial sites to the farm sites, differential treatment based on age or sex would come to light. With only the elevations noted, it seemed that this could be the case. (Maher 2007; Maher 2004a, 2004b) Preliminary results noted that males had a wider range of possible burial placement. They were found above, equal to or below the farmhouse. Females were located only at levels below the associated farmhouse. Those who could be aged and were buried either above or equal to the farmhouse were mostly adults. It was postulated that burial site elevation might reflect an individual's position within the hierarchy of the household. It was also thought that distance in the landscape might represent the distinctions between those individuals from the private sphere and those from the public sphere. Finally, it was considered whether or not these differences indicated binary

gender divisions or the overlapping of gender roles.

At the completion of the analysis, the image of the burials changed drastically. Burial elevation relative to farmhouse elevation did not appear to indicate social hierarchy or household position. There seems to have been a societal preference for having burial sites placed beneath the level of the associated farmhouse, though there were a number of individuals above or equal to it. What is particularly interesting is that the majority of those placed at elevations equal to or above the farmhouse elevation had very few inclusions. Nevertheless, there were six burial sites not below the farmhouse that were quite impressive, containing many artifacts, or artifacts of prestige, and animal inclusions. Only two were identifiable. One was an Older Sub-Adult and the other a Younger Sub-Adult. In the others both age and sex were undetermined.

Only six contained animals and the rest were quite unremarkable with only a few artifacts of necessity. Since the majority were unimpressive, it is possible that the burial site elevation was negatively correlated with social status so that an elevated position did not indicate power or status at all.

Although it might seem that this portion of the study yielded little or no information, this is not completely the case. The data on hand indicated that none of the identified females were buried at elevations equal to or above the farm house elevation while males were. This difference suggests there was a more constrained burial rite for females, regardless of their position within the community.

It is also worth noting that four of the six most impressive graves were located at elevations equal to the farmhouse. As previously discussed, the *equal to* designation may not carry any weight and may actually be a continuation of the below level category

while those at higher elevations were deliberately elevated. With this in mind, the two remaining graves with impressive grave goods were analyzed further. The first (Gr. no. 61) was discovered in 1876. It was eroded and there is no mention of skeletal remains in the report, only animal remains and a quantity of impressive artifacts were noted. Upon further investigation by Sigurður Vigfússon, it was suggested that there were actually two graves, a male and female, identified by artifact associations. (Friðriksson 2000:559) The other grave (Gr. no. 284) was excavated by Matthías Þórðarsson in 1938 and 1942. The burial was surrounded by a low, circular wall (18.5m D) and contained two oval brooches, a trefoil brooch, forty beads and bead fragments, a steatite spindle-whorl and other items. This was obviously the grave of one with an elevated social position.

This grave could have been an anomaly. Its construction was quite impressive and it contained quality grave goods, although, not necessarily in quantity. This person might have acquired a certain degree of respect which was reflected in the burial design and placement. As noted earlier in Chapter 2, the majority of Burial Sites were of very modest construction. It is just as likely that this burial site was not associated with the farmhouse recorded with it – it is within the one-kilometer range, but more than 500 meters from the presumed associated farmhouse so this may have belonged to a different farmhouse complex altogether, where it was not relatively elevated.

If the outlier is removed momentarily, the remainder of the graves located above the farm elevation are all unremarkable. The possibility of reverse social position could be postulated. There is also the option that this might indicate that the family preferred not to look upon such a burial, possibly indicating someone of lower social standing or even more likely a person who had shamed the family in some way. A person who had

lost his standing with the family, however, was still family. The burials had definite Norse qualities thereby dismissing the idea of their being slave burials, though not eliminating the possibility of their being servants.

There were noticeable differences in overall site location between the sexes. Males were more likely to be placed on features somewhat elevated in their surroundings and females were more likely to be placed along waterways. Such tendencies may reflect part of their worldview and possibly prepare the individuals for their final initiation through the burial ritual. Or, it is quite possible that there is a suggestion of male dominance represented in the male burials while female burials have a somewhat different symbolism.

What also came to light was the fact that when children were still under the care of their family, their burials reflected their low status in their lack of grave goods, but at the same time reflected their strong familial ties by being securely placed in containers within the “family” cemetery. Their rite of passage during the years between 13 and 25, was also revealed since afterwards they were regarded as adults who were expected to earn their own status. This was revealed not only by grave goods but also by the landscape associations in the burial rites of this society.

Clearly there was differential treatment based on both age and sex. Such differences were sometimes subtle in the Icelandic burial record, but were indeed present. The next step in this project was to leave the individuals behind and understand the societal cosmology as symbolized by how burial sites were incorporated into the Icelandic landscape. The overall patterns of site locations and artifact locations were able to provide a new set of possibilities for some of the open questions by using a

quantitative, processual approach.

From this, it would seem that gender differentiation and social groups are indeed present in the burial ritual in both inclusions as well as placement in the landscape. However, social status presented in the form of grave goods was not differentiated in the landscape, although there may indeed have been very subtle differences between social groups, the evidence leans more towards equality in burial placement with respect to wealth.

5.13. The Worldview of the Icelandic Pre-Christians

*“He who does not know what the world is does not know where he is, and
he who does not know for what purpose the world exists, does not know
who he is, nor what the world is.”*

(Aurelius 167:Book 8)

Ideology as much designed as it is the designer. The Viking cosmology created a mirrored portal between Society and Mythology in that the behavior, skills, loyalties, bonds and good and bad qualities that are seen in the women and men of the society are also seen in the many gods and goddesses – in fact the gods and goddesses are simply larger-than-life individuals with larger-than-life human flaws. (Harrison 2000:21) Unlike the modern view that there is one perfect supreme being who created the world for humans to inhabit, and where humans will always be imperfect in comparison, the Viking cosmology was based on the belief that the gods had good qualities as well as faults, and both had a direct impact on the humans co-habiting with them. Humans admired the overblown strengths and weaknesses of their gods because they were guided by them in their own pursuit of life. The gods designed and created the world that humans now

inhabited and humans looked to the gods to protect that world as long as possible, knowing that one day not only would their own lives come to an end, but eventually, their universe would cease to exist in its current form and a rebirth would usher in a new cosmos. The Vikings knew what their world was and understood their own purpose in it. This understanding enabled them to live for the moment, seize opportunity and live for today as 'tomorrow they would die'. Their burial rituals belong to that category of rites about which all of society agrees to its meaning, in this case that the deceased were passing from one state to another. This belief is shared with most of the world. (Alekshin 1983:137) It is from this that we can understand the symbolic aspects of the burial record.

It is often argued that the cognitive and symbolic cannot be studied in archaeological terms due to their abstract nature. (for such arguments, see Binford 1983; Flannery and Marcus 1998; Hodder 1995; Hodder and Hutson 2004; Leone 1998; Trigger 1989; Whitley 1998b) The goal here was to connect the material remains to the ritual. Making that link depends not only on the placement of the individuals in their surroundings, but also on the myths and ancient texts where the symbolic meanings of the material remains were explained. It is in this way we discover that the burial mounds, with their artifacts and animal inclusions, are symbolically guiding the dead to the afterlife. (Hodder 1995) With the right tools, there is at least hope of providing insight into the mental processes behind the material remains that we study today. Symbolic and cognitive thought are visible in more than tool-making and craft activities. They are also very much a part of the ritual behavior of a society and determine the forms for developing, maintaining and practicing funerary rites. It was believed here, that by

understanding the burial sites in their perceived landscapes and seascapes, this study would be able to apply the data to a GIS to draw attention to possible interactions and connections between the cosmology of the society and the landscape.

The first connection brought to light during analysis was the possibility that a connection with the sea was symbolically created by certain aspects of the burial sites other than the artifact inclusions. Thus, the Icelandic worldview was embedded in the location of the sites and reflected ties not only to where the Icelanders came from, but also where they believed they would be going, thus closing their circle of life.

As described in Chapter 2, the Norse were masters of the sea and were quite talented at fishing as well. The sea was their life, even though they were also bound to the land. The sea provided opportunities to gain prestige, power and a reputation for generosity. The Icelanders, in particular, literally came from the sea; all the first settlers immigrated to Iceland by boat – making a perilous journey to a strange and uncertain new land by crossing the sea to a new life. Equally, in their worldview the way to their afterlife was by water. From the Prose Eddas scholars have interpreted many of these afterworldly places as being in the vicinity of water. Whether near a river or a sea, water was a common feature of the afterlife. (Anderson 1888; Cotterell 2000; Litchfield 1890; Young 1964)

5.14. Ships and Boats in Scandinavian Prehistory

5.14.1. The Study of the Ships and Boats

Approximately 71% of the earth's surface is covered by water. Thus, it is not surprising that various cultures and societies through time and space have not only learned to navigate through the water, but also developed strong networks, both practical and symbolic, beyond the waterways during prehistory and history. (Haasum 1995) The

chronicles and research of such networks around the globe are too extensive to be recapitulated at this time, thus the focus here will be mostly on the Scandinavian region. One way to research the ties societies had with their watery surroundings is by understanding how they “conquered” or viewed water which will be approached here through the history of the boat or ship and their connection to burial rituals.

During the Mesolithic and Neolithic periods in this region, various images of boats were carved into rocks, a number of which also included figures of humans, animals and possible seasonal maps. Many of these carvings have been found near water, although some are located within burial cists and further inland. (Bradley, et al. 2002; Helskog 1999; Lahelma 2005) They have been connected to the cultures in the far north of Scandinavia as well as those further south in modern Denmark, southeast Norway and Sweden. Studies show that they are of a communicative nature and function as commonly accepted signs among people of a similar culture. (Kobylnski 1995) Also, they are believed to convey a shared cognitive map of a shared landscape. (Helskog 1999) The relationship seems to be with more than simply the visual symbolism as the connection with water evokes an auditory association which conveys symbolic power of the natural strengths and abilities of water. (Goldhahn 2002) Besides the rock art, there are instances where dug-out canoes were buried but whether these were proper burials or sacrifices cannot be determined. More than likely some were being used as a covering rather than a container as the canoes were upside-down. (Skaarup 1995:56)

Rock art was prevalent in the Bronze age throughout the region. A most impressive image in Rogaland, Southwest Norway, was carved into a cliff overlooking water where the natural contours of the rock created an image of the waves in the water

on which the boats were sailing. These boats were also symbolically sailing in and out of a large crevice in the rock and similar images with boats emerging or departing through crevices are found within burial cists. Thus there is a clear synergy between the ship and the dead. (Bradley, et al. 2002) Although the ship imagery in rock art continued in areas of Scandinavia throughout the Bronze age (Crumlin-Pedersen and Thye 1995; Østmo 1991), new methods of conveying this connection begin to appear. For instance there are more than 500 images preserved on bronzes, 350 at the National Museum of Denmark. Such images have been noted mostly on razors, but also on knives, tweezers, necklace pendants, swords and hanging bowls, among other things. (Kaul 1995:60, 2005) Runestones depicting ships during this period were another new method of conveying the symbolic and functional importance of these images. (Müller-Wille 1995:100-109) Finally, a very strong connection between the ship and burial can be seen when reviewing stone-ships or stone alignments in the shape of ships placed in the landscape over burials. There are at least 2000 examples in existence, but only a fraction have been investigated or properly surveyed and only about 35 can be attributed to the Bronze age, the rest belonging to the Iron age. (See, for example, Capelle 1995:73-74; Skoglund 2008)

At the beginning of the Iron age, the appearance of stone ships diminishes, but in some areas rock art continued until the pre-Roman Iron Age (500-1 BCE). However, during the first millenium, the stone ships and boats once again began to appear. (Crumlin-Pedersen 1995; Crumlin-Pedersen and Thye 1995; Kaul 2005) The majority of them can be placed between the 6th and 11th centuries. (Capelle 1995:74) The images found on the Gotland stones (Ellmers 1995) and the great and prestigious ship burials of Sutton Hoo, the Vendel cemetery, the Valsgarde, Ladby and Oseberg ships, among

others, usually lead people to believe that ships and boats were not as common or as important at other times. On the contrary, there were at least 43 boat graves from the Roman Iron Age at the Slusegaard cemetery (Crumlin-Pedersen 1995:87); and amazingly, boat carvings were etched onto the Medieval churches of Gotland nearest to the sea as a form of graffiti. (Haasum 1995:241-245) (See also the discussion on the subject in (Christensen 1995; le Bon 1995).

Clearly images of ships or boats from the Mesolithic through the Medieval period can be found in many contexts and in many forms throughout Scandinavia. Their meanings, symbology and use inarguably differed through space and time. However, there must have been both a functional and symbolic significance for each society at each time. The goal here is to present some possible meanings of the connections between ship, burial and water in the context of Viking period pre-Christian Icelandic society.

5.14.2. The Practical, the Political and the Symbolic

These ship and boat burials can be divided into three categories of meaning: functional, political and symbolic. (Ballard, et al. 2003; Bradley, et al. 2002; Haasum 1995; Kaul 2005; Kobylinski 1995; Müller-Wille 1995) The functional is the use of a boat or ship in a burial setting solely for the purpose of being a container for the dead. In other words, the vessel was used in lieu of a proper coffin. The early Christian cemetery of Sebbesund in Denmark seems to present a good example of boats being used as containers; and particularly not as a mark of high social status. The boats in this case seemed, rather, to be a sign of the poor, especially when more than one individual shared a boat. The rest of the cemetery was Christian with uniform burials and no grave goods. (Birkedahl and Johansen 1995)

The political category is related to communication and transportation networks as

well as economic roles. Burials with boats or ships in this category were conveying power through their trade connections or through ownership of a vessel which indicated success in various networks. There are many examples indicating that the inclusion of a boat was clearly a sign of wealth and status as do the various ship burials of Ladby, Gokstad, Tune, in Scandinavia and the two very similar kingly burials of Hedeby and Sutton Hoo (mound 2) in Britain. (Carver 1995; Lincoln 1995; Wamers 1995) The Hedeby ship burial, was a display of status that went counter to religious practice as the lord or king was buried with retainers, including a cupbearer but in Norse belief as part of the Valhalla ritual, the dead warrior would be greeted at the great hall by a Valkyrie offering a cup to drench his thirst.

The symbolic meanings were easily recognized and understood by others within the same social sphere and these messages might have been cosmological or religious in nature. The symbols referred to conceptions of the afterlife or an affiliation with a religious cult. Although these arguments can be difficult to prove at times, they were clearly illustrated in the Gotland picture stones as well as on the various tapestries found within the Oseberg ship burial. (Crumlin-Pedersen 1995; Crumlin-Pedersen and Thye 1995; Ellmers 1995; Ingstad 1995)

More than likely the majority of the meanings of the vessels fell into all three categories, functional, political and symbolic, and even more likely these were inseparable in the minds of the group to which they belong. (Carver 1995; Crumlin-Pedersen 1995; Ellmers 1995; Kaul 2005; Müller-Wille 1995) Their long-standing separation has been a part of the archaeological interpretations of ships and seafaring for generations, where each seems mutually exclusive. (Ballard, et al. 2003:396)

When an actual ship (usually described as being at least 20m in length) was buried, it was clearly not functional as it takes so much manpower to dig a hole large enough to bury such a vessel that it became impractical. (Birkedahl and Johansen 1995) When the ship was set atop the burial chamber, it cannot be termed a “container” so there was nothing functional in that situation either. (Wamers 1995) Therefore, the majority of the Viking Age ships more than likely signified social standing and religious symbolism. In the later discussion on the Icelandic corpus, this will be reassessed with respect to boats, not ships, as none of the boat graves in Iceland contained ships.

5.14.3. The Meaning of Water

Discussing the vessels in relationship to the burials leaves out their purpose. What is a boat or a ship? First and foremost, it is indeed a vehicle for transportation. Whether seen as political or symbolic, once it was placed into a burial setting and removed from its intended use, it became a symbol. Whether that symbol meant social status or economic success, the vehicle to get to the otherworld or an affiliation with cult worship, it was conveying a message. (Kaul 1995; Kobylinski 1995; Müller-Wille 1995; Østmo 1991; Schjødt 1995; Varenius 1995; Wamers 1995) However, the vessel was not the only symbol being represented. Here we discuss putting water back into the burial ritual so that the larger picture may be better understood.

The placement of the Stone age rock art near water for the connection with the water as well as its sound (Bradley, et al. 2002; Goldhahn 2002; Helskog 1999), the various types of artifact offerings in lakes and bogs (Cooney 2003; Megaw and Megaw 1989; Rieck 1995; Wait 1995; Webster 1995), the various studies on the importance of seascapes (Bertelsen 1999; Cooney 2003; Cunliffe 2001; McNiven 2003; O’Sullivan 2003; Phillips 2003; Van de Noort 2003) and the numerous examples of boat and ship

graves already discussed above indicate that the significance was not just in the vessel, but in what the vessel was meant to do – cross water.

Water has played a part in the cosmology of many societies throughout history and prehistory. In the Bronze Age of England at Flag Fen, objects were placed into specific areas of the water as votive offerings. (Bradley 2000:49-60) Many of the most amazing Celtic artifacts were found as votive offerings in bodies of water across the Celtic world. (Megaw and Megaw 1989; Wait 1995; Webster 1995) Sea people form a subculture in seemingly similar societies because they have a very special relationship with and understanding of the sea and water. (McNiven 2003; Westerdahl 1995) These “saltwater people” know the power and strength of water, particularly the ocean with its many binary relationships: it gives life and it takes life away, it can turn an area to ruins and wash it clean, it is death and rebirth. As the Yoruba and Xhosa tribes of Africa know, water has healing powers and is a sign of fertility and life. (Lawuyi 1998)

The use of symbolism can be complicated if there is more than one system in place within a sociocultural group. As Kobylinski notes, to be relevant, research should come from a cultural context as close to the analyzed group as possible. (Kobylinski 1995:13-14) In the Viking context, the Gotland picture stones, the Oseberg tapestries and the Prose Edda remind us that to get to the otherworld, a boat is necessary. To get to Valhalla, the Thund River must be crossed; and to reach Hel, the Gjoll River must be crossed. (Ellmers 1995; Ingstad 1995; Kobylinski 1995; Young 1964) Water separates the world of the living from the world of the dead. In the crossing of such a river, the soul is in a transitional state, preparing for rebirth in the next stage of existence. For the deceased, this liminal state occurs during the journey. However, for the living, it is no

wonder that the shore or a place where the sea is visible brings together the two worlds. One of the Gotland picture stones presents the story of Sigmund and his son Sinfjötli. As Odin sails away with Sinfjötli towards Valhalla, Sigmund is left standing on the shoreline. All he could do was watch as his son sailed away and vanished into the otherworld. (Ellmers 1995:169-171; Morris and Magnusson 1888)

Throughout the Viking World, boats functioned to open up the communications network and were used for fishing activities. Also in many areas of Scandinavia, travel by sea was less time-consuming than travel over land. Thus, boats were an integral part of society. It is well-understood how such a sea-faring society was able to exploit these skills and develop various types of relationships with the east, south, west and north, particularly in their own lands. Their sea-faring adventures are well-documented in both the Icelandic Sagas, and historical documents, of which the accounts of Ibn Fadlan and the Anglo-Saxon Chronicles are but two. Therefore, their ideological connection to the sea and boats is obvious.

In the political or economic sense, water represented the networks that helped to achieve and maintain social status in a society. Ships and seafaring have always been associated with social, economic and political factors. (Haasum 1995:145) In fact, boats and ships played a significant role in many societies in many time periods. The use of boats has created bonds between coastal communities, making them more similar to each other than to those communities further inland (Ballard, et al. 2003; Chapman and Gearey 2004; Haasum 1995; Johnstone 1989; Kobylinski 1995; McNiven 2003) “In some areas the sea is not just a means of contact but central to the human way of life.” (Parker Pearson 2001:323) Archaeologically, boats and ships have been shown to represent trade

and social networks on the one hand, but also ritual symbolism on the other. It is on this that the remainder of this research is focused. Thus an individual who had prospered by such networks could complete this connection by being able to continue this role in the afterlife.

In many of the examples here, we see the area between land and water as a liminal zone – where the dead pass from the land of the living to the land of the dead. The deceased though buried on land, were prepared to cross over the water, by either the boat, ship, stone ship or rock art within their burial chamber.

5.14.4. The Viking Cosmology Represented in Icelandic Burials

My contention then, is that boat burials should be viewed not only materially, but that the image of the boat or ship represented more than a trading system. In the burial record, it deliberately represents the symbolic connection with Norse mythology and cosmology during the Viking period. (Adams 2001; Crumlin-Pedersen and Thye 1995; Müller-Wille 1995)

No ship graves are found in the Icelandic context as none of the boats are more than 20 m in length. The majority of the boats in the graves are at least 5 m in length indicating that they were not simply containers for the dead. As can be seen in Vol. II, Tab. 5.5, in Volume II, there are quite a few artifacts associated with the boat graves, with only one exception, Burial Site no. 88. (See Map 18 for boat burials in the Pre-Christian Icelandic landscape.)

None of the boat-graves in pre-Christian Iceland come close to the wealth or symbolism presented in the Oseberg ship grave. Although that grave more than likely contained a shaman and possibly a religious cult leader whose followers did not want to see her sail off because of her importance to the community (Ingstad 1995), there are no

burials anywhere close in scale or similarity in the Icelandic corpus. In Iceland, however, the placement of grave goods with the deceased did follow the ritual symbolism discussed above and clearly displayed the political, economical and spiritual meanings of these boat graves.

As briefly discussed in Chapter 2, boat burials do have prestigious qualities, however, their appearance in the burial record makes them symbolic as well. Since only a relatively small number of boat burials were found there, it is primarily in the surrounding landscapes that cosmological and religious connections can be discovered. Through the Icelandic burial record we can see that even though there were relatively few boat burials, it was their connection to water that was significant. Just as the boats indirectly evoked views of the sea, connection between burials and water was also indirect though a view of the sea was an essential element in the choice of position for the burial in the landscape rarely was a burial placed directly at or in the water. (Maher 2008) Although many of the boat burials were placed very near to water, not all were directly at the water feature. The boat burial at Litli-Nupar was not directly on the water. It was up a slope, in a valley with a large river down below, the river and the sea were seen clearly, but the burial cannot be described as being on the river. What came to light in this analysis is that not all were able to take part in the boat burial ritual. The reason for this is not addressed or considered here. What was considered is that regardless of one's position in this society, the belief in the otherworld and the journey from the land of the living to the land of the dead was indicated by the burial placement of all of the located graves. Although not all could enjoy the luxury of providing a vessel to the otherworld for the dead, they could point them into the right direction. However, by

analyzing viewsheds and burial placement, the specific cosmological connection emerges: the dead were shown the way to the watery path to their afterlife.

5.15. Conclusions

Clearly the landscape plays a bigger role than previously considered in burial site placement during the pre-Christian Viking period in Iceland. Although these cannot be confirmed in other parts of the Viking World during this time, it is evident that in Iceland there were perceptible differences in the burial rites that were determined by age, gender roles and social spheres. They also reflect Viking cosmology and the differences in the cosmology as they pertained to the various age groups and the sexes. Adding the landscape into the burial record also reveals that although boat graves were few in Iceland, the symbolism was broader than that of the physical boat alone once its connection to water is better understood.

Chapter 6. Conclusions

6.1 Introduction

Upon reflection, the title of this dissertation is not only dramatic, but functional. In practice archaeology is many times divided into two spheres. The first looks at the archaeology of settlement, or production or even the impact that proliferation of a group has on a particular landscape – in other words, studies of life. The second focuses on forms of burial, burial ritual, burial monuments and the deceased – in other words, studies of death. The lines are flexible and one is often representative of the other, either directly or indirectly. However, this study intended to consider not only the politics and economics imbedded within each burial to understand the social roles assigned to age and gender, but to go beyond social relationships and place the sites within a cosmology by illuminating conceptual relationships to space. The value of this approach is in its ability to draw out the conscious and unconscious behaviors derived from thought as well as social interactions among the pre-Christian Icelanders.

This study however, does not ignore social dimensions or social infrastructure. Burial evidence combined with other archaeological evidence was examined with the use of GIS in order to appreciate the cognitive aspects of the various spaces and places that made up the Viking Age landscapes in Iceland. Mostly, this study compiled the many lists of data created during the last century, integrated those lists with data collected for this project and by thoroughly analyzing all the data, derived a social context from the by using anthropological methods.

Some might claim that there is enough written information about the subject and that such a study cannot possibly contribute any more than the writings and current

archaeological evidence already tells us; or, further, that it is impossible to understand the cognitive processes behind certain types of material remains, such as those associated with ritual and spatial perceptions. Societies are much more complicated than their material remains. A general description may be presented regarding any group, but when one looks deeper, it is revealed that there are individual thinkers, people who do not ascribe to the same beliefs, groups who are ostracized or enslaved or oppressed and class and gender divisions which are not included in a normative description of a society. For this reason, it is worth delving deeper into the many possibilities for information that the material remains can offer in the hope of expanding our knowledge of a subject.

The roughly 130-year pre-historic period in Iceland, when the pre-Christian group was settling into a new land and striving not only to understand their new surroundings but also to acquire a connection to the land so that its features became part of their social memory and identity, provided an opportunity to follow the progress of a growing population. The emerging society did not materialize out of thin air. They had arrived with a common cosmology, religion and ideology. For whatever reasons they sought to immigrate to Iceland, at least the new settlers had shared origins. Creating a new community and establishing new political and social networks in this community would mean integrating their previous ideals and this new situation, and to make it work, lines between the public and private spheres would have to be crossed.

6.2 Results of the Study

I approached this study with the expectations that using the catalogues of material data already on record, would allow the project to answer questions of gender roles, differences associated with age and cognition within an anthropological context; and

doing so would generate a more comprehensive understanding of the pre-Christian burial practices and ritual performances which directly reflect the ideology of the society. By striving to understand the cognition of spaces and places and how that affected the Viking period burials, a more realistic image of how the Icelandic settlers perceived their landscape emerged. I further argued that that GIS would be quite useful in such a study since it could reveal not only geography but perceptions.

This study showed that there were indeed differences in Icelandic burial practices from other parts of the Scandinavian world, their assumed place of origin. The most notable differences can be seen in the lack of cremation burials, high-status ship or boat burials, and special practices for a warrior class.

6.2.1 Burial Location

Marked differences were also revealed in burial location and placement. For instance, in Norway, burials tended to be much closer to the farm complex than is seen in the Icelandic corpus – averaging almost one-third of the distance. (Gjerland and Keller 2009 (in press)) In Iceland, burials were farther from the farm complex, probably because land was more readily available. Even if the actual mounds were not clearly visible, these burials were placed within sight of the farm house, and *vice versa*, so as to maintain a connection between the living and the dead. In so doing, lines of descent were forged indicating ownership and ancestry as well as creating a social attachment to one's surroundings. Despite the absence of a past in this new land, the settlers were creating one for future generations.

6.2.2 Social Status

The contents of the burials suggested the social status that was realized by the deceased and aspired to by the family. Thus, social position was projected from the

deceased onto the family and re-projected from the family to the deceased and back again. This cyclical process ensured that for better or for worse, the status of the deceased in the family and community was transferred to the household and thus to the legitimate heir.

It is not possible to know how representative the burial sample is with respect to the society under study because we can only be certain of wealth when a grave included many artifacts. Unfortunately, we cannot know if those without or with very few grave goods represent the poor, a different culture or a different religion. However, similar to other research in this area, the understanding of wealth in this study was based solely on the quantity and quality of grave goods associated with each grave, assuming it to be representative of the entire culture under study. In so doing, elevated social status was indicated by more than the usual prestige items collected in long-range trade. Items for leisure activities, excess amounts of any category of item – for instance adornment and weaponry, items of trade and specific craft items signaled the elevated status of an individual. Artifacts relating to specific tasks or toolkits are quite rare in the corpus and the results of the analyses indicate that such items more than likely show that the individual or family excelled at a particular task. In at least one situation, the inclusion of weaving artifacts, points toward a surplus-creating venture enhancing the position of the family and family members.

Diversity of grave goods was also an indication of enhanced social position in the pre-Christian Icelandic burials. When the artifacts were organized into categories based on function and purpose, some individuals had artifacts from as many as six categories while others had them from only one or two. Male graves could contain up to six

categories and female graves might have up to four. This clearly showed unequal access between the sexes. Age differences in grave goods was also noted, indicating the social positions of childhood, the arbitrary age group divisions created by this society and the manner in which maturity and development attributed to an individual's achievements and overall success.

Variation occurs among individuals in the number of artifact categories included within each grave. By considering animal inclusions as a significant category and relying on the number of categories included in burials with animals as strong indicators of social status, it seems a small group represented the highest social position (11.8%), the middle level accounts for 31.6% and the lowest level individuals with significant standing, 56.6%.

From the analyses of the data, it is seen that once the Icelandic corpus was separated from the other Norse communities, the image of the Icelanders changed. By allowing these data to be weighed on their own merits, the image suggested by so many in the past, of a group of relatively poor, egalitarian chieftains, changes. Now, it is clear from the diversity of their grave goods that they were actually a socially stratified community some of whom could afford to bury a variety of prestige goods, albeit on a lesser scale than found in some of the more magnificent burials from their neighboring Scandinavian communities. (Binford 1971; Crumlin-Pedersen and Thye 1995; Earle 1997; Kobylinski 1995; O'Gorman 2001; Schjødt 1995; Sjøvold 1954, 1985; Sørensen 1997)

6.2.3 Status Revealed in Graveyards

From the cemeteries, it appears that people of all social positions were commonly buried in graveyards in Iceland and that cemeteries further develop the image set forth in

6.2.2 by presenting the social levels of family-groups. There are obvious differences between those of the families of possible higher-ranking chieftains, or trading or specialized communities and the rest of society. In the higher-ranking graveyards more than one individual was interred with fine grave goods, full weaponry and jewelry of high quality and in some cases in considerable quantities. Graveyards for trading groups or families contained more than a few graves with artifacts of commerce, while those for more specialized groups contained those few specialized artifacts in the record. All the burials in these two groups contained a fair amount of artifacts, even a few prestigious artifacts. However, they included neither the quantity nor quality of those higher-ranking groups, with limited grave goods, some of high quality but most indicative of successful activities such as trading. Not all of the graves in these graveyards contained high status grave goods, but overall contained enough to show moderate status. The rest of the cemeteries had individuals with very few artifact inclusions. The meaning behind this difference is, at this point, unclear. Such graveyards could have been for low status free farmers or could be burial grounds for serfs or even indicate a different cultural group only containing the bare minimum of inclusions to meet the ritual needs for the next stage in life. In all cases, graves may have been subjected to robbery or events of borrowing where artifacts were removed to establish the continuity of power and to justify the continued authority derived from that powerful individual now deceased.

There is still the possibility that the very poor, either tenants or serfs, did not have proper burial grounds, suggesting they had no rights to any land after death. Maybe this explains some of the isolated individuals without artifacts or animal inclusions, though it

is possible that some may have been outlaws. These are questions that the data may never answer.

The Icelandic pre-Christian graveyards, like the individual graves, once taken out of the broader Scandinavian picture and measured against their own cultural group, clearly show social stratification among the Icelanders.

6.2.4 The Gendered Perspective

The lines between the genders were crossed inside and outside the grave. The sex of the individual had a strong influence on the position of the grave. Males tended to be on elevated ground and females were usually placed in association with a waterway. Although such a difference could be based solely on perceived status between the sexes and gender roles, the data suggest that such placements were chosen based on Icelandic cosmology. Males who died under certain circumstances would automatically travel to Valhalla in the afterlife, thus their trip was planned. Possibly, females, those males who did not die a warrior or those too young to have earned any such status, needed guidance towards the route to their own afterlives. Thus, they were placed near a waterway. In both cases, a view of the ocean may have some significance as being the liminal zone between the worlds.

There are gender differences in the dataset and inequality based on age and sex is evident. Not all individuals in a household were equal, and social roles were not completely binary. Women's and men's roles often crossed in this evolving economic and political system, as can be seen by the fact that there are hardly any artifact categories that could be attributed solely to either sex. Thus, in such uncertain times the public sphere has a direct impact on the private sphere and changes to the private affected the outcome of the public. Each household member had to do his or her part toward the

household's survival or success. It was also evident that there was both ascribed and achieved status in this culture. This is indicated by the increase in quantity and quality of grave goods with age and by the sparsity of younger individuals with prestigious burials in comparison, as well as by the inclusion of the artifacts of trade and craft production in mid to upper level assemblages.

Women were definitely outnumbered during the settlement period, but, the archaeological data does not necessarily support the almost 6:1 ratio suggested by some scholars using the Book of Settlements as a guide. For the most part, the ratios in most of the analyses usually ranged between 2.5-3.0:1 throughout the dataset. Whether this unbalanced ratio directly affected the position of women in this group is not certain. However, it is certain that in death, although there are notable inequalities, women were not necessarily subordinate to men. In fact, it seems they were revered because they contributed greatly to the success and wealth of the household through their management of the day-to-day as well as their involvement in surplus-creating activities, most notably, the production of homespun. The graves with artifacts of prestige and leisure as well as the graves that have an abundance of artifacts from diverse categories, suggest that in death, both sexes established social position and solidified social and political alliances, though more male graves than female graves exhibited higher social position through greater diversity in artifact function.

The incorporation of gender into this study clarified many of the differences based on sex. Social status based on sex is revealed but the situation is not as black and white as was once believed. This study showed that there are classes of women and that not all women are subordinate to all men. Also evidenced by this study is the social

stratification within the sexes and a possible means of perceiving how those strata were reached. Another aspect of gender differentiation was revealed by the incorporation of the burial landscape and GIS played a significant role in illuminating the gendered cosmology of the pre-Christian Icelanders.

6.2.5 Perceptions of Childhood

By incorporating an archaeology of childhood, the project was able to focus a portion of the analyses on the invisible. Despite the small sample, by doing so, it came to light that children were not insignificant. Care was shown for the very young who were buried in graveyards with the adults, presumably of their families, but without grave goods. It could be seen that adulthood was reached at a much younger age than in contemporary society, seemingly sometime during the 13-18 age category used in the skeletal analysis. During this time, it appears it was possible for an individual to have earned this particular rite of burial, but within this category, there are already differences in social status, indicating both ascribed and achieved social status in the community. This trend continues into the next age category, up to the age of 25 years of age. During this time there are more individuals in the dataset and they show that social status is not only being projected by grave goods, but also by burial placement. One possibility being entertained here is that males, in particular those who had not earned a particular status were placed in accordance with a general burial practice where placement near a waterway helped to guide them to their afterlife. Those males who had achieved or had begun to achieve a certain status were more likely to be placed in an elevated area – similar to the remainder of the dataset.

Such variations in placement also applied to the age groups, at least when it pertained to those more than likely considered too young to have had a chance to earn

such status. We find that in the earlier years of adulthood the majority were placed near waterways regardless of their gender associations. The very young, however, were placed with adults.

This study brought to light a perceptible difference in the measurement of childhood between contemporary thought and that of the pre-Christian Icelanders. It is proposed here that childhood was for the very young and once an individual was able to meet the requirements of adulthood either by skill or intelligence, it was then up to the individual to excel in life in order to earn a particular burial style or placement. Once again GIS contributed greatly to revealing this difference in burial placement based on age and cosmology.

6.2.6 Horses: Prestige, Transportation or Cosmology?

Since Iceland's landscape was very unlike the rest of the Viking homelands in that land transportation was more common than travel by sea, as discussed further below, horses were a fundamental component of travel and communication among trade networks from this time to well into the 20th century. It seems likely that the horse represented a substantial and prestigious contribution to the burial ceremony and projected the power and social standing of the individual onto his or her descendants during the period of hierarchical formation in the new land. (Brunwasser 2007; Cool 2005)

The Horse inclusions were not simply a sign of status, but represented the functional nature of the beast – both in life and in death a horse could provide transportation. Obviously, in the Icelandic context, the horse was part of daily life, providing transportation between farms, for trade and even more importantly to and from the annual assembly meetings. Essential cross-country travel was provided for by horses.

It would seem that such an important component of life would be as important in death as one would need transportation to the final destination. With almost half of the burials on record containing horse inclusions, it seems that they were not simply included because they were abundant, but they held a symbolic position in the burial ritual as well.

6.2.7 The Burial Landscape

In furtherance of Eldjárn's description, there are qualities in the placement of the burials such as the surrounding environment and the associated features which shed light on the decision-making process of choosing the burial location. As already established elsewhere (McGovern 1988; McGovern, et al. 2007) these farmers needed land suitable for maintaining, and particularly over-wintering, animals such as cows and sheep. The use-value of grasslands was clearly reflected in the choice of burial location as there were only a handful of burials placed in this type of environment, while the majority of burials were placed in or near areas of birch forest and water. Even with forested areas having been cleared pretty early during the settlement period, it appears that placing burials at the edge of birch forests near to water was the preferred location.

Burial in or near to birch was obviously sound economy, as the agricultural value is less than that of grasslands. Placement near water sources can also be thought of that way too but it had symbolic value as well. Cognitively, there may be a connection with networks, similar to Friðriksson's idea of placement by roads and tracks (Friðriksson 2005) with water being another type of track in the travel network. However, it appears that the Berufjord burial site (BR No. 50) is placed overlooking the deepest part of a fjord which today is not a particularly good landing place for boats and, more than likely, was not suitable during the Viking period either. (Gjerland and Keller 2009 (in press); Keller 2008, pers. comm.) It appears that there could have been a symbolic connection to

the travel and communication networks and possibly a connection to a cosmological network, as well. This would mean that water functioned as part of their regular network. Also, as was argued above, within their belief-system a visual connection to the path leading to the next stage of existence was implied by placement near water.

The strong connection between the living and the dead may have placed restrictions on burial placement. Although Iceland was uninhabited when the settlers arrived, it was shown that burials tended to be placed close to their associated farmhouses. This suggested that even though there was an empty landscape in which to place farms, burial locations were restricted by ideology. The majority of burial sites in this study were within an arbitrary 500-meter radius from the likely farmhouse position which suggests that the Icelandic settlers were indeed creating an obvious line of descent and staking claims based on lineage. This validated the right of the decedents to own and control the land on which their ancestors were interred. The social position of the deceased was reflected by the inclusions within the graves and projected onto the subsequent owners, thereby transferring any acquired status to descendants. The burial sites within this range were more than likely placed just outside of the home field, but still within the individual farm boundaries. This relative lack of distance between the likely farmhouse location and the burial site was one of the first indications that burials supported ownership rights by kinship and possibly indicated the longevity of a lineage on a particular farm.

Two-thirds of the burials were placed on prominent features. However, their overall unobtrusive appearance tempered the implications of such a position and for the most part supports Eldjárn's idea of the wealth of the Icelandic pre-Christian society. All

of the burial sites could be seen as claims to land, especially those along some sort of boundary, whether natural or man-made. The elevated burial sites, however, appear to serve this purpose quite well as they overlooked their property, another indication that they represented ownership and land tenure. This concept is supported by the contents of the Book of Settlement, as well as the manner in which line of descent is re-enforced in every saga and the fact that inhumation burials were a well-established ritual for marking land.

The landscape visible from each burial was also studied and it was found that the majority of the burial sites were located in areas without a vast view of the landscape, and though from my own surveys most views were generally pleasing to the eye, the measure here was of the overall range of visibility. For the majority, it proved to be limited. This seems to indicate that a view of one's own land was more important than a panoramic vista.

Ultimately, what the burial landscape brought to this study was a way to understand how these Norse individuals became Icelanders and how they created not only a physically demarcated landscape with boundaries and limitations, but a social memory for their descendants.

6.2.8 The Boat Burials and Cosmology

At present, there are nine possible boat burials known in Iceland. One is a burial mound in the shape of a very large boat to represent a boat grave, containing cremated remains. (Byock, et al. 2005) Another is particularly circumstantial with only wood fragments and boat nails remaining. Eldjárn thought it could possibly be a boat. (Friðriksson 2000:222-223) Also, according to Crumlin-Pedersen, even a partial boat is considered a boat burial. (Crumlin-Pedersen 1995; Müller-Wille 1995) These boat

burials were clearly following a Norse burial rite. In a land where materials were scarce, they denoted prestige and power as well as ritual symbolism and transport.

Iceland is quite a large island and during the Viking period was traversed by many land routes as well as by sea. In fact, compared to their contemporaries in other parts of Scandinavia, they relied heavily on land routes. Thus, placing a burial near a land route conveyed many of the various messages being sent via the seaside burials: ownership, protection and ancestry. However, when considering the perceived landscape, one possible interpretation of placement is that there was a strong cognitive connection to the sea, possibly representing a connection with the afterlife. Even with the strong connection to water seen in the various analyses, there were obviously other determining factors contributing to the placement of the burial sites and it would appear from the data that being located on a water feature was less important than being near to water or within view of water. Although being placed close to water sources does happen, what comes to light here is that most burial sites could not be described as being on a river or at the sea – the view was more important. By utilizing a cognitive GIS to ask questions about burial site placement and further explore the landscape, it was possible to bring to light the specific Cosmological connection: the dead were shown the way to the watery path to their afterlife.

As my thesis stated, it is quite clear that both the internal and external parts of each grave shed light on the culture; on both the living and the dead, and their various relationships. The study has shown that funerary ritual was a form of intentional communication, not only through the artifacts, but also in the placement of the burials. As such it was a key force in creating, displaying, strengthening and perpetuating social

and political aspects of this culture. The material remains also provide a possible interpretation of their cosmology and ideology. Finally, this study has shown that there is meaning in the patterns of visual imagery and that GIS can be employed not only to determine quantitative data, but qualitative information, as well, to venture into the cognitive world; Cognitive GIS can help us understand not only how spaces and places are built, but how they are perceived.

6.3 The Future of the Research

There are still questions regarding placement, such as why some burials are located above the farm locations, and what the meanings are behind the few outliers. There are questions concerning what further cognitive implications can be drawn from the data, especially in engendering the pre-Christian burials of Iceland where a wealth of information is yet to be revealed.

There are a few immediate points raised in this project that I intend to pursue further. The first is a continuation of the research of childhood, particularly to find out more definitively, what the Icelanders did with their young. Differences can already be seen even in the small dataset on those under 18, but since retrieving more data on the subject from the Icelandic context is not necessarily an option, this project would benefit from a more comparative approach, both expanding the dataset to include the rest of the Viking period graves and incorporating similar studies on other regions and cultures.

The second point raised in this project that I intend to pursue further is to delve deeper into the cosmology and other cognitive avenues of the burial rituals of Iceland. Thus, research incorporating the animal inclusions, particularly the horses, can be more complete. This may reveal how similar the symbolism is to other areas of the Norse

world where it is possible that in the Scandinavian context, since the horse was not as 'abundant' they used imagery and in the Icelandic context they were able to include the actual animal. The concept of traveling to the otherworld, in particular, the role of horses and other animals present in the burial ritual will show that the horse was not insignificant in the Icelandic corpus as it represented not only the change in lifestyle from their places of origin where travel by land was less readily accessible and even costlier, but also reflects the reliance this community had on the horse. The numbers of horses in the burial rites show clear differences between the Icelanders and other Norse communities.

Third third point raised is that the cognitive research from cosmology to religion, and beyond, needs to be looked at further. Just as the connection between placement and cosmology was revealed, religion and placement may be brought to light by further analyzing the symbolic meanings of the artifact inclusions and then bringing back into the landscape.

Finally, the focus on the boat burials in this project only scratches the surface. There are countless arguments that have been floating around whether or not the boats are functional, represent networks or have a symbolic meaning. Although I, along with many others, believe that they represent all three; there is still very little solid evidence in support of this – primarily due to the fact that the solution is based on a cognitive viewpoint. This project has shown that by incorporating processual, postprocessual and cognitive theoretical frameworks into a GIS and using GIS as more than a tool, images of the abstract processes embedded within the archaeology were brought to the surface and made visible. It was shown that water is as important as the physical boat and that

physical boats come in all shapes and sizes. It was also shown that 'saltwater people' have a strong connection to the sea and thus it is not surprising that water and boats would play a significant role in their cosmology. The next step is to attempt to shed light on the meanings of the boats in the burials, understand them within the religious context and develop a more detailed analysis that will reveal what social role the boat had in the burial ritual.

There is still much to be explored as questions still remain regarding some of the relationships. For example we still do not know who was selected for burial and if the poor are indeed represented. Such a project might focus on those seeming outliers – possibly outlaws or outcasts – or a more extensive survey to see if those above were associated with the farms considered here or possibly with undiscovered farms above the elevation of the anomalous graves.

Another question left open by this project is that although based on quantity and quality it would seem we have a range of rich to poor, those burials without or with very few grave goods may in fact be those people of a different cultural identity, with differing burial practices, or may not be poor, just of a slightly lower-class, as the poor may not have had an opportunity to be buried in this manner at all.

Not only has this project shed light on the gendered world of the pre-Christian Icelanders, but also the cognitive world. What this project has shown is that research needs to focus beyond creating lists – even beyond what the data are telling us. It is in this way that the data are able to finally be explained in their cultural context.

With the growing corpus of burial sites and new research methods being employed, it is believed that the early Icelandic society will finally be understood as a unique culture rather than a poor imitation of their superior contemporaries.

TABLES

Individual Graves In the Three-Variable Analysis as discussed in Chapter 4.5				
Grave No.	Sex	Age	Artifact Count	Animal
260	U	MA	75	Dog
189	U	A+?	53	Horse/Dog
135	F	U	46	Horse/Dog
265	F	OMA	43	Horse
286	M	OMA	34	Horse
250	M?	MA	31	Horse/Dog
157	F?	OMA	30	Horse
26	M	MA	23	Horse
196	F?	YMA	23	Dog
8	U	OSA	17	Horse
70	M	OMA	17	Horse/Dog
213	M	OMA	17	Horse
187	M	MA	13	Horse
44	U	U	11	Horse/Dog
197	M	YA	11	Horse
190	F?	OMA	8	Horse
154	M?	MA	6	Horse/Dog
221	U	U	6	Horse
27	M?	U	5	Horse
170	U	U	5	Horse
276	U	U	5	Horse
140	M	OMA	4	Horse
144	U	U	4	Horse
161	U	U	4	Horse
164	U	U	4	Horse
200	M?	OMA	4	Horse
262	M	MA	4	Horse
41	U	OMA	3	Horse
159	M?	OMA	3	Horse
251	M?	U	3	Dog
288	M	OMA	3	Dog
24	U	U	2	Horse

Tab. 4.5 Graves included in this portion of the dataset with sex, age and animal inclusion. (continued)

Individual Graves In the Three-Variable Analysis as discussed in Chapter 4.5				
Grave No.	Sex	Age	Artifact Count	Animal
50	U	U	2	Horse
146	M	YMA	2	Horse
162	U	U	2	Horse
248	M	OMA	2	Dog
43	U	U	1	Horse
73	M	MA	1	Dog
201	U	U	1	Horse

Tab. 4.5 Graves included in this portion of the dataset with sex, age and animal inclusion listed in descending order of artifact count by grave. Beads and boat nails are the two most likely artifacts drawing the artifact counts upward.

Pre-Christian Icelandic Boat Burials As Discussed in Chapter 5.14.4					
Burial Site No.	No. of Humans	Site Name	Size & Place of Boat	Artifacts Associated with Boat	Notes
37	2	Kaldárhöfði	“small boat” On small island in lake.	Silver wire, textile, strap end, buckle, 85 boat nails, ignitor, knife, ignitor, hook, hook, sinker, fragment, axe, arrow head, arrow head, shield boss, spear head, axe, sword, spear head, shield boss,	Adult and child in one small boat.
54	7	Vatnsdalur	6 m At deep end of fjord at shore.	Bronze finger ring, bronze arm ring, 30 beads, pin, chain, pendant, silver Thor’s hammer pendant, pin, bell, coin, weight, comb, comb, knife, whetstone, comb case, pebble, fragment, fragment, bone, decorated object,	
88	1	Dalvík (Böggsvisstaðir)	6.45 m Set back from water, but in view of water	124 nails and rivets, wood and iron fragments	

Tab. 5.5 Boat burials recorded in the Icelandic pre-Christian burial record. (continued)

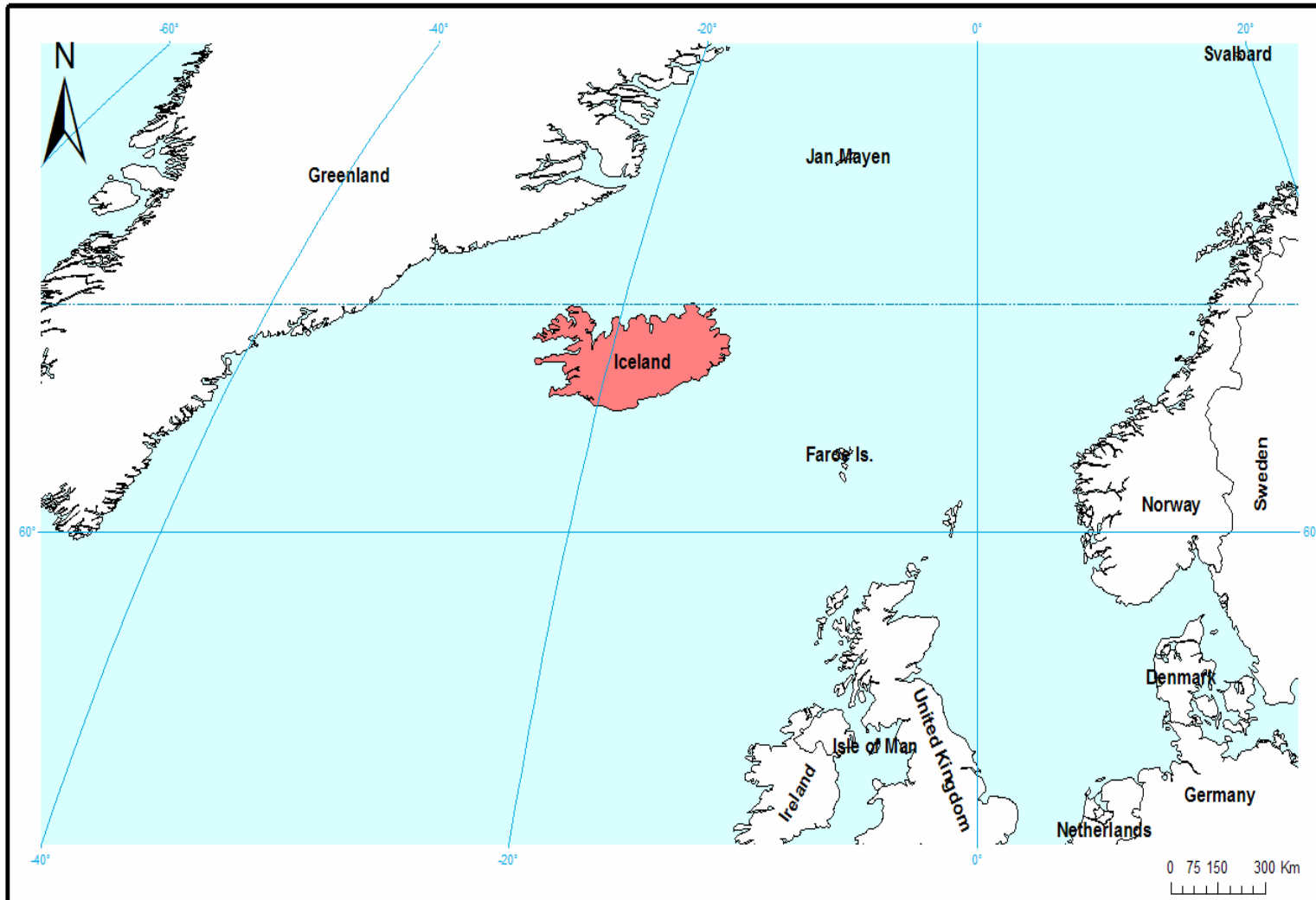
Pre-Christian Icelandic Boat Burials As Discussed in Chapter 5.14.4					
89	1	Dalvík	7 m At landing area on water	Oval brooch, 15 beads, 52 rivets, 11 lead weights, 3 nails, steatite vessel, 2 whetstones, 2 knives, 3 buckles, wood, bone charcoal and iron fragments, 19 bone gaming pieces, 2 spear heads	
120	1	Glaumbær	5.5 m No view of sea, but water	25 rivets, 1 bridle bit, 3 buckles, 3 loops, 1 hook, 3 nails, 3 plated bosses, wood and iron fragments, 1 spear head	
134	1	Straumur	Placed very near to the glacial river	30 rivets, 1 lead weight, 1 knife, 2 pebbles, 1 axe	Thought to be a boat-burial, or at least a partial
163	3	Litlu-Nupar	6.5 m Overlooking river and view of the sea	1 bead, 1 bronze bell, 223 rivets and nails	Two males and one female
164	1	Hringsdalur	Between the road and the shoreline, very close to sea	400 boat nails, 10 rivets, 1 axe, 1 spear head, 1 shield boss, 1 sword, and iron fragments	Analyses not complete

Tab. 5.5 Boat burials recorded in the Icelandic pre-Christian burial record.
(continued)

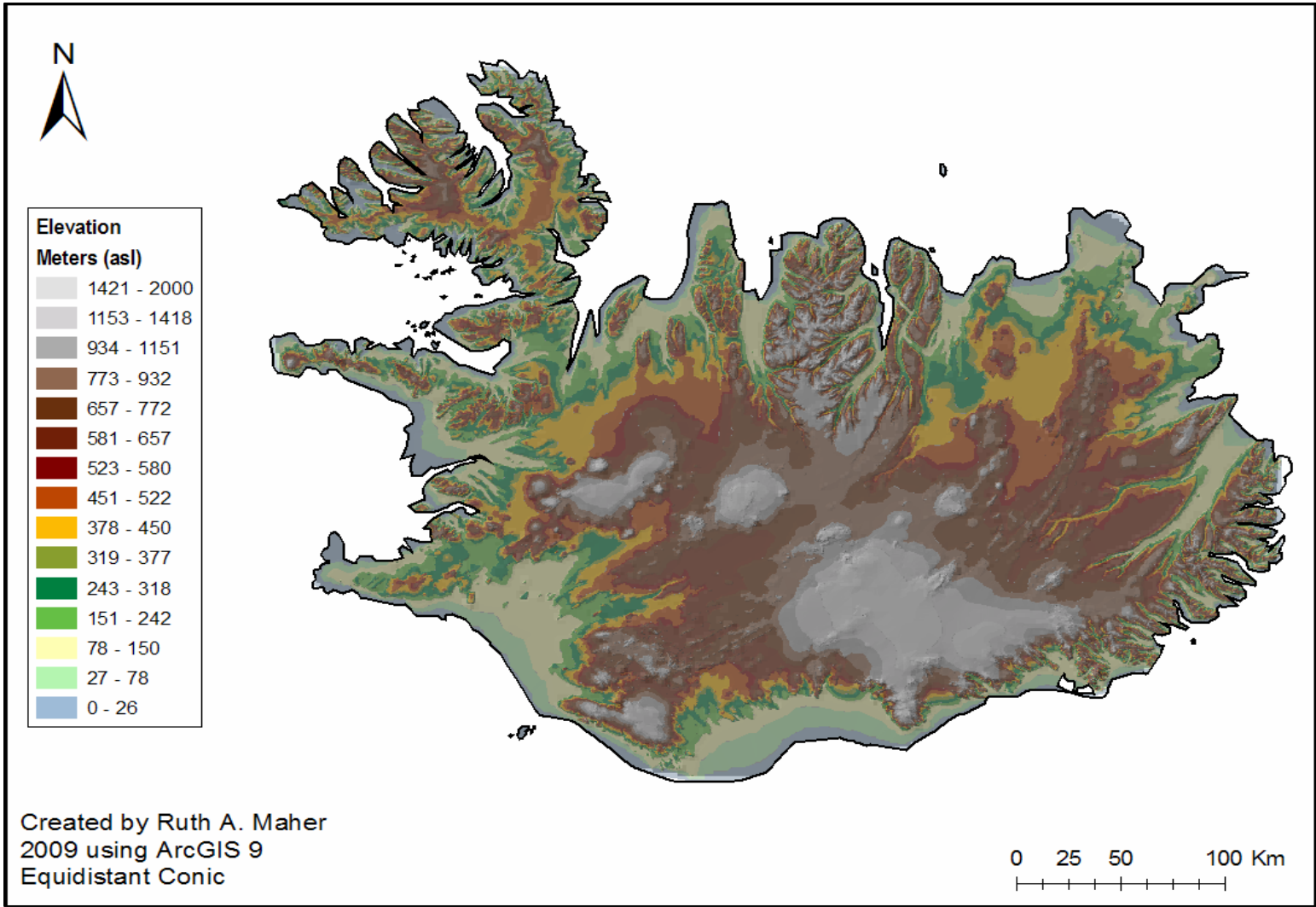
Pre-Christian Icelandic Boat Burials As Discussed in Chapter 5.14.4					
169	1	Huldahóll, Mosfellsbær	On a very prominent natural feature pointing toward the sea and landing place	Iron sheets with rivets, worked bronze sheet, iron fragments	Natural and man-made mound in shape of large boat, facing sea

Tab. 5.5 Boat burials recorded in the Icelandic pre-Christian burial record as of April 2009.

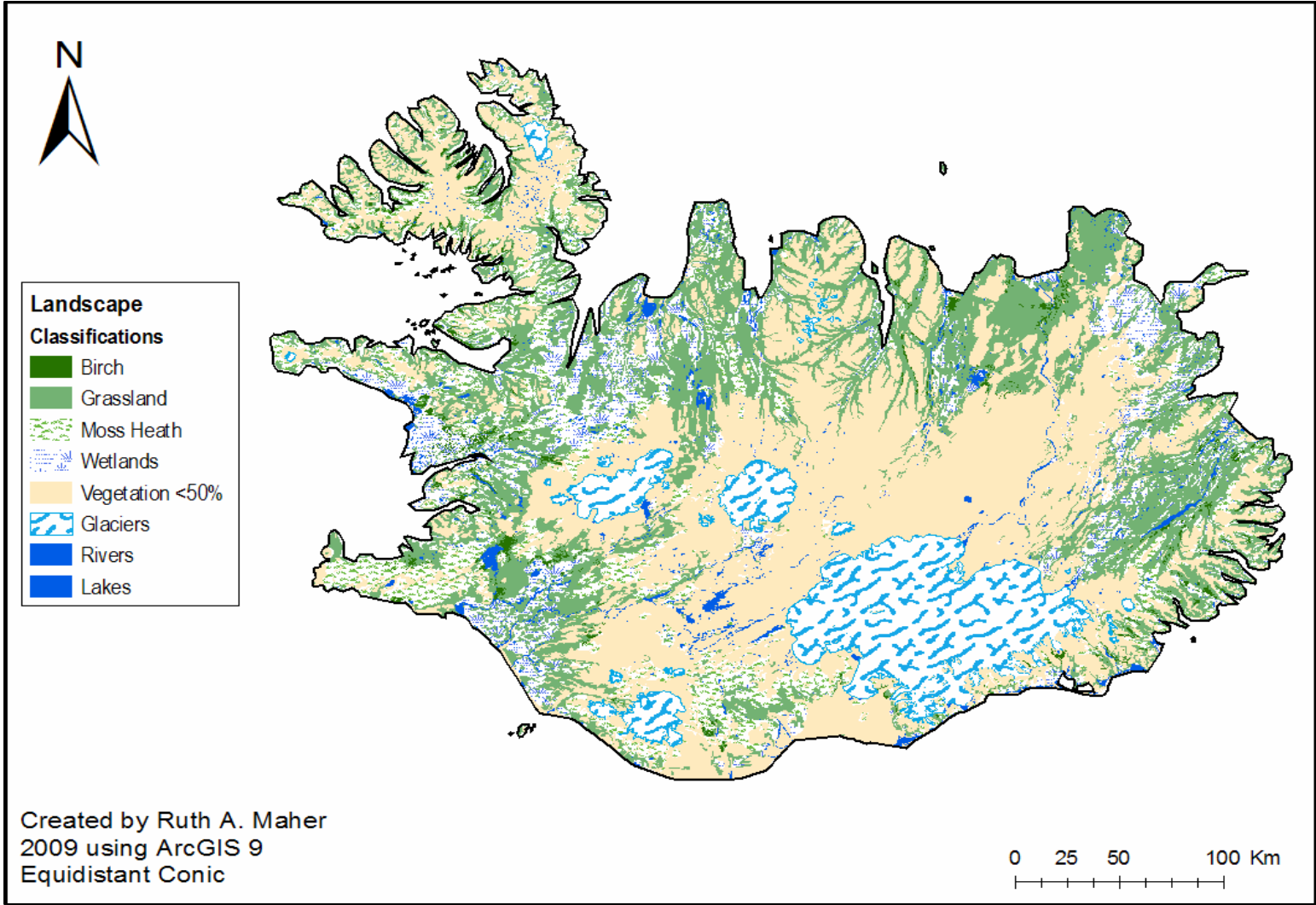
MAPS



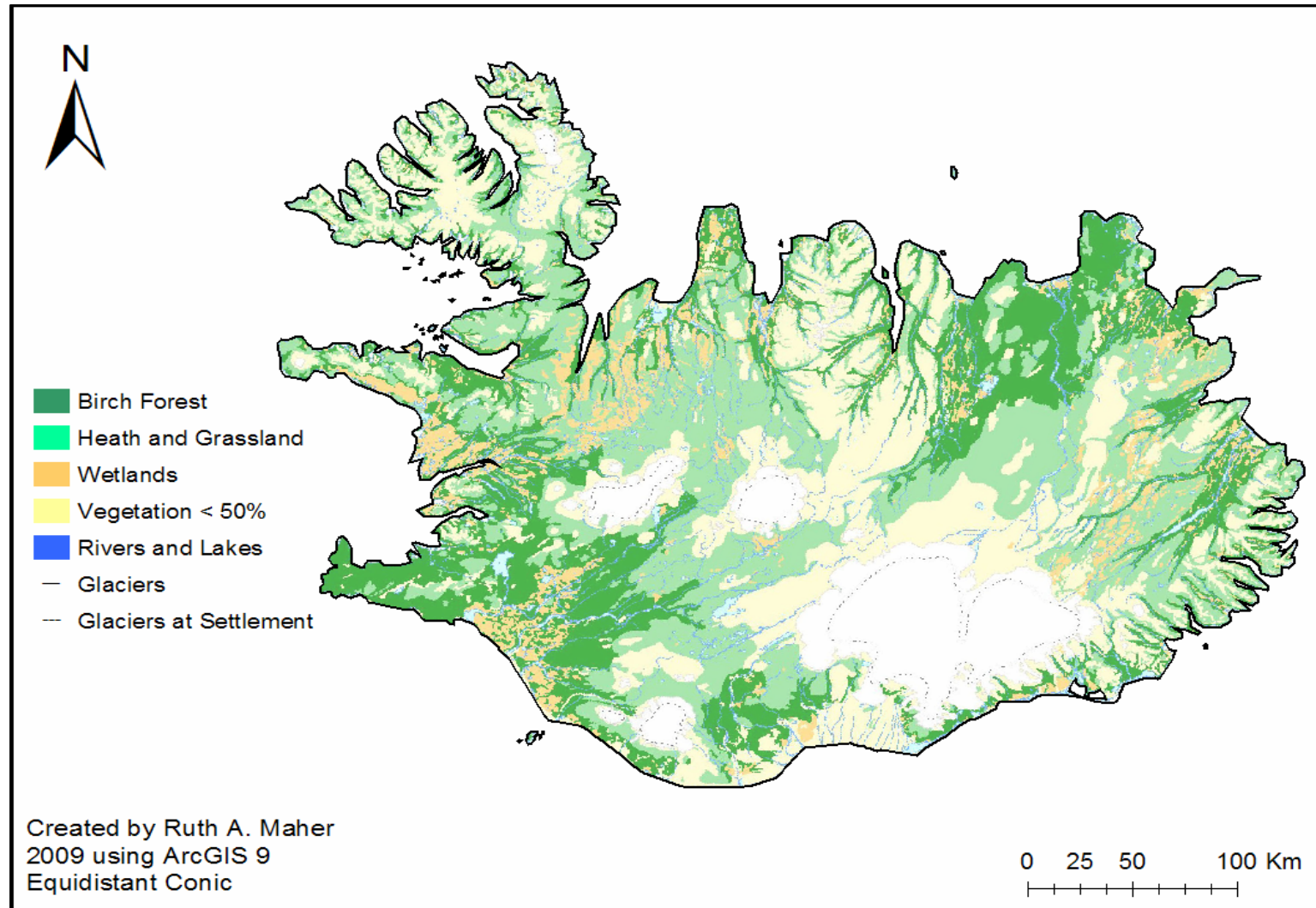
Map 1 The position of Iceland in the North Atlantic relative to the Viking homelands of Scandinavia and early settlements such as those of the British Isles and Ireland.



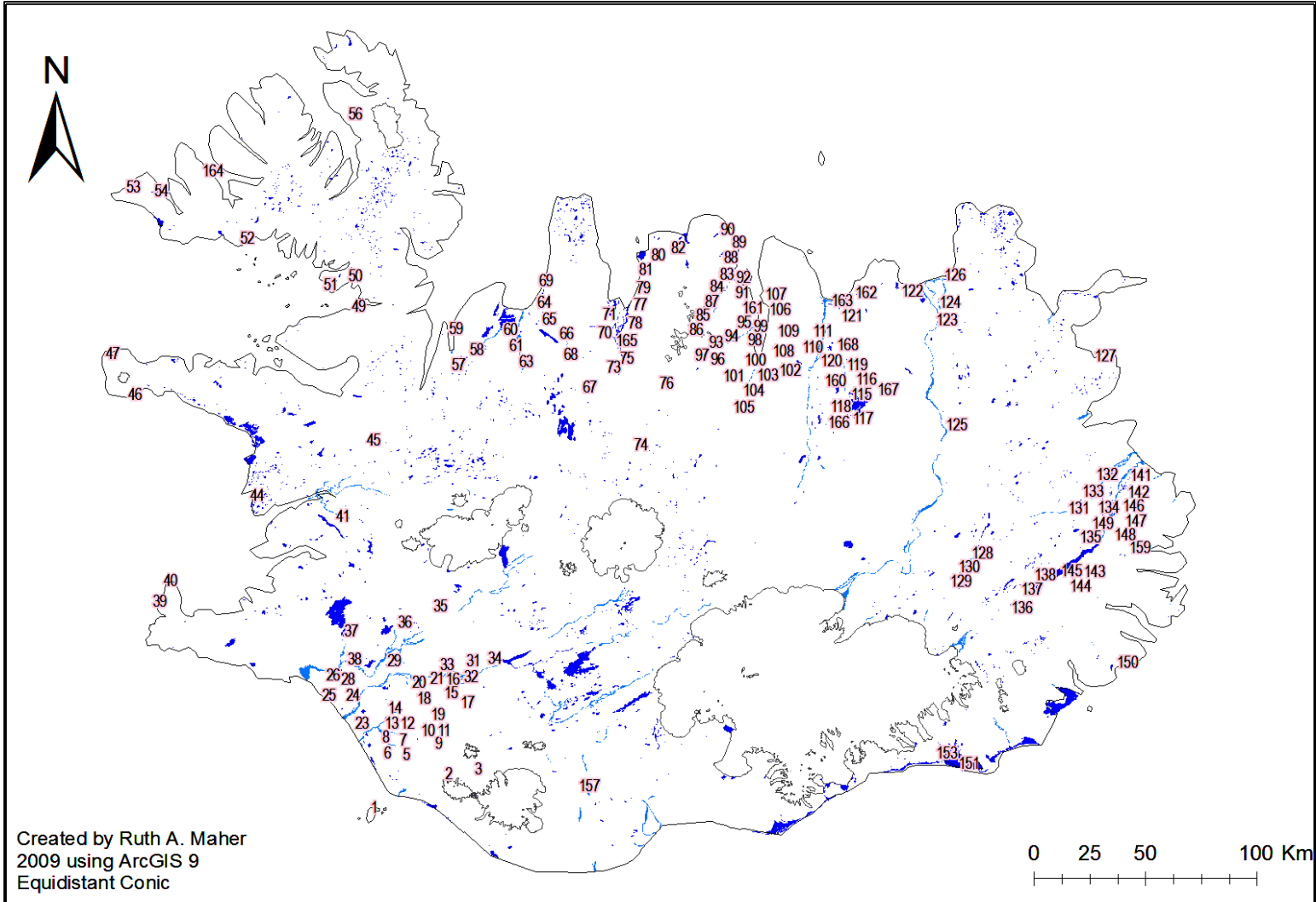
Map 2 Modern elevation map of Iceland.



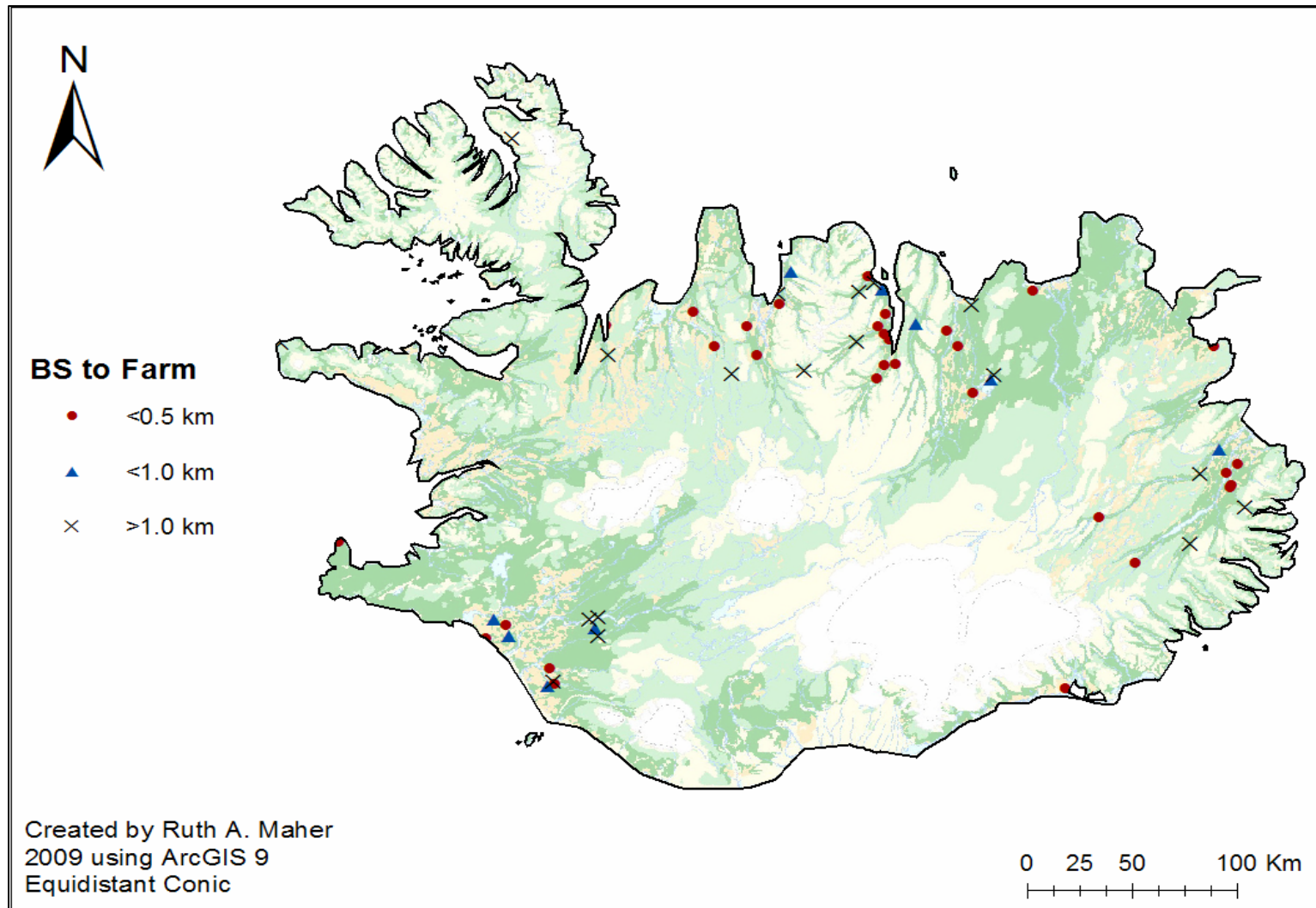
Map 3 Modern Icelandic Landscape.



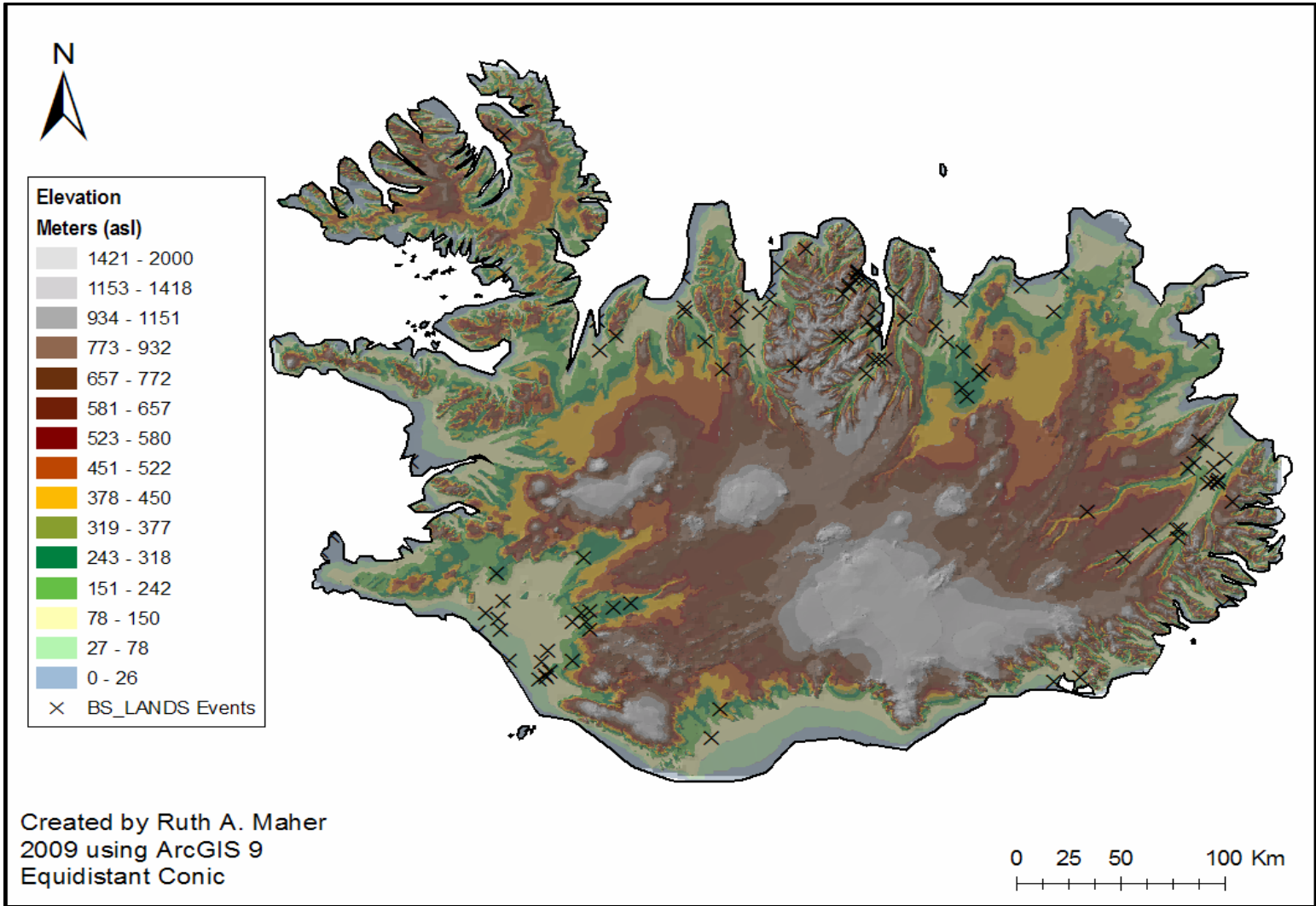
Map 4 Estimated Viking period Landscape. Estimated by Eyþór Einarsson and Einar Gíslason Natural Science Institute of Iceland 2001 (used with permission).



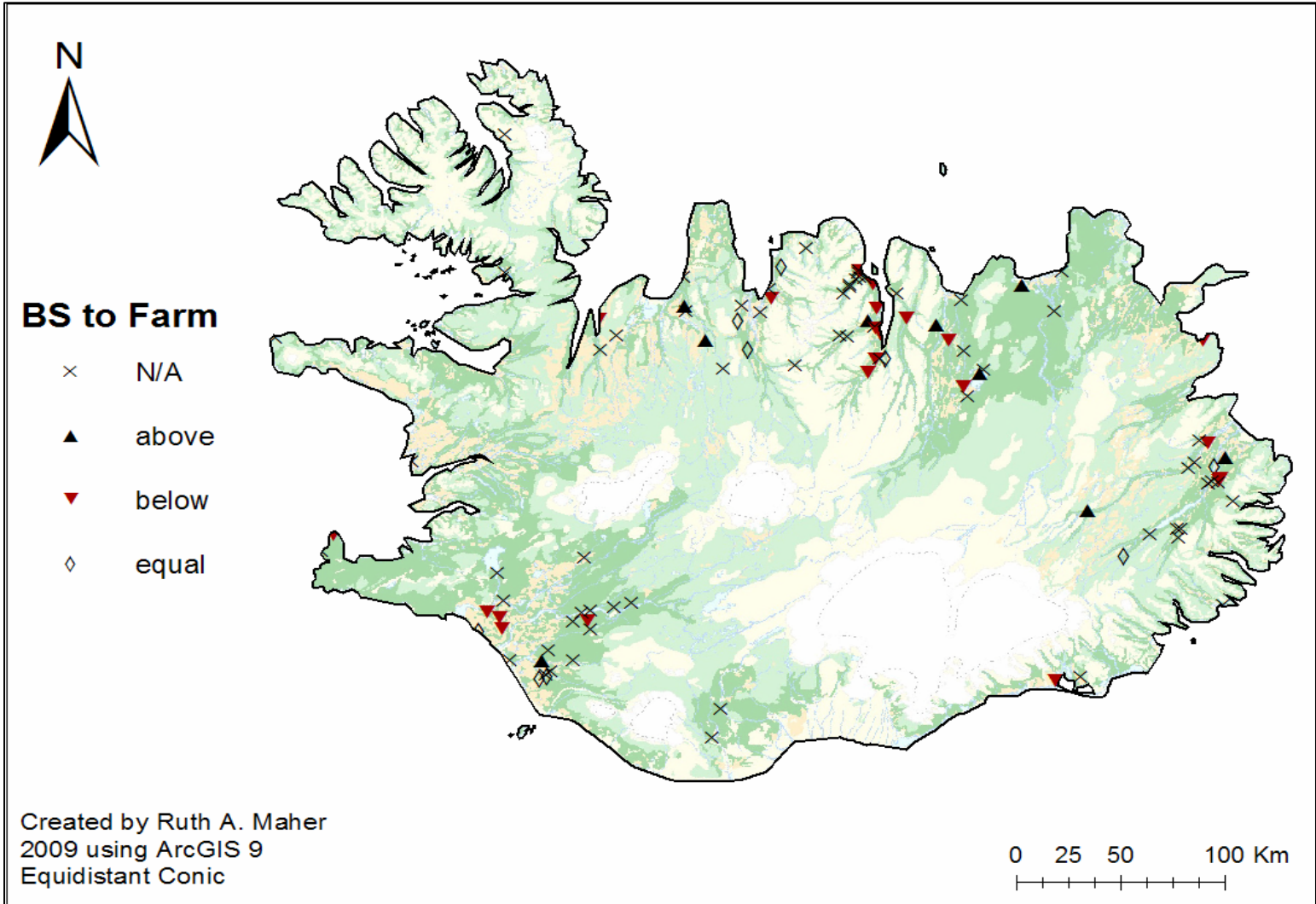
Map 5 Icelandic Pre-Christian Burial Sites, by Burial Reference No., rated for use in this project.



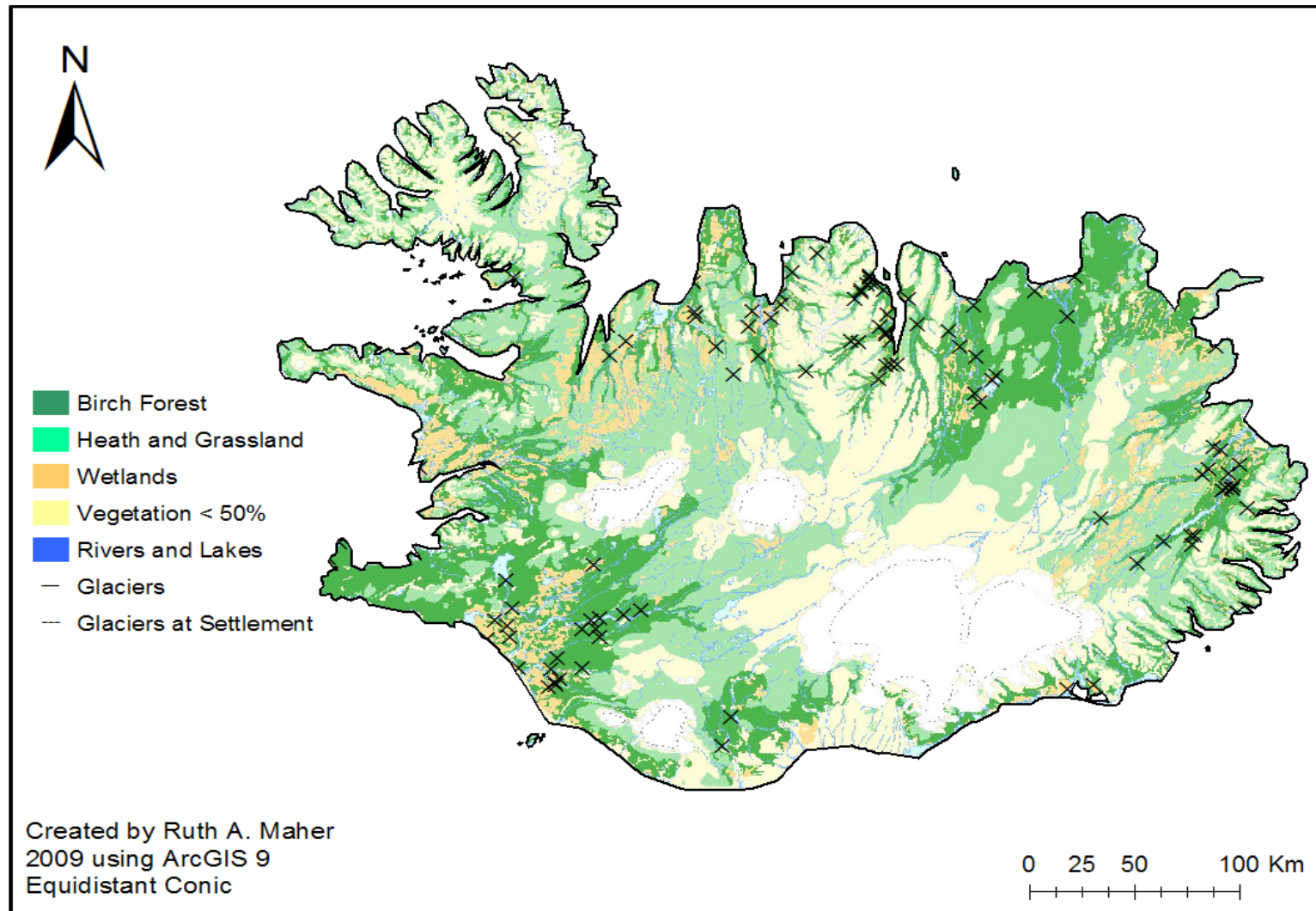
Map 6 Distance map showing Burial Sites within 0.5 km, 1.0 km and outside of the 1.0 km radius.



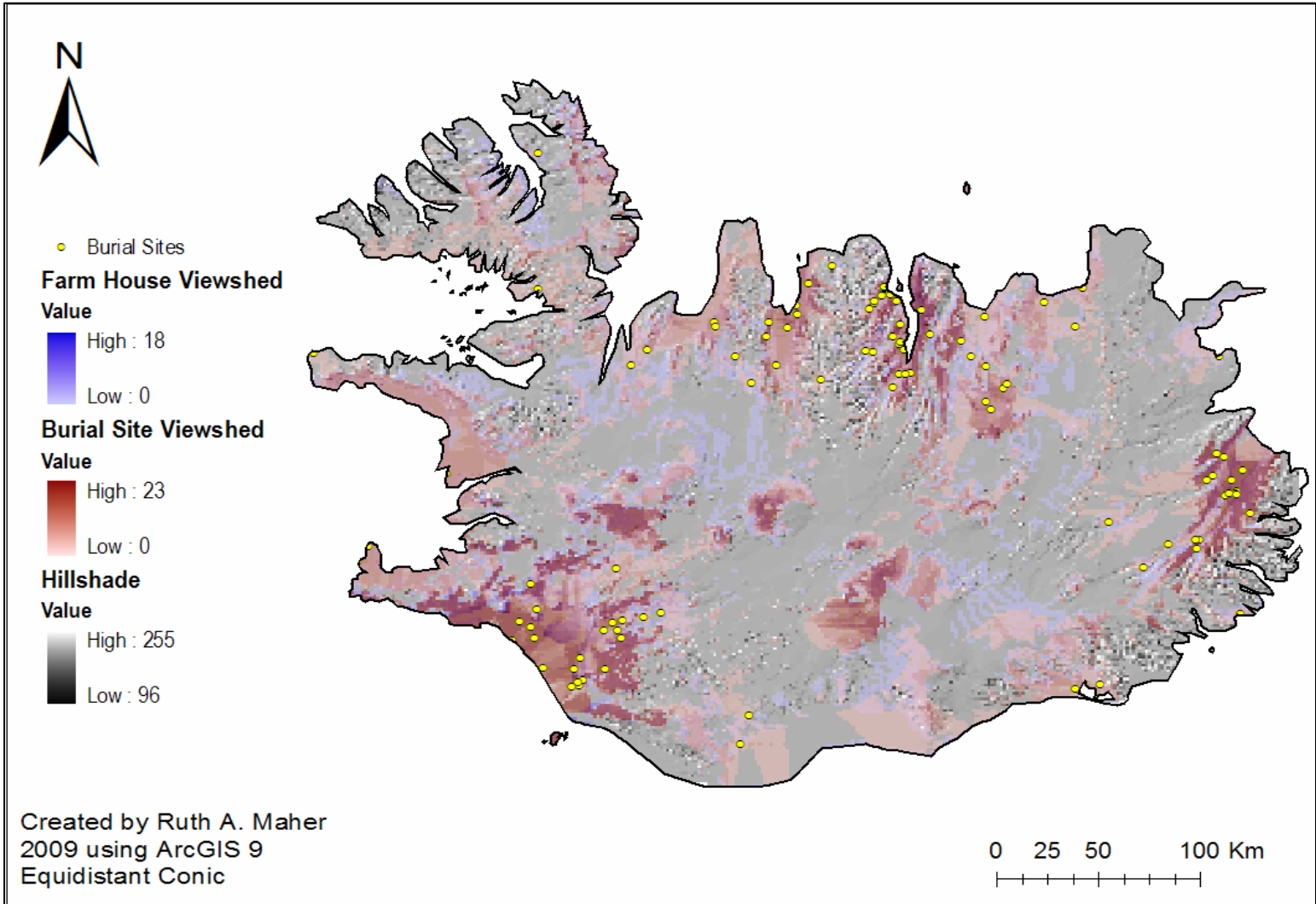
Map 7 Elevation map with Burial Site locations.



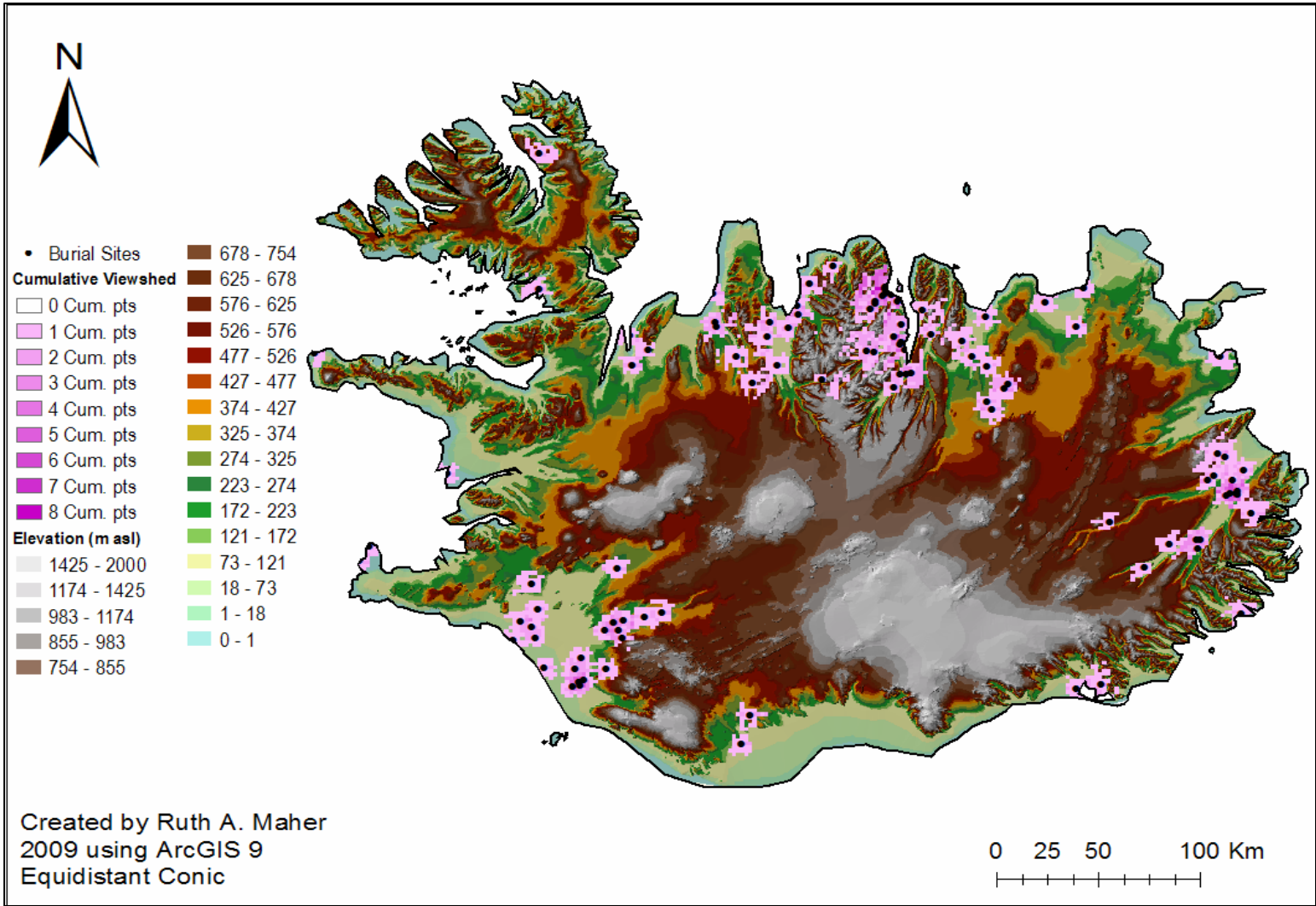
Map 8 Elevation of Burial Sites relative to their associated Farm Houses.



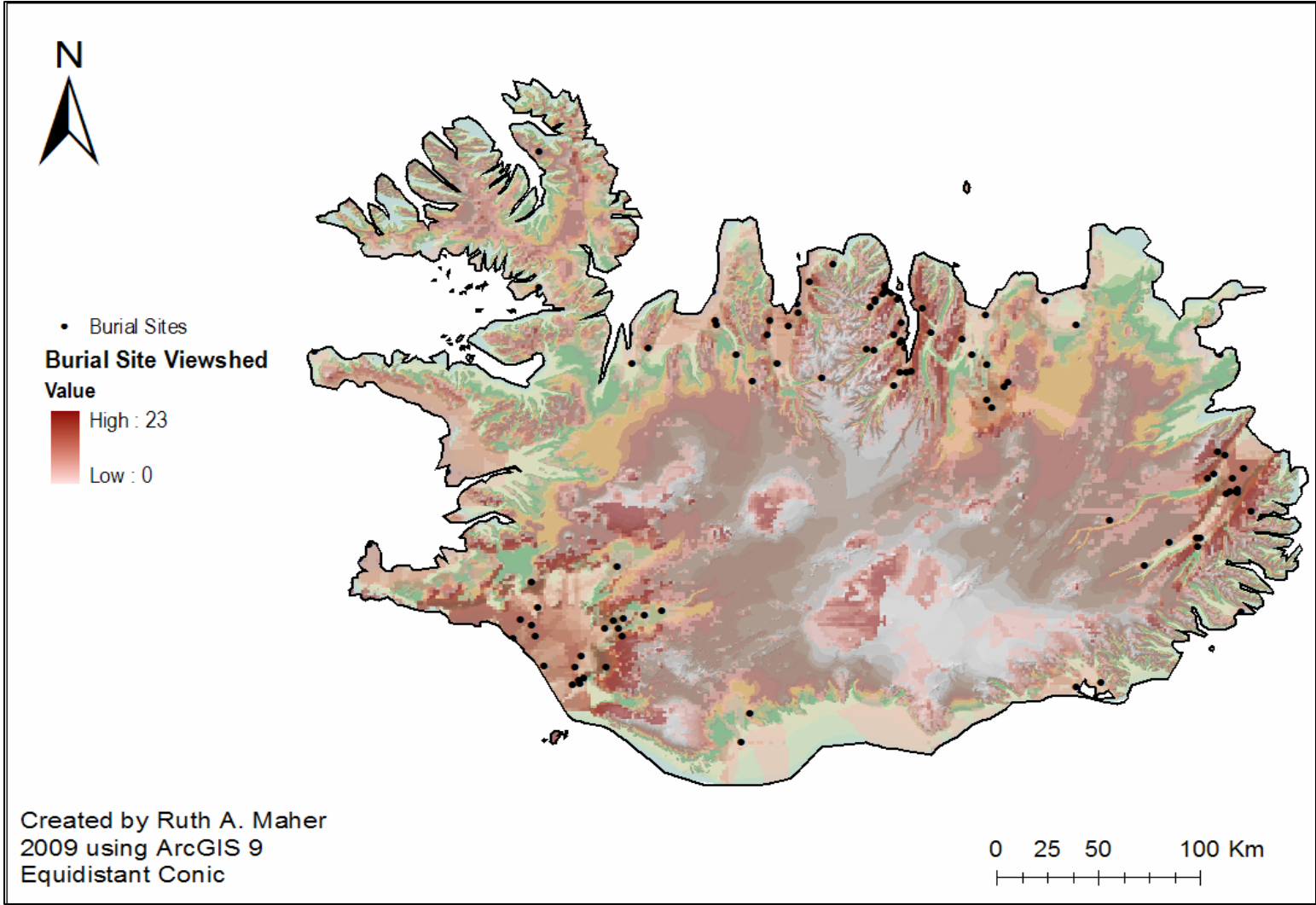
Map 9 Burial Sites in Viking period estimated environment. Estimated by Eyþór Einarsson and Einar Gíslason Natural Science Institute of Iceland 2001 (used with permission).



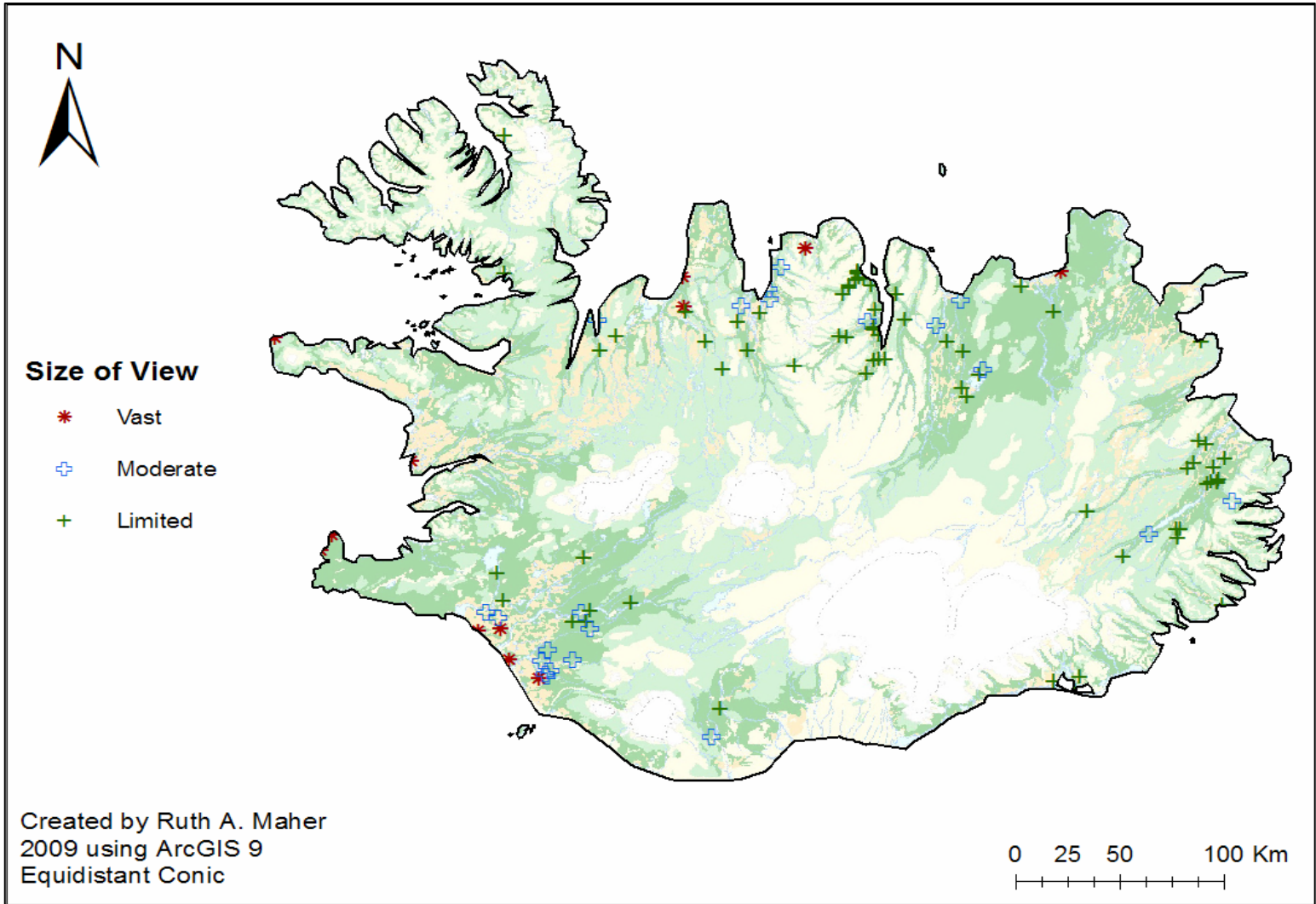
Map 10 Comparative viewsheds between Burial Sites and Farm Houses. Overlap appears in purple.



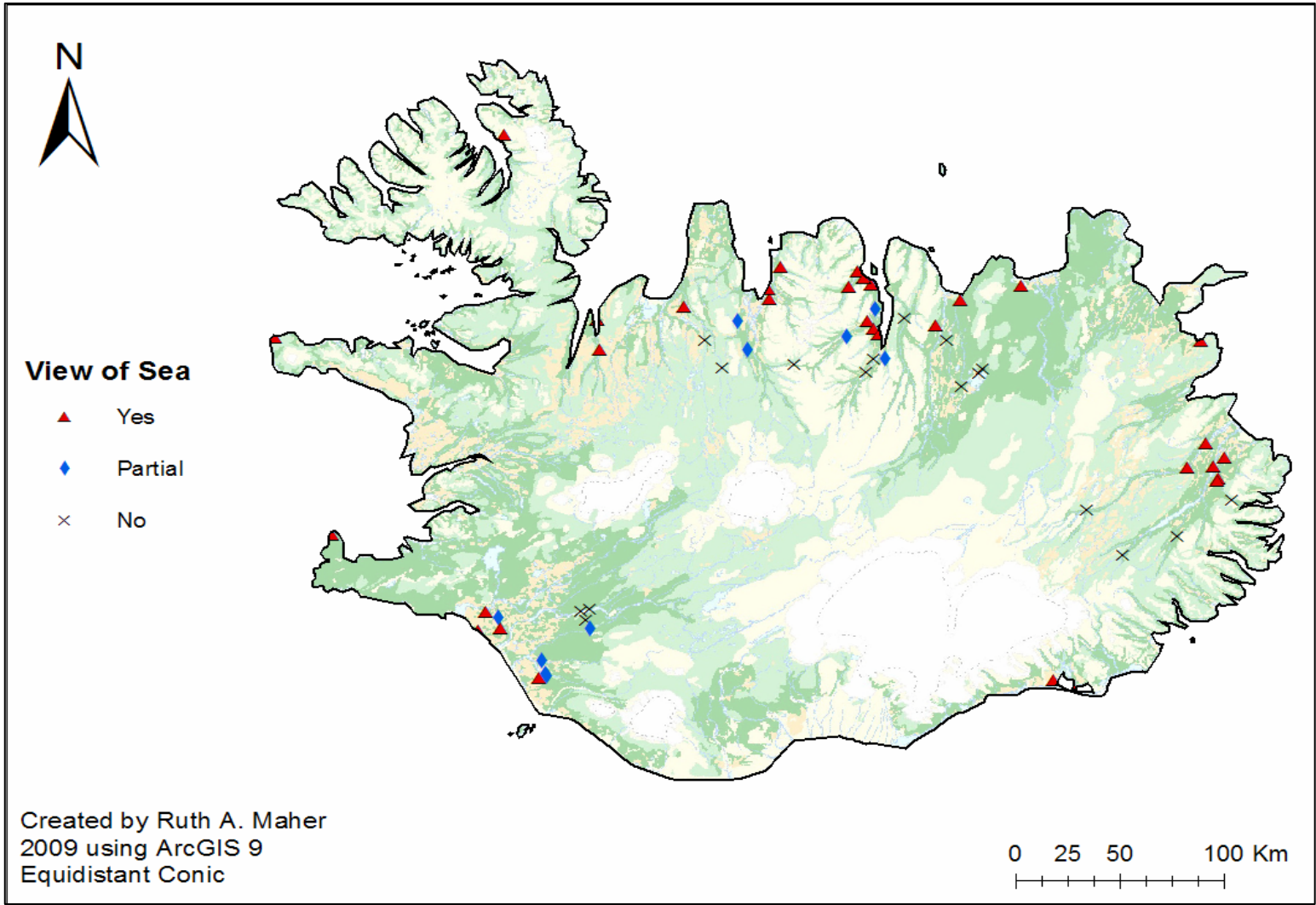
Map 11 Burial Site viewsheds, using the earth's curve calculations.



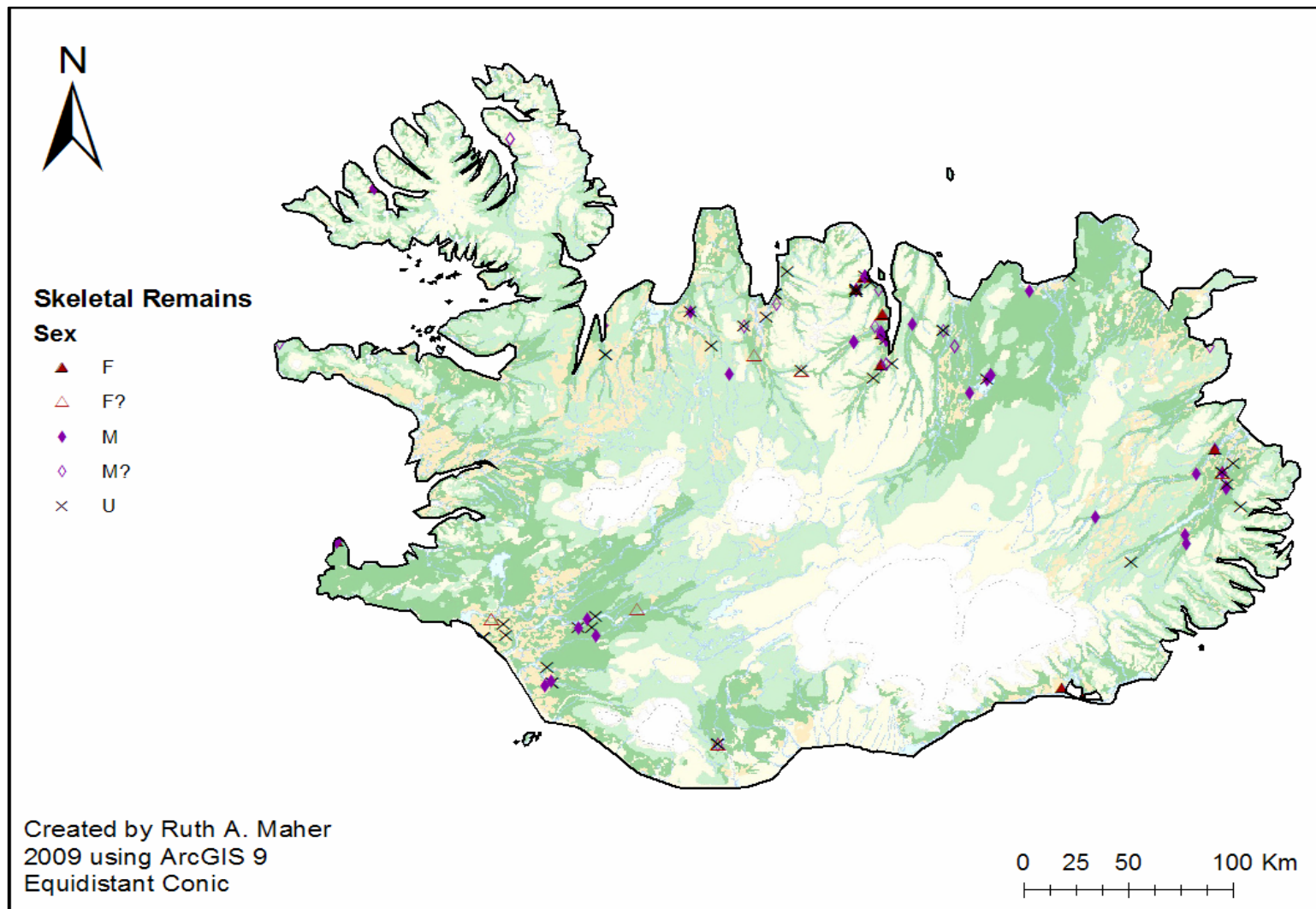
Map 12 Burial Site viewsheds, based optimal conditions.



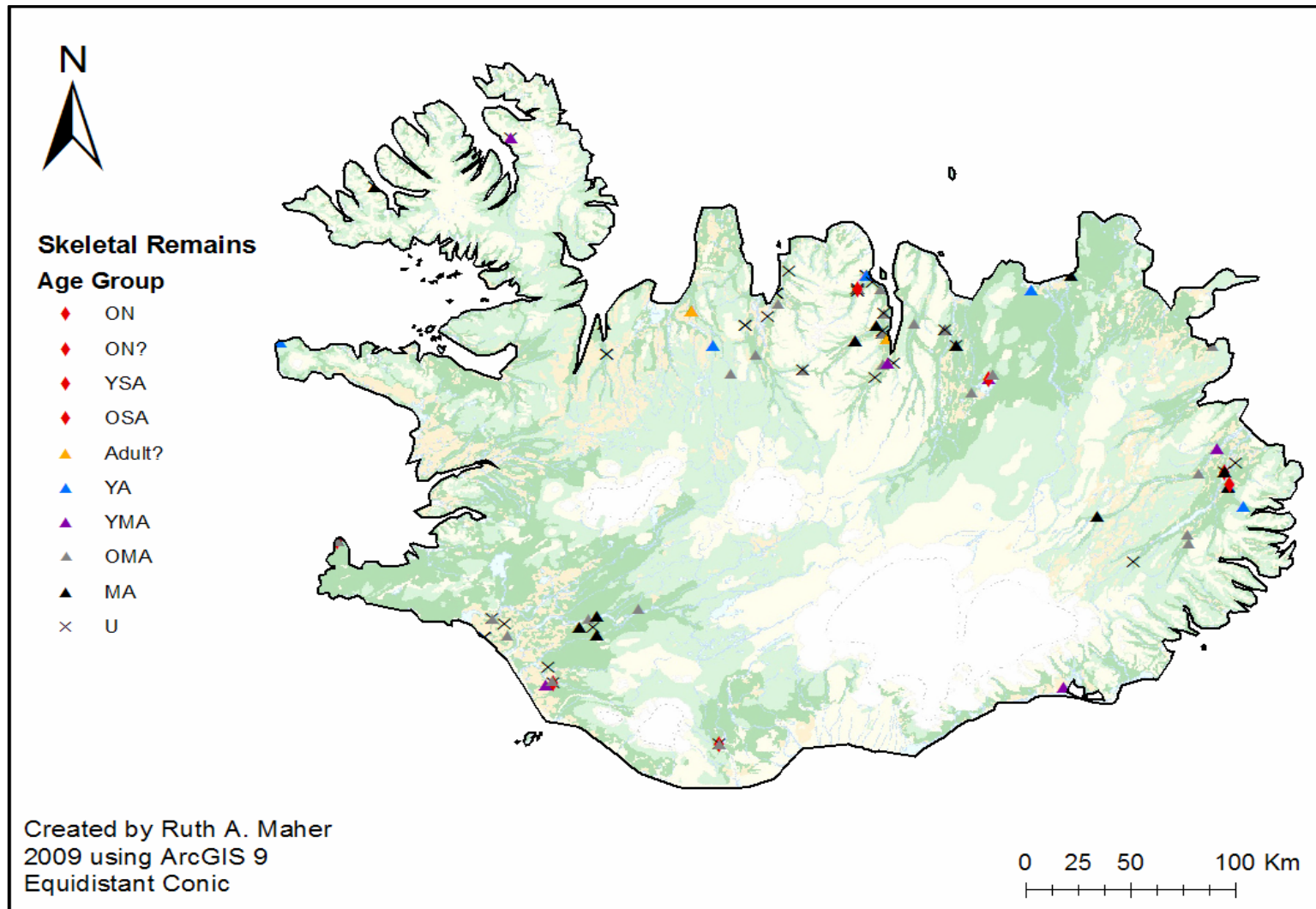
Map 13 Size of view – amount of visibility from the Burial Sites.



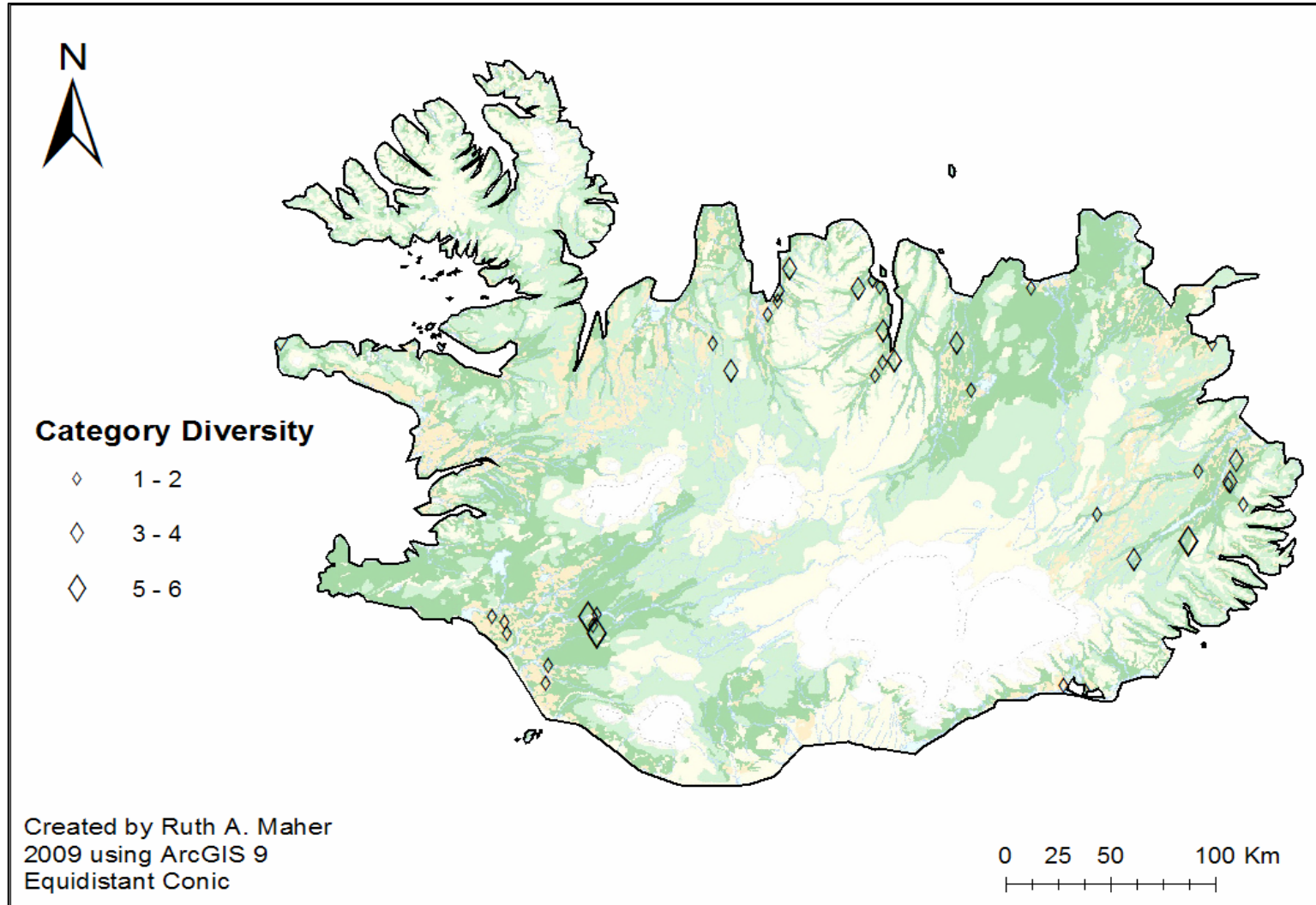
Map 14 Burial Site visibility of the sea.



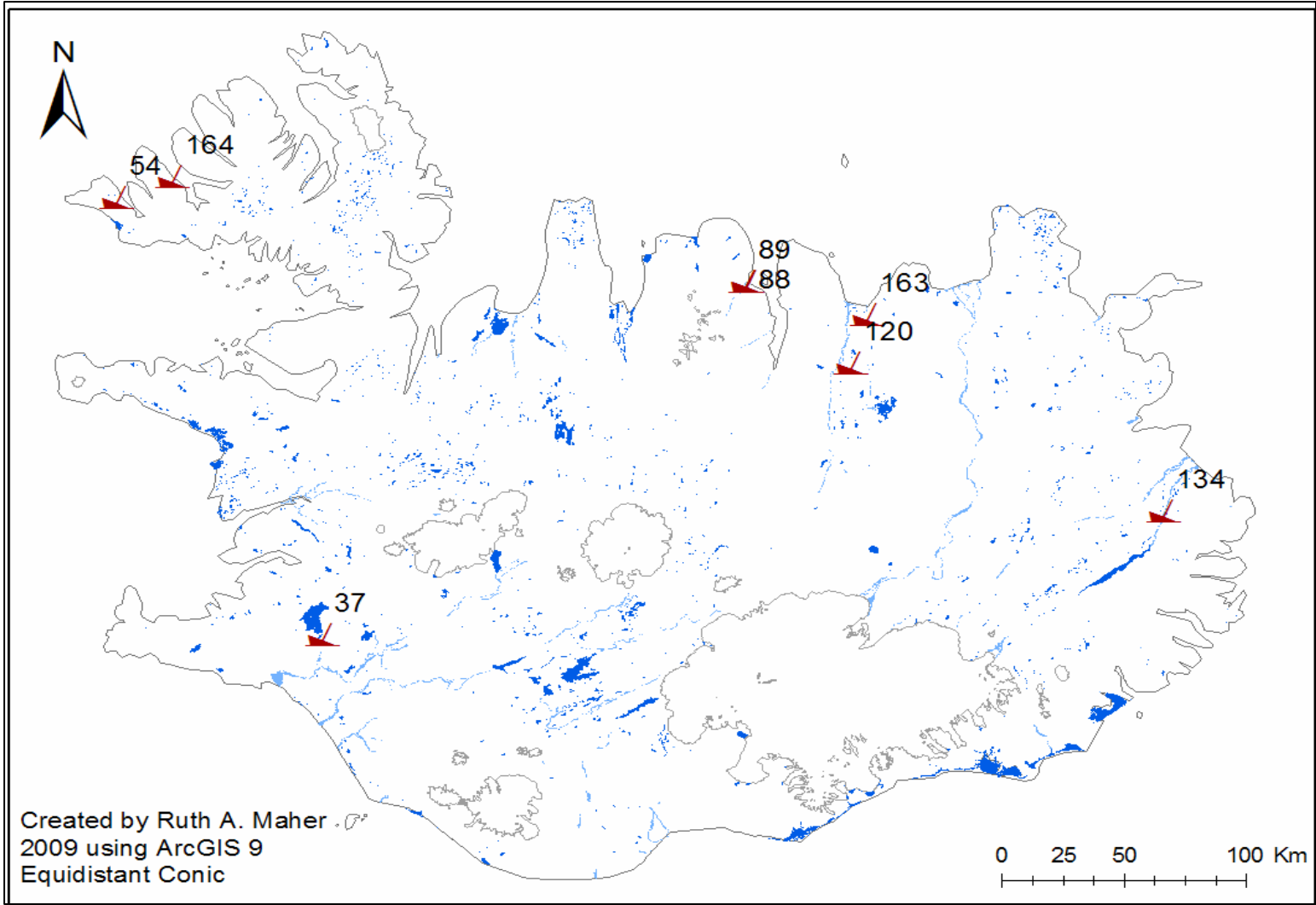
Map 15 Sexed skeletal remains in the landscape.



Map 16 Skeletal remains in the landscape by age category.



Map 17 Artifacts in the landscape. Proportionate symbols represent the number of categories contained at each grave.



Map 18 Boat burials on record in the study period.

APPENDICES

APPENDIX A: ICELANDIC PRE-CHRISTIAN BURIAL SITES

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
1	Kornhóll	2	1. Contained human remains and grave goods (1968/1992)
2	Áslákshóll	1	1. Mound setting, grave goods, in 1870 human remains were found in or about same location (1909).
3	Kápa	3	1. Contained human remains and grave goods (1860/1883/1925/1934).
4	Gamla Berjanes	1	3. Not enough information to confirm burial or use (1912)/just artifacts found.
5	Hemla	2	1. Contained human remains and grave goods (1932/1937).
6	Strandarhöfuð	1	1. Contained human remains and small iron fragment and wood (1951).
7	Stóri-Moshvoll	1	1. Contained human remains and grave goods (1913).
8	Dufþaksholt	1	1. Contained human remains and evidence of corroded wood remains (1940).
9	Rangá-Eystri	5	1. Human remains reported 1818 and various objects and animal bones (1800/1866/1876/1954).
10	Knafahólar	1	1. Contained human remains and grave goods (18th c).
11	Laufahvammur	1	1. Contained human remains and grave goods (1880-1890).
12	Stóra-Hof	1	1. Contained human remains and grave goods (c. 1885).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
13	Lambhagi	1	1. Contained human remains and grave goods (c. 1922).
14	Grafarbakki	2	1. Contained human remains and grave goods (c. 1813).
15	Mörk	1	1. Contained human remains and grave goods (1936).
16	Skarðstangi	1	1. Contained human remains and grave goods (1989).
17	Galtalækur	1	1. Contained human remains and grave goods (1929).
18	Stóri-Klofi	2	1. Contained human remains and grave goods (1933).
19	Húsagarður	1	1. Contained human remains and grave goods (2nd half 19th c/1898).
20	Fellsmúli (gamli)	7	1. Contained human remains and grave goods (1888-1930).
21	Karlsnes	1	1. Contained human remains and grave goods (1932).
22	Efri-Rauðalækur	1	3. Not enough information to confirm burial or use (1902)/just artifacts found.
23	Hábær	2	1. Contained human remains and grave goods (1914/1957-58).
24	Kolsholt	1	1. Contained human remains and grave goods (1958).
25	Traðarholt	4	1. Contained human remains and grave goods (1880).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
26	Selfoss	2	1. Contained human remains and grave goods (1958/1962).
27	(UL, Hraungerðishreppur)	2	1. Contained human remains and grave goods (all lost now, even location) (early 19th c).
28	Lækur	1	2. Only fragments of human bone and small piece of flint, 2m away horse remains (1969).
29	Álfsstaðir	2	1. Contained human remains and grave goods (1894/1947).
30	Þjórsardalur	1	3. Not enough information to confirm burial or use (1864)/just artifacts found.
31	Skeljastaðir	2	3. Objects suggestive of pagan burials among scatters of stone (1939)
32	Búrfellsháls	1	1. Contained human remains and grave goods (1928).
33	Gaukshöfði	1	1. Contained human remains and grave goods (1892).
34	Hólaskógur	1	1. Contained human remains and grave goods (1978).
35	Brú	1	1. Grave containing many artifacts and animal remains, no human remains (1876).
36	Miklaholt	1	1. Contained artifacts and took the shape of a grave-mound, but no human remains (1840).
37	Kaldárhöfði	2	1. Contained human remains and grave goods (1946).
38	Snæfoksstaðir	1	1. Contained human remains and grave goods (1829).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
39	Gerðakot	2	1. Contained human remains and grave goods (1854).
40	Hafurbjarnarstaðir	7	1. Contained human remains and grave goods (1828/1868/1947).
41	Snartarsstaðir	1	1. Contained human remains and grave goods (1938).
42	Skógar	1	3. Not enough information to confirm burial or use (1903)/just artifacts found.
43	Borgarnes	1	3. Not enough information to confirm burial or use (1866).
44	Straumfjörður	1	1. Contained human remains and grave goods (1872).
45	Mjóidalur	1	1. Contained human remains and grave goods (1837).
46	Laugarbrekka	1	2. Mound, horse skeleton, spear-head and rivets, nothing more (1794).
47	Öndverðarnes	1	1. Contained human remains and grave goods (1962).
48	Rútsstaðir	1	3. Not enough information to confirm burial or use.
49	Innri-Fagradalur	4	2. Hollow mounds, one with sm. Bone frags, artifact (1881).
50	Berufjörður	27	1. Contained human remains and grave goods (1898).
51	Skerðingsstaðir	1	2. Oblong-stone settings, hollow depression, few human bones (1898).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
52	Brjánslækur	2	1. Contained human remains and grave goods (c. 1800).
53	Breiðavík	1	1. Contained human remains and grave goods (1913).
54	Vatnsdalur	8	1. Contained human remains and grave goods (1964).
55	Höfði	1	3. Not enough information to confirm burial or use (1818).
56	Tyrðilmýri	2	2. Contained human remains, placed near shore, no grave goods (1932/1935).
57	Urriðaá	1	2. Contained human remains, no grave goods (1946/1961).
58	Póreyjarnúpar	1	1. Contained human remains and grave goods (1928).
59	Gröf	1	1. Contained human remains and grave goods (1935).
60	Miðhóp	1	1. Contained human remains and grave goods (1941).
61	Gljúfrá	1	1. Contained human remains and grave goods (1868).
62	Hóf	1	3. Not enough information to confirm burial or use (1850-60).
63	Kornsá	1	1. Contained human remains and grave goods (1879).
64	Sauðanes	1	1. Contained human remains and grave goods (1834).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
65	Smyrlaberg	2	1. Contained human remains and grave goods (1952/1969).
66	Tindar	1	1. Contained human remains and grave goods (1937).
67	Stafn	1	1. Contained human remains and grave goods (1933).
68	Brandsstaðir	1	1. Contained human remains and grave goods (1967).
69	Höskuldsstaðir	1	2. Parish description of artifacts in cairn, no human remains (1873).
70	Sólheimar	2	1. Contained human remains and animal remains (1956).
71	Vík	1	1. Reported, but not investigated, 2x2m stone setting w/human remains and grave goods (1908).
72	Elivogar	1	1. Contained human remains and grave goods (1956).
73	Skíðastaðir	1	1. Contained human remains, no grave goods (1946).
74	Þorljótsstaðir	7	1. Contained human remains and grave goods (c. 1869/1948).
75	Miklibær	2	1. Contained human remains and grave goods (1895-96/1910).
76	Öxnadalshéiði	1	1. Contained human remains and grave goods (1962).
77	Enni	1	1. Contained human remains and grave goods (1934).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
78	Syðri-Hofdalir	1	1. Contained human remains and grave goods (1951).
79	Brimnes	3	1. Contained human remains and grave goods (1937).
80	Ljótsstaðir	1	1. Contained human remains and grave goods (1959).
81	Grafargerði	2	1. Contained human remains and animal remains (1934).
82	Austarihóll	1	1. Grave contained artifacts, animal remains, no human remains (1964).
83	Hrísar	1	1. Contained human remains and grave goods (1916).
84	Sakka	1	1. Contained human remains and grave goods (1770).
85	Ytra-Hvarf	2	1. Grave contained artifacts, animal remains, no human remains (1949).
86	Dæli	1	1. Contained human remains and grave goods (1970).
87	Ytra-Garðshorn	10	1. Contained human remains and grave goods (1954/1956/1958).
88	Dalvík (Böggvisstaðir)	3	1. Grave contained artifacts, animal remains, no human remains (1937).
89	Dalvík (Brimnes)	14	1. Contained human remains and grave goods (1908/1942).
90	Lækjarbakki	1	1. Contained human remains in a grave (1909).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
91	Stærri-Árskógur	1	1. Contained human remains and grave goods (1917).
92	Hámundarstaðaháls	1	1. Contained human remains and grave goods (1930).
93	Litli-Dunhagi	1	1. Contained human and animal remains (1963).
94	Möðruvellir	1	1. Contained human remains and grave goods (1839).
95	Syðri-Reistará	2	1. Contained human remains (1936/1940).
96	Staðartunga	3	1. Contained human remains and grave goods (1932/1935).
97	Þúfnavellir	1	2. Remains of horse tooth and human skull (1948).
98	Sílastaðir	4	1. Contained human remains and grave goods (1947).
99	Moldhaugar	2	1. Contained human remains and grave goods (1908).
100	Syðra-Krossanes	3	1. Contained human and animal remains (1963/1965).
101	Kroppur	2	1. Contained human remains and grave goods (1900/1902).
102	Garðsá	1	1. Contained human remains and grave goods (1952).
103	Björk	2	1. Contained human remains and grave goods (1909).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
104	Ytri-Tjarnir	1	1. Grave contained artifacts, no human remains (1925-1926).
105	Bringa	1	1. Contained human remains and grave goods (1937).
106	Laufás	1	2. Remains of human bone and iron fragments found in ravine (1900).
107	Lómatjörn	3	1. Graves contained horse and artifacts, no human remains (1930/1949).
108	Skógar	1	1. Contained human remains and grave goods (all lost now) (1891).
109	Draflastaðir	1	1. Contained human remains and no grave goods (1952).
110	Ystafell	1	1. Contained human remains and grave goods (1917).
111	Hrafnstaðir	3	1. Contained human remains and grave goods 1952).
112	Kálfborgará	4	1. Contained human remains and grave goods (1869).
113	Framdalir	1	3. Not enough information to confirm burial or use (1899).
114	Vindbelgur	1	3. Not enough information to confirm burial or use (1902).
115	Ytri-Neslönd	2	1. Contained human remains and grave goods (1960).
116	Grímsstaðir	3	1. Contained human and associated animal remains (1937/1967).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
117	Baldursheimur	1	1. Contained human remains and grave goods (1860).
118	Gautlönd	1	1. Contained human remains and grave goods (1855).
119	Þverá	1	2. Fragments of human skull and horse bones, nothing more (1985/1999).
120	Glaumbær	2	1. Contained human remains and grave goods (1915).
121	Núpar	1	1. Contained human and animal remains (1915).
122	Grásíða	1	1. Contained human remains and grave goods (1941).
123	Austara-Land	1	1. Contained human remains and grave goods (1905).
124	Ærlækur	1	1. Contained human remains and grave goods (c. 1974).
125	Grímsstaðir (gömlu)	3	1. Contained human remains and grave goods (1962).
126	Daðastaðir	2	1. Contained human remains and grave goods (1956).
127	Bakki	1	1. Contained human remains and grave goods (1936).
128	Brú (NM)	1	1. Contained human remains and grave goods (1988).
129	Aðaból	2	2. Alleged pagan burial-human skeletal remains, patches of iron corrosion (1890).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
130	Reykjasel	3	1. Contained human remains and grave goods (1901/1918).
131	Hrólfstaðir	1	1. Contained human remains and grave goods (1996).
132	Surtsstaðir	2	1. Contained human remains and grave goods (1949).
133	Blöndugerði	1	1. Contained human remains and grave goods (1942/1985).
134	Straumur	4	1. Contained human remains and grave goods (1952).
135	Rangá	1	1. Contained human remains and grave goods (1915).
136	Sturluflötur	1	1. Contained human remains and grave goods (1901).
137	Valþjófsstaðir	1	1. Contained human remains and grave goods (c. 1800).
138	Gilsá	1	2. Eroded burial, stone setting, hollow depression, horse bones found earlier (1890).
139	Dalir	1	3. Not enough information to confirm burial or use (1895).
140	Hóll	2	3. Not enough information to confirm burial or use/just artifacts found.
141	Hrollaugstaðir	2	1. Contained human and horse remains (1952).
142	Ketilsstaðir	1	1. Contained human remains and grave goods (1938/1942).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
143	Stóra-Sandfell	1	1. Contained human remains and grave goods (1982).
144	Eyrarteigur	1	1. Contained human remains and grave goods (1995).
145	Vað	2	1. Contained human remains and grave goods (1894/1986).
146	Brennistaðir	1	1. Contained human remains and grave goods (1950).
147	Gilsárteigur	2	1. Contained human remains and grave goods (1957).
148	Ormsstaðir	1	1. Contained human remains and grave goods (1966).
149	Fljótsbakki	2	1. Contained human remains and grave goods (c. 1900).
150	Snæhvammur	1	2. Contained artifacts, appears to be from a grave, but no description of grave (1893).
151	Álaugarey	1	1. Contained human remains and grave goods (1934).
152	Hólmur (Ármanes)	1	1. Contained human remains and grave goods (1894).
153	Einholt	1	1. Contained human remains and grave goods (1979).
154	Kirkjubær	1	3. Not enough information to confirm burial or use (1868/1890/1894)/just artifacts found.
155	Hrífunes	3	1. Contained human remains and grave goods (1958/1981/1982).

Appendix A: Icelandic Pre-Christian Burial Site

BR No.	Farm Name	Graves	Rating/Reason/(Date Discovered)
156	Flaga	1	3. Not enough information to confirm burial or use (1829).
157	Granagil	4	1. Contained human remains and grave goods (C. 19th c).
158	Þingvellir	1	3. Just rumors of a burial mound, various sites investigated, nothing has come of it yet.
159	Seyðisfjörður	1	1. Contained human remains and grave goods (2003)
160	Lyngbrekka (Gömlu Daðastaðir)	4	3. Not enough information to use.
161	Kálfskinn (Reiðmelur)	2	3. Not enough information to use.
162	Saltvík	2	1. Contained human remains and fragments of grave goods (2003)
163	Litli-Núpar	7	1. Contained human remains and grave goods (2007/2008).
164	Hringsdalur	5	1. Contained human remains and grave goods (2006/2007/2008).
165	Keldudalur	4	1. Contained human remains and grave goods (2004).
166	Hofstaðir	1	1. Contained human remains and grave goods (2005).
167	Kumlabrekka (Mývatn)	5	1. Contained human remains and grave goods (2008).
168	Ingiríðarstaðir	15	1. Contained human remains and grave goods (2008).

Appendix A: Icelandic Pre-Christian Burial Site

**APPENDIX B: ICELANDIC PRE-CHRISTIAN GRAVES
USED IN PROJECT**

Gr. No.	BR No.	Skeletal_remains?	Artifacts?	Animal remains?
8	5	Y	Y	Y
9	5	Y	N	N
10	6	Y	Y	N
11	7	Y	Y	Y
12	8	Y	N	N
13	9	Y	U	U
14	9	Y	U	U
15	9	Y	U	U
16	9	Y	U	U
17	9	Y	U	U
21	13	Y	Y	N
22	14	Y	U	Y
23	14	Y	U	Y
24	15	Y	Y	Y
26	17	Y	Y	Y
30	20	Y	N	N
31	20	Y	N	N
32	20	Y	N	N
33	20	Y	U	U
34	20	Y	U	U
35	20	Y	U	U
36	20	Y	N	N
37	21	Y	Y	N
39	23	Y	N	N
40	23	Y	Y	N
41	24	Y	Y	Y
42	25	Y	Y	N
43	25	Y	Y	Y
44	25	Y	Y	Y
45	25	Y	N	Y
46	26	Y	Y	N
47	26	Y	Y	N
50	28	Y	Y	Y

Appendix B: Icelandic Pre-Christian Graves Used in Project

Gr. No.	BR No.	Skeletal_remains?	Artifacts?	Animal remains?
55	31	N	Y	N
56	31	N	Y	N
58	33	Y	Y	N
59	34	N	Y	U
60	34	N	Y	N
61	35	N	Y	Y
63	37	Y	Y	N
64	37	Y	N	N
65	38	Y	Y	N
66	39	Y	Y	N
67	39	Y	N	N
68	40	Y	Y	N
69	40	Y	N	N
70	40	Y	Y	Y
71	40	Y	Y	Y
72	40	Y	Y	N
73	40	Y	Y	Y
74	40	Y	N	Y
78	44	Y	Y	N
81	47	Y	Y	N
127	56	Y	N	N
128	56	Y	N	N
129	57	Y	N	N
130	58	Y	Y	Y
131	59	Y	Y	N
137	65	Y	Y	N
138	65	N	N	N
139	66	Y	Y	Y
140	67	Y	Y	Y
141	68	Y	Y	Y
142	69	N	Y	N
143	70	Y	N	Y
144	70	Y	Y	Y
145	71	Y	Y	Y
147	73	Y	N	N
157	76	Y	Y	Y
158	76	Y	N	Y
159	77	Y	Y	Y

Appendix B: Icelandic Pre-Christian Graves Used in Project

Gr. No.	BR No.	Skeletal_remains?	Artifacts?	Animal remains?
161	79	Y	Y	Y
162	79	Y	Y	Y
163	79	Y	Y	N
164	80	Y	Y	Y
167	82	N	Y	Y
168	83	Y	Y	N
169	84	Y	Y	Y
170	85	N	Y	Y
171	85	N	Y	Y
172	86	Y	Y	Y
173	87	Y	Y	Y
174	87	Y	N	Y
175	87	Y	Y	Y
176	87	Y	N	N
177	87	Y	Y	N
178	87	N	N	Y
179	87	Y	Y	Y
180	87	Y	Y	Y
181	87	Y	Y	Y
182	87	Y	Y	Y
183	88	Y	Y	Y
184	88	Y	N	Y
185	88	N	U	U
186	89	Y	Y	N
187	89	Y	Y	Y
188	89	Y	Y	N
189	89	Y	Y	Y
190	89	Y	Y	Y
191	89	Y	N	Y
192	89	Y	Y	Y
193	89	Y	Y	N
194	89	Y	N	Y
195	89	Y	Y	N
196	89	Y	Y	Y
197	89	Y	Y	Y
198	89	Y	N	Y
199	90	Y	N	N
200	91	Y	Y	Y

Appendix B: Icelandic Pre-Christian Graves Used in Project

Gr. No.	BR No.	Skeletal_remains?	Artifacts?	Animal remains?
201	92	Y	Y	Y
202	93	Y	N	Y
204	95	Y	N	N
205	95	Y	N	N
206	96	Y	N	U
207	96	Y	N	U
208	96	Y	N	U
209	97	Y	N	Y
210	98	Y	Y	N
211	98	Y	Y	N
212	98	Y	Y	N
213	98	Y	Y	Y
214	99	Y	N	Y
215	99	Y	Y	N
216	100	Y	N	N
217	100	Y	N	Y
218	100	Y	N	Y
219	101	Y	Y	N
220	101	Y	Y	N
221	102	Y	Y	Y
222	103	Y	N	N
223	103	Y	Y	N
225	105	Y	Y	N
227	107	Y	N	Y
228	107	N	Y	Y
230	109	Y	N	N
232	111	Y	U	N
233	111	Y	U	N
234	111	Y	U	N
242	115	Y	U	Y
243	115	Y	U	Y
244	116	Y	N	N
245	116	Y	N	Y
246	116	Y	N	Y
247	117	Y	Y	Y
248	118	Y	Y	Y
249	119	Y	N	Y
250	120	Y	Y	Y

Appendix B: Icelandic Pre-Christian Graves Used in Project

Gr. No.	BR No.	Skeletal_remains?	Artifacts?	Animal remains?
251	120	Y	Y	Y
253	122	Y	Y	N
254	123	Y	Y	Y
259	126	Y	N	Y
260	126	Y	Y	Y
261	127	Y	Y	N
262	128	Y	Y	Y
267	131	Y	Y	N
268	132	Y	U	N
269	132	Y	U	N
270	133	Y	Y	N
271	134	Y	Y	N
272	134	Y	N	U
273	134	Y	N	U
274	134	Y	N	U
275	135	Y	Y	Y
276	136	Y	Y	Y
278	138	N	N	Y
282	141	Y	N	N
283	141	Y	N	Y
284	142	Y	Y	N
285	143	N	Y	Y
286	144	Y	Y	Y
287	145	Y	Y	N
288	145	Y	Y	Y
289	147	Y	Y	N
290	147	Y	Y	N
291	148	Y	Y	N
292	148	Y	N	N
293	149	Y	Y	N
294	149	Y	N	N
295	150	N	Y	Y
296	151	Y	Y	N
297	152	Y	Y	Y
299	153	Y	Y	N
302	155	Y	N	N
303	155	Y	Y	N
305	155	Y	Y	N

Appendix B: Icelandic Pre-Christian Graves Used in Project

Gr. No.	BR No.	Skeletal_remains?	Artifacts?	Animal remains?
307	157	Y	U	N
308	157	Y	U	N
309	157	Y	U	N
310	157	Y	U	N
312	146	Y	Y	N
313	159	Y	Y	N
317	162	Y	Y	U
318	162	Y	N	U
319	163	U	U	U
320	163	U	U	U
321	164	Y	N	U
322	164	Y	Y	Y
327	163	Y	U	U
328	163	Y	U	U
329	163			
342	164	Y	Y	U
343	164	Y	Y	U

Appendix B: Icelandic Pre-Christian Graves Used in Project

APPENDIX C: ANALYZED HUMAN SKELETAL REMAINS

BR No.	Gr. No	Sk. ID	Sex	Age Group
1	1	108	Male	MA
1	2	109	Female	Adult?
3	4	83	Unidentified	U
3	5	84	Unidentified	U
5	8	69	Unidentified	OSA
5	9	70	Unidentified	U
6	10	121	Male	YMA
8	12	35	Male	OMA
13	21	90	Unidentified	U
15	24	97	Unidentified	U
16	25	95	Female	MA
17	26	43	Male	MA
18	27	119	Male?	U
18	28	120	Unidentified	MA
20	34	39	Unidentified	Adult?
20	36	40	Male	MA
21	37	82	Male	OMA
24	41	86	Unidentified	OMA
25	43	137	Unidentified	U
25	44	138	Unidentified	U
25	45	139	Unidentified	U
26	46	102	Female?	U
26	47	103	Female?	OMA
28	50	93	Unidentified	U
29	51	5	Unidentified	OMA
29	52	6	Female	YMA
33	58	45	Unidentified	MA
34	59	71	Female?	OMA
40	68	64	Female	OMA
40	69	66	Unidentified	ON
40	70	62	Male	OMA
40	72	63	Female	YMA

Appendix C: Analyzed Human Skeletal Remains

BR No.	Gr. No	Sk. ID	Sex	Age Group
40	73	65	Male	MA
40	74	67	Male	OMA
47	81	165	Male?	YA
54	118	145	Male	OSA
54	119	148	Female	YA
54	120	149	Female	OMA
54	121	146	Male	OSA
54	122	147	Male	YA
54	123	150	Male	OMA
54	124	151	Male	OMA
56	127	140	Male?	U
56	128	141	Male?	YMA
57		143	Unidentified	U
57	129	142	Unidentified	U
59	131	59	Male?	MA
63	135	87	Female	U
65	137	111	Male	MA
65	138	112	Unidentified	Adult?
67	140	118	Male	OMA
68	141	10	Unidentified	YA
70	143	113	Male?	U
70	144	114	Unidentified	U
72	146	37	Male	YMA
73	147	110	Female?	OMA
74	154	164	Male?	MA
76	157	166	Female?	OMA
76	158	167	Unidentified	U
77	159	38	Male?	OMA
78	160	134	Unidentified	U
79		15	Unidentified	U
79		17	Unidentified	U
79		16	Unidentified	U
79	161	12	Unidentified	U
79	162	13	Unidentified	U
79	163	14	Unidentified	U

Appendix C: Analyzed Human Skeletal Remains

BR No.	Gr. No	Sk. ID	Sex	Age Group
80	164	92	Unidentified	U
81	165	53	Male	OMA
81	166	54	Unidentified	MA
85	170	160	Unidentified	U
85	171	161	Unidentified	U
87		155	Unidentified	OMA
87		154	Female	OMA
87		153	Male	MA
87		158	Male	MA
87		159	Unidentified	U
87		157	Unidentified	U
87	177	156	Unidentified	YSA
89		30	Male?	U
89		31	Female?	U
89	186	24	Male	MA
89	187	25	Male	MA
89	188	21	Male	OMA
89	189	23	Unidentified	Adult?
89	190	22	Female?	OMA
89	191	26	Female	MA
89	194	27	Male	Adult?
89	196	28	Female?	YMA
89	197	29	Male	YA
91	200	127	Male?	OMA
92	201	68	Unidentified	U
93	202	91	Male?	MA
95	204	135	Female	OMA
95	205	136	Female?	U
96	206	115	Male	YMA
96	207	116	Male	OMA
96	208	117	Male?	MA
98	210	104	Male	OMA
98	211	105	Male	MA
98	212	107	Female	OMA
98	213	106	Male	OMA

Appendix C: Analyzed Human Skeletal Remains

BR No.	Gr. No	Sk. ID	Sex	Age Group
99	215	96	Male	U
100	216	131	Male	MA
100	217	132	Unidentified	Adult?
100	218	133	Male?	Adult?
101	219	88	Male?	OMA
101	220	89	Female	OMA
102	221	44	Unidentified	U
103	223	9	Male?	YMA
105	225	18	Unidentified	U
109	230	32	Male	OMA
111	232	72	Male?	MA
111	233	73	Unidentified	OMA
111	234	74	Unidentified	U
115	242	162	Male	YMA
115	243	163	Unidentified	OSA
116	244	56	Male	OMA
116	245	57	Male	OMA
116	246	58	Male	OMA
118	248	48	Male	OMA
120	250	52	Male?	MA
120	251	51	Male?	U
121	252	99	Female?	YMA
122	253	55	Male	YA
125	256	60	Unidentified	YSA
125	257	61	Unidentified	U
126	260	20	Unidentified	MA
127	261	7	Male?	OMA
128	262	19	Male	MA
129	263	3	Male	OMA
129	264	2	Female?	MA
130	265	101	Female	OMA
131	267	81	Male	OMA
132	268	129	Male	OMA
132	269	128	Female	YMA
134	271	125	Unidentified	YSA

Appendix C: Analyzed Human Skeletal Remains

BR No.	Gr. No	Sk. ID	Sex	Age Group
134	272	123	Male	MA
134	273	124	Female?	U
134	274	122	Unidentified	MA
136	276	126	Unidentified	U
142	284	85	Unidentified	U
144	286	193	Male	OMA
145	288	144	Male	OMA
146	312	11	Unidentified	OSA
147	289	50	Male	OMA
147	290	49	Male	YA
148	291	100	Male	MA
151	296	4	Female	MA
153	299	36	Female	YMA
155		76	Male?	OMA
155		77	Unidentified	OMA
155	302	78	Unidentified	ON?
155	303	79	Unidentified	U
155	305	80	Female?	OMA
159	313	190	Unidentified	YA
162	317	214	Female?	YA
162	318	215	Male?	OMA
164	321	211	Female	U
164	322	212	Male	OMA
164	342	208	Male	MA
164	343	209	Male	U

Appendix C: Analyzed Human Skeletal Remains

APPENDIX D: COMPLETE LIST OF ARTIFACTS

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
1	1	1	knife	1	iron		Domestic
1	1	2	spear head	1	iron		Weapons
1	2	3	arm ring	1	copper-alloy	twisted wire	Adornment
1	2	4	comb	1	bone		Domestic
1	2	7	fragment	1	iron		Misc and Fragments
1	2	5	ignitor	2	flint		Domestic
1	2	6	pebble	1	stone		Misc and Fragments
2	3	10	ring	1	copper-alloy		Horse Equipment
2	3	8	spear head	1	iron		Weapons
2	3	9	whetstone	1			Domestic
3	6	18	buckle	1	copper-alloy	belt	Adornment
3	6	15	buckle	2	iron		Horse Equipment
3	6	17	button	1	gold	wire	Adornment
3	6	11	button	3	silver	wire	Adornment
3	6	14	fragment	2	charcoal		Misc and Fragments
3	6	16	fragment	2	iron		Horse Equipment
3	6	13	spear head	1	iron		Weapons
3	6	12	thread	1	gold		Adornment
3	6	19	weight	1	lead		Commerce
4	7	20	brooch	2			Adornment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
5	8	22	axe	1	iron		Weapons
5	8	27	bead	1			Adornment
5	8	31	bridle bit	1	iron		Horse Equipment
5	8	32	buckle	1	iron		Horse Equipment
5	8	28	comb	1	bone		Domestic
5	8	29	fragment	1	wood		Misc and Fragments
5	8	33	fragment	2	iron		Misc and Fragments
5	8	30	ignitor	4	jasper		Domestic
5	8	24	knife	1			Domestic
5	8	23	shield boss	1	iron		Weapons
5	8	21	spear head	1	iron		Weapons
5	8	26	weight	1	lead		Commerce
5	8	25	whetstone	1			Domestic
6	10	34	fragment	2	iron		Misc and Fragments
6	10	35	fragment	1	wood		Misc and Fragments
7	11	36	axe	1	iron		Weapons
7	11	37	knife	1			Domestic
9	0	41	bridle bit	1			Horse Equipment
9	0	38	decorated object	1	bone		Non-Utility
9	0	40	hobbles	1			Horse Equipment
9	0	42	pendant	1	copper-alloy		Adornment
9	0	39	spear head	1	iron		Weapons
10	18	43	brooch	2		oval	Adornment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
11	19	44	axe	1	iron		Weapons
11	19	45	spear head	1	iron		Weapons
12	20	46	weight	1	copper-alloy	coated iron	Commerce
13	21	47	spear head	1	iron		Weapons
14	22	48	corroded object	1	iron		Unidentified Objects
15	24	50	bridle bit	1	iron		Horse Equipment
15	24	49	weaving implement	1	iron		Domestic
16	25	51	comb	1	bone		Domestic
16	25	52	needle case	1	bone		Domestic
17	26	55	axe	1	iron		Weapons
17	26	64	bridle bit	1	iron		Horse Equipment
17	26	65	buckle	1	iron		Horse Equipment
17	26	63	fragment	2	charcoal		Misc and Fragments
17	26	62	hook	1	iron		Domestic
17	26	61	hook	3			Fishing
17	26	57	ignitor	2	flint		Domestic
17	26	58	knife	1			Domestic
17	26	54	shield boss	1	iron		Weapons
17	26	53	spear head	1	iron		Weapons
17	26	66	strike-a-light	1	iron	fragments	Domestic
17	26	60	vise	1	iron		Domestic
17	26	59	weight	4	lead		Commerce
17	26	56	whetstone	2			Domestic

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
18	27	69	ignitor	1	jasper		Domestic
18	27	67	knife	1			Domestic
18	27	70	strike-a-light	1	iron	fragments	Domestic
18	27	68	whetstone	1			Domestic
18	28	76	fragment	3	iron		Misc and Fragments
18	28	73	knife	1			Domestic
18	28	75	rivet	1	iron	boat	Boat
18	28	71	spear head	1	iron		Weapons
18	28	74	weight	1	lead		Commerce
18	28	72	whetstone	1			Domestic
19	29	77	bone implement	1	bone		Domestic
19	29	78	spear head	1	iron		Weapons
19	29	79	whetstone	1			Domestic
20	33	81	loop	1	copper-alloy		Domestic
20	33	80	spear head	1	iron		Weapons
21	37	84	bead	3			Adornment
21	37	86	knife	1			Domestic
21	37	82	spear head	1	iron		Weapons
21	37	85	stone	1	stone	small	Misc and Fragments
21	37	83	weight	2	lead		Commerce
22	38	87	axe	1	iron		Weapons
22	38	88	crampon	1			Domestic
23	40	91	axe	1	iron		Weapons

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
23	40	90	shield boss	1	iron		Weapons
23	40	89	spear head	1	iron		Weapons
24	41	92	fragment	3	iron		Misc and Fragments
25	42	93	bead	13		necklace	Adornment
25	42	94	iron	1	iron	length	Unidentified Objects
25	43	95	bridle bit	1	iron		Horse Equipment
25	44	97	bridle bit	1			Horse Equipment
25	44	96	buckle	1			Horse Equipment
25	44	100	buckle	1			Horse Equipment
25	44	101	buckle	2			Horse Equipment
25	44	99	knife	1			Domestic
25	44	102	shaft	4	wood		Unidentified Objects
25	44	98	shield boss	1	iron		Weapons
26	46	104	fragment	3	iron		Misc and Fragments
26	46	103	stone	3	rock		Misc and Fragments
26	47	105	bead	12		necklace	Adornment
26	47	108	fragment	2	iron	bands	Misc and Fragments
26	47	106	knife	1	iron		Domestic
26	47	107	sickle	1	iron		Domestic
26	47	109	textile	1			Adornment
27	0	112	helmet	1	iron		Weapons
27	0	111	spear head	1	iron		Weapons
27	0	110	sword	1	iron		Weapons

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
28	50	114	bridle bit	1			Horse Equipment
28	50	113	ignitor	1	flint/silicas		Domestic
29	51	117	axe	1	iron		Weapons
29	51	118	buckle	1	copper-alloy	belt	Adornment
29	51	120	buckle	2			Horse Equipment
29	51	116	spear head	2	iron		Weapons
29	51	119	weight	1	lead		Commerce
29	53	115	bead	3		necklace	Adornment
30	54	122	brooch	1		round	Adornment
30	54	121	brooch	2		oval	Adornment
31	55	123	whetstone	2			Domestic
31	56	124	plaque	1	copper-alloy	perforated	Non-Utility
32	57	125	axe	1	iron		Weapons
33	58	126	spear head	1	iron		Weapons
34	59	127	bead	15		necklace	Adornment
34	59	128	wood	2	wood		Misc and Fragments
34	60	129	spear head	1	iron		Weapons
35	61	132	axe	1	iron		Weapons
35	61	134	bead	26		necklace	Adornment
35	61	135	bell	1	copper-alloy		Adornment
35	61	138	brooch	1		oval	Adornment
35	61	140	fragment	1	lead		Misc and Fragments
35	61	136	quernstone	1			Domestic

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
35	61	137	rivet	2		boat	Boat
35	61	133	shield boss	1	iron		Weapons
35	61	131	spear head	1	iron		Weapons
35	61	130	spear head	1	iron		Weapons
35	61	139	vessel	1	iron	cauldron	Domestic
36	62	144	bead	11		necklace	Adornment
36	62	145	bridle bit	1			Horse Equipment
36	62	142	brooch	1		round	Adornment
36	62	141	brooch	2		oval	Adornment
36	62	143	brooch	1		trefoil	Adornment
36	62	146	fragment	2	iron		Misc and Fragments
37	63	149	arrow head	5	iron		Weapons
37	63	150	arrow head	1	iron		Weapons
37	63	160	axe	1	iron		Weapons
37	63	151	axe	1	iron		Weapons
37	63	152	buckle	1	copper-alloy	belt	Adornment
37	63	167	fragment	2	iron		Misc and Fragments
37	63	163	hook	1		boat	Fishing
37	63	162	hook	1		fish	Fishing
37	63	166	ignitor	2	flint/silicas		Domestic
37	63	155	ignitor	2	quartz		Domestic
37	63	165	knife	2			Domestic
37	63	156	rivet	85		boat	Boat

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
37	63	158	shield boss	1	iron		Weapons
37	63	157	shield boss	1	iron		Weapons
37	63	164	sinker	1	lead		Fishing
37	63	148	spear head	1	iron		Weapons
37	63	159	spear head	1	iron		Weapons
37	63	153	strap end	1	copper-alloy		Adornment
37	63	147	sword	1	iron		Weapons
37	63	168	textile	1			Adornment
37	63	154	wire	1	silver		Adornment
38	65	169	axe	1	iron		Weapons
39	66	170	shaft	1	wood		Weapons
40	0	196	comb	1	bone		Domestic
40	68	173	brooch	1		trefoil	Adornment
40	68	175	comb	1	bone		Domestic
40	68	178	fragment	2	iron		Misc and Fragments
40	68	174	knife	1			Domestic
40	68	176	pebble	2	rock		Misc and Fragments
40	68	172	pin	1	copper-alloy	ringed	Adornment
40	68	171	plaque	1	whale-bone		Non-Utility
40	68	177	shell	3	shell		Misc and Fragments
40	70	186	axe	1	iron		Weapons
40	70	180	bridle bit	1			Horse Equipment
40	70	187	buckle	1			Horse Equipment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
40	70	183	comb	1	bone		Domestic
40	70	184	comb case	1	bone		Domestic
40	70	190	fragment	2	iron		Misc and Fragments
40	70	189	rivet	4		boat	Boat
40	70	182	shield boss	1	iron		Weapons
40	70	179	spear head	1	iron		Weapons
40	70	181	sword	1	iron		Weapons
40	70	711	Sword chape	1	copper-alloy		Weapons
40	70	188	vessel	1	iron	cauldron	Domestic
40	70	185	whetstone	1			Domestic
40	72	192	bead	3			Adornment
40	72	191	comb	1	bone		Domestic
40	72	193	finger ring	1	silver		Adornment
40	72	194	spear head	1	iron		Weapons
40	73	195	spear head	1	iron		Weapons
41	75	198	buckle	1			Horse Equipment
41	75	197	spear head	1	iron		Weapons
42	76	199	brooch	2		oval	Adornment
44	78	202	comb	1	bone		Domestic
44	78	201	knife	2			Domestic
44	78	200	spear head	1	iron	small	Weapons
45	79	205	bead	25			Adornment
45	79	203	brooch	2		oval	Adornment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
45	79	204	brooch	1		trefoil	Adornment
45	79	206	coin	2	silver	cufic	Commerce
45	79	207	textile	1			Adornment
46	80	209	rivet	11		boat	Boat
46	80	208	spear head	1	iron		Weapons
47	81	215	fragment	2	iron		Misc and Fragments
47	81	213	knife	1			Domestic
47	81	214	pin	1	bone		Adornment
47	81	212	shield boss	1	iron		Weapons
47	81	211	spear head	1	iron		Weapons
47	81	210	sword	1	iron		Weapons
48	82	216	brooch	1		oval	Adornment
49	83	217	boss	1	copper-alloy		Non-Utility
50	87	218	bead	1			Adornment
50	111	220	axe	1	iron		Weapons
50	111	221	chisel	1	iron		Domestic
50	111	222	fragment	2	iron		Misc and Fragments
50	111	224	ignitor	1	flint/silicas		Domestic
50	111	223	textile	1			Adornment
50	111	219	whetstone	1			Domestic
52	115	225	fragment	1	iron		Misc and Fragments
52	115	226	fragment	2	charcoal		Misc and Fragments
54	0	235	arm ring	2	bronze		Adornment
54	0	227	bead	30		bead/wire	Adornment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
54	0	229	bell	1	copper-alloy	pendant	Adornment
54	0	244	bone	1	bone	round	Non-Utility
54	0	232	chain	1	copper-alloy		Adornment
54	0	230	coin	1	silver	cufic	Commerce
54	0	237	comb	2	bone		Domestic
54	0	238	comb	1	bone		Domestic
54	0	239	comb case	1	bone		Domestic
54	0	234	decorated object	1	lead	inlaid cross	Non-Utility
54	0	236	finger ring	1	bronze		Adornment
54	0	246	fragment	2	iron		Misc and Fragments
54	0	245	fragment	2	copper-alloy		Misc and Fragments
54	0	242	knife	1			Domestic
54	0	243	pebble	1	stone	white	Misc and Fragments
54	0	228	pendant	1	silver	thor's hammer	Adornment
54	0	231	pendant	1			Adornment
54	0	233	pin	1	copper-alloy		Adornment
54	0	241	pin	1	wood		Adornment
54	0	240	weight	14	lead		Commerce
54	125	247	whetstone	1			Domestic
55	126	249	rivet	2		boat	Boat
55	126	248	spear head	1	iron		Weapons
55	126	250	sword	1	iron		Weapons
58	130	251	nail	3			Domestic

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
58	130	252	object	1	iron	flat	Unidentified Objects
59	131	253	rivet	12		boat	Boat
60	132	254	brooch	1		oval	Adornment
62	134	255	brooch	2		oval	Adornment
63	135	263	bead	33		necklace	Adornment
63	135	262	bell	1	bronze	sexstrends	Adornment
63	135	261	brooch	2		tongue-shape	Adornment
63	135	259	comb	1	bone		Domestic
63	135	267	fragment	2	iron		Misc and Fragments
63	135	266	knife	1			Domestic
63	135	265	pin	1			Adornment
63	135	260	scale pan	1			Commerce
63	135	257	shears	1	iron		Domestic
63	135	264	tweezers	1			Domestic
63	135	256	vessel	1	iron	cauldron	Domestic
63	135	258	weaving sword	1			Domestic
64	136	268	brooch	1		oval	Adornment
65	137	269	knife	1	iron		Domestic
66	139	272	hook	1		fish	Fishing
66	139	271	pin	1	copper-alloy	ringed	Adornment
66	139	273	shaft	1	wood		Unidentified Objects
66	139	270	spear head	1	iron		Weapons
67	140	276	fragment	2	iron		Misc and Fragments

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
67	140	275	ring	1	iron		Horse Equipment
67	140	274	strap end	1	copper-alloy		Adornment
68	141	277	fragment	2	iron		Misc and Fragments
68	141	278	wood	2	wood		Misc and Fragments
69	142	279	sword	1	iron		Weapons
69	142	280	whetstone	1			Domestic
70	144	281	buckle	1	iron		Horse Equipment
70	144	283	fragment	2	iron		Misc and Fragments
70	144	282	nail	1	iron		Horse Equipment
71	145	288	buckle	2	iron		Horse Equipment
71	145	286	fragment	2	copper-alloy		Misc and Fragments
71	145	287	fragment	2	iron		Misc and Fragments
71	145	285	leather	2	leather		Misc and Fragments
71	145	284	shoe	1	leather		Adornment
72	146	289	fragment	2	iron		Misc and Fragments
74	0	290	pin	1	copper-alloy	ringed	Adornment
74	154	294	fragment	2	iron		Misc and Fragments
74	154	292	strap end	1	copper-alloy		Adornment
74	154	291	vessel	1	iron	cauldron	Domestic
74	154	293	wood	2	wood		Misc and Fragments
75	155	295	buckle	2	iron		Horse Equipment
75	155	296	nail	2	iron		Domestic

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
75	156	297	knife	1			Domestic
75	156	298	nail	1		large	Domestic
76	157	300	bead	2		necklace	Adornment
76	157	303	buckle	1	iron		Horse Equipment
76	157	301	button	2			Adornment
76	157	302	fragment	20	iron		Misc and Fragments
76	157	304	nail	3	iron		Horse Equipment
76	157	299	wood	2	wood		Misc and Fragments
77	159	306	fragment	2	iron		Misc and Fragments
77	159	305	nail	1	iron		Horse Equipment
78	160	308	brooch	1		oval	Adornment
78	160	307	ring	1	iron		Domestic
79	161	310	bridle bit	1			Horse Equipment
79	161	311	fragment	2	iron		Misc and Fragments
79	161	309	spear head	1	iron		Weapons
79	162	313	shears	1	iron		Domestic
79	162	312	sickle	1	iron		Domestic
79	163	314	axe	1	iron		Weapons
79	163	315	knife	1			Domestic
79	163	316	ring	1	silver		Domestic
79	163	317	weight	2	lead		Commerce
80	164	318	decorated object	1	whale-bone	mammen	Non-Utility
80	164	320	fragment	2	iron		Misc and

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
80	164	319	whetstone	1			Fragments Domestic
82	167	322	arrow head	5	iron		Weapons
82	167	328	comb	1	bone		Domestic
82	167	329	crampon	1	iron		Horse Equipment
82	167	330	fragment	2	charcoal		Misc and Fragments
82	167	327	fragment	2	iron		Misc and Fragments
82	167	325	nail	1			Domestic
82	167	326	pebble	7	rock		Misc and Fragments
82	167	323	shears	1	iron		Domestic
82	167	321	spear head	1	iron		Weapons
82	167	324	spindle whorl	1			Domestic
83	168	331	brooch	1		oval	Adornment
83	168	332	pin	1	copper-alloy	ringed	Adornment
83	168	334	shears	1	iron		Domestic
83	168	333	spindle whorl	1	lead		Domestic
84	169	336	needle	1	silver		Domestic
84	169	335	sword	1	iron		Weapons
85	170	339	buckle	1			Horse Equipment
85	170	340	fragment	2	iron		Misc and Fragments
85	170	337	spear head	1	iron		Weapons
85	170	338	strap end	1	copper-alloy		Adornment
85	171	342	buckle	1			Horse Equipment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
85	171	341	fragment	2	iron		Misc and Fragments
86	172	343	pin	1	whale-bone		Adornment
86	172	344	pin	1	whale-bone		Adornment
87	173	345	bead	2			Adornment
87	173	349	buckle	2	iron		Horse Equipment
87	173	351	fragment	2	iron		Misc and Fragments
87	173	348	fragment	2	iron		Misc and Fragments
87	173	346	gaming piece	3	stone	red, soft stone	Non-Utility
87	173	350	nail	3	iron		Horse Equipment
87	173	347	weight	1	lead		Commerce
87	174	352	buckle	1			Horse Equipment
87	174	353	nail	1	iron		Domestic
87	175	354	bead	2		bead/wire pendant	Adornment
87	175	359	fragment	2	charcoal		Misc and Fragments
87	175	358	fragment	2	iron		Misc and Fragments
87	175	355	knife	1			Domestic
87	175	357	shears	1	iron		Domestic
87	175	356	strike-a-light	1	iron	whole	Domestic
87	177	361	knife	1			Domestic
87	177	360	nail	2	iron		Domestic
87	178	363	buckle	1	iron		Horse Equipment
87	178	362	nail	1			Domestic
87	179	367	fragment	2	iron		Misc and

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
87	179	366	ignitor	1	flint/silicas		Fragments Domestic
87	179	364	weight	8	lead		Commerce
87	179	365	weight	2	lead	fragments of more	Commerce
87	180	369	comb	1	bone		Domestic
87	180	368	knife	1			Domestic
87	180	370	spear head	1	iron		Weapons
87	181	371	bead	25		necklace	Adornment
87	181	374	chalcedony	58	quartz		Misc and Fragments
87	181	372	ring	1	copper-alloy		Domestic
87	181	373	tweezers	1	iron		Domestic
87	181	375	wax	1	wax		Domestic
87	182	376	bead	4		necklace	Adornment
87	182	379	buckle	2	iron		Horse Equipment
87	182	378	comb	1	bone		Domestic
87	182	377	fragment	2	iron		Misc and Fragments
87	182	380	rivet	5	iron		Domestic
88	183	385	fragment	3	iron		Misc and Fragments
88	183	382	fragments	2	wood	boat	Boat
88	183	384	nail	100	iron	boat	Boat
88	183	383	rivet	24	iron	boat	Boat
89	186	386	bead	9		necklace	Adornment
89	186	387	bead	1	lead weight	necklace	Adornment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
89	186	389	fragment	2	iron		Misc and Fragments
89	186	388	wood	2	wood		Misc and Fragments
89	187	394	fragment	2	iron		Misc and Fragments
89	187	391	knife	1			Domestic
89	187	393	spear head	1	iron		Weapons
89	187	392	weight	8	lead		Commerce
89	187	390	whetstone	1			Domestic
89	188	397	fragment	2	iron		Misc and Fragments
89	188	396	spear head	1	iron		Weapons
89	188	398	weight	3	lead		Commerce
89	188	395	wood	1	wood		Misc and Fragments
89	189	401	buckle	1			Horse Equipment
89	189	400	rivet	52	iron	boat	Boat
89	190	402	brooch	1		oval	Adornment
89	190	406	buckle	2			Horse Equipment
89	190	404	fragment	3	iron		Misc and Fragments
89	190	403	knife	1			Domestic
89	190	407	nail	3	iron		Domestic
89	190	405	vessel	1	steatite	bowl	Domestic
89	193	408	wood	1	wood		Misc and Fragments
89	195	409	fragment	1	iron		Misc and Fragments
89	195	410	fragment	2	charcoal		Misc and Fragments
89	196	412	fragment	3	iron		Misc and

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
89	196	411	gaming piece	19	bone		Fragments Non-Utility
89	196	413	whetstone	1			Domestic
89	197	414	bead	5			Adornment
89	197	416	fragment	2	bone		Misc and Fragments
89	197	417	fragment	2	shell		Misc and Fragments
89	197	415	fragment	2	iron		Misc and Fragments
89	198	418	fragment	2	iron		Misc and Fragments
91	200	421	fragment	2	iron		Misc and Fragments
91	200	420	knife	1			Domestic
91	200	419	spit	1	iron	rectangle rod	Domestic
92	201	422	spear head	1	iron		Weapons
94	203	425	coin	1	silver	english?	Commerce
94	203	423	knife	1		wooden handle	Domestic
94	203	424	ring	1	silver		Adornment
96	0	426	buckle	1	iron		Horse Equipment
98	210	428	axe	1	iron		Weapons
98	210	429	axe	1	iron		Weapons
98	210	436	bark	1	wood		Misc and Fragments
98	210	433	buckle	2			Horse Equipment
98	210	434	ignitor	1	flint/silicas		Domestic
98	210	431	knife	1			Domestic
98	210	435	shield boss	1	iron		Weapons

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
98	210	430	spear head	1	iron		Weapons
98	210	427	sword	1	iron		Weapons
98	210	432	whetstone	1			Domestic
98	210	437	wood	3	wood		Misc and Fragments
98	211	447	bead	1			Adornment
98	211	448	brooch	1		penan-nular	Adornment
98	211	443	coin	2	silver	cufic	Commerce
98	211	445	fragment	1	iron		Misc and Fragments
98	211	441	ignitor	1	jasper		Domestic
98	211	439	knife	1			Domestic
98	211	446	shell	1	shell		Misc and Fragments
98	211	438	spear head	1	iron		Weapons
98	211	442	strike-a-light	1	iron	fragments	Domestic
98	211	444	thread	1	silver		Adornment
98	211	440	whetstone	1			Domestic
98	211	449	wood	1	wood		Misc and Fragments
98	212	450	bead	6		bead/wire pendant	Adornment
98	212	451	fragment	2	iron		Misc and Fragments
98	212	453	ignitor	3	quartz	fragments	Domestic
98	212	452	knife	1			Domestic
98	213	455	axe	1	iron		Weapons
98	213	463	bridle bit	1			Horse Equipment
98	213	465	buckle	1	iron		Horse Equipment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
98	213	460	fragment	1	iron		Misc and Fragments
98	213	461	ignitor	1	jasper		Domestic
98	213	458	knife	1			Domestic
98	213	464	nail	5			Domestic
98	213	462	pebble	1	rock		Misc and Fragments
98	213	456	shield boss	1	iron		Weapons
98	213	457	spear head	1	iron		Weapons
98	213	454	sword	1	iron		Weapons
98	213	459	weight	2	lead		Commerce
99	215	468	comb	1	bone		Domestic
99	215	467	fragment	2	iron		Misc and Fragments
99	215	466	shell	3	shell		Misc and Fragments
101	219	469	axe	1	iron		Weapons
101	219	470	spear head	1	iron		Weapons
101	220	471	pin	1	copper-alloy	ringed	Adornment
101	220	472	sheet metal	1	copper-alloy	folded	Adornment
102	221	473	axe	1	iron		Weapons
102	221	478	boss	2	iron		Horse Equipment
102	221	475	buckle	1			Horse Equipment
102	221	476	buckle	1	iron		Horse Equipment
102	221	477	hook	1	iron		Horse Equipment
102	221	474	knife	1			Domestic

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
103	223	479	bead	28		necklace	Adornment
104	224	481	brooch	1	copper-alloy	disc	Adornment
104	224	480	spear head	1	iron		Weapons
105	225	483	spear head	1	iron		Weapons
105	225	482	sword	1	iron		Weapons
106	226	484	fragment	1	iron		Misc and Fragments
107	227	487	bridle bit	1	iron		Horse Equipment
107	227	485	bridle bit	1	iron		Horse Equipment
107	227	486	buckle	2	iron		Horse Equipment
107	227	488	nail	3	iron		Horse Equipment
107	228	490	buckle	1	iron		Horse Equipment
107	228	491	nail	2	iron		Horse Equipment
107	228	489	spear head	1	iron	small	Weapons
108	229	492	bridle bit	1			Horse Equipment
108	229	493	whetstone	1			Domestic
110	231	494	knife	1			Domestic
111	0	495	axe	1	iron		Weapons
111	0	496	whetstone	1			Domestic
112	236	499	bead	4			Adornment
112	236	497	brooch	1		disc	Adornment
112	236	498	brooch	1		disc	Adornment
112	236	500	pin	1	copper-alloy	ringed	Adornment
112	237	501	spear head	1	iron		Weapons

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
112	238	502	buckle	1	iron		Horse Equipment
113	240	504	spear head	1	iron		Weapons
113	240	503	sword	1	iron		Weapons
114	241	506	buckle	1	iron		Domestic
114	241	507	nail	11	iron		Domestic
114	241	505	spear head	1	iron		Weapons
115	0	509	bridle bit	1	iron		Horse Equipment
115	0	510	buckle	1	iron		Horse Equipment
115	0	511	fragment	1	iron		Misc and Fragments
115	0	508	spear head	1	iron		Weapons
116	0	512	nail	3	iron		Horse Equipment
117	247	518	axe	1	iron		Weapons
117	247	523	bead	1			Adornment
117	247	524	bridle bit	1	iron		Horse Equipment
117	247	525	buckle	1	iron		Horse Equipment
117	247	513	dice	2			Non-Utility
117	247	519	figurine	1	bone		Non-Utility
117	247	521	fragment	1	iron		Misc and Fragments
117	247	514	gaming piece	24	bone		Non-Utility
117	247	517	knife	1			Domestic
117	247	520	shield boss	1	iron		Weapons
117	247	516	spear head	1	iron		Weapons
117	247	515	sword	1	iron		Weapons

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
117	247	522	whetstone	1			Domestic
118	248	526	knife	1			Domestic
118	248	527	whetstone	1			Domestic
120	0	540	boss	3	plated	horse	Horse Equipment
120	0	535	bridle bit	1	iron		Horse Equipment
120	0	536	buckle	3	iron		Horse Equipment
120	0	538	hook	1	iron		Horse Equipment
120	0	537	loop	3	iron		Horse Equipment
120	0	539	nail	2	iron		Horse Equipment
120	250	531	fragment	3	iron		Misc and Fragments
120	250	529	rivet	25	iron	boat	Boat
120	250	530	spear head	1	iron		Weapons
120	250	532	wood	2	wood	boat	Misc and Fragments
120	251	534	fragment	2	iron		Misc and Fragments
120	251	533	nail	1	iron		Domestic
122	253	542	knife	1			Domestic
122	253	541	spear head	1	iron		Weapons
123	254	543	buckle	1	iron		Horse Equipment
124	255	544	implement	2	iron		Domestic
125	0	545	spear head	1	iron		Weapons
126	259	546	bridle bit	1	iron		Horse Equipment
126	260	551	arm ring	1	copper-alloy	twisted wire	Adornment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
126	260	549	bead	52		necklace	Adornment
126	260	547	brooch	2		oval	Adornment
126	260	548	brooch	1		trefoil	Adornment
126	260	552	clasp	1			Adornment
126	260	553	comb	1	bone		Domestic
126	260	563	cylinder	1	copper-alloy	small	Domestic
126	260	562	fragment	5	iron		Misc and Fragments
126	260	560	hook	1	iron		Domestic
126	260	559	ignitor	1	flint/silicas		Domestic
126	260	555	knife	1			Domestic
126	260	550	pin	1	copper-alloy	ringed	Adornment
126	260	554	shears	1	iron		Domestic
126	260	557	sickle	1	iron		Domestic
126	260	556	spindle whorl	2			Domestic
126	260	561	strap end	1	copper-alloy		Adornment
126	260	558	wool comb	2	bone		Domestic
127	261	564	knife	1			Domestic
128	262	565	nail	3			Domestic
128	262	566	wood	1	wood		Misc and Fragments
130	265	567	bead	35		necklace	Adornment
130	265	572	bead	2			Adornment
130	265	568	brooch	1		oval	Adornment
130	265	570	buckle	1			Horse Equipment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
130	265	571	fragment	2	iron		Misc and Fragments
130	265	573	fragment	1	iron		Misc and Fragments
130	265	569	textile	1			Adornment
130	266	574	bead	34		necklace	Adornment
130	266	575	knife	1			Domestic
130	266	578	ring	1	iron		Domestic
130	266	577	spear head	1	iron		Weapons
130	266	576	whetstone	1			Domestic
131	267	579	comb	1	bone		Domestic
131	267	581	fragment	2	charcoal		Misc and Fragments
131	267	580	knife	1			Domestic
132	0	582	bead	10		necklace	Adornment
132	0	583	bead	4		necklace	Adornment
132	0	584	knife	1			Domestic
133	0	587	whetstone	1			Domestic
133	270	585	key	1			Domestic
133	270	586	knife	1			Domestic
134	271	588	axe	1	iron	small	Weapons
134	271	592	knife	1			Domestic
134	271	591	pebble	2	rock		Misc and Fragments
134	271	589	rivet	30	iron	boat	Boat
134	271	590	weight	1	lead		Commerce
135	275	595	comb	1	bone		Domestic

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
135	275	594	shell	2	shell		Misc and Fragments
135	275	593	vessel	1	iron	cauldron	Domestic
136	276	596	bead	1			Adornment
136	276	598	bridle bit	1	iron		Horse Equipment
136	276	599	fragment	2	iron		Misc and Fragments
136	276	597	knife	1			Domestic
137	277	600	bead	2		necklace	Adornment
137	277	601	brooch	2		oval	Adornment
137	277	602	brooch	1		disc	Adornment
139	279	604	axe	1	iron		Weapons
139	279	603	spear head	1	iron		Weapons
140	0	605	brooch	4		oval	Adornment
140	0	606	brooch	1		disc	Adornment
142	284	609	bead	40		necklace	Adornment
142	284	610	bead	3		necklace	Adornment
142	284	607	brooch	2		oval	Adornment
142	284	608	brooch	1		trefoil	Adornment
142	284	613	comb	1	bone		Domestic
142	284	615	shears	1	iron		Domestic
142	284	612	spindle whorl	1	steatite		Domestic
142	284	616	stone	1	rock		Misc and Fragments
142	284	611	textile	1			Adornment
142	284	614	whetstone	2			Domestic

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
143	285	618	bead	4			Adornment
143	285	617	brooch	1		disc	Adornment
143	285	619	buckle	1	iron		Horse Equipment
144	286	633	agate	1	quartz		Misc and Fragments
144	286	623	axe	1	iron		Weapons
144	286	629	bead	2	amber		Adornment
144	286	637	bridle bit	1	iron		Horse Equipment
144	286	635	buckle	2	iron		Horse Equipment
144	286	626	buckle	1	bronze	Borre style	Adornment
144	286	628	coin	1	silver	english	Commerce
144	286	720	ignitor	1	flint		Domestic
144	286	636	nail	8	iron		Horse Equipment
144	286	625	pin	1	copper-alloy	ringed	Adornment
144	286	632	purse	1			Commerce
144	286	630	ring	1	tin		Adornment
144	286	716	shield boss	1	iron		Weapons
144	286	622	spear head	1	iron		Weapons
144	286	621	spear head	1	iron		Weapons
144	286	718	stone	1	agate		Misc and Fragments
144	286	627	strap end	1	bronze	Borre style	Adornment
144	286	620	sword	1	iron		Weapons
144	286	634	vessel	1	steatite		Domestic
144	286	631	weight	4	lead		Commerce

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
144	286	624	whetstone	2			Domestic
145	287	638	brooch	1		disc	Adornment
145	287	640	button	2			Adornment
145	287	639	sheet metal	1	copper-alloy		Adornment
145	288	642	nail	1			Domestic
145	288	641	whetstone	1			Domestic
145	288	643	wood	1	wood		Misc and Fragments
146	312	648	bead	2		necklace	Adornment
146	312	646	buckle	1	iron		Horse Equipment
146	312	647	knife	1			Domestic
146	312	645	spear head	1	iron		Weapons
146	312	644	sword	1	iron		Weapons
146	312	649	wood	2	wood		Misc and Fragments
147	289	650	knife	1			Domestic
147	290	652	fragment	1	charcoal		Misc and Fragments
147	290	651	knife	1			Domestic
147	290	653	slag	1	iron		Domestic
148	291	654	axe	1	iron		Weapons
148	291	655	knife	1			Domestic
148	291	656	weight	3	lead		Commerce
149	293	657	knife	1			Domestic
149	293	658	rivet	15			Domestic
150	295	660	brooch	2		oval	Adornment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
150	295	661	brooch	1		trefoil	Adornment
150	295	663	fragment	1	copper-alloy	small	Misc and Fragments
150	295	662	textile	1			Adornment
150	295	659	vessel	1	steatite		Domestic
151	296	666	arm ring	1	jet		Adornment
151	296	665	brooch	2		oval	Adornment
151	296	667	comb	1	bone		Domestic
151	296	671	fragment	2	iron		Misc and Fragments
151	296	669	knife	1			Domestic
151	296	670	ring	1	iron		Domestic
151	296	668	shears	1	iron		Domestic
151	296	664	spit	1	iron	rectangle rod	Domestic
151	296	672	textile	1			Adornment
152	297	674	bead	3			Adornment
152	297	675	fragment	2	iron		Misc and Fragments
152	297	673	whetstone	3			Domestic
153	299	676	bead	1			Adornment
153	299	677	nail	1	iron		Domestic
154	300	678	shield boss	1	iron		Weapons
154	300	679	spear head	1	iron		Weapons
155	0	680	bridle bit	1	iron		Horse Equipment
155	0	686	bridle bit	1	iron		Horse Equipment
155	0	681	buckle	1	iron		Horse Equipment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
155	303	683	ignitor	5	jasper		Domestic
155	303	685	object	3	lead		Misc and Fragments
155	303	682	strike-a-light	1	iron	whole	Domestic
155	303	684	weight	2	lead		Commerce
155	305	688	bead	11		necklace	Adornment
155	305	687	knife	1			Domestic
156	306	690	bead	3			Adornment
156	306	689	brooch	2		oval	Adornment
157	0	699	awl	1	iron	punch	Domestic
157	0	691	bead	1			Adornment
157	0	697	bead	3		necklace	Adornment
157	0	698	brooch	1		tongue-shape	Adornment
157	0	703	fragment	2	iron		Misc and Fragments
157	0	701	knife	1			Domestic
157	0	695	pendant	3			Adornment
157	0	696	pendant	1			Adornment
157	0	700	sickle	1	iron		Domestic
157	0	692	sword	1	iron		Weapons
157	0	694	textile	1			Adornment
157	0	702	weight	1	lead		Commerce
157	0	693	whetstone	1			Domestic
159	313	706	bead	400		necklace	Adornment
159	313	705	brooch	1		trefoil	Adornment
159	313	704	brooch	2		oval	Adornment

Appendix D: Complete List of Artifacts

BR No.	Gr.	Art. No.	Art. Name	Count	Material	Style	Category
162	317	707	bracket	1		fragments	Domestic
162	317	728	cauldron	1	iron	fragments	Domestic
163	0	712	bead	1	shale	large	Adornment
163	0	713	bell	1	bronze		Adornment
163	0	714	fragments	223		boat	Boat
164	322	727	fragments	2	iron		Misc and Fragments
164	322	726	nails	10	iron	rivets	Domestic
164	322	722	shield boss	1	iron		Weapons
164	322	723	spear head	1	iron		Weapons
164	322	721	sword	1	iron		Weapons
164	342	724	axe	1	iron		Weapons
164	343	725	boat nails	400	iron		Boat

Appendix D: Complete List of Artifacts

APPENDIX E: ANALYZED HUMAN SKELETAL REMAINS AND ARTIFACT INCLUSIONS

Gr. No.	Sex	Age	Name	Art. No.	Count	Category
1	Male	MA	knife	1	1	Domestic
1	Male	MA	spear head	2	1	Weapons
2	Female	Adult?	arm ring	3	1	Adornment
2	Female	Adult?	comb	4	1	Domestic
2	Female	Adult?	fragment	7	1	Misc and Fragments
2	Female	Adult?	ignitor	5	2	Domestic
2	Female	Adult?	pebble	6	1	Misc and Fragments
8	Unidentified	OSA	axe	22	1	Weapons
8	Unidentified	OSA	bead	27	1	Adornment
8	Unidentified	OSA	bridle bit	31	1	Horse Equipment
8	Unidentified	OSA	buckle	32	1	Horse Equipment
8	Unidentified	OSA	comb	28	1	Domestic
8	Unidentified	OSA	fragment	29	1	Misc and Fragments
8	Unidentified	OSA	fragment	33	2	Misc and Fragments
8	Unidentified	OSA	ignitor	30	4	Domestic
8	Unidentified	OSA	knife	24	1	Domestic
8	Unidentified	OSA	shield boss	23	1	Weapons
8	Unidentified	OSA	spear head	21	1	Weapons
8	Unidentified	OSA	weight	26	1	Commerce
8	Unidentified	OSA	whetstone	25	1	Domestic
10	Male	YMA	fragment	34	2	Misc and Fragments
10	Male	YMA	fragment	35	1	Misc and Fragments
21	Unidentified	U	spear head	47	1	Weapons
24	Unidentified	U	bridle bit	50	1	Horse Equipment
24	Unidentified	U	weaving implement	49	1	Domestic
25	Female	MA	comb	51	1	Domestic
25	Female	MA	needle case	52	1	Domestic
26	Male	MA	axe	55	1	Weapons
26	Male	MA	bridle bit	64	1	Horse Equipment
26	Male	MA	buckle	65	1	Horse Equipment

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.				Art.		
No.	Sex	Age	Name	No.	Count	Category
26	Male	MA	fragment	63	2	Misc and Fragments
26	Male	MA	hook	61	3	Fishing
26	Male	MA	hook	62	1	Domestic
26	Male	MA	ignitor	57	2	Domestic
26	Male	MA	knife	58	1	Domestic
26	Male	MA	shield boss	54	1	Weapons
26	Male	MA	spear head	53	1	Weapons
26	Male	MA	strike-a-light	66	1	Domestic
26	Male	MA	vise	60	1	Domestic
26	Male	MA	weight	59	4	Commerce
26	Male	MA	whetstone	56	2	Domestic
27	Male?	U	ignitor	69	1	Domestic
27	Male?	U	knife	67	1	Domestic
27	Male?	U	strike-a-light	70	1	Domestic
27	Male?	U	whetstone	68	1	Domestic
28	Unidentified	MA	fragment	76	3	Misc and Fragments
28	Unidentified	MA	knife	73	1	Domestic
28	Unidentified	MA	rivet	75	1	Boat
28	Unidentified	MA	spear head	71	1	Weapons
28	Unidentified	MA	weight	74	1	Commerce
28	Unidentified	MA	whetstone	72	1	Domestic
37	Male	OMA	bead	84	3	Adornment
37	Male	OMA	knife	86	1	Domestic
37	Male	OMA	spear head	82	1	Weapons
37	Male	OMA	stone	85	1	Misc and Fragments
37	Male	OMA	weight	83	2	Commerce
41	Unidentified	OMA	fragment	92	3	Misc and Fragments
43	Unidentified	U	bridle bit	95	1	Horse Equipment
44	Unidentified	U	bridle bit	97	1	Horse Equipment
44	Unidentified	U	buckle	100	1	Horse Equipment
44	Unidentified	U	buckle	101	2	Horse Equipment
44	Unidentified	U	buckle	96	1	Horse Equipment
44	Unidentified	U	knife	99	1	Domestic
44	Unidentified	U	shaft	102	4	Unidentified Objects
44	Unidentified	U	shield boss	98	1	Weapons

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.				Art.		
No.	Sex	Age	Name	No.	Count	Category
46	Female?	U	fragment	104	3	Misc and Fragments
46	Female?	U	stone	103	3	Misc and Fragments
47	Female?	OMA	bead	105	12	Adornment
47	Female?	OMA	fragment	108	2	Misc and Fragments
47	Female?	OMA	knife	106	1	Domestic
47	Female?	OMA	sickle	107	1	Domestic
47	Female?	OMA	textile	109	1	Adornment
50	Unidentified	U	bridle bit	114	1	Horse Equipment
50	Unidentified	U	ignitor	113	1	Domestic
51	Unidentified	OMA	axe	117	1	Weapons
51	Unidentified	OMA	buckle	120	2	Horse Equipment
51	Unidentified	OMA	buckle	118	1	Adornment
51	Unidentified	OMA	spear head	116	2	Weapons
51	Unidentified	OMA	weight	119	1	Commerce
58	Unidentified	MA	spear head	126	1	Weapons
59	Female?	OMA	bead	127	15	Adornment
59	Female?	OMA	wood	128	2	Misc and Fragments
68	Female	OMA	brooch	173	1	Adornment
68	Female	OMA	comb	175	1	Domestic
68	Female	OMA	fragment	178	2	Misc and Fragments
68	Female	OMA	knife	174	1	Domestic
68	Female	OMA	pebble	176	2	Misc and Fragments
68	Female	OMA	pin	172	1	Adornment
68	Female	OMA	plaque	171	1	Non-Utility
68	Female	OMA	shell	177	3	Misc and Fragments
70	Male	OMA	axe	186	1	Weapons
70	Male	OMA	bridle bit	180	1	Horse Equipment
70	Male	OMA	buckle	187	1	Horse Equipment
70	Male	OMA	comb	183	1	Domestic
70	Male	OMA	comb case	184	1	Domestic
70	Male	OMA	fragment	190	2	Misc and Fragments
70	Male	OMA	rivet	189	4	Boat
70	Male	OMA	shield boss	182	1	Weapons
70	Male	OMA	spear head	179	1	Weapons
70	Male	OMA	sword	181	1	Weapons

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.	No.	Sex	Age	Name	Art. No.	Count	Category
	70	Male	OMA	Sword chape	711	1	Weapons
	70	Male	OMA	vessel	188	1	Domestic
	70	Male	OMA	whetstone	185	1	Domestic
	72	Female	YMA	bead	192	3	Adornment
	72	Female	YMA	comb	191	1	Domestic
	72	Female	YMA	finger ring	193	1	Adornment
	72	Female	YMA	spear head	194	1	Weapons
	73	Male	MA	spear head	195	1	Weapons
	81	Male?	YA	fragment	215	2	Misc and Fragments
	81	Male?	YA	knife	213	1	Domestic
	81	Male?	YA	pin	214	1	Adornment
	81	Male?	YA	shield boss	212	1	Weapons
	81	Male?	YA	spear head	211	1	Weapons
	81	Male?	YA	sword	210	1	Weapons
	131	Male?	MA	rivet	253	12	Boat
	135	Female	U	bead	263	33	Adornment
	135	Female	U	bell	262	1	Adornment
	135	Female	U	brooch	261	2	Adornment
	135	Female	U	comb	259	1	Domestic
	135	Female	U	fragment	267	2	Misc and Fragments
	135	Female	U	knife	266	1	Domestic
	135	Female	U	pin	265	1	Adornment
	135	Female	U	scale pan	260	1	Commerce
	135	Female	U	shears	257	1	Domestic
	135	Female	U	tweezers	264	1	Domestic
	135	Female	U	vessel	256	1	Domestic
	135	Female	U	weaving sword	258	1	Domestic
	137	Male	MA	knife	269	1	Domestic
	140	Male	OMA	fragment	276	2	Misc and Fragments
	140	Male	OMA	ring	275	1	Horse Equipment
	140	Male	OMA	strap end	274	1	Adornment
	141	Unidentified	YA	fragment	277	2	Misc and Fragments
	141	Unidentified	YA	wood	278	2	Misc and Fragments
	144	Unidentified	U	buckle	281	1	Horse Equipment
	144	Unidentified	U	fragment	283	2	Misc and Fragments

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.	No.	Sex	Age	Name	Art.	No.	Count	Category
	144	Unidentified	U	nail	282	1		Horse Equipment
	146	Male	YMA	fragment	289	2		Misc and Fragments
	154	Male?	MA	fragment	294	2		Misc and Fragments
	154	Male?	MA	strap end	292	1		Adornment
	154	Male?	MA	vessel	291	1		Domestic
	154	Male?	MA	wood	293	2		Misc and Fragments
	157	Female?	OMA	bead	300	2		Adornment
	157	Female?	OMA	buckle	303	1		Horse Equipment
	157	Female?	OMA	button	301	2		Adornment
	157	Female?	OMA	fragment	302	20		Misc and Fragments
	157	Female?	OMA	nail	304	3		Horse Equipment
	157	Female?	OMA	wood	299	2		Misc and Fragments
	159	Male?	OMA	fragment	306	2		Misc and Fragments
	159	Male?	OMA	nail	305	1		Horse Equipment
	160	Unidentified	U	brooch	308	1		Adornment
	160	Unidentified	U	ring	307	1		Domestic
	161	Unidentified	U	bridle bit	310	1		Horse Equipment
	161	Unidentified	U	fragment	311	2		Misc and Fragments
	161	Unidentified	U	spear head	309	1		Weapons
	162	Unidentified	U	shears	313	1		Domestic
	162	Unidentified	U	sickle	312	1		Domestic
	163	Unidentified	U	axe	314	1		Weapons
	163	Unidentified	U	knife	315	1		Domestic
	163	Unidentified	U	ring	316	1		Domestic
	163	Unidentified	U	weight	317	2		Commerce
	164	Unidentified	U	decorated object	318	1		Non-Utility
	164	Unidentified	U	fragment	320	2		Misc and Fragments
	164	Unidentified	U	whetstone	319	1		Domestic
	170	Unidentified	U	buckle	339	1		Horse Equipment
	170	Unidentified	U	fragment	340	2		Misc and Fragments
	170	Unidentified	U	spear head	337	1		Weapons
	170	Unidentified	U	strap end	338	1		Adornment
	171	Unidentified	U	buckle	342	1		Horse Equipment
	171	Unidentified	U	fragment	341	2		Misc and Fragments
	177	Unidentified	YSA	knife	361	1		Domestic

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.	No.	Sex	Age	Name	Art.	No.	Count	Category
	177	Unidentified	YSA	nail		360	2	Domestic
	186	Male	MA	bead		386	9	Adornment
	186	Male	MA	bead		387	1	Adornment
	186	Male	MA	fragment		389	2	Misc and Fragments
	186	Male	MA	wood		388	2	Misc and Fragments
	187	Male	MA	fragment		394	2	Misc and Fragments
	187	Male	MA	knife		391	1	Domestic
	187	Male	MA	spear head		393	1	Weapons
	187	Male	MA	weight		392	8	Commerce
	187	Male	MA	whetstone		390	1	Domestic
	188	Male	OMA	fragment		397	2	Misc and Fragments
	188	Male	OMA	spear head		396	1	Weapons
	188	Male	OMA	weight		398	3	Commerce
	188	Male	OMA	wood		395	1	Misc and Fragments
	189	Unidentified	Adult?	buckle		401	1	Horse Equipment
	189	Unidentified	Adult?	rivet		400	52	Boat
	190	Female?	OMA	brooch		402	1	Adornment
	190	Female?	OMA	buckle		406	2	Horse Equipment
	190	Female?	OMA	fragment		404	3	Misc and Fragments
	190	Female?	OMA	knife		403	1	Domestic
	190	Female?	OMA	nail		407	3	Domestic
	190	Female?	OMA	vessel		405	1	Domestic
	196	Female?	YMA	fragment		412	3	Misc and Fragments
	196	Female?	YMA	gaming piece		411	19	Non-Utility
	196	Female?	YMA	whetstone		413	1	Domestic
	197	Male	YA	bead		414	5	Adornment
	197	Male	YA	fragment		415	2	Misc and Fragments
	197	Male	YA	fragment		416	2	Misc and Fragments
	197	Male	YA	fragment		417	2	Misc and Fragments
	200	Male?	OMA	fragment		421	2	Misc and Fragments
	200	Male?	OMA	knife		420	1	Domestic
	200	Male?	OMA	spit		419	1	Domestic
	201	Unidentified	U	spear head		422	1	Weapons
	210	Male	OMA	axe		428	1	Weapons
	210	Male	OMA	axe		429	1	Weapons

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.	No.	Sex	Age	Name	Art. No.	Count	Category
	210	Male	OMA	bark	436	1	Misc and Fragments
	210	Male	OMA	buckle	433	2	Horse Equipment
	210	Male	OMA	ignitor	434	1	Domestic
	210	Male	OMA	knife	431	1	Domestic
	210	Male	OMA	shield boss	435	1	Weapons
	210	Male	OMA	spear head	430	1	Weapons
	210	Male	OMA	sword	427	1	Weapons
	210	Male	OMA	whetstone	432	1	Domestic
	210	Male	OMA	wood	437	3	Misc and Fragments
	211	Male	MA	bead	447	1	Adornment
	211	Male	MA	brooch	448	1	Adornment
	211	Male	MA	coin	443	2	Commerce
	211	Male	MA	fragment	445	1	Misc and Fragments
	211	Male	MA	ignitor	441	1	Domestic
	211	Male	MA	knife	439	1	Domestic
	211	Male	MA	shell	446	1	Misc and Fragments
	211	Male	MA	spear head	438	1	Weapons
	211	Male	MA	strike-a-light	442	1	Domestic
	211	Male	MA	thread	444	1	Adornment
	211	Male	MA	whetstone	440	1	Domestic
	211	Male	MA	wood	449	1	Misc and Fragments
	212	Female	OMA	bead	450	6	Adornment
	212	Female	OMA	fragment	451	2	Misc and Fragments
	212	Female	OMA	ignitor	453	3	Domestic
	212	Female	OMA	knife	452	1	Domestic
	213	Male	OMA	axe	455	1	Weapons
	213	Male	OMA	bridle bit	463	1	Horse Equipment
	213	Male	OMA	buckle	465	1	Horse Equipment
	213	Male	OMA	fragment	460	1	Misc and Fragments
	213	Male	OMA	ignitor	461	1	Domestic
	213	Male	OMA	knife	458	1	Domestic
	213	Male	OMA	nail	464	5	Domestic
	213	Male	OMA	pebble	462	1	Misc and Fragments
	213	Male	OMA	shield boss	456	1	Weapons
	213	Male	OMA	spear head	457	1	Weapons

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.	No.	Sex	Age	Name	Art. No.	Count	Category
	213	Male	OMA	sword	454	1	Weapons
	213	Male	OMA	weight	459	2	Commerce
	215	Male	U	comb	468	1	Domestic
	215	Male	U	fragment	467	2	Misc and Fragments
	215	Male	U	shell	466	3	Misc and Fragments
	219	Male?	OMA	axe	469	1	Weapons
	219	Male?	OMA	spear head	470	1	Weapons
	220	Female	OMA	pin	471	1	Adornment
	220	Female	OMA	sheet metal	472	1	Adornment
	221	Unidentified	U	axe	473	1	Weapons
	221	Unidentified	U	boss	478	2	Horse Equipment
	221	Unidentified	U	buckle	475	1	Horse Equipment
	221	Unidentified	U	buckle	476	1	Horse Equipment
	221	Unidentified	U	hook	477	1	Horse Equipment
	221	Unidentified	U	knife	474	1	Domestic
	223	Male?	YMA	bead	479	28	Adornment
	225	Unidentified	U	spear head	483	1	Weapons
	225	Unidentified	U	sword	482	1	Weapons
	248	Male	OMA	knife	526	1	Domestic
	248	Male	OMA	whetstone	527	1	Domestic
	250	Male?	MA	fragment	531	3	Misc and Fragments
	250	Male?	MA	rivet	529	25	Boat
	250	Male?	MA	spear head	530	1	Weapons
	250	Male?	MA	wood	532	2	Misc and Fragments
	251	Male?	U	fragment	534	2	Misc and Fragments
	251	Male?	U	nail	533	1	Domestic
	253	Male	YA	knife	542	1	Domestic
	253	Male	YA	spear head	541	1	Weapons
	260	Unidentified	MA	arm ring	551	1	Adornment
	260	Unidentified	MA	bead	549	52	Adornment
	260	Unidentified	MA	brooch	547	2	Adornment
	260	Unidentified	MA	brooch	548	1	Adornment
	260	Unidentified	MA	clasp	552	1	Adornment
	260	Unidentified	MA	comb	553	1	Domestic
	260	Unidentified	MA	cylinder	563	1	Domestic

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.	No.	Sex	Age	Name	Art.	No.	Count	Category
	260	Unidentified	MA	fragment	562	5		Misc and Fragments
	260	Unidentified	MA	hook	560	1		Domestic
	260	Unidentified	MA	ignitor	559	1		Domestic
	260	Unidentified	MA	knife	555	1		Domestic
	260	Unidentified	MA	pin	550	1		Adornment
	260	Unidentified	MA	shears	554	1		Domestic
	260	Unidentified	MA	sickle	557	1		Domestic
	260	Unidentified	MA	spindle whorl	556	2		Domestic
	260	Unidentified	MA	strap end	561	1		Adornment
	260	Unidentified	MA	wool comb	558	2		Domestic
	261	Male?	OMA	knife	564	1		Domestic
	262	Male	MA	nail	565	3		Domestic
	262	Male	MA	wood	566	1		Misc and Fragments
	265	Female	OMA	bead	567	35		Adornment
	265	Female	OMA	bead	572	2		Adornment
	265	Female	OMA	brooch	568	1		Adornment
	265	Female	OMA	buckle	570	1		Horse Equipment
	265	Female	OMA	fragment	571	2		Misc and Fragments
	265	Female	OMA	fragment	573	1		Misc and Fragments
	265	Female	OMA	textile	569	1		Adornment
	267	Male	OMA	comb	579	1		Domestic
	267	Male	OMA	fragment	581	2		Misc and Fragments
	267	Male	OMA	knife	580	1		Domestic
	271	Unidentified	YSA	axe	588	1		Weapons
	271	Unidentified	YSA	knife	592	1		Domestic
	271	Unidentified	YSA	pebble	591	2		Misc and Fragments
	271	Unidentified	YSA	rivet	589	30		Boat
	271	Unidentified	YSA	weight	590	1		Commerce
	276	Unidentified	U	bead	596	1		Adornment
	276	Unidentified	U	bridle bit	598	1		Horse Equipment
	276	Unidentified	U	fragment	599	2		Misc and Fragments
	276	Unidentified	U	knife	597	1		Domestic
	284	Unidentified	U	bead	609	40		Adornment
	284	Unidentified	U	bead	610	3		Adornment
	284	Unidentified	U	brooch	607	2		Adornment

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.	No.	Sex	Age	Name	Art.	No.	Count	Category
	284	Unidentified	U	brooch	608	1		Adornment
	284	Unidentified	U	comb	613	1		Domestic
	284	Unidentified	U	shears	615	1		Domestic
	284	Unidentified	U	spindle whorl	612	1		Domestic
	284	Unidentified	U	stone	616	1		Misc and Fragments
	284	Unidentified	U	textile	611	1		Adornment
	284	Unidentified	U	whetstone	614	2		Domestic
	286	Male	OMA	agate	633	1		Misc and Fragments
	286	Male	OMA	axe	623	1		Weapons
	286	Male	OMA	bead	629	2		Adornment
	286	Male	OMA	bridle bit	637	1		Horse Equipment
	286	Male	OMA	buckle	635	2		Horse Equipment
	286	Male	OMA	buckle	626	1		Adornment
	286	Male	OMA	coin	628	1		Commerce
	286	Male	OMA	ignitor	720	1		Domestic
	286	Male	OMA	nail	636	8		Horse Equipment
	286	Male	OMA	pin	625	1		Adornment
	286	Male	OMA	purse	632	1		Commerce
	286	Male	OMA	ring	630	1		Adornment
	286	Male	OMA	shield boss	716	1		Weapons
	286	Male	OMA	spear head	622	1		Weapons
	286	Male	OMA	spear head	621	1		Weapons
	286	Male	OMA	stone	718	1		Misc and Fragments
	286	Male	OMA	strap end	627	1		Adornment
	286	Male	OMA	sword	620	1		Weapons
	286	Male	OMA	vessel	634	1		Domestic
	286	Male	OMA	weight	631	4		Commerce
	286	Male	OMA	whetstone	624	2		Domestic
	288	Male	OMA	nail	642	1		Domestic
	288	Male	OMA	whetstone	641	1		Domestic
	288	Male	OMA	wood	643	1		Misc and Fragments
	289	Male	OMA	knife	650	1		Domestic
	290	Male	YA	fragment	652	1		Misc and Fragments
	290	Male	YA	knife	651	1		Domestic
	290	Male	YA	slag	653	1		Domestic

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.	No.	Sex	Age	Name	Art.	No.	Count	Category
	291	Male	MA	axe	654	1		Weapons
	291	Male	MA	knife	655	1		Domestic
	291	Male	MA	weight	656	3		Commerce
	296	Female	MA	arm ring	666	1		Adornment
	296	Female	MA	brooch	665	2		Adornment
	296	Female	MA	comb	667	1		Domestic
	296	Female	MA	fragment	671	2		Misc and Fragments
	296	Female	MA	knife	669	1		Domestic
	296	Female	MA	ring	670	1		Domestic
	296	Female	MA	shears	668	1		Domestic
	296	Female	MA	spit	664	1		Domestic
	296	Female	MA	textile	672	1		Adornment
	299	Female	YMA	bead	676	1		Adornment
	299	Female	YMA	nail	677	1		Domestic
	303	Unidentified	U	ignitor	683	5		Domestic
	303	Unidentified	U	object	685	3		Misc and Fragments
	303	Unidentified	U	strike-a-light	682	1		Domestic
	303	Unidentified	U	weight	684	2		Commerce
	305	Female?	OMA	bead	688	11		Adornment
	305	Female?	OMA	knife	687	1		Domestic
	312	Unidentified	OSA	bead	648	2		Adornment
	312	Unidentified	OSA	buckle	646	1		Horse Equipment
	312	Unidentified	OSA	knife	647	1		Domestic
	312	Unidentified	OSA	spear head	645	1		Weapons
	312	Unidentified	OSA	sword	644	1		Weapons
	312	Unidentified	OSA	wood	649	2		Misc and Fragments
	313	Unidentified	YA	bead	706	400		Adornment
	313	Unidentified	YA	brooch	705	1		Adornment
	313	Unidentified	YA	brooch	704	2		Adornment
	317	Female?	YA	bracket	707	1		Domestic
	317	Female?	YA	cauldron	728	1		Domestic
	322	Male	OMA	fragments	727	2		Misc and Fragments
	322	Male	OMA	nails	726	10		Domestic
	322	Male	OMA	shield boss	722	1		Weapons
	322	Male	OMA	spear head	723	1		Weapons

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

Gr.				Art.		
No.	Sex	Age	Name	No.	Count	Category
322	Male	OMA	sword	721	1	Weapons
342	Male	MA	axe	724	1	Weapons
343	Male	U	boat nails	725	400	Boat

Appendix E: Analyzed Human Skeletal Remains and Artifact Inclusions

APPENDIX F: ANIMALS IN THE PRE-CHRISTIAN BURIAL RECORD

BR No.	Animal No.	Type of Animal	Count	Inside/Outside Burial
3	1	horse	1	included
	2	horse	1	separate
5	3	horse	2	separate
7	4	horse	1	included
9	5	horse	1	included
	6	horse	1	included
14	7	horse	1	included
	8	horse	1	included
15	9	horse	1	separate
17	10	horse	1	separate
18	11	horse	1	separate
24	12	horse	1	included
25	13	horse	1	separate
	14	horse	1	separate
	15	dog	1	included
	16	horse	1	separate
28	17	horse	1	separate
35	18	horse	1	included
	19	dog	1	included
40	20	horse	1	included
	21	dog	1	included
	22	dog	1	included
41	23	horse	1	included
46	24	horse	1	included
48	25	horse	1	included
50	26	horse	1	included
53	27	horse	1	included

Appendix F: Animals in the Pre-Christian Burial Record

BR No.	Animal No.	Type of Animal	Count	Inside/Outside Burial
54	28	horse	1	included
	29	pig	1	included
58	30	horse	1	included
60	31	horse	1	included
61	32	horse	1	separate
63	33	horse	1	included
	34	dog	1	included
66	35	horse	1	separate
67	36	horse	1	separate
70	37	horse	1	included
	38	horse	1	separate
71	39	horse	1	included
72	40	horse	1	included
74	41	horse	1	included
	42	dog	1	included
75	43	horse	1	included
	44	horse	1	included
76	45	horse	1	separate
	46	horse	1	included
77	47	horse	1	separate
79	48	horse	1	separate
79	49	horse	1	separate
80	50	horse	1	separate
81	51	horse	1	separate
84	52	horse	1	included
85	53	horse	1	included
86	54	horse	1	included
87	55	horse	2	separate
	56	horse	1	separate
	57	horse	1	included

Appendix G: Analyzed Human Skeletal Remains with Animal Inclusions

BR No.	Animal No.	Type of Animal	Count	Inside/Outside Burial
	58	horse	1	included
	59	horse	1	included
	60	horse	1	separate
	61	horse	1	included
	62	horse	1	separate
88	63	horse	1	included
	64	horse	1	unknown
89	65	horse	1	separate
	66	dog	1	included
	67	horse	1	included
	68	horse	1	included
	69	horse	1	separate
	70	dog	1	included
	71	horse	1	separate
	72	dog	1	included
	73	horse	1	separate
89	74	horse	1	included
91	75	horse	1	separate
92	76	horse	2	included
93	77	horse	1	included
96	78	dog	1	included
	79	horse	1	included
97	80	horse	1	included
98	81	horse	1	included
99	82	horse	1	included
	83	dog	1	included
100	84	horse	1	included
102	85	horse	1	separate
107	86	horse	1	included
	88	horse	2	separate

Appendix G: Analyzed Human Skeletal Remains with Animal Inclusions

BR No.	Animal No.	Type of Animal	Count	Inside/Outside Burial
108	89	dog	1	included
	90	horse	1	included
110	91	horse	1	included
112	92	horse	2	separate
115	93	horse	1	included
116	94	horse	2	separate
117	95	horse	1	separate
118	96	dog	1	included
119	97	horse	1	unknown
120	98	horse	1	separate
	99	dog	1	included
120	100	dog	1	included
	101	horse	1	separate
	102	horse	2	separate
121	103	horse	2	separate
123	104	horse	1	separate
126	105	horse	1	unknown
	106	dog	1	included
128	107	horse	1	included
130	108	horse	1	included
134	109	horse	1	separate
135	110	horse	1	included
	111	dog	1	included
136	112	horse	1	separate
138	113	horse	1	unknown
141	114	horse	1	included
143	115	horse	1	separate
144	116	horse	1	separate
145	117	dog	1	included
150	118	horse	1	included

Appendix G: Analyzed Human Skeletal Remains with Animal Inclusions

BR No.	Animal No.	Type of Animal	Count	Inside/Outside Burial
152	119	horse	1	separate
154	120	horse	1	unknown
155	121	horse	1	separate
	122	horse	1	separate

Appendix G: Analyzed Human Skeletal Remains with Animal Inclusions

**APPENDIX G: ANALYZED HUMAN SKELETAL REMAINS
WITH ANIMAL INCLUSIONS**

BR No.	Gr. No.	Human Sex ID	Human Age	Animal ID No.	Type of Animal	Animal Count
3	5	Unidentified	U	1	horse	1
5	8	Unidentified	OSA	3	horse	2
15	24	Unidentified	U	9	horse	1
17	26	Male	MA	10	horse	1
18	27	Male?	U	11	horse	1
24	41	Unidentified	OMA	12	horse	1
25	43	Unidentified	U	13	horse	1
	44	Unidentified	U	14/15	horse/dog	1
	45	Unidentified	U	16	horse	1
28	50	Unidentified	U	17	horse	1
40	70	Male	OMA	20/21	horse/dog	1
	73	Male	MA	22	dog	1
63	135	Female	U	34/35	horse/dog	1
67	140	Male	OMA	36	horse	1
70	143	Male?	U	37	horse	1
	144	Unidentified	U	38	horse	1
72	146	Male	YMA	40	horse	1
74	154	Male?	MA	41/42	horse/dog	1
76	157	Female?	OMA	45	horse	1
	158	Unidentified	U	46	horse	1
77	159	Male?	OMA	47	horse	1
79	161	Unidentified	U	48	horse	1
	162	Unidentified	U	49	horse	1
80	164	Unidentified	U	50	horse	1
81	166	Unidentified	MA	51	horse	1

Appendix G: Analyzed Human Skeletal Remains with Animal Inclusions

BR No.	Gr. No.	Human Sex ID	Human Age	Animal ID No.	Type of Animal	Animal Count
85	170	Unidentified	U	53	horse	1
89	187	Male	MA	65	horse	1
	189	Unidentified	Adult?	66/67	horse/dog	1
	190	Female?	OMA	68	horse	1
	191	Female	MA	69	horse	1
	194	Male	Adult?	71	horse	1
	196	Female?	YMA	72	dog	1
	197	Male	YA	73	horse	1
91	200	Male?	OMA	75	horse	1
92	201	Unidentified	U	76	horse	2
93	202	Male?	MA	77	horse	1
98	213	Male	OMA	81	horse	1
102	221	Unidentified	U	85	horse	1
118	248	Male	OMA	96	dog	1
120	250	Male?	MA	98/99	horse/dog	1
120	251	Male?	U	100	dog	1
121	252	Female?	YMA	103	horse	2
126	260	Unidentified	MA	106	dog	1
128	262	Male	MA	107	horse	1
130	265	Female	OMA	108	horse	1
136	276	Unidentified	U	112	horse	1
144	286	Male	OMA	116	horse	1
145	288	Male	OMA	117	dog	1

Appendix G: Analyzed Human Skeletal Remains with Animal Inclusions

APPENDIX H: THREE-VARIABLE SET

Gr.	Sex	Age	Category Name	Amt.	Category	Animal
8	Unidentified	OSA	bridle bit	1	Horse Equipment	horse
8	Unidentified	OSA	whetstone	1	Domestic	horse
8	Unidentified	OSA	buckle	1	Horse Equipment	horse
8	Unidentified	OSA	ignitor	4	Domestic	horse
8	Unidentified	OSA	fragment	1	Misc & Frags	horse
8	Unidentified	OSA	weight	1	Commerce	horse
8	Unidentified	OSA	comb	1	Domestic	horse
8	Unidentified	OSA	knife	1	Domestic	horse
8	Unidentified	OSA	shield boss	1	Weapons	horse
8	Unidentified	OSA	axe	1	Weapons	horse
8	Unidentified	OSA	fragment	2	Misc & Frags	horse
8	Unidentified	OSA	spear head	1	Weapons	horse
8	Unidentified	OSA	bead	1	Adornment	horse
24	Unidentified	U	weaving implement	1	Domestic	horse
24	Unidentified	U	bridle bit	1	Horse Equipment	horse
26	Male	MA	vise	1	Domestic	horse
26	Male	MA	buckle	1	Horse Equipment	horse
26	Male	MA	bridle bit	1	Horse Equipment	horse
26	Male	MA	fragment	2	Misc & Frags	horse
26	Male	MA	hook	1	Domestic	horse
26	Male	MA	hook	3	Fishing	horse
26	Male	MA	axe	1	Weapons	horse
26	Male	MA	weight	4	Commerce	horse
26	Male	MA	knife	1	Domestic	horse
26	Male	MA	ignitor	2	Domestic	horse
26	Male	MA	whetstone	2	Domestic	horse
26	Male	MA	shield boss	1	Weapons	horse

Appendix H: Three-Variable Set

Gr.	Sex	Age	Category Name	Amt.	Category	Animal
26	Male	MA	spear head	1	Weapons	horse
26	Male	MA	strike-a-light	1	Domestic	horse
27	Male?	U	knife	1	Domestic	horse
27	Male?	U	strike-a-light	1	Domestic	horse
27	Male?	U	ignitor	1	Domestic	horse
27	Male?	U	whetstone	1	Domestic	horse
41	Unidentified	OMA	fragment	3	Misc & Frags	horse
43	Unidentified	U	bridle bit	1	Horse Equipment	horse/dog
44	Unidentified	U	bridle bit	1	Horse Equipment	horse/dog
44	Unidentified	U	buckle	1	Horse Equipment	horse/dog
44	Unidentified	U	shield boss	1	Weapons	horse/dog
44	Unidentified	U	buckle	2	Horse Equipment	horse/dog
44	Unidentified	U	shaft	4	Unidentified Obj.	horse/dog
44	Unidentified	U	buckle	1	Horse Equipment	horse/dog
44	Unidentified	U	knife	1	Domestic	horse/dog
50	Unidentified	U	bridle bit	1	Horse Equipment	horse
50	Unidentified	U	ignitor	1	Domestic	horse
70	Male	OMA	Sword chape	1	Weapons	horse/dog
70	Male	OMA	spear head	1	Weapons	horse/dog
70	Male	OMA	fragment	2	Misc & Frags	horse/dog
70	Male	OMA	comb case	1	Domestic	horse/dog
70	Male	OMA	bridle bit	1	Horse Equipment	horse/dog
70	Male	OMA	sword	1	Weapons	horse/dog
70	Male	OMA	comb	1	Domestic	horse/dog
70	Male	OMA	axe	1	Weapons	horse/dog
70	Male	OMA	buckle	1	Horse Equipment	horse/dog
70	Male	OMA	vessel	1	Domestic	horse/dog
70	Male	OMA	shield boss	1	Weapons	horse/dog
70	Male	OMA	rivet	4	Boat	horse/dog
70	Male	OMA	whetstone	1	Domestic	horse/dog
73	Male	MA	spear head	1	Weapons	dog

Appendix H: Three-Variable Set

Gr.	Sex	Age	Category Name	Amt.	Category	Animal
135	Female	U	bead	33	Adornment	horse/dog
135	Female	U	fragment	2	Misc & Frags	horse/dog
135	Female	U	bell	1	Adornment	horse/dog
135	Female	U	brooch	2	Adornment	horse/dog
135	Female	U	tweezers	1	Domestic	horse/dog
135	Female	U	scale pan	1	Commerce	horse/dog
135	Female	U	comb	1	Domestic	horse/dog
135	Female	U	weaving sword	1	Domestic	horse/dog
135	Female	U	shears	1	Domestic	horse/dog
135	Female	U	vessel	1	Domestic	horse/dog
135	Female	U	knife	1	Domestic	horse/dog
135	Female	U	pin	1	Adornment	horse/dog
140	Male	OMA	fragment	2	Misc & Frags	horse
140	Male	OMA	strap end	1	Adornment	horse
140	Male	OMA	ring	1	Horse Equipment	horse
144	Unidentified	U	buckle	1	Horse Equipment	horse
144	Unidentified	U	fragment	2	Misc & Frags	horse
144	Unidentified	U	nail	1	Horse Equipment	horse
146	Male	YMA	fragment	2	Misc & Frags	horse
154	Male?	MA	fragment	2	Misc & Frags	horse/dog
154	Male?	MA	wood	2	Misc & Frags	horse/dog
154	Male?	MA	strap end	1	Adornment	horse/dog
154	Male?	MA	vessel	1	Domestic	horse/dog
157	Female?	OMA	bead	2	Adornment	horse
157	Female?	OMA	nail	3	Horse Equipment	horse
157	Female?	OMA	buckle	1	Horse Equipment	horse
157	Female?	OMA	fragment	20	Misc & Frags	horse
157	Female?	OMA	button	2	Adornment	horse
157	Female?	OMA	wood	2	Misc & Frags	horse
159	Male?	OMA	fragment	2	Misc & Frags	horse
159	Male?	OMA	nail	1	Horse Equipment	horse

Appendix H: Three-Variable Set

Gr.	Sex	Age	Category Name	Amt.	Category	Animal
161	Unidentified	U	bridle bit	1	Horse Equipment	horse
161	Unidentified	U	fragment	2	Misc & Frags	horse
161	Unidentified	U	spear head	1	Weapons	horse
162	Unidentified	U	sickle	1	Domestic	horse
162	Unidentified	U	shears	1	Domestic	horse
164	Unidentified	U	decorated object	1	Non-Utility	horse
164	Unidentified	U	whetstone	1	Domestic	horse
164	Unidentified	U	fragment	2	Misc & Frags	horse
170	Unidentified	U	spear head	1	Weapons	horse
170	Unidentified	U	strap end	1	Adornment	horse
170	Unidentified	U	buckle	1	Horse Equipment	horse
170	Unidentified	U	fragment	2	Misc & Frags	horse
187	Male	MA	knife	1	Domestic	horse
187	Male	MA	weight	8	Commerce	horse
187	Male	MA	fragment	2	Misc & Frags	horse
187	Male	MA	spear head	1	Weapons	horse
187	Male	MA	whetstone	1	Domestic	horse
189	Unidentified	Adult?	rivet	52	Boat	horse/dog
189	Unidentified	Adult?	buckle	1	Horse Equipment	horse/dog
190	Female?	OMA	nail	3	Domestic	horse
190	Female?	OMA	fragment	3	Misc & Frags	horse
190	Female?	OMA	knife	1	Domestic	horse
190	Female?	OMA	buckle	2	Horse Equipment	horse
190	Female?	OMA	vessel	1	Domestic	horse
190	Female?	OMA	brooch	1	Adornment	horse
196	Female?	YMA	fragment	3	Misc & Frags	dog
196	Female?	YMA	whetstone	1	Domestic	dog
196	Female?	YMA	gaming piece	19	Non-Utility	dog
197	Male	YA	fragment	2	Misc & Frags	horse
197	Male	YA	bead	5	Adornment	horse
197	Male	YA	fragment	2	Misc & Frags	horse

Appendix H: Three-Variable Set

Gr.	Sex	Age	Category Name	Amt.	Category	Animal
197	Male	YA	fragment	2	Misc & Frags	horse
200	Male?	OMA	spit	1	Domestic	horse
200	Male?	OMA	knife	1	Domestic	horse
200	Male?	OMA	fragment	2	Misc & Frags	horse
201	Unidentified	U	spear head	1	Weapons	horse
213	Male	OMA	shield boss	1	Weapons	horse
213	Male	OMA	weight	2	Commerce	horse
213	Male	OMA	axe	1	Weapons	horse
213	Male	OMA	nail	5	Domestic	horse
213	Male	OMA	spear head	1	Weapons	horse
213	Male	OMA	fragment	1	Misc & Frags	horse
213	Male	OMA	ignitor	1	Domestic	horse
213	Male	OMA	bridle bit	1	Horse Equipment	horse
213	Male	OMA	buckle	1	Horse Equipment	horse
213	Male	OMA	pebble	1	Misc & Frags	horse
213	Male	OMA	knife	1	Domestic	horse
213	Male	OMA	sword	1	Weapons	horse
221	Unidentified	U	knife	1	Domestic	horse
221	Unidentified	U	boss	2	Horse Equipment	horse
221	Unidentified	U	hook	1	Horse Equipment	horse
221	Unidentified	U	buckle	1	Horse Equipment	horse
221	Unidentified	U	axe	1	Weapons	horse
221	Unidentified	U	buckle	1	Horse Equipment	horse
248	Male	OMA	knife	1	Domestic	dog
248	Male	OMA	whetstone	1	Domestic	dog
250	Male?	MA	wood	2	Misc & Frags	horse/dog
250	Male?	MA	spear head	1	Weapons	horse/dog
250	Male?	MA	rivet	25	Boat	horse/dog
250	Male?	MA	fragment	3	Misc & Frags	horse/dog
251	Male?	U	nail	1	Domestic	dog
251	Male?	U	fragment	2	Misc & Frags	dog

Appendix H: Three-Variable Set

Gr.	Sex	Age	Category Name	Amt.	Category	Animal
260	Unidentified	MA	spindle whorl	2	Domestic	dog
260	Unidentified	MA	comb	1	Domestic	dog
260	Unidentified	MA	clasp	1	Adornment	dog
260	Unidentified	MA	brooch	2	Adornment	dog
260	Unidentified	MA	arm ring	1	Adornment	dog
260	Unidentified	MA	pin	1	Adornment	dog
260	Unidentified	MA	brooch	1	Adornment	dog
260	Unidentified	MA	shears	1	Domestic	dog
260	Unidentified	MA	bead	52	Adornment	dog
260	Unidentified	MA	sickle	1	Domestic	dog
260	Unidentified	MA	ignitor	1	Domestic	dog
260	Unidentified	MA	strap end	1	Adornment	dog
260	Unidentified	MA	fragment	5	Misc & Frags	dog
260	Unidentified	MA	cylinder	1	Domestic	dog
260	Unidentified	MA	knife	1	Domestic	dog
260	Unidentified	MA	wool comb	2	Domestic	dog
260	Unidentified	MA	hook	1	Domestic	dog
262	Male	MA	nail	3	Domestic	horse
262	Male	MA	wood	1	Misc & Frags	horse
265	Female	OMA	bead	2	Adornment	horse
265	Female	OMA	buckle	1	Horse Equipment	horse
265	Female	OMA	brooch	1	Adornment	horse
265	Female	OMA	bead	35	Adornment	horse
265	Female	OMA	fragment	1	Misc & Frags	horse
265	Female	OMA	textile	1	Adornment	horse
265	Female	OMA	fragment	2	Misc & Frags	horse
276	Unidentified	U	bead	1	Adornment	horse
276	Unidentified	U	fragment	2	Misc & Frags	horse
276	Unidentified	U	knife	1	Domestic	horse
276	Unidentified	U	bridle bit	1	Horse Equipment	horse
286	Male	OMA	strap end	1	Adornment	horse

Appendix H: Three-Variable Set

Gr.	Sex	Age Category Name	Amt.	Category	Animal
286	Male	OMA ring	1	Adornment	horse
286	Male	OMA whetstone	2	Domestic	horse
286	Male	OMA sword	1	Weapons	horse
286	Male	OMA axe	1	Weapons	horse
286	Male	OMA coin	1	Commerce	horse
286	Male	OMA spear head	1	Weapons	horse
286	Male	OMA bead	2	Adornment	horse
286	Male	OMA bridle bit	1	Horse Equipment	horse
286	Male	OMA buckle	1	Adornment	horse
286	Male	OMA pin	1	Adornment	horse
286	Male	OMA weight	4	Commerce	horse
286	Male	OMA shield boss	1	Weapons	horse
286	Male	OMA ignitor	1	Domestic	horse
286	Male	OMA nail	8	Horse Equipment	horse
286	Male	OMA buckle	2	Horse Equipment	horse
286	Male	OMA vessel	1	Domestic	horse
286	Male	OMA agate	1	Misc & Frags	horse
286	Male	OMA purse	1	Commerce	horse
286	Male	OMA stone	1	Misc & Frags	horse
286	Male	OMA spear head	1	Weapons	horse
288	Male	OMA wood	1	Misc & Frags	dog
288	Male	OMA whetstone	1	Domestic	dog
288	Male	OMA nail	1	Domestic	dog

Appendix H: Three-Variable Set

APPENDIX I: LOCATED BURIAL SITES

BR No.	Easting	Northing	Elev.	Rate Location
5	-20.2182	63.7147	16.0	1
6	-20.2780	63.6981	14.0	2
7	-20.2041	63.7444	58.0	1
8	-20.2337	63.7260	23.0	2
9	-20.0247	63.8261	107.8	1
13	-20.3177	63.7835	31.0	1
14	-20.2968	63.8412	54.0	2
15	-20.0347	64.0234	120.0	2
17	-19.9697	63.9920	93.0	1
20	-20.1605	64.0032	91.0	2
21	-20.1035	64.0548	86.0	2
23	-20.6136	63.7478	16.0	1
24	-20.8002	63.8775	39.0	1
25	-21.0031	63.8363	-2.0	1
26	-20.9923	63.9346	18.0	1
28	-20.8654	63.9228	33.0	1
33	-20.0248	64.0767	196.0	1
34	-19.6723	64.1637	265.0	1
35	-20.2613	64.3141	103.0	2
37	-21.0219	64.1273	90.0	2
38	-20.8781	64.0109	35.0	2
39	-22.7422	63.9842	11.0	1
40	-22.6992	64.0712	10.0	1
44	-22.2268	64.5195	-1.0	2
47	-23.9855	64.8810	9.0	1
50	-22.0400	65.5100		2
56	-22.5818	66.1385		2
57	-20.8280	65.2882	58.0	1
58	-20.7227	65.3768	147.0	2
59	-20.9558	65.4230	49.0	1
65	-20.1505	65.5964	109.0	1
66	-20.1226	65.5771	107.0	1
67	-19.5659	65.3611	327.0	1

Appendix I: Located Burial Sites

BR No.	Eastings	Northing	Elev.	Rate Location
68	-19.8182	65.4641	119.0	1
69	-20.2698	65.7296	20.0	2
70	-19.5711	65.5978	123.0	2
71	-19.5938	65.6706	50.0	1
73	-19.3781	65.4773	47.0	1
76	-18.8690	65.4632	351.0	1
77	-19.3342	65.7407	170.0	1
78	-19.3862	65.6667	25.0	2
79	-19.3763	65.7805	22.0	1
80	-19.3272	65.8993	79.0	1
82	-19.1416	66.0142	21.0	1
83	-18.5079	65.9489	21.0	1
84	-18.5361	65.9344	35.0	1
85	-18.5777	65.8881	42.0	1
86	-18.6150	65.8548	115.2	1
87	-18.5858	65.9021	64.0	1
88	-18.5288	65.9705	22.0	1
89	-18.5344	65.9716	21.0	1
90	-18.5344	65.9782	17.4	1
91	-18.3559	65.9253	60.0	1
92	-18.4477	65.9492	95.0	1
93	-18.2813	65.7547	58.0	1
95	-18.2402	65.8199	46.3	2
96	-18.4397	65.6597	26.0	2
97	-18.5126	65.6566	34.0	1
98	-18.1902	65.7242	94.0	1
99	-18.1909	65.7360	81.0	2
100	-18.1203	65.7041	10.0	1
101	-18.0903	65.5823	14.0	1
102	-17.9892	65.6023	133.0	1
103	-18.0391	65.5920	76.0	1
105	-18.1232	65.5150	48.0	1
107	-18.0744	65.9155	37.0	1
109	-17.9051	65.8078	40.0	1
111	-17.5720	65.8134	40.0	1
115	-16.9899	65.6331	284.0	1
116	-16.9671	65.6585	15.7	1
117	-17.0508	65.5210	291.6	1

Appendix I: Located Burial Sites

BR No.	Easting	Northing	Elev.	Rate Location
118	-17.1304	65.5524	273.0	1
119	-17.2310	65.7234	167.0	1
120	-17.4108	65.7517	45.0	2
122	-16.8250	66.0923	16.0	1
123	-16.4244	66.0088	113.0	1
126	-16.4672	66.1988	38.0	1
127	-14.8360	66.0144	19.0	1
128	-15.5309	65.1094	391.0	1
131	-14.6451	65.4067	139.0	1
132	-14.5229	65.5381	50.0	2
133	-14.5925	65.4377	89.0	1
134	-14.3905	65.4343	45.0	1
135	-14.4119	65.3532	40.0	1
136	-15.0570	64.9293	105.0	1
138	-14.8652	65.0616	48.0	1
141	-14.2701	65.5506	32.0	2
142	-14.2993	65.4895	78.0	1
143	-14.5707	65.1126	108.0	1
144	-14.5650	65.0701	114.0	1
145	-14.5975	65.1093	136.0	1
146	-14.3049	65.3846	6.0	2
147	-14.3123	65.3751	61.0	1
148	-14.3071	65.3691	76.0	2
149	-14.3816	65.3683	83.0	1
150	-13.9633	64.7978	6.0	2
151	-15.1914	64.2504	17.0	2
152	-15.1830	64.3250	42.0	1
153	-15.4151	64.2780	18.0	1
155	-18.4967	63.6389	66.0	2
157	-18.5094	63.7856	204.0	1
159	-14.1111	65.2911		2
163	-17.3996	65.9564		2
164	-23.7100	65.7200		2

Appendix I: Located Burial Sites

APPENDIX J: FARMS ASSOCIATED WITH LOCATED BURIAL SITES

Farm Name	Farm ID	Easting	Northing	Elev.	Farm Age
Álaugarey	2	-15.2055	64.2788	26	Old
Austara-Land	5	-16.4235	66.0072	117	Old
Austarihöll	6	-19.1404	66.0142	25	Both
Bakki	7	-14.8366	66.0141	21	Old
Baldursheimur	8	-17.0582	65.5208	292	Old
Björk	9	-18.0356	65.5893	76.3	Modern
Blöndugerði	10	-14.5787	65.4503	89	Both
Brandsstaðir	11	-19.818	65.4664	113	Old
Brennistaðir	12	-14.3049	65.3842	61	Modern
Brimnes	14	-19.3584	65.1111	42	Old
Bringa	15	-18.1263	65.5125	49	Modern
Brú	16	-20.2491	64.3124	97	Modern
Brú á Jökuldal	17	-15.5311	65.1088	386	Old
Daðasstaðir í Núpasveit	19	-16.4284	66.2032	66.5	Modern
Dæli	20	-18.6108	65.8506	97	Old
Dalvík (Böggvisstaðir)	22	-18.5471	65.9635	37	N/A
Draflastaðir	24	-17.9106	65.8138	92	Both
Dufþaksholt	25	-20.23145	63.73192	23.4	Modern
Einholt	27	-15.415	64.2766	23	Both
Enni	29	-19.3288	65.7413	192	Old
Eyarteigur	30	-14.5775	65.0601	114	Modern
Fljótsbakki	34	-14.3912	65.3589	67	Old
Galtalækur	35	-19.9486	64.0058	100	Old
Gamli-Fellsmúli	38	-20.15006	63.99919	105.1	Old
Garðsá	39	-17.9892	65.6023	133	Both
Gautlönd	41	-17.1323	65.5517	277	Old
Gerðakot	42	-22.7368	63.9906	16	Church
Gilsárteigur	44	-14.3124	65.3743	65	Old
Glaumbær	45	-17.4161	65.74997	54	Old
Grafarbakki	47	-20.2964	63.8415	66	Old
Granagil	49	-18.4935	63.7753	144	Modern
Grásiða	50	-16.8233	66.0936	9	Modern
Grimstaðir	51	-16.9702	65.6532	282	N/A

Appendix K: Farms Associated with Located Burial Sites

Farm Name	Farm ID	Easting	Northing	Elev.	Farm Age
Gröf á Vatnsnesi	52	-20.9557	65.423	54	Old
Hábær	53	-20.6098	63.7468	13	Both
Hafurbjarnastaðir	54	-22.6991	64.0682	10.9	Modern
Hámundarstaðaháls	56	-18.4232	65.9421	75	Both
Hávarðstaðir	57	-22.628278	66.111750		Old
Hemla	58	-20.22341	63.71298	16	Both
Hólaskogur	60	-19.6787	64.1684	275	Modern
Hólmur í landi Ármaness	62	-15.1856	64.3233	32	Old
Höskuldsstaðir	63	-20.2403	65.7413	30	Church
Hrafnkelsstaðir	64	-15.057883	64.924783	128	N/A
Hrafnstaðir	65	-17.5687	65.8139	24	Both
Hrifunes	66	-18.4989	63.6387	76	Old
Hrísar	67	-18.4232	65.9421	75	Modern
Hrollaugstaðir	70	-14.2694	65.5481	34	Both
Kagarðarhóll/Smyrlaberg	72	-20.148733	65.595283	106	Modern
Kaldárhöfði	73	-21.0034	64.133	89.8	Modern
Karlsnes	74	-20.1048	64.0476	104	N/A
Ketilsstaðir	76	-14.2984	65.4901	30	Modern
Kolsholt	79	-20.80853	63.87342	44	Both
Kroppur	80	-18.0922	65.5819	40	Modern
Lækjarbakki	81	-18.5321	65.9791	17	Old
Lækur í Flóa	82	-20.8669	63.9194	35	Both
Lambhagi	83	-20.32147	63.78453	28	Both
Litla-Sandfell	86	-14.5707	65.11255	108	Modern
Litli-Dunhagi	87	-18.27644	65.75571	48.4	Old
Ljótstaðir	88	-19.3328	65.9044	79	Old
Lómatjörn	89	-18.0805	65.9177	26.8	Both
Mið-Sandfell	91	-14.9601	65.7983	86	Old
Moldhaugar	95	-18.195	65.738	97	Modern
Mörk	96	-20.02	64.02958	123	Old
Öndverðanes	99	-23.04358	64.88548		N/A
Ormsstaðir	100	-14.3108	65.3681	70	Both
Rangá	102	-14.4189	65.3569	55	Both
Sakka	105	-18.5358	65.9288	22	Both
Selfoss	108	-21.0104	63.9369	22	Church
Sílastaðir	109	-18.1904	65.7217	100	Old
Skeljastaðir	112	-19.8223	64.1211	186	Old
Skidastaðir	113	-19.3781	65.4773	47	Old

Appendix J: Farms Associated with Located Burial Sites

Farm Name	Farm ID	Easting	Northing	Elev.	Farm Age
Snæhvammur	117	-13.9628	64.798	13	Old
Snæsfoksstaðir	118	-20.8997	64.02046	37	N/A
Sólheimar	120	-19.5761	65.599	123	Modern
Staðartunga	121	-18.08054	65.91774	35	N/A
Stærri-Árskogur	122	-18.3523	65.9171	69	Old
Stafn	123	-19.5875	65.3735	309	Modern
Stóra-Sandfell	126	-14.5722	65.1107	115	Modern
Stori-Moshvöll	128	-20.20075	63.74255	28.5	Old
Strandarhöfuð	129	-20.2694	63.7023	14	Modern
Straumur	131	-14.3904	65.4343	45	Old
Sturluflötur	132	-15.0569	64.9292	105	Old
Surtsstaðir	133	-14.52172	65.5303	78	Both
Syðra-Krossanes	134	-18.1203	65.7057	22	Modern
Syðri-Hofdalur	135	-19.3834	65.6813	41	Both
Syðri-Reistará	136	-18.2387	65.8188	80	Modern
Þóreyjarnúpur	138	-20.722	65.3743	116	Modern
Þúfnavellir	139	-18.5161	65.6573	69	Old
Tindar	141	-20.1088	65.5691	127	Modern
Traðarholt	142	-21.003	63.8386	-2	Modern
Tyrðilmyri	143	-22.6001	66.1001		Old
Vað	145	-14.5951	65.1077	113	Old
Vík	148	-19.5945	65.6703	50	Old
Vindás	149	-20.1601	64.0013	90.7	N/A
Ytra-Garðshorn	152	-18.5921	65.9038	65	Both
Ytra-Hvarf	153	-18.585	65.8782	49	Both
Ytri-Neslönd	154	-16.9986	65.6276	278	Old

Appendix J: Farms Associated with Located Burial Sites

APPENDIX K: BURIAL SITES RELATIVE TO THEIR ASSOCIATED FARM HOUSES

BR No.	<0.5 km	<1.0 km	>1.0 km	Elevation Burial to Farm
5	Yes	Yes	No	equal
6	No	Yes	No	equal
7	Yes	Yes	No	above
8	No	No	Yes	
9	No	No	Yes	
13	Yes	Yes	No	above
14	Yes	Yes	No	below
15	No	Yes	No	below
17	No	No	Yes	
20	No	No	Yes	
21	No	No	Yes	
23	Yes	Yes	No	above
24	No	Yes	No	below
25	Yes	Yes	No	equal
26	No	Yes	No	below
28	Yes	Yes	No	below
33	No	No	Yes	
34	No	Yes	No	below
35	No	Yes	No	above
37	No	No	Yes	
38	No	No	Yes	
39	No	Yes	No	below
40	Yes	Yes	No	below
44	No	No	Yes	
47	No	No	Yes	
50	No	No	Yes	
56	No	No	Yes	
57	No	No	Yes	
58	Yes	Yes	No	above
59	Yes	Yes	No	below
65	Yes	Yes	No	above

Appendix K: Burial Sites Relative to their Associated Farm Houses

BR No.	<0.5 km	<1.0 km	>1.0 km	Elevation Burial to Farm
66	No	No	Yes	
67	No	No	Yes	
68	Yes	Yes	No	above
69	No	No	Yes	
70	Yes	Yes	No	equal
71	Yes	Yes	No	equal
73	Yes	Yes	No	equal
76	No	No	Yes	
77	Yes	Yes	No	below
78	No	No	Yes	
79	No	No	Yes	
80	No	Yes	No	equal
82	Yes	Yes	No	below
83	No	No	Yes	
84	No	Yes	No	above
85	No	No	Yes	
86	No	Yes	No	above
87	Yes	Yes	No	below
88	No	Yes	No	below
89	Yes	Yes	No	below
90	Yes	Yes	No	above
91	No	Yes	No	below
92	No	No	Yes	
93	Yes	Yes	No	above
95	Yes	Yes	No	below
96	No	No	Yes	
97	Yes	Yes	No	below
98	Yes	Yes	No	below
99	Yes	Yes	No	below
100	Yes	Yes	No	below
101	Yes	Yes	No	below
102	Yes	Yes	No	equal
103	Yes	Yes	No	below
105	Yes	Yes	No	below
107	Yes	Yes	No	above
109	No	Yes	No	below
111	Yes	Yes	No	above
115	No	Yes	No	above

Appendix K: Burial Sites Relative to their Associated Farm Houses

BR No.	<0.5 km	<1.0 km	>1.0 km	Elevation Burial to Farm
116	No	No	Yes	
117	Yes	Yes	No	below
118	Yes	Yes	No	below
119	No	No	Yes	
120	Yes	Yes	No	below
122	Yes	Yes	No	above
123	Yes	Yes	No	below
126	No	No	Yes	
127	Yes	Yes	No	below
128	Yes	Yes	No	above
131	No	No	Yes	
132	No	Yes	No	below
133	No	No	Yes	
134	Yes	Yes	No	equal
135	No	Yes	No	below
136	Yes	Yes	No	equal
138	No	No	Yes	
141	No	Yes	No	below
142	Yes	Yes	No	above
143	Yes	Yes	No	above
144	No	No	Yes	
145	Yes	Yes	No	above
146	Yes	Yes	No	below
147	Yes	Yes	No	below
148	Yes	Yes	No	above
149	No	No	Yes	
150	Yes	Yes	No	below
151	No	No	Yes	
152	Yes	Yes	No	above
153	Yes	Yes	No	below
155	Yes	Yes	No	below
157	No	No	Yes	
159	No	No	Yes	
163	No	No	Yes	
164	No	No	Yes	

Appendix K: Burial Sites Relative to their Associated Farm Houses

APPENDIX L: THE BURIAL LANDSCAPES

BR No.	Primary Environment	Secondary Environment	Primary Feature	Secondary Feature
5	Wetlands	Birch	Hillock	
6	Wetlands	Birch	Flat	
7	Wetlands	Birch	Flat	
8	Birch	Water	Riverbank	
9	Water	Birch	Riverbank	
13	Water	Birch	Hill	
14	Birch		Cliff	
15	Birch		Flat	
17	Water		Riverbank	
20	Birch		Flat	
21	Water		Riverbank	
23	Birch	Erosion	Flat	
24	Wetlands	Birch	Rise	
25	Birch	Water	Rise	
26	Birch	Water	Flat	
28	Wetlands	Birch	Rise	
33	Water		Base	
34	Birch		Hillock	
35	Water		Hill	
37	Water		Shoreline	Lake
38	Water		Rise	Riverbank
39	Water	Birch	Hillock	
40	Water	Birch	Rise	Shoreline
44	Wetlands	Water	Shoreline	Sandbank
47	Grasslands	Water	Cliff	Shoreline
50	Water	Birch	Shoreline	
56	Erosion		Shoreline	Riverbank
57	Birch	Water	Cliff	
58	Wetlands	Grasslands	Flat	
59	Water	Birch	Slope	

Appendix M: The View from the Grave

BR No.	Primary Environment	Secondary Environment	Primary Feature	Secondary Feature
65	Wetlands	Water	Rise	
66	Birch	Water	Rise	
67	Grasslands	Water	Base	
68	Birch	Grasslands	Cliff	Riverbank
69	Water		Cliff	Shoreline
70	Birch	Water	Base	
71	Wetlands	Water	Flat	
73	Birch	Water	Rise	
76	Birch	Water	Cliff	Riverbank
77	Birch	Erosion	Hill	
78	Wetlands	Water	Rise	
79	Birch	Water	Shoreline	
80	Birch	Water	Hill	Slope
82	Grasslands		Slope	
83	Birch	Water	Hill	
84	Birch	Water	Hill	
85	Birch	Water	Slope	
86	Birch	Water	Hill	
87	Birch	Water	Cliff	
88	Water	Birch	Flat	Shoreline
89	Water	Birch	Shoreline	
90	Water	Birch	Riverbank	
91	Water	Birch	Riverbank	
92	Birch	Water	Slope	
93	Birch	Water	Riverbank	
95	Wetlands	Birch	Riverbank	
96	Grasslands	Birch	Hill	
97	Birch	Water	Rise	
98	Birch	Wetlands	Hill	Slope
99	Birch		Hill	
100	Water	Birch	Hill	
101	Wetlands	Water	Hill	
102	Birch	Water	Rise	
103	Wetlands	Birch	Cliff	Riverbank
105	Birch	Water	Rise	

Appendix L: The Burial Landscapes

BR No.	Primary Environment	Secondary Environment	Primary Feature	Secondary Feature
107	Birch		Hill	
109	Water	Birch	Riverbank	
111	Birch		Hill	
115	Wetlands	Water	Hill	Shoreline
116	Birch		Flat	
117	Birch	Water	Flat	
118	Birch		Rise	
119	Birch	Water	Rise	
120	Birch	Water	Rise	
122	Birch		Flat	
123	Birch		Rise	
126	Birch		Cliff	
127	Grasslands	Water	Cliff	Shoreline
128	Birch	Water	Rise	
131	Birch	Water	Flat	
132	Birch	Water	Rise	
133	Water		Rise	Slope
134	Water		Hillock	
135	Birch	Water	Rise	
136	Water	Grasslands	Rise	
138	Water	Birch	Riverbank	
141	Birch	Wetlands	Rise	
142	Birch	Water	Slope	Hill
143	Birch	Water	Hill	
144	Birch	Water	Rise	Riverbank
145	Birch	Water	Hill	
146	Grasslands		Flat	
147	Birch	Water	Hillock	
148	Birch	Water	Rise	
149	Water	Birch	Rise	Riverbank
150	Grasslands	Water	Hillock	
151	Water		Shoreline	
152	Birch	Wetlands	Flat	
153	Wetlands	Water	Flat	
155	Birch	Water	Riverbank	

Appendix L: The Burial Landscapes

BR No.	Primary Environment	Secondary Environment	Primary Feature	Secondary Feature
157	Birch		Hill	
159	Erosion	Grasslands	Slope	Riverbank
163	Birch		Slope	
164	Water		Shoreline	

Appendix L: The Burial Landscapes

APPENDIX M: THE VIEW FROM THE GRAVE

BR No.	Gr. No.	Sea Visible?	GIS Cell-Size	View from BR
5	8	Partial	1172	Moderate
5	9	Partial	1172	Moderate
6	10	Yes	1484	Vast
8	12	Partial	689	Moderate
13	21	Partial	1015	Moderate
15	24	No	328	Limited
17	26	Partial	928	Moderate
20	34	No	184	Limited
20	36	No	184	Limited
21	37	No	782	Moderate
24	41	Yes	1508	Vast
25	43	Yes	1495	Vast
25	44	Yes	1495	Vast
25	45	Yes	1495	Vast
26	46	Yes	1312	Moderate
26	47	Yes	1312	Moderate
28	50	Partial	1137	Moderate
33	58	No	99	Limited
34	59	No	315	Limited
40	68	Yes	2275	Vast
40	69	Yes	2275	Vast
40	70	Yes	2275	Vast
40	72	Yes	2275	Vast
40	73	Yes	2275	Vast
40	74	Yes	2275	Vast
47	81	Yes	1767	Vast
56	127	Yes	80	Limited

Appendix M: The View from the Grave

BR No.	Gr. No.	Sea Visible?	GIS Cell-Size	View from BR
56	128	Yes	80	Limited
57	129	Yes	378	Limited
59	131	Yes	1150	Moderate
65	137	Yes	1639	Vast
65	138	Yes	1639	Vast
67	140	No	80	Limited
68	141	No	23	Limited
70	143	Partial	142	Limited
70	144	Partial	142	Limited
73	147	Partial	536	Limited
76	157	No	26	Limited
76	158	No	26	Limited
77	159	Yes	752	Moderate
79	161	Yes	877	Moderate
79	162	Yes	877	Moderate
79	163	Yes	877	Moderate
80	164	Yes	978	Moderate
85	170	Yes	277	Limited
85	171	Yes	277	Limited
87	177	Yes	43	Limited
89	186	Yes	195	Limited
89	187	Yes	195	Limited
89	188	Yes	195	Limited
89	189	Yes	195	Limited
89	190	Yes	195	Limited
89	191	Yes	195	Limited
89	194	Yes	195	Limited
89	196	Yes	195	Limited
89	197	Yes	195	Limited
91	200	Yes	373	Limited

Appendix M: The View from the Grave

BR No.	Gr. No.	Sea Visible?	GIS Cell-Size	View from BR
92	201	Yes	104	Limited
93	202	Yes	894	Moderate
95	204	Partial	266	Limited
95	205	Partial	266	Limited
96	206	Partial	73	Limited
96	207	Partial	73	Limited
96	208	Partial	73	Limited
98	210	Yes	137	Limited
98	211	Yes	137	Limited
98	212	Yes	137	Limited
98	213	Yes	137	Limited
99	215	Yes	141	Limited
100	216	Yes	124	Limited
100	217	Yes	124	Limited
100	218	Yes	124	Limited
101	219	No	84	Limited
101	220	No	84	Limited
102	221	Partial	98	Limited
103	223	Yes	164	Limited
105	225	No	54	Limited
109	230	No	26	Limited
111	232	Yes	656	Moderate
111	233	Yes	656	Moderate
111	234	Yes	656	Moderate
115	242	No	559	Limited
115	243	No	559	Limited
116	244	No	761	Moderate
116	245	No	761	Moderate
116	246	No	761	Moderate
118	248	No	480	Limited

Appendix M: The View from the Grave

BR No.	Gr. No.	Sea Visible?	GIS Cell-Size	View from BR
120	250	No	169	Limited
120	251	No	169	Limited
122	253	Yes	538	Limited
126	260	Yes	2917	Vast
127	261	Yes	338	Limited
128	262	No	285	Limited
131	267	Yes	357	Limited
132	268	Yes	422	Limited
132	269	Yes	422	Limited
134	271	Yes	262	Limited
134	272	Yes	262	Limited
134	273	Yes	262	Limited
134	274	Yes	262	Limited
136	276	No	25	Limited
142	284	Yes	335	Limited
144	286	No	190	Limited
145	288	No	123	Limited
146	312	Yes	322	Limited
147	289	Yes	318	Limited
147	290	Yes	318	Limited
148	291	Yes	318	Limited
151	296	Yes	515	Limited
153	299	Yes	277	Limited
155	302	Yes	898	Moderate
155	303	Yes	898	Moderate
155	305	Yes	898	Moderate
159	313	No	1393	Moderate
163	327	Yes	820	Moderate
163	328	Yes	820	Moderate
163	329	Yes	820	Moderate

Appendix M: The View from the Grave

BR No.	Gr. No.	Sea Visible?	GIS Cell-Size	View from BR
164	321	Yes	265	Limited
164	322	Yes	265	Limited
164	342	Yes	265	Limited
164	343	Yes	265	Limited

Appendix M: The View from the Grave

APPENDIX N: ANALYZED HUMAN SKELETAL REMAINS IN THE LANDSCAPE

360

Gr. N.	Sex	Age Cat.	1 st /2 nd Env.	1 st /2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea	
					<0.5	<1.0	>1.0		View	View
	U	OMA	Birch/Water	Cliff	Y	Y	N	↓	Y	Limited
	M	MA	Birch/Water	Cliff	Y	Y	N	↓	Y	Limited
	U	U	Birch/Water	Shoreline	N	N	Y		Y	Moderate
	U	U	Birch/Water	Shoreline	N	N	Y		Y	Moderate
	U	U	Birch/Water	Shoreline	N	N	Y		Y	Moderate
	U	U	Birch/Water	Cliff	Y	Y	N	↓	Y	Limited
	U	U	Birch/Water	Cliff	N	N	Y		Y	Limited
	F?	U	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
	M?	U	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
	U	U	Birch/Water	Cliff	Y	Y	N	↓	Y	Limited
	M	MA	Birch/Water	Cliff	Y	Y	N	↓	Y	Limited
	F	OMA	Birch/Water	Cliff	Y	Y	N	↓	Y	Limited
	M?	OMA	Birch/Water	Riverbank	Y	Y	N	↓	Y	Moderate
	U	OMA	Birch/Water	Riverbank	Y	Y	N	↓	Y	Moderate
8	U	OSA	Wetlands/Birch	Hillock	Y	Y	N	=	P	Moderate
9	U	U	Wetlands/Birch	Hillock	Y	Y	N	=	P	Moderate
10	M	YMA	Wetlands/Birch	Flat	N	Y	N	=	Y	Vast
12	M	OMA	Birch/Water	Riverbank	N	N	Y		P	Moderate
21	U	U	Water/Birch	Hill	Y	Y	N	↑	P	Moderate
24	U	U	Birch	Flat	N	Y	N	↓	N	Limited
26	M	MA	Water	Riverbank	N	N	Y		P	Moderate

Appendix N: Analyzed Human Skeletal Remains in the Landscape

34	U	A?	Birch	Flat	N	N	Y		N	Limited
36	M	MA	Birch	Flat	N	N	Y		N	Limited
37	M	OMA	Water	Riverbank	N	N	Y		N	Moderate
41	U	OMA	Wetlands/Birch	Rise	N	Y	N	↓	Y	Vast
43	U	U	Birch/Water	Rise	Y	Y	N	=	Y	Vast
44	U	U	Birch/Water	Rise	Y	Y	N	=	Y	Vast
45	U	U	Birch/Water	Rise	Y	Y	N	=	Y	Vast
46	F?	U	Birch/Water	Flat	N	Y	N	↓	Y	Moderate
47	F?	OMA	Birch/Water	Flat	N	Y	N	↓	Y	Moderate
50	U	U	Wetlands/Birch	Rise	Y	Y	N	↓	P	Moderate
58	U	MA	Water	Base	N	N	Y		N	Limited
59	F?	OMA	Birch	Hillock	N	Y	N	↓	N	Limited
68	F	OMA	Water/Birch	Rise/Shoreline	Y	Y	N	↓	Y	Vast
69	U	ON	Water/Birch	Rise/Shoreline	Y	Y	N	↓	Y	Vast
70	M	OMA	Water/Birch	Rise/Shoreline	Y	Y	N	↓	Y	Vast
72	F	YMA	Water/Birch	Rise/Shoreline	Y	Y	N	↓	Y	Vast
73	M	MA	Water/Birch	Rise/Shoreline	Y	Y	N	↓	Y	Vast
74	M	OMA	Water/Birch	Rise/Shoreline	Y	Y	N	↓	Y	Vast
81	M?	YA	Grasslands/Water	Cliff/Shoreline	N	N	Y		Y	Vast
127	M?	U	Erosion	Shoreline/Riverbank	N	N	Y		Y	Limited
128	M?	YMA	Erosion	Shoreline/Riverbank	N	N	Y		Y	Limited
129	U	U	Birch/Water	Cliff	N	N	Y		Y	Limited
131	M?	MA	Water/Birch	Slope	Y	Y	N	↓	Y	Moderate
137	M	MA	Wetlands/Water	Rise	Y	Y	N	↑	Y	Vast
138	U	A?	Wetlands/Water	Rise	Y	Y	N	↑	Y	Vast
140	M	OMA	Grasslands/Water	Base	N	N	Y		N	Limited
141	U	YA	Birch/Grasslands	Cliff/Riverbank	Y	Y	N	↑	N	Limited

Appendix N: Analyzed Human Skeletal Remains in the Landscape

143	M?	U	Birch/Water	Base	Y	Y	N	=	P	Limited
144	U	U	Birch/Water	Base	Y	Y	N	=	P	Limited
147	F?	OMA	Birch/Water	Rise	Y	Y	N	=	P	Limited
157	F?	OMA	Birch/Water	Cliff/Riverbank	N	N	Y		N	Limited
158	U	U	Birch/Water	Cliff/Riverbank	N	N	Y		N	Limited
159	M?	OMA	Birch/Erosion	Hill	Y	Y	N	↓	Y	Moderate
160	U	U	Wetlands/Water	Rise	N	N	Y		P	Limited
161	U	U	Birch/Water	Shoreline	N	N	Y		Y	Moderate
162	U	U	Birch/Water	Shoreline	N	N	Y		Y	Moderate
163	U	U	Birch/Water	Shoreline	N	N	Y		Y	Moderate
164	U	U	Birch/Water	Hill/Slope	N	Y	N	=	Y	Moderate
170	U	U	Birch/Water	Slope	N	N	Y		Y	Limited
171	U	U	Birch/Water	Slope	N	N	Y		Y	Limited
177	U	YSA	Birch/Water	Cliff	Y	Y	N	↓	Y	Limited
186	M	MA	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
187	M	MA	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
188	M	OMA	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
189	U	A?	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
190	F?	OMA	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
191	F	MA	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
194	M	A?	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
196	F?	YMA	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
197	M	YA	Water/Birch	Shoreline	Y	Y	N	↓	Y	Limited
200	M?	OMA	Water/Birch	Riverbank	N	Y	N	↓	Y	Limited
201	U	U	Birch/Water	Slope	N	N	Y		Y	Limited
202	M?	MA	Birch/Water	Riverbank	Y	Y	N	↑	Y	Moderate
204	F	OMA	Wetlands/Birch	Riverbank	Y	Y	N	↓	P	Limited

Appendix N: Analyzed Human Skeletal Remains in the Landscape

205	F?	U	Wetlands/Birch	Riverbank	Y	Y	N	↓	P	Limited
206	M	YMA	Grasslands/Birch	Hill	N	N	Y		P	Limited
207	M	OMA	Grasslands/Birch	Hill	N	N	Y		P	Limited
208	M?	MA	Grasslands/Birch	Hill	N	N	Y		P	Limited
210	M	OMA	Birch/Wetlands	Hill/Slope	Y	Y	N	↓	Y	Limited
211	M	MA	Birch/Wetlands	Hill/Slope	Y	Y	N	↓	Y	Limited
212	F	OMA	Birch/Wetlands	Hill/Slope	Y	Y	N	↓	Y	Limited
213	M	OMA	Birch/Wetlands	Hill/Slope	Y	Y	N	↓	Y	Limited
215	M	U	Birch	Hill	Y	Y	N	↓	Y	Limited
216	M	MA	Water/Birch	Hill	Y	Y	N	↓	Y	Limited
217	U	A?	Water/Birch	Hill	Y	Y	N	↓	Y	Limited
218	M?	A?	Water/Birch	Hill	Y	Y	N	↓	Y	Limited
219	M?	OMA	Wetlands/Water	Hill	Y	Y	N	↓	N	Limited
220	F	OMA	Wetlands/Water	Hill	Y	Y	N	↓	N	Limited
221	U	U	Birch/Water	Rise	Y	Y	N	=	P	Limited
223	M?	YMA	Wetlands/Birch	Cliff/Riverbank	Y	Y	N	↓	Y	Limited
225	U	U	Birch/Water	Rise	Y	Y	N	↓	N	Limited
230	M	OMA	Water/Birch	Riverbank	N	Y	N	↓	N	Limited
232	M?	MA	Birch	Hill	Y	Y	N	↑	Y	Moderate
233	U	OMA	Birch	Hill	Y	Y	N	↑	Y	Moderate
234	U	U	Birch	Hill	Y	Y	N	↑	Y	Moderate
242	M	YMA	Wetlands/Water	Hill/Shoreline	N	Y	N	↑	N	Limited
243	U	OSA	Wetlands/Water	Hill/Shoreline	N	Y	N	↑	N	Limited
244	M	OMA	Birch	Flat	N	N	Y		N	Moderate
245	M	OMA	Birch	Flat	N	N	Y		N	Moderate
246	M	OMA	Birch	Flat	N	N	Y		N	Moderate
248	M	OMA	Birch	Rise	Y	Y	N	↓	N	Limited

Appendix N: Analyzed Human Skeletal Remains in the Landscape

250	M?	MA	Birch/Water	Rise	Y	Y	N	↓	N	Limited
251	M?	U	Birch/Water	Rise	Y	Y	N	↓	N	Limited
253	M	YA	Birch	Flat	Y	Y	N	↑	Y	Limited
260	U	MA	Birch	Cliff	N	N	Y		Y	Vast
261	M?	OMA	Grasslands/Water	Cliff/Shoreline	Y	Y	N	↓	Y	Limited
262	M	MA	Birch/Water	Rise	Y	Y	N	↑	N	Limited
267	M	OMA	Birch/Water	Flat	N	N	Y		Y	Limited
268	M	OMA	Birch/Water	Rise	N	Y	N	↓	Y	Limited
269	F	YMA	Birch/Water	Rise	N	Y	N	↓	Y	Limited
271	U	YSA	Water	Hillock	Y	Y	N	=	Y	Limited
272	M	MA	Water	Hillock	Y	Y	N	=	Y	Limited
273	F?	U	Water	Hillock	Y	Y	N	=	Y	Limited
274	U	MA	Water	Hillock	Y	Y	N	=	Y	Limited
276	U	U	Water/Grasslands	Rise	Y	Y	N	=	N	Limited
284	U	U	Birch/Water	Slope/Hill	Y	Y	N	↑	Y	Limited
286	M	OMA	Birch/Water	Rise/Rivebank	N	N	Y		N	Limited
288	M	OMA	Birch/Water	Hill	Y	Y	N	↑	N	Limited
289	M	OMA	Birch/Water	Hillock	Y	Y	N	↓	Y	Limited
290	M	YA	Birch/Water	Hillock	Y	Y	N	↓	Y	Limited
291	M	MA	Birch/Water	Rise	Y	Y	N	↑	Y	Limited
296	F	MA	Water	Shoreline	N	N	Y		Y	Limited
299	F	YMA	Wetlands/Water	Flat	Y	Y	N	↓	Y	Limited
302	U	ON?	Birch/Water	Riverbank	Y	Y	N	↓	Y	Moderate
303	U	U	Birch/Water	Riverbank	Y	Y	N	↓	Y	Moderate
305	F?	OMA	Birch/Water	Riverbank	Y	Y	N	↓	Y	Moderate
312	U	OSA	Grasslands	Flat	Y	Y	N	↓	Y	Limited
313	U	YA	Erosion/Grasslands	Slope/Riverbank	N	N	Y		N	Moderate

Appendix N: Analyzed Human Skeletal Remains in the Landscape

321	F	U	Water	Shoreline	N	N	Y	Y	Limited
322	M	OMA	Water	Shoreline	N	N	Y	Y	Limited
342	M	MA	Water	Shoreline	N	N	Y	Y	Limited
343	M	U	Water	Shoreline	N	N	Y	Y	Limited

Appendix N: Analyzed Human Skeletal Remains in the Landscape

APPENDIX O: LOCATED GRAVES WITH ANALYZED HUMAN SKELETAL REMAINS AND ARTIFACTS

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
8	U	OSA	buckle	1	H	Wet/B	Hillock	Y	Y	N	=	P	M
			spear head	1	W								
			fragment	2	M								
			bridle bit	1	H								
			ignitor	4	D								
			fragment	1	M								
			comb	1	D								
			weight	1	C								
			whetstone	1	D								
			axe	1	W								
			knife	1	D								
			shield boss	1	W								
10	M	YMA	bead	1	A	Wet/B	Flat	N	Y	N	=	Y	V
			fragment	1	M								
			fragment	2	M								
21	U	U	spear head	1	W	Wat/B	Hill	Y	Y	N	↑	P	M
24	U	U	bridle bit	1	H	B	Flat	N	Y	N	↓	N	L
			weaving implement	1	D								
26	M	MA	vise	1	D	Wat	RB	N	N	Y		P	M
			shield boss	1	W								
			buckle	1	H								

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
			bridle bit	1	H								
			fragment	2	M								
			strike-a-light	1	D								
			hook	1	D								
			hook	3	F								
			knife	1	D								
			ignitor	2	D								
			axe	1	W								
			spear head	1	W								
			weight	4	C								
			whetstone	2	D								
37	M	OMA	spear head	1	W	Wat	RB	N	N	Y		N	M
			knife	1	D								
			stone	1	M								
			weight	2	C								
			bead	3	A								
41	U	OMA	fragment	3	M	Wet/B	Rise	N	Y	N	↓	Y	V
43	U	U	bridle bit	1	H	B/Wat	Rise	Y	Y	N	=	Y	V
44	U	U	shaft	4	U	B/Wat	Rise	Y	Y	N	=	Y	V
			buckle	1	H								
			buckle	2	H								
			buckle	1	H								
			bridle bit	1	H								

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
			shield boss	1	W								
			knife	1	D								
46	F?	U	stone	3	M	B/Wat	Flat	N	Y	N	↓	Y	M
			fragment	3	M								
47	F?	OMA	sickle	1	D	B/Wat	Flat	N	Y	N	↓	Y	M
			fragment	2	M								
			knife	1	D								
			bead	12	A								
			textile	1	A								
50	U	U	ignitor	1	D	Wet/B	Rise	Y	Y	N	↓	P	M
			bridle bit	1	H								
58	U	MA	spear head	1	W	Wat	Base	N	N	Y		N	L
59	F?	OMA	bead	15	A	B	Hillock	N	Y	N	↓	N	L
			wood	2	M								
68	F	OMA	knife	1	D	Wat/B	Rise/S-line	Y	Y	N	↓	Y	V
			shell	3	M								
			fragment	2	M								
			comb	1	D								
			pin	1	A								
			plaque	1	N								
			pebble	2	M								
			brooch	1	A								
70	M	OMA	comb	1	D	Wat/B	Rise/S-line	Y	Y	N	↓	Y	V
			fragment	2	M								

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
			rivet	4	B								
			vessel	1	D								
			buckle	1	H								
			axe	1	W								
			comb case	1	D								
			shield boss	1	W								
			sword	1	W								
			bridle bit	1	H								
			spear head	1	W								
			Sword chape	1	W								
			whetstone	1	D								
72	F	YMA	spear head	1	W	Wat/B	Rise/S-line	Y	Y	N	↓	Y	V
			comb	1	D								
			bead	3	A								
			finger ring	1	A								
73	M	MA	spear head	1	W	Wat/B	Rise/S-line	Y	Y	N	↓	Y	V
81	M?	YA	sword	1	W	G/Wat	Cliff/S-line	N	N	Y		Y	V
			spear head	1	W								
			shield boss	1	W								
			knife	1	D								
			pin	1	A								
			fragment	2	M								
131	M?	MA	rivet	12	B	Wat/B	Slope	Y	Y	N	↓	Y	M
137	M	MA	knife	1	D	Wet/Wat	Rise	Y	Y	N	↑	Y	V

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
140	M	OMA	strap end	1	A	G/Wat	Base	N	N	Y		N	L
			ring	1	H								
			fragment	2	M								
141	U	YA	fragment	2	M	B/G	Cliff/RB	Y	Y	N	↑	N	L
			wood	2	M								
144	U	U	buckle	1	H	B/Wat	Base	Y	Y	N	=	P	L
			nail	1	H	B							
			fragment	2	M	B							
157	F?	OMA	fragment	20	M	B/Wat	Cliff/RB	N	N	Y		N	L
			nail	3	H								
			button	2	A								
			bead	2	A								
			wood	2	M								
			buckle	1	H								
159	M?	OMA	nail	1	H	B/E	Hill	Y	Y	N	↓	Y	M
			fragment	2	M								
160	U	U	ring	1	D	We/Watt	Rise	N	N	Y		P	L
			brooch	1	A								
161	U	U	fragment	2	M	B/Wat	S-line	N	N	Y		Y	M
			spear head	1	W								
			bridle bit	1	H								
162	U	U	sickle	1	D	B/Wat	S-line	N	N	Y		Y	M
			shears	1	D								

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
163	U	U	axe	1	W	B/Wat	S-line	N	N	Y	=	Y	M
			knife	1	D								
			ring	1	D								
			weight	2	C								
164	U	U	decorated object	1	N	B/Wat	Hill/Slope	N	Y	N	=	Y	M
			whetstone	1	D								
			fragment	2	M								
170	U	U	buckle	1	H	B/Wat	Slope	N	N	Y	=	Y	L
			fragment	2	M								
			spear head	1	W								
			strap end	1	A								
171	U	U	fragment	2	M	B/Wat	Slope	N	N	Y	=	Y	L
			buckle	1	H								
177	U	YSA	nail	2	D	B/Wat	Cliff	Y	Y	N	↓	Y	L
			knife	1	D								
186	M	MA	bead	9	A	Wat/B	S-line	Y	Y	N	↓	Y	L
			bead	1	A								
			wood	2	M								
			fragment	2	M								
187	M	MA	knife	1	D	Wat/B	S-line	Y	Y	N	↓	Y	L
			fragment	2	M								
			weight	8	C								
			whetstone	1	D								
			spear head	1	W								

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
188	M	OMA	wood	1	M	Wat/B	S-line	Y	Y	N	↓	Y	L
			spear head	1	W								
			fragment	2	M								
			weight	3	C								
189	U	A?	buckle	1	H	Wat/B	S-line	Y	Y	N	↓	Y	L
			rivet	52	B								
190	F?	OMA	vessel	1	D	Wat/B	S-line	Y	Y	N	↓	Y	L
			buckle	2	H								
			nail	3	D								
			brooch	1	A								
			knife	1	D								
			fragment	3	M								
196	F?	YMA	gaming piece	19	N	Wat/B	S-line	Y	Y	N	↓	Y	L
			fragment	3	M								
			whetstone	1	D								
			fragment	2	M								
197	M	YA	fragment	2	M	Wat/B	S-line	Y	Y	N	↓	Y	L
			fragment	2	M								
			fragment	2	M								
			bead	5	A								
			fragment	2	M								
200	M?	OMA	knife	1	D	Wat/B	RB	N	Y	N	↓	Y	L
			fragment	2	M								
			spit	1	D								
201	U	U	spear head	1	W	B/Wat	Slope	N	N	Y		Y	L

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
210	M	OMA	buckle	2	H	B/Wet	Hill/Slope	Y	Y	N	↓	Y	L
			sword	1	W								
			axe	1	W								
			axe	1	W								
			spear head	1	W								
			whetstone	1	D								
			ignitor	1	D								
			shield boss	1	W								
			bark	1	M								
			wood	3	M								
			knife	1	D								
211	M	MA	fragment	1	M	B/Wet	Hill/Slope	Y	Y	N	↓	Y	L
			wood	1	M								
			brooch	1	A								
			shell	1	M								
			thread	1	A								
			strike-a-light	1	D								
			spear head	1	W								
			ignitor	1	D								
			bead	1	A								
			whetstone	1	D								
			knife	1	D								
			coin	2	C								

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View			
								<0.5	<1.0	>1.0						
212	F	OMA	bead	6	A	B/Wet	Hill/Slope	Y	Y	N	↓	Y	L			
			fragment	2	M											
			ignitor	3	D											
			knife	1	D											
213	M	OMA	fragment	1	M	B/Wet	Hill/Slope	Y	Y	N	↓	Y	L			
			buckle	1	H											
			nail	5	D											
			bridle bit	1	H											
			pebble	1	M											
			ignitor	1	D											
			knife	1	D											
			spear head	1	W											
			shield boss	1	W											
			sword	1	W											
			axe	1	W											
			weight	2	C											
			215	M	U	fragment	2	M	B	Hill	Y	Y	N	↓	Y	L
						comb	1	D								
shell	3	M														
219	M?	OMA	spear head	1	W	Wet/Wat	Hill	Y	Y	N	↓	N	L			
			axe	1	W											
220	F	OMA	pin	1	A	Wet/Wat	Hill	Y	Y	N	↓	N	L			
			sheet metal	1	A											

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
221	U	U	axe	1	W	B/Wat	Rise	Y	Y	N	=	P	L
			boss	2	H								
			hook	1	H								
			knife	1	D								
			buckle	1	H								
			buckle	1	H								
223	M?	YMA	bead	28	A	Wet/B	Cliff/RB	Y	Y	N	↓	Y	L
225	U	U	sword	1	W	B/Wat	Rise	Y	Y	N	↓	N	L
			spear head	1	W								
248	M	OMA	knife	1	D	B	Rise	Y	Y	N	↓	N	L
			whetstone	1	D								
250	M?	MA	wood	2	M	B/Wat	Rise	Y	Y	N	↓	N	L
			rivet	25	B								
			spear head	1	W								
			fragment	3	M								
251	M?	U	nail	1	D	B/Wat	Rise	Y	Y	N	↓	N	L
			fragment	2	M								
253	M	YA	spear head	1	W	B	Flat	Y	Y	N	↑	Y	L
			knife	1	D								
260	U	MA	spindle whorl	2	D	B	Cliff	N	N	Y		Y	V
			fragment	5	M								
			strap end	1	A								
			hook	1	D								
			pin	1	A								

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
			ignitor	1	D								
			cylinder	1	D								
			wool comb	2	D								
			sickle	1	D								
			shears	1	D								
			comb	1	D								
			arm ring	1	A								
			bead	52	A								
			brooch	1	A								
			brooch	2	A								
			knife	1	D								
			clasp	1	A								
261	M?	OMA	knife	1	D	G/Wat	Cliff/S-line	Y	Y	N	↓	Y	L
262	M	MA	wood nail	1 3	M D	B/Wat	Rise	Y	Y	N	↑	N	L
267	M	OMA	comb	1	D	B/Wat	Flat	N	N	Y		Y	L
			knife	1	D								
			fragment	2	M								
271	U	YSA	knife	1	D	Wat	Hillock	Y	Y	N	=	Y	L
			pebble	2	M								
			axe	1	W								
			rivet	30	B								
			weight	1	C								

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
276	U	U	bead	1	A	Wat/G	Rise	Y	Y	N	=	N	L
			knife	1	D								
			bridle bit	1	H								
			fragment	2	M								
284	U	U	spindle whorl	1	D	B/Wat	Slope/Hill	Y	Y	N	↑	Y	L
			stone	1	M								
			shears	1	D								
			comb	1	D								
			textile	1	A								
			bead	3	A								
			bead	40	A								
			brooch	1	A								
			brooch	2	A								
			whetstone	2	D								
			286	M	OMA			buckle	2	H			
ring	1	A											
shield boss	1	W											
stone	1	M											
nail	8	H											
vessel	1	D											
agate	1	M											
purse	1	C											
weight	4	C											
coin	1	C											

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
			strap end	1	A								
			buckle	1	A								
			pin	1	A								
			whetstone	2	D								
			bridle bit	1	H								
			axe	1	W								
			bead	2	A								
			ignitor	1	D								
			sword	1	W								
			spear head	1	W								
			spear head	1	W								
288	M	OMA	whetstone	1	D	B/Wat	Hill	Y	Y	N	↑	N	L
			wood	1	M								
			nail	1	D								
289	M	OMA	knife	1	D	B/Wat	Hillock	Y	Y	N	↓	Y	L
290	M	YA	knife	1	D	B/Wat	Hillock	Y	Y	N	↓	Y	L
			fragment	1	M								
			slag	1	D								
291	M	MA	axe	1	W	B/Wat	Rise	Y	Y	N	↑	Y	L
			knife	1	D								
			weight	3	C								
296	F	MA	comb	1	D	Wat	S-line	N	N	Y		Y	L
			textile	1	A								
			fragment	2	M								

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
			ring	1	D								
			shears	1	D								
			arm ring	1	A								
			brooch	2	A								
			spit	1	D								
			knife	1	D								
299	F	YMA	bead	1	A	Wet/Wat	Flat	Y	Y	N	↓	Y	L
			nail	1	D								
303	U	U	object	3	M	B/Wat	RB	Y	Y	N	↓	Y	M
			strike-a-light	1	D								
			ignitor	5	D								
			weight	2	C								
305	F?	OMA	knife	1	D	B/Wat	RB	Y	Y	N	↓	Y	M
			bead	11	A								
312	U	OSA	spear head	1	W	G	Flat	Y	Y	N	↓	Y	L
			wood	2	M								
			bead	2	A								
			buckle	1	H								
			sword	1	W								
			knife	1	D								
313	U	YA	brooch	2	A	E/G	Slope/RB	N	N	Y		N	M
			brooch	1	A								
			bead	400	A								

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
								<0.5	<1.0	>1.0			
322	M	OMA	fragments	2	M	Wat	S-line	N	N	Y		Y	L
			sword	1	W								
			shield boss	1	W								
			spear head	1	W								
			nails	10	D								
342	M	MA	axe	1	W	Wat	S-line	N	N	Y		Y	L
343	M	U	boat nails	400	B	Wat	S-line	N	N	Y		Y	L

Abbreviations Used in Appendix O:

380

Artifact Category		Environment		Features		Elevation BS to Farm		Sea View		View	
A	= Adornment	B	= Birch	RB	= Riverbank	↓	= below	Y	= Yes	V	= Vast
B	= Boat	E	= Erosion	S-line	= Shoreline	↑	= above	N	= No	M	= Moderate
C	= Commerce	G	= Grasslands			=	= equal to	P	= Partial	L	= Limited
D	= Domestic	Wat	= Water								
F	= Fishing	Wet	= Wetlands								
H	= Horse Equipment										
M	= Misc & Frags										
N	= Non-Utility										
W	= Weapons										

Appendix O: Located Graves with Analyzed Human Skeletal Remains and Artifacts

APPENDIX P: LOCATED GRAVES WITH ANALYZED HUMAN SKELETAL REMAINS AND ARTIFACTS AND ANIMALS

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	Animal Incl.	1st/2nd Env.	1st/2nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
									<0.5	<1.0	>1.0			
8	U	OSA	buckle	1	H	Horse	Wet/B	Hillock	Y	Y	N	=	P	M
			spear head	1	W									
			fragment	2	M									
			bridle bit	1	H									
			ignitor	4	D									
			fragment	1	M									
			comb	1	D									
			weight	1	C									
			whetstone	1	D									
			axe	1	W									
			knife	1	D									
			shield boss	1	W									
			bead	1	A									
24	U	U	bridle bit	1	H	Horse	B	Flat	N	Y	N	↓	N	L
			weaving implement	1	D									

381

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	Animal Incl.	1st/2 nd Env.	1st/2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
									<0.5	<1.0	>1.0			
26	M	MA	vise	1	D	Horse	Wat	River	N	N	Y		P	M
			shield boss	1	W									
			buckle	1	H									
			bridle bit	1	H									
			fragment	2	M									
			strike-a-light	1	D									
			hook	1	D									
			hook	3	F									
			knife	1	D									
			ignitor	2	D									
			axe	1	W									
			spear head	1	W									
			weight	4	C									
			whetstone	2	D									
41	U	OMA	fragment	3	M	Horse	Wet/B	Rise	N	Y	N	↓	Y	V
43	U	U	bridle bit	1	H	Horse	B/Wat	Rise	Y	Y	N	=	Y	V
44	U	U	shaft	4	U	Horse/Dog	B/Wat	Rise	Y	Y	N	=	Y	V
			buckle	1	H									
			buckle	2	H									
			buckle	1	H									
			bridle bit	1	H									
			shield boss	1	W									
knife	1	D												

Appendix P: Located Graves with Analyzed Human Skeletal Remains and Artifacts and Animals

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	Animal Incl.	1st/2 nd Env.	1st/2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
									<0.5	<1.0	>1.0			
50	U	U	ignitor	1	D	Horse	Wet/B	Rise	Y	Y	N	↓	P	M
			bridle bit	1	H									
70	M	OMA	comb	1	D	Horse/Dog	Wat/B	Rise/S-line	Y	Y	N	↓	Y	V
			fragment	2	M									
			rivet	4	B									
			vessel	1	D									
			buckle	1	H									
			axe	1	W									
			comb case	1	D									
			shield boss	1	W									
			sword	1	W									
			bridle bit	1	H									
			spear head	1	W									
			Sword chape	1	W									
			whetstone	1	D									
73	M	MA	spear head	1	W	Dog	Wat/B	Rise/S-line	Y	Y	N	↓	Y	V
140	M	OMA	strap end	1	A	Horse	G/Wat	Base	N	N	Y		N	L
			ring	1	H									
			fragment	2	M									
144	U	U	buckle	1	H	Horse	B/Wat	Base	Y	Y	N	=	P	L
			nail	1	H									
			fragment	2	M									

Appendix P: Located Graves with Analyzed Human Skeletal Remains and Artifacts and Animals

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	Animal Incl.	1st/2 nd Env.	1st/2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
									<0.5	<1.0	>1.0			
157	F?	OMA	fragment	20	M	Horse	B/Wat	Cliff/River	N	N	Y		N	L
			nail	3	H									
			button	2	A									
			bead	2	A									
			wood	2	M									
			buckle	1	H									
159	M?	OMA	nail	1	H	Horse	B/E	Hill	Y	Y	N	↓	Y	M
			fragment	2	M									
161	U	U	fragment	2	M	Horse	B/Wat	S-line	N	N	Y		Y	M
			spear head	1	W									
			bridle bit	1	H									
162	U	U	sickle	1	D	Horse	B/Wat	S-line	N	N	Y		Y	M
			shears	1	D									
164	U	U	decorated object	1	N	Horse	B/Wat	Hill/Slope	N	Y	N	=	Y	M
			whetstone	1	D									
			fragment	2	M									
170	U	U	buckle	1	H	Horse	B/Wat	Slope	N	N	Y		Y	L
			fragment	2	M									
			spear head	1	W									
			strap end	1	A									
187	M	MA	knife	1	D	Horse	Wat/B	S-line	Y	Y	N	↓	Y	L
			fragment	2	M									

Appendix P: Located Graves with Analyzed Human Skeletal Remains and Artifacts and Animals

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	Animal Incl.	1st/2 nd Env.	1st/2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
									<0.5	<1.0	>1.0			
			weight	8	C									
			whetstone	1	D									
			spear head	1	W									
189	U	A?	buckle	1	H	Horse/Dog	Wat/B	S-line	Y	Y	N	↓	Y	L
			rivet	52	B									
190	F?	OMA	vessel	1	D	Horse	Wat/B	S-line	Y	Y	N	↓	Y	L
			buckle	2	H									
			nail	3	D									
			brooch	1	A									
			knife	1	D									
			fragment	3	M									
196	F?	YMA	gaming piece	19	N	Dog	Wat/B	S-line	Y	Y	N	↓	Y	L
			fragment	3	M									
			whetstone	1	D									
197	M	YA	fragment	2	M	Horse	Wat/B	S-line	Y	Y	N	↓	Y	L
			fragment	2	M									
			fragment	2	M									
			bead	5	A									
200	M?	OMA	knife	1	D	Horse	Wat/B	River	N	Y	N	↓	Y	L
			fragment	2	M									
			spit	1	D									
201	U	U	spear head	1	W	Horse	B/Wat	Slope	N	N	Y		Y	L
213	M	OMA	fragment	1	M	Horse	B/Wet	Hill/Slope	Y	Y	N	↓	Y	L
			buckle	1	H									

Appendix P: Located Graves with Analyzed Human Skeletal Remains and Artifacts and Animals

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	Animal Incl.	1st/2 nd Env.	1st/2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
									<0.5	<1.0	>1.0			
			nail	5	D									
			bridle bit	1	H									
			pebble	1	M									
			ignitor	1	D									
			knife	1	D									
			spear head	1	W									
			shield boss	1	W									
			sword	1	W									
			axe	1	W									
			weight	2	C									
221	U	U	axe	1	W	Horse	B/Wat	Rise	Y	Y	N	=	P	L
			boss	2	H									
			hook	1	H									
			knife	1	D									
			buckle	1	H									
			buckle	1	H									
248	M	OMA	knife	1	D	Dog	B	Rise	Y	Y	N	↓	N	L
			whetstone	1	D									
250	M?	MA	wood	2	M	Horse/Dog	B/Wat	Rise	Y	Y	N	↓	N	L
			rivet	25	B									
			spear head	1	W									
			fragment	3	M									
251	M?	U	nail	1	D	Dog	B/Wat	Rise	Y	Y	N	↓	N	L
			fragment	2	M									

Appendix P: Located Graves with Analyzed Human Skeletal Remains and Artifacts and Animals

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	Animal Incl.	1st/2 nd Env.	1st/2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
									<0.5	<1.0	>1.0			
260	U	MA	spindle whorl	2	D	Dog	B	Cliff	N	N	Y		Y	V
			fragment	5	M									
			strap end	1	A									
			hook	1	D									
			pin	1	A									
			ignitor	1	D									
			cylinder	1	D									
			wool comb	2	D									
			sickle	1	D									
			shears	1	D									
			comb	1	D									
			arm ring	1	A									
			bead	52	A									
			brooch	1	A									
			brooch	2	A									
			knife	1	D									
262	M	MA	wood	1	M	Horse	B/Wat	Rise	Y	Y	N	↑	N	L
			nail	3	D									
276	U	U	bead	1	A	Horse	Wat/G	Rise	Y	Y	N	=	N	L
			knife	1	D									
			bridle bit	1	H									
			fragment	2	M									

Gr. No.	Sex	Age Cat.	Art. Name	Art. Amt	Art. Cat.	Animal Incl.	1st/ 2 nd Env.	1st/ 2 nd Feat.	Dist to Farm (km)			Elev BS:F	Sea View	View
									<0.5	<1.0	>1.0			
286	M	OMA	buckle	2	H	Horse	B/Wat	Rise/River	N	N	Y		N	L
			ring	1	A									
			shield boss	1	W									
			stone	1	M									
			nail	8	H									
			vessel	1	D									
			agate	1	M									
			purse	1	C									
			weight	4	C									
			coin	1	C									
			strap end	1	A									
			buckle	1	A									
			pin	1	A									
			whetstone	2	D									
			bridle bit	1	H									
			axe	1	W									
			bead	2	A									
			ignitor	1	D									
			sword	1	W									
			spear head	1	W									
spear head	1	W												
288	M	OMA	whetstone	1	D	Dog	B/Wat	Hill	Y	Y	N	↑	N	L
			wood	1	M									
			nail	1	D									

Appendix P: Located Graves with Analyzed Human Skeletal Remains and Artifacts and Animals

Abbreviations Used in Appendix P:

Artifact Category	Environment	Features	Elevation BS to Farm	Sea View	View
A = Adornment	B = Birch	RB = Riverbank	↓ = below	Y = Yes	V = Vast
B = Boat	E = Erosion	S-line = Shoreline	↑ = above	N = No	M = Moderate
C = Commerce	G = Grasslands		= = equal to	P = Partial	L = Limited
D = Domestic	Wat = Water				
F = Fishing	Wet = Wetlands				
H = Horse Equipment					
M = Misc & Frags					
N = Non-Utility					
W = Weapons					

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