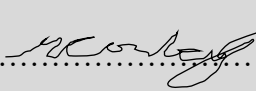




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Using osteological and archaeological evidence, assess the validity of contemporary British sources that influence the modern-day stereotype of the Vikings?

Matthew Cowley

1700561



Figure 1: Nineteenth Century of a stereotypical 'Vikings Plundering a monastery', by Lorenz Frölich, *Strandhungst*, (1883 – 1886). The Museum of National History, Frederiksborg Castle, Denmark. Taken from Carroll, Harrison and Williams, *The Vikings in Britain and Ireland*, p. 7.

**Dissertation submitted in partial fulfilment
of a B.A. (Hons.) in Archaeology & Medieval Studies
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Abstract

This dissertation aims to challenge the modern-day stereotype of the Vikings by examining the validity of contemporary British accounts that influence this idea. This will be achieved using a combination of osteological and archaeological evidence from all over Scandinavia and the British Isles. The stereotype itself revolves around the build, brutality, and barbarism of the Vikings, all of which form the basis for this study, with each of them being individually analysed in their own chapters. This was done to establish whether the Vikings were the tall, excessively violent, and uncivilised people that certain contemporary sources suggest them to be. Subsequently, these concepts, as in the build, brutality, and barbarism of the Vikings, were compared to that of the native inhabitants of Britain, to investigate how legitimate the written record was concerning the exploits of the Vikings.

The osteo-archaeological data used in this study revealed that the popular concept of the Vikings is not accurate, due to discrepancies between contemporary written accounts and the material record. The only exception to this was regarding the stature of the Vikings, as the osteological results did indicate that the Scandinavians were taller than their British counterparts, although only by a couple of centimetres. Other than this, the sources claiming that the Vikings were excessively violent and uncivilised have been found to be incorrect based upon osteo-archaeological evidence, and as such, should form no basis for creating the modern identity of the Vikings. This leads to the need to establish a new concept of the Vikings in line with osteological and archaeological findings.

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Standardised List of Abbreviations

ASC = Anglo-Saxon Chronicle.

Anglo-Saxon Chronicle, ed. and trans. G.N. Garmonsway, 2nd edition (London, 1972).

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Location of Major Archaeological Sites Used for this Study

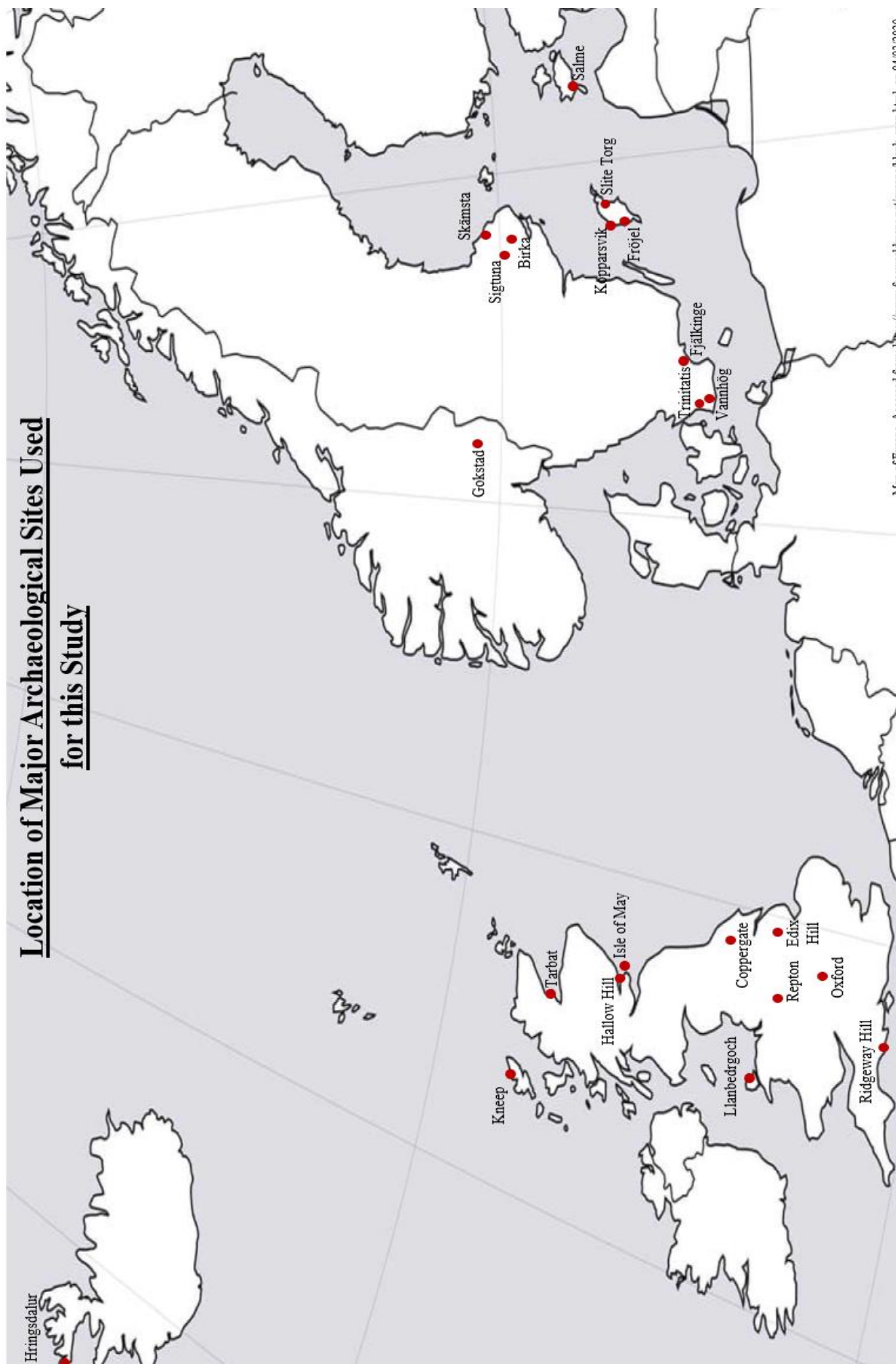


Figure 2: Map of Key Archaeological locations used in this study. Map taken from FreeWorldMaps.net, *Europe Outline Maps* (2019) <https://www.freeworldmaps.net/europe/blank_map.html> [Accessed: 4 February 2020]. Information taken from Arcini, *The Viking Age*, p. 3, and other sources outlined in the introduction regarding specific locations.

Introduction

Vikings, a word that in popular culture conjures an image of huge burley warriors terrorizing the shores of medieval Europe aboard their long ships, emerged from their homeland of modern-day Scandinavia at the close of the Eighth Century. Famed for their voyages across the known world and their trade connections with various societies, there is one aspect of these avid seafarers that dominates the minds of popular opinion, that is, their perceived bloodlust against the civilisations of Europe.¹ Even the terminology used to refer to this group of people has connotations of violence, with one interpretation behind the term ‘Viking’ being that it was used to refer to the action of raiding or piracy.² It will be used in this work interchangeably with other related terms such as Norsemen, Danes, pagans, or variants thereof, as all these were firstly, used to refer to the Vikings in contemporary accounts, and secondly, despite the term ‘Viking’ having little contemporary evidence of use, it has become so synonymous within modern times to refer to these Scandinavians, that not using this particular term in such a dissertation would be preposterous.³ The meaning behind the word provides further evidence of the cultural stereotyping that surrounds this period of history, and despite attempts by recent scholarship to usurp this view in the eyes of the populous with one that reflects the more peaceful and economic aspects of these Norsemen, the savage and barbaric view of these people still persists.⁴ It is for this reason that another examination into this period is required in order to aid scholarly works in their attempt to right this stereotype, and to answer my research questions of identifying how tall (build), brutal, and barbaric the Vikings were compared to their British contemporaries, all of which

¹ Thomas Williams, *Viking Britain: A History*. (London: William Collins, 2017), pp. xv – xix.

² René Chartrand, et al. *The Vikings*. (Oxford: Osprey Publishing, 2016), pp. 12 – 14.

³ *ibid.*

⁴ This discussion is well addressed by, Julian, D. Richards, ‘Pagans and Christians at the Frontier: Viking Burials in the Danelaw’, in Martin Carver (ed.), *The Cross Goes North: Processes of Conversion in Northern Europe AD 300 – 1300*. (Woodbridge: The Boydell Press, 2005), pp. 383 – 395 (p. 383).

are aspects of the modern stereotype.⁵ The concepts for these research questions are based upon contemporary accounts of these raiders that have now become an integral part of their identity, whether it be comparing their build to that of palm trees, as described by the Arab scholar Ibn Fadlān,⁶ detailing their brutality against the pious monks of Lindisfarne, as seen in Alcuin's account of the raid,⁷ or portraying their barbaric nature as done by many of the missionaries who ventured into Scandinavia.⁸

The vast amount of scholarship focusing on this area of history predominantly takes inspiration from the written testimonies of monks, such as those who composed the *Anglo-Saxon Chronicle*,⁹ foreign scholars similar to Ibn Fadlān,¹⁰ or the Twelfth- and Thirteenth-Century Icelandic Sagas.¹¹ The one thing that all these literary sources have in common is that they were not written by the Vikings themselves, but were either composed by external powers, many of whom had experienced the wrath of these raiders first hand, or by the descendants of these Norsemen.¹² These are just some of the written sources that form the basis for the modern literature and stereotype regarding this period, whether it be in Parker's overview of the Northmen,¹³ Brownworth's examination of their raiding and trading,¹⁴ or Short's analysis of *Icelanders in the Viking Age*.¹⁵ Although a focus on literary sources is the

⁵ Williams, *Viking Britain*, pp. xv – xix.

⁶ Ahmed Ibn Fadlān, *Ibn Fadlān and the Land of Darkness: Arab Travellers in the Far North*, ed. and trans. Paul Lund and Caroline Stone. (London, 2012), p. 45.

⁷ Alcuin of York, *Alcuin's Letter to Æthelred*, c. 793, in Dorothy Whitelock, *English Historical Documents: Volume. 1 c. 500 – 1042*, 2nd edition. (Abingdon: Routledge, 1979), pp. 775 – 777.

⁸ Alcuin of York, 'The Life of Willibrord', trans. C.H. Talbot, in Thomas F.X. Noble and Thomas Head (ed.) *Soldiers of Christ: Saints and Saints' Lives from Late Antiquity and the Early Middle Ages*. (London: Sheed & Ward Ltd, 1995), pp. 189 – 212 (pp. 189 – 205).

⁹ ASC, pp. 2 – 269.

¹⁰ Ibn Fadlān, *Ibn Fadlān and the Land of Darkness*, p. 45.

¹¹ Philip Parker, *The Northmen's Fury: A History of the Viking World*. (London: Vintage, 2015), pp. 165 – 168.

¹² *ibid.*, pp. 142 – 147.

¹³ *ibid.*, pp. 1 – 5.

¹⁴ Lars Brownworth, *The Sea Wolves: A History of the Vikings*. (London: Crux Publishing Ltd, 2014), pp. 1 – 210.

¹⁵ William R. Short, *Icelanders in the Viking Age: The People of the Sagas*. (London: McFarland & Company, Inc. Publishers, 2010), pp. 1 – 31.

most common form of evidence used by scholars of this period, it is not the only one, as archaeological evidence is also relied upon quite extensively, especially by Carrol, Eaton, and Richards.¹⁶ Of these, only Carrol's work solely focuses on Viking Age archaeology,¹⁷ as the other texts are only chapters within larger archaeological assessments, yet all three still demonstrate the archaeological record being used.¹⁸

While examining these scholarly works, it quickly became apparent that one common focus seemingly ignored by most was that of skeletal remains, likely because osteological evidence is considered unimportant by some archaeologists.¹⁹ One of the only exceptions to this is Caroline Arcini's comprehensive work on Scandinavian osteology, which has been fundamental to my study as it has formed the base-point to this work as well as providing vital information on the health and well-being of Scandinavians.²⁰ Not only this, but another extremely useful work is that of Louise Loe's *Given to the Ground*, the complete excavation report for the mass grave discovered at Ridgeway Hill.²¹ This text also uses osteo-archaeological evidence of Viking activity, but it is only an example of one site rather than multiple locations, which is why Arcini's work is more important to this study.²² As evident, a vast amount of literature surrounds the Viking Age, however, only some of it focuses on archaeological evidence, with even less examining osteological findings, demonstrating this gap in the scholarship of the Vikings.

¹⁶ Jonathan Eaton, *An Archaeological History of Britain: Continuity and Change from Prehistory to the Present*. (Barnsley: Pen and Sword Archaeology, 2014) pp. 116 – 122.

¹⁷ Jayne Carroll, Stephen H. Harrison and Gareth Williams, *The Vikings in Britain and Ireland*. (London: The British Museum Press, 2014), pp. 6 – 134.

¹⁸ Julian D. Richards, 'The Scandinavian Presence', in John Hunter and Ian Ralston (ed.) *The Archaeology of Britain: An Introduction from the Upper Palaeolithic to the Industrial Revolution*. (London: Routledge, 1999), pp. 194 – 209, (pp. 194 – 209).

¹⁹ Magnus Magnusson, *The Vikings*. 5th edition. (Stroud: The History Press, 2016), pp. 7 – 57.

²⁰ Caroline A. Arcini, *The Viking Age: A Time of Many Faces*. (Oxford: Oxbow Books, 2018), pp. 1 – 71.

²¹ Louise Loe, et al. 'Given to the Ground': *A Viking Age Mass Grave on Ridgeway Hill, Weymouth*. (Dorset: Dorset Natural History and Archaeological Society, 2014), pp. i – 303.

²² Arcini, *The Viking Age*, pp. 3 – 92.

Although initially planning to undertake a complete assessment of Viking Age osteo-archaeology, a study that included the entirety of Europe was beyond the scope of this dissertation, and as such, a more concise study focused solely on the British Isles was deemed enough to demonstrate my methodology, which could be applied to the natives of other European states. With my scope narrowed, I will focus on three key areas that are part of the stereotype and have been influenced by contemporary accounts, before using osteological and archaeological evidence to support and dispute the assertions put forward by these contemporary writers. My first step is to uncover a characteristic associated with Viking identity, and then establish a written contemporary source that has led to this characteristic. Following this, I will identify evidence of a Scandinavian origin that can be used to assess the legitimacy of these contemporary sources, as this will enable the establishment of a base point, in that the inhabitants of Scandinavia will be distinctive compared to the British natives.²³ The only exception to this is the absence of Denmark in my grouping of Scandinavia, as the Danish peninsula of Jutland was home to the Jute population that invaded Britain along with the Angles and the Saxons. As such, osteological examples from Denmark have been excluded due to the similarities that results may have with Anglo-Saxon examples.²⁴ Continuing from this, a review of Scandinavian archaeology and osteology discovered in the British Isles will be completed as to establish whether only a certain type of Norsemen went ‘*a vikingr*’, or if this enterprise was open to anyone.²⁵ Finally, this will be compared to osteological, archaeological, and written evidence concerning the Anglo-Saxons and other native groups of the British Isles, to conclude whether the Vikings were, as the

²³ Jo L. Buckberry, et al. ‘Finding Vikings in the Danelaw’, *Oxford Journal of Archaeology*, 33.4 (2014), pp. 413 – 434 (pp. 123 – 130).

²⁴ Carl Waldman, and Catherine Mason, *Encyclopaedia of European Peoples*. (New York: Facts On File Inc., 2006), p. 468.

²⁵ Chartrand, et al. *The Vikings*, pp. 12 – 14.

stereotype indicates, of a greater build, brutality, and barbarism to their British contemporaries.

Regarding how the height of remains will be identified, where the complete skeletal material is absent or too disrupted to be measured, then an estimation of an individual's stature can be attained by examining their long bones, such as the femur, in conjunction with the line of organic correlation. This line of organic correlation is one of the various methods used to help estimate the stature of deceased individuals, and refers to the concept that the mean bone length of a populous can be used to ascertain an estimate for the height of one of its members, as according to Sjøvold, the expected length of a bone for an individual will be equal to the mean length of a population's bone.²⁶ An alternative method to this is that of Trotter and Gleser, which focuses on measuring the height of individuals pre-mortem and then comparing it to the length of their bones post-mortem.²⁷ However, Sjøvold's equations for calculating height will be used where possible in this dissertation as they are more in line with modern standards and builds upon the work of Trotter and Gleser.²⁸

This methodology will be applied threefold to my main chapters focusing on the build, brutality, and barbarism of the Vikings compared to their British contemporaries. These chapters have been chosen as they represent the key characteristics that make up the modern concept of the Vikings and are all ideas evident in various contemporary sources, such as the *Anglo-Saxon Chronicle*,²⁹ or the letters sent from the Northumbrian monk Alcuin of York to

²⁶ Torstein Sjøvold, 'Estimation of Stature from Long Bones utilizing the line of Organic Correlation', *Human Evolution*, 5.5 (1990) pp. 431 – 447 (p. 431), <DOI: 10.1007/BF02435593>, [Accessed: 16 April 2020].

²⁷ Mildred Trotter, and Goldine C. Gleser, 'A Re-Evaluation of Stature based on Measurements taken during Life and Long Bones after Death', *American Journal of Physical Anthropology*, 16.1 (1958) pp. 79 – 124 (pp. 79 – 124), <DOI: 10.1002/ajpa.1330160106>, [Accessed: 26 March 2020].

²⁸ See Sjøvold, 'Estimation of Stature from Long Bones utilizing the line of Organic Correlation', pp. 431 – 447, for more information.

²⁹ ASC, p. 57.

his king and the Bishop of Lindisfarne following the Viking raid on the monastery in AD 793.³⁰ The main issue with these accounts is that they are written by the victims of the Vikings and as such, provide a very negative view of the Norsemen. That said, it is these negative views that have influenced the stereotype of the Vikings, so these sources will still be used in this assessment.³¹ Likewise, there is the account of the Arab traveller, Ibn Fadlān,³² and the Frankish *Annals of Fulda* that both depict aspects of the Vikings stature, although only the latter text of these has a connection with the British Isles.³³ Even though it is possible to make a connection, the fact that these sources are foreign means that their content cannot definitively be applied to a British context, even if a link can be heavily inferred. Furthermore, the biographies of Ansgar and Willibrord, two Christian missionaries whose Lives were composed by Bishop Rimbart, the successor to Ansgar,³⁴ and Alcuin of York respectively, will be used solely in my last chapter.³⁵ Finally, the works of Simeon of Durham,³⁶ Henry of Huntingdon,³⁷ John of Wallingford,³⁸ and Gerald of Wales, all writing after the Viking Age, will be used to support either written or osteo-archaeological evidence.³⁹ It could be argued that due to when these accounts were composed, their legitimacy for events that occurred in the past is questionable. However, the fact that the exploits of the Northmen are still referenced two-or-three-hundred-years after the events

³⁰ Williams, *Viking Britain*, pp. 1 – 32.

³¹ Martin J. Dougherty, *The Golden Age of the Vikings: A History of the Norse People*. 2nd edition. (London: Amber Books Ltd., 2017), p. 8.

³² Ibn Fadlān, *Ibn Fadlān and the Land of Darkness*, p. 45.

³³ *Annals of Fulda*, ed. and trans. Timothy Reuter, revised in. Timothy Reuter, *The Annals of Fulda: Ninth Century Histories*, Vol. 2. (Manchester: Manchester University Press, 1992), pp. 15 – 142.

³⁴ Bishop Rimbart, *Vita Anskarii*, ed., trans. and revised by. Charles H. Robinson (London, 1921), pp. 1 – 136.

³⁵ Alcuin, 'The Life of Willibrord', pp. 191 – 192.

³⁶ Simeon of Durham, *The Historical Works of Simeon of Durham*, ed. and trans. Joseph Stevenson, revised in. Joseph Stevenson, *The Church Historians of England*, Vol. 3, Part 2 (London: Seeleys, 1855), p. 457.

³⁷ Henry of Huntingdon, *The Chronicle of Henry of Huntingdon: Comprising the History of England, from the Invasion of Julius Cæsar to the Accession of Henry II. Also, the Acts of Stephen, King of England and Duke of Normandy*, ed. and trans. T. Forester (London: 1853), pp. 120 - 220.

³⁸ John of Wallingford, *The Chronicle of John of Wallingford*, trans. William Hunt (1899), revised in. Thomas D. Hardy, *Descriptive Catalogue of Material Relating to the History of Great Britain and Ireland to the End of the Reign of Henry VII*. (Cambridge: Cambridge University Press, 2012), pp. 625 – 676.

³⁹ Gerald of Wales, *The Topography of Ireland*, ed. T. Wright and trans. T. Forester (Cambridge, 2000), pp. 68 – 70.

occurred demonstrates the longevity and impact the Vikings had on the medieval world, and the consolidation of the stereotypes has been the basis for today's ideas.⁴⁰

The characteristics outlined in these contemporary accounts will subsequently be examined using osteo-archaeological findings from a collection of sites over Scandinavia and Britain, such as the eight Swedish locations that Caroline Arcini uses in her study of Viking Age osteology.⁴¹ These include the sites of Kopparsvik, Slite Torg, and Fröjel on the Swedish island of Gotland, Trinitatis, Fjälkinge, and Vanhög in Southern Sweden, and finally Skämsta and Birka near the modern-day capital of Stockholm (see Figure 2).⁴² Furthermore, the graveyard at Sigtuna, near the location of the latter two sites, will also be examined, although the site itself has a vast history and as such, only osteo-archaeological evidence dating from the first phase of the excavations will be examined.⁴³

To the west of Sweden, there are the sites of Gokstad in Norway, where a 20m long and 5m wide clinker-built oak ship containing the remains of one individual was unearthed in 1880 by Nicolay Nicolaysen,⁴⁴ and Hringsdalur in Iceland, where two pagan burials were discovered with the former being badly damaged while the latter remained undisturbed.⁴⁵ The final Scandinavian site that will be used in this study is the seven Swedes from Salme, on the Estonian island of Saaremaa, that were unearthed along with an early Viking Age ship in

⁴⁰ Dougherty, *The Golden Age of the Vikings*, pp. 6 – 11.

⁴¹ Arcini, *The Viking Age*, pp. 1 – 92.

⁴² See Arcini, *The Viking Age*, pp. 1 – 92, for more information on these sites.

⁴³ See Anna Kjellström, Sten Tesch, and Anders Wikström, 'Inhabitants of a Sacred Townscape: An Archaeological and Osteological Analysis of Skeletal Remains from Late Viking Age and Medieval Sigtuna, Sweden', *Acta Archaeologica*, 76 (2005), pp. 87 – 110 (pp. 87 – 92), for more information on Sigtuna.

⁴⁴ See Nicolay Nicolaysen, *The Viking Ship Discovered at Gokstad in Norway: Described by N. Nicolaysen*. (Christiania: Alb. Cammermeyer, 1882), pp. 1 – 63, for more information on Hringsdalur.

⁴⁵ Hildur Gestsdóttir, 'Themes in Icelandic Bioarchaeological Research', in Barra O'Donnabhain, and María C. Lozada, (ed.) *Archaeological Human Remains: Global Perspectives*. (London: Springer, 2014), pp. 128 – 129.

2008.⁴⁶ These latter three sites will predominantly be used in assessing the stature of the Vikings in their homeland.

These sites will be cross-referenced with osteo-archaeological evidence present at various British locations, such as Repton, Kneep, Coppergate, St John's College and Ridgeway Hill, all of which contain evidence of Scandinavian activity in Britain. The former of these was the location of where the 'Great Heathen Army', which arrived in England in AD 865, remained over the winter period of AD 873/874 and turned the once important Mercian religious house into a fortified encampment,⁴⁷ meaning that this site contains both Viking and Anglo-Saxon remains.⁴⁸ Furthermore, Kneep, on the Isle of Lewis, contains the remains of a high-status female who was discovered in the summer of 1979,⁴⁹ while the Anglo-Scandinavian site of Coppergate in York provides archaeological evidence of a more industrial nature.⁵⁰ Finally, excavated in 2008 and 2009 respectively,⁵¹ the mass Scandinavian graves discovered at St John's College in Oxford and Ridgeway Hill at Weymouth will both be analysed as they provide information of brutality against the Danes.⁵²

Various native British sites will be studied as a comparison to the above, and includes the Anglo-Saxon burials at Repton and Edix Hill,⁵³ the latter of which contained the remains of

⁴⁶ See Raili Allmäe, Liina Maldre, and Teresa Tomek, 'The Salme I Ship Burial: An Osteological View of a Unique Burial in Northern Europe', *Interdisciplinaria Archaeologica Natural Sciences in Archaeology*, 2.2 (2011), pp. 109 – 124 (pp. 109 – 124), for more information on Salme.

⁴⁷ Eaton, *An Archaeological History of Britain*, pp. 116 – 119.

⁴⁸ See Martin Biddle, and Birthe Kjølbye-Biddle, 'Repton and the 'Great Heathen Army'', in James Graham-Campbell, et al. (ed.) *Vikings and the Danelaw: Select Papers from the Proceedings of the Thirteenth Viking Congress*. (Oxford: Oxbow Books, 2001), pp. 57 – 96, for more information on Repton.

⁴⁹ See R.D.E. Welander, Colleen E. Batey, and T.G. Cowie, 'A Viking Burial from Kneep, Uig, Isle of Lewis', *Proceedings of the Society of Antiquaries of Scotland*, 117 (1987), pp. 149 – 174 (pp. 149 – 152), for more information on Kneep.

⁵⁰ See Ailsa J. Mainman and Nicola S.H. Rogers, 'Craft, Industry and Everyday Life: Finds from Anglo-Scandinavian York', *The Archaeology of York: The Small Finds*, 17.14 (2000), pp. 2451 – 2681 (pp. 2535 – 2536), for more information on Coppergate.

⁵¹ See A. M. Pollard, et al. "'Sprouting Like Cockle Amongst the Wheat': The St Brice's Day Massacre and the Isotopic Analysis of Human Bones from St John's College, Oxford", *Oxford Journal of Archaeology*, 31.1 (2012), pp. 83 – 102 (p.83), for more information on St John's College.

⁵² See Loe, et al. *'Given to the Ground'*, pp. i – 303, for more information on Ridgeway Hill.

⁵³ Biddle, and Kjølbye-Biddle, 'Repton and the 'Great Heathen Army'', pp. 57 – 96.

around 148 individuals.⁵⁴ The Scottish location of Tarbat Old Church in Portmahomack, as well as comparisons with evidence from the Isle of May and Hallow Hill, will be examined to identify how the northern inhabitants of Britain compared to the Vikings.⁵⁵ The site itself has a vast history and as such, only about 38% of its overall population will be used in this assessment,⁵⁶ while the five individuals discovered at the Welsh site of Llanbedrgoch on Anglesey, which was raided five times between AD 961 and AD 993, will be the last location examined as part of this dissertation.⁵⁷

Regarding the structure, my first chapter, entitled ‘Build - As Tall as Palm Trees’, will focus on the stature of the Vikings by examining Scandinavian and British sites, before comparing the findings to the sizes of the native British.⁵⁸ Following this, ‘Brutality – Splattered with the Blood of the Priests of God’ is the title of my second chapter, and will analyse the commonly accepted violent nature of these Northmen using the approach outlined,⁵⁹ before the final chapter will examine whether the Vikings were more barbaric than the British and will be entitled ‘Barbarism – More Savage than any Wild Beast’.⁶⁰ All three chapters will follow the same format of examining Scandinavian, British Scandinavian, and native British sites, before concluding with an assessment as to whether the written sources referred to are valid. The dissertation itself will then culminate with an overall conclusion and suggest a new way of how the Vikings should be viewed based upon osteo-archaeological evidence.

⁵⁴ See Tim Malim, and John Hines, *The Anglo-Saxon Cemetery at Edix Hill (Barrington A), Cambridgeshire: Excavations 1989 – 1991 and a Summary Catalogue of Material from 19th Century Interventions*. (York: Council of British Archaeology, 1998), pp. 161 – 166, for more information on Edix Hill.

⁵⁵ See Sarah King, ‘Human Bone Report’, in Martin Carver, *The Tarbat Discovery Programme*. (York: Archaeology Data Service, 2017), pp. cii – clxvii (pp. cii – cx), <DOI: <https://doi.org/10.5284/1031216>>, [Accessed: 11 April 2020], for more information on the comparative Scottish sites.

⁵⁶ See Martin Carver, *Portmahomack: Monastery of the Picts*. (Edinburgh: Edinburgh University Press, 2008), pp. 136 – 148, for more information on Tarbat Old Church.

⁵⁷ See Mark Redknap, *Vikings in Wales: An Archaeological Quest*. (Cardiff: National Museums & Galleries of Wales, 2000), pp. 40 – 45, for more information on Llanbedrgoch.

⁵⁸ Ibn Fadlān, Ibn Fadlān and the Land of Darkness, p. 45.

⁵⁹ Alcuin, *Alcuin’s Letter to Æthelred*, pp. 775 – 777.

⁶⁰ Alcuin, ‘*The Life of Willibrord*’, pp. 191 – 192.

Chapter 1: Build – ‘As Tall as Palm Trees’⁶¹

The first concept of the modern Viking stereotype to be examined is that they were a huge, gigantic people, and although the written record of their heights is on an individual basis, rather than referring to all Norsemen, the concept has been applied to all Scandinavians from this era. Our main contemporary account for their stature comes from a Frankish, rather than a British source, but can still be applied to this study due to various connecting factors. The source in question is the *Annals of Fulda*, and more specifically its entry for the year AD 884, which details the events of a battle in Saxony between the Norsemen and the Franks.⁶²

In that battle, such men are said to have been killed among the Northmen as had never been seen before among the Frankish people namely in their beauty and the size of their bodies.⁶³

The fact that the annal refers to the height of the Vikings is testament to the unusualness of it, as if the Norsemen were the same height as those they fought against, then the need to comment on their stature would be pointless. Not only this, but the battle is even referred to in the *Anglo-Saxon Chronicle*, which states ‘a great pirate host assembled among the Old Saxons, and great battles took place there, twice in the year, and the Saxons were victorious’, and potentially implies the origin of this force.⁶⁴ During the year AD 879, the chronicle states that a ‘host [of Vikings] which had occupied Fulham went oversea to Ghent in the land of the Franks’, and continues to follow its path around the various Frankish river systems, before in AD 884, stating ‘the above-mentioned host separated into two, one part went east and the other part to Rochester’.⁶⁵ Of interest here is that half the force went east of the territories

⁶¹ Ibn Fadlān, *Ibn Fadlān and the Land of Darkness*, p. 45.

⁶² Simon Coupland, ‘The Vikings on the Continent in Myth and History’, *History: The Journal of the Historical Association*, 88.2 (2003), pp. 186 – 203 (pp. 188 – 189).

⁶³ *Annals of Fulda*, pp. 15 – 142.

⁶⁴ *ASC*, p. 78.

⁶⁵ *ibid.*, pp. 76 – 78.

around Ghent, towards the area of Saxony where this battle occurred. This could potentially suggest, especially since a specifically British source makes reference to continental events, that at least part of the Viking force that attacked Saxony in AD 884 had originally been at Fulham.⁶⁶ Even if this is not the case, the *Annals of Fulda*'s account of Scandinavian stature can still be used since Old Saxony, where the battle took place, was the original homeland of the Saxon populations who migrated into England,⁶⁷ and since the *Anglo-Saxon Chronicle* states that it was the Saxons who were victorious, it can be assumed that some ethnic Saxons were likely part of the Frankish army.⁶⁸ As such, this indicates that Saxons were among those admiring the large stature of the Vikings meaning that this written account can be applied to the Saxons who inhabited England.

The first site that will be analysed is Sigtuna in eastern Sweden, where both methods for estimating stature were used, although as the favoured method for this dissertation is Sjøvold's, the measurements gathered from his equation will be presented.⁶⁹ In this regard, the average heights for the Viking Age inhabitants of Sigtuna were 173cm for males and 166cm for females. These measurements were taken from 47 and 15 individuals respectively, and there is an approximate range in height of 23cm for both genders.⁷⁰ Due to the quantity of individuals studied, and the fact that there will always be variation in how tall people are, as no set population is all the same height, an average stature was found and will be used regarding sites containing multiple pieces of evidence.⁷¹

⁶⁶ John Haywood, *The Penguin Historical Atlas of the Vikings*. (London: Penguin Books, 1995), pp. 64 – 65.

⁶⁷ Waldman and Mason, *Encyclopaedia of European Peoples*, pp. 21 – 26.

⁶⁸ Jennifer R. Davis, *Charlemagne's Practice of Empire*. (Cambridge: Cambridge University Press, 2015), pp. 100 – 102.

⁶⁹ Kjellström, Tesch, and Wikström, 'Inhabitants of a Sacred Townscape', pp. 87 – 92.

⁷⁰ *ibid.*

⁷¹ Arcini, *The Viking Age*, pp. 53 – 57.

Unsurprisingly, similar measurements of stature are present elsewhere in Sweden, as seen by the analysis of 595 individuals taken from seven of the eight sites used in Arcini's study (See Figure 3).⁷² Based on this assessment, the average height of a Scandinavian male from the period was just over 172cm tall, which is almost identical to the male measurements present at Sigtuna, while for females, it was 160cm, slightly shorter than their counterparts from the beforementioned site. Furthermore, the range in height is also greater than it was at Sigtuna, with an approximate range of 40cm and 30cm respectively for males and females. The reasoning for this variation is unclear, but an individual's living conditions can impact their

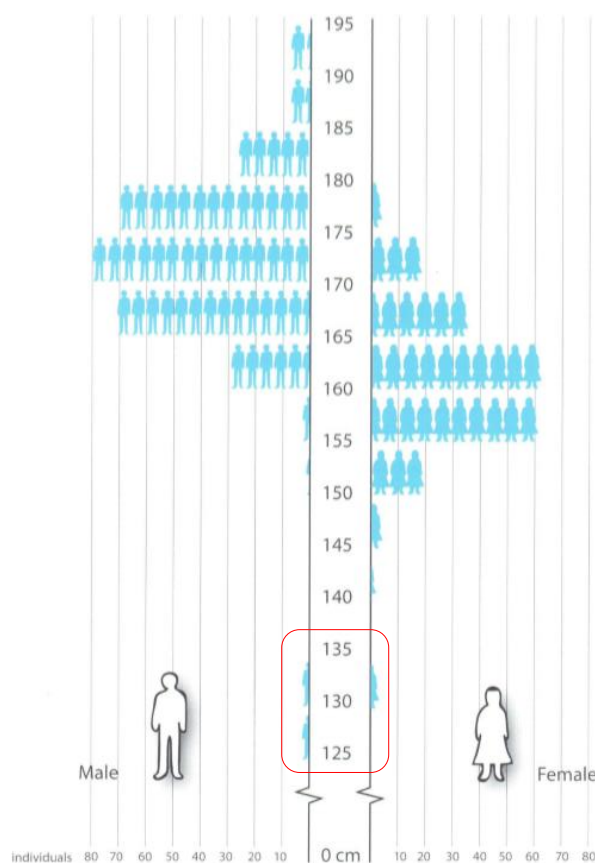


Figure 3: Graph showing heights of the 595 individuals from the Swedish sites studied by Arcini. Highlighted individuals represent the three sufferers of dwarfism, who will be discussed later. Taken from Arcini, *The Viking Age*, pp. 56 – 66

stature, so the taller and more regular heights from Sigtuna could indicate a better standard of living. From this, it could be claimed that the inhabitants of Gotland had the best living conditions considering that the men and women from here seem to support the contemporary accounts of giant Vikings, however, hereditary factors are also important in explaining variations in stature so we cannot comment on the living conditions of these sites in this instance.⁷³

⁷² Arcini, *The Viking Age*, pp. 5 – 57.

⁷³ *ibid.*, pp. 56 – 57.

Moving west to Norway, the ship burial of Gokstad can also provide information on Scandinavian stature, as the individual buried here was about 190cm tall, a size that is even large compared to other Vikings.⁷⁴ This individual's stature likely has something to do with their status, especially since they had an entire ship to themselves and were buried with an assortment of luxurious grave goods, indicating that they were of a high status.⁷⁵ However, this is only one individual clearly from a very well off up-bringing, and as such, the measurements, although useful, cannot be applied to all Scandinavians.

Although one of the two graves at Hríngsdalur on the Norse settlement of Iceland, which was occupied by the Vikings from the AD 860's,⁷⁶ was badly preserved, a total of 59 pieces of human bone were discovered, and upon analysis, it was concluded that they all belonged to the same skeleton. These remains were of a 25 – 40-year-old female who, using Trotter's stature estimates, was about 159cm tall. Similarly, the second burial contained the osteological remains of a 35 – 45-year-old male, who was approximately 163cm – 171cm tall.⁷⁷ The heights of these two individuals are shorter than their mainland Scandinavian counterparts, which could be explained by a lack of access to necessary resources as they are on an island, however, the male grave also contained a sword, spear head, and shield boss, all items of value and suggests the individual was of a relatively high social status.⁷⁸ If this is the case, then the idea that a lack of resources was the cause of their smaller stature is questionable.⁷⁹

⁷⁴ Jacob Heiberg, 'The Human Bones Found in the Gokstad-Ship', in Nicolay Nicolaysen, (ed.) *The Viking Ship Discovered at Gokstad in Norway: Described by N. Nicolaysen*. (Christiania: Alb. Cammermeyer, 1882), pp. 72 – 76.

⁷⁵ Nicolaysen, *The Viking Ship Discovered at Gokstad in Norway*, pp. 1 – 63.

⁷⁶ John Haywood, *Northmen: The Viking Saga 793 – 1241*. 2nd edition. (London: Head of Zeus Ltd, 2016), pp. 213 – 218.

⁷⁷ Adolf Friðriksson, et al. 'Hríngsdalur í Arnarfirði', *Archaeological Survey 2006: FS413-06441*, Reykjavík: Archaeological Institute of Iceland (2010), pp. 1 – 28 (pp. 9 – 28), <<https://www.nabohome.org/cgi-bin/explore.pl?seq=99>> [Accessed: 18 April 2020].

⁷⁸ *ibid.*, pp. 14 – 28, [Accessed: 18 April 2020].

⁷⁹ Arcini, *The Viking Age*, pp. 56 – 57.

Finally, three of the seven individuals at Salme were over the age of 30, while the other four were under this threshold, and their statures' could be determined using the long bone analysis proposed by Trotter and Gleser.⁸⁰ In this regard, the statures of six of the seven individuals could be ascertained, ranging between 176cm and 183cm tall. Even the smallest individual from Salme is taller than the average Scandinavian, which could suggest something about those who ventured out to the Scandinavian frontier.⁸¹

As evident, most Northmen on average were around 172cm tall, or 160cm for females, although there are plenty of examples demonstrating the variation in this stature. This could be due to a higher social status being able to afford a better standard of living, or simply hereditary factors.⁸² The finds from the Scandinavian frontier potentially indicate that those who were taller were those who travelled, however an analysis of other international sites is necessary to further explore this idea, as well as to demonstrate whether or not the Vikings were taller than their contemporaries, as some sources suggest.⁸³

The first site that contains archaeological and osteological evidence regarding the stature of Scandinavians in Britain is that of Repton in Derbyshire, where to the north-west of the church building lies Grave 511, home to a large Scandinavian male. This individual was around 35 – 45-years-old, approximately 181cm tall and had a very robust physique, an indicator that he was not averse to physical tasks. Furthermore, he was also buried with a sword at his left side, which in conjunction with his robusticity suggests he was a warrior, an unsurprising claim considering he was part of an invading force. Likewise, the owner of Grave 295 was interred just after Grave 511 and contained the remains of a young man of

⁸⁰ Allmäe, Maldre, and Tomek, 'The Salme I Ship Burial', pp. 109 – 124.

⁸¹ *ibid.*

⁸² Arcini, *The Viking Age*, pp. 56 – 57.

⁸³ Allmäe, Maldre, and Tomek, 'The Salme I Ship Burial', pp. 109 – 124.

similar proportions to his neighbour, falling in at 179cm tall. The locality, both in terms of time and placement, of these two graves suggests that they may be connected, possibly with the younger man being a weapon-bearer to his older companion.⁸⁴ Furthermore, there are other burials within the vicinity of these graves that also demonstrate similar statures, with Grave 529 containing a male 177cm tall, while to the south of the church, a double burial containing Graves 83 and 84 holds a 50-year-old man and his younger companion, both of whom are 178cm tall.⁸⁵ Based upon this small sample, there does seem to be a significant difference in height between those who remained in Scandinavia and those who ventured afield as warriors, however, a greater sample must be ascertained before this idea can be concluded.

As such, the mound to the west of Repton will be analysed, as it contains the disarticulated remains of at least 264 Scandinavian individuals. It is the eastern of the two burial chambers that contained these remains, with it also being the location of where the central skeleton, who was rumoured to be over 274cm tall, was believed to be, however, this individual was lost when the site was originally accessed two or three centuries prior.⁸⁶ Despite this, the heights of the 264 individuals present in the mound, 82% of which were male while 18% were female, can be established using the length of their long bones. In this regard, the average stature for the males in this mound was 176cm, with the shortest man being 167cm and the tallest was 194cm, while for females, the shortest was 151cm while the tallest was 166cm, with an average female stature of 159cm tall.⁸⁷ As is evident here, there definitely does seem to be a bias towards taller males being those Scandinavians who left their homeland to fight for fame and fortune, which could explain why contemporary sources

⁸⁴ Biddle, and Kjølbye-Biddle, 'Repton and the 'Great Heathen Army'', pp. 45 – 67.

⁸⁵ *ibid.*, pp. 56 – 67.

⁸⁶ *ibid.*, pp. 68 – 72.

⁸⁷ *ibid.*, pp. 68 – 75.

depict the Vikings as tall warriors. However, there does not seem to be any difference regarding female height between those in Britain and those who remained in Scandinavia.⁸⁸

This latter concept is further demonstrated by the female burial at Kneep, who was aged between 35 and 40-years-old and her stature was about 160cm tall using Trotter and Gleser's methodology. This is the average for a female from Scandinavia, demonstrating that there does not seem to have been any difference in height regarding those females who left their homeland, either by themselves or in conjunction with a greater cause, and those who remained behind.⁸⁹

Now that the stature of Scandinavians, both those who remained in their homeland and those who ventured to Britain, is complete, an analysis of native British stature must be undertaken in order to assess the validity of the contemporary sources that suggest the Vikings were huge.⁹⁰

The first British site that will be examined is the Anglo-Saxon graves from Repton, before the Danes fortified the site and desecrated the graveyards of the Church. Due to this, only statures of individuals discovered in Cemetery 3 can be ascertained, as osteology dating to the earlier cemeteries is poorly preserved. As such, the long bones of the 216 adults that make up Cemetery 3 were used to estimate Anglo-Saxon stature, with the average heights calculated being 173cm and 158cm for males and females respectively.⁹¹ As is evident here, the Anglo-Saxon males present at Repton were shorter than the Scandinavians they came into contact with, which supports the beforementioned contemporary scholarship on the subject of

⁸⁸ Arcini, *The Viking Age*, pp. 54 – 60.

⁸⁹ Mary Harman, 'The Human Skeleton', in R.D.E. Welander, Colleen E. Batey, and T.G. Cowie, 'A Viking Burial from Kneep, Uig, Isle of Lewis', *Proceedings of the Society of Antiquaries of Scotland*, 117 (1987), pp. 149 – 174 (p. 153).

⁹⁰ *Annals of Fulda*, pp. 15 – 142.

⁹¹ Biddle, and Kjølbye-Biddle, 'Repton and the 'Great Heathen Army'', pp. 68 – 75.

height. However, this only seems to be the case regarding these Viking warriors at Repton, as these Anglo-Saxons would be considered taller than average if compared with the contemporary populations within Scandinavia itself.⁹² As such, other Anglo-Saxon burials need to be examined before a conclusion can be made as to whether the Vikings were taller than the native British.

Osteological evidence from Tarbat Old Church at Portmahomack, in the northern reaches of Scotland, will also be examined to establish the heights of its inhabitants, with Trotter's beforementioned method being used in conjunction with the lengths of the femur and tibia to estimate the statures of 53 individuals. Of these, 48 were male, whose mean height was 170cm tall and had a range of about 16cm, while the remaining 5 individuals were female and had a mean height of 160cm with a range of just over half that of the males.⁹³ As is evident here, the individuals from Portmahomack were slightly shorter than their contemporaries across the North Sea, although only by a centimetre or two, instead of the vast difference in height that would explain the depictions within contemporary sources.

⁹² Arcini, *The Viking Age*, pp. 54 – 60.

⁹³ King, 'Human Bone Report', pp. cii – cx, [Accessed: 11 April 2020].

Continuing from this, based on the adult males present at Edix Hill, the average stature of an early Anglo-Saxon man was about 169cm, with a shortest male at the site being 151cm while his opposite was 184cm tall. In contrast, the female average at the site is 163cm tall with the shortest being 12cm below the average while her counterpart was 8cm above it.⁹⁴ As is evident here, early Anglo-Saxon men were about 3cm shorter than their Scandinavian counterparts, while female Anglo-Saxons seem to have been about 3cm taller than their near contemporaries, which is interesting regarding the legitimacy of the contemporary sources. Although Anglo-Saxon females seem to be taller than Viking women, which brings into doubt contemporary accounts of the Northmen, the majority of these accounts were written from a male perspective and as such, the accounts of the greater stature of the Danes than the Anglo-Saxons seems to be valid.⁹⁵

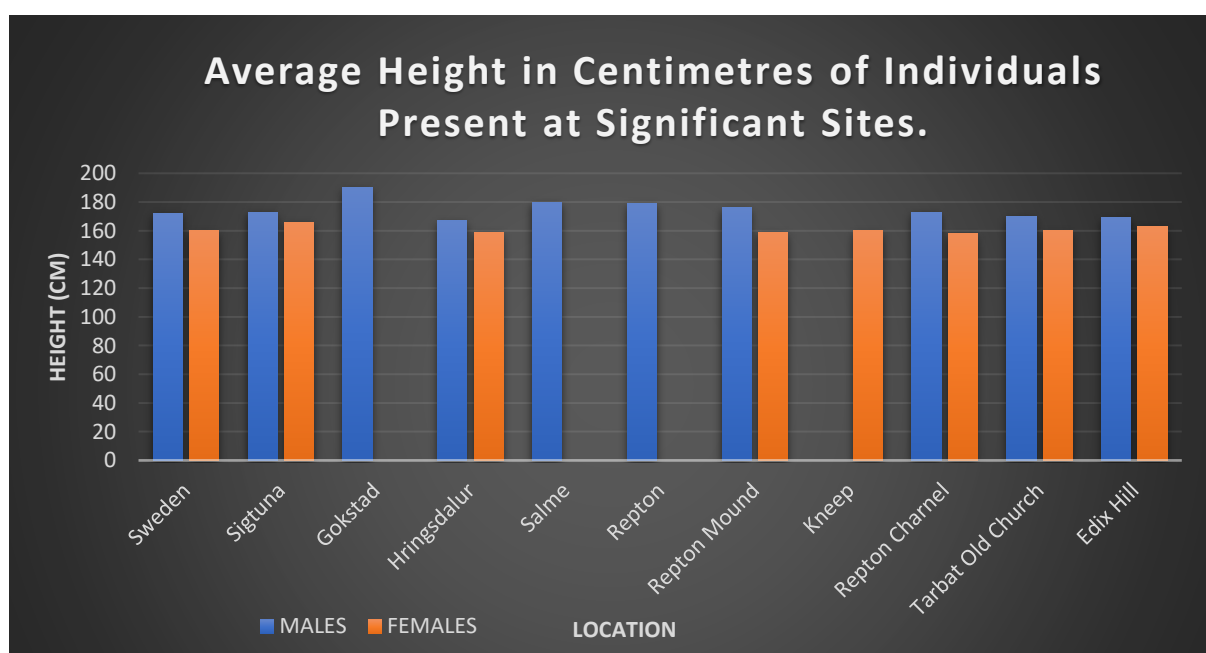


Figure 4: Graph demonstrating the mean height from the assessed sites in order to clearly show the height difference between the Vikings in Scandinavia, in Britain, and the natives of Britain. Created by Matthew Cowley using the data analysed above from the beforementioned sites and using the references for said sites.

⁹⁴ Corinne Duhig, 'The Human Skeletal Material' in Tim Malim, and John Hines (ed.), *The Anglo-Saxon Cemetery at Edix Hill (Barrington A), Cambridgeshire: Excavations 1989–1991 and a summary catalogue of material from 19th century interventions*. (York: Council for British Archaeology, 1998) pp. 156 – 166.

⁹⁵ Dougherty, *The Golden Age of the Vikings*, p. 8.

Overall, this chapter has demonstrated that on average, Scandinavians were slightly taller than their contemporaries, as seen with the comparison between the Swedish sites and Tarbat Old Church, as the contemporary accounts indicate (See Figure 4).⁹⁶ Also there does seem to have been a slight bias towards taller individuals leaving Scandinavia and travelling to the British Isles. However, there is evidence that Anglo-Saxon warriors were of a similar stature to those present in Scandinavia, although this is a comparison between a specific warrior group and the average farmer, and when the Anglo-Saxon warriors' stature is compared to that of Viking warriors, it is clear that the Norsemen are still taller and as such, the contemporary accounts regarding the build of the Vikings seem to be accurate.⁹⁷

⁹⁶ Arcini, *The Viking Age*, pp. 54 – 60.

⁹⁷ *Annals of Fulda*, pp. 15 – 142.

Chapter 2: Brutality – ‘Splattered with the Blood of the Priests of God’⁹⁸

Of all the characteristics belonging to the modern-day Viking stereotype, the most famous is their love of pillaging, raping, and murdering. This view is based upon countless contemporary accounts detailing the savagery that these sea-born raiders used against the peaceful inhabitants of many of Britain’s religious houses. For example, one of the most referenced raids talked about in both modern and contemporary sources is that of Lindisfarne in AD 793,⁹⁹ which the *Anglo-Saxon Chronicle* describes as ‘the harrying of the heathen[s][who] miserably destroyed God’s church in Lindisfarne by rapine and slaughter’,¹⁰⁰ while Alcuin of York, who sent letters to the Northumbrian King and Bishop Higbald of Lindisfarne in response to this raid, describes ‘the church of St. Cuthbert [being] splattered with the blood of the priests of God’,¹⁰¹ and that:

The pagans have desecrated God’s sanctuary.... shed the blood of saints around the alter, laid waste the house of our hope and trampled the bodies of the saints like dung in the street.¹⁰²

It is clear from the language used in these accounts of the raw emotion and unprecedented violence that British contemporaries felt the monks of Lindisfarne were subjected to, with all three accounts depicting an image of unimaginable bloodshed, whereby very little care was taken over who and what was killed. This imagery of an excessive bloodlust is expected from demonic beings, not from men from across the North Sea, however, this is exactly how some contemporary scholars viewed this attack. In Alcuin’s letter to Higbert, he chastises the

⁹⁸ Alcuin, *Alcuin’s Letter to Æthelred*, pp. 775 – 777.

⁹⁹ Williams, *Viking Britain*, pp. 1 – 32.

¹⁰⁰ ASC, p. 57.

¹⁰¹ Alcuin, *Alcuin’s Letter to Æthelred*, pp. 775 – 777.

¹⁰² Alcuin of York, *Alcuin’s Letter to Bishop Higbald*, c. 793, in Dorothy Whitelock, *English Historical Documents: Volume. 1 c. 500 – 1042*, 2nd edition. (Abingdon: Routledge, 1979), p. 778.

Bishop and his monks, stating that this attack should have been expected as punishment from the Divine for their sub-par performance,¹⁰³ while in his other letter, Alcuin claims ‘that from the north there will come upon our nation retribution in blood, which can be seen to have started with this attack’.¹⁰⁴ As evident, the horror and savagery of this initial raid was viewed as a type of divine retribution, which clearly terrified members of the Christian faith.¹⁰⁵ This was even to the extent that Christian scholars writing 200 years later still referenced the barbarity of these Norsemen at Lindisfarne, with Simeon of Durham, an Eleventh-Century monk, stating that:

They came, as we before said, to the church of Lindisfarne, and laid all waste with dreadful havoc, trod with unhallowed feet the holy places, dug up the alters, and carried off all the treasures of the holy church. Some of the brethren they killed; some they carried off in chains; many they cast out, naked and loaded with insults; some they drowned in the sea.¹⁰⁶

Simeon’s account again demonstrates the violence and lack of respect that the Norsemen had for the monastery and its inhabitants, and the fact that this raid has resonated down through the ages is further testament to the unprecedented brutality that the Vikings used in the eyes of their contemporaries. If we take these accounts at face value, then it is clear to see how and why the excessively violent nature of the Vikings has become their stereotype’s most dominant characteristic. However, it is important to assess how valid these sources are using osteological and archaeological evidence, and to begin with, we will establish a base point by analysing evidence of violence from Scandinavian sites.¹⁰⁷

¹⁰³ Alcuin, *Alcuin’s Letter to Bishop Hgbald*, p. 778.

¹⁰⁴ Alcuin, *Alcuin’s Letter to Æthelred*, pp. 775 – 777.

¹⁰⁵ Ben Hubbard, *Warriors of the Viking World: The Seafaring Raiders and Explorers who Terrorised Europe for Centuries*. 2nd edition. (London: Amber Books Ltd, 2018), 96 – 98.

¹⁰⁶ Simeon of Durham, *The Historical Works of Simeon of Durham*, p. 457.

¹⁰⁷ Hubbard, *Warriors of the Viking World*, pp. 91 – 146.

Before we begin, it is important to clarify that skeletal trauma does not necessarily indicate violence, as evidence of injury, either unhealed or healed, can simply be a result of an accident from everyday life.¹⁰⁸ Only weapon wounds can definitively indicate brutality and can be split into two main categories; damage caused by a sharp edge, such as from a blade, and damage resulting in impression fractures from blunted instruments. It is the latter of these two forms of damage that are the most frequent at our sites, however, these are also the injuries that are more likely to be a result of an accident, as an individual is more likely to have tripped and knocked their head than fell and cut themselves on a sword.¹⁰⁹

The first site that will be examined is Sigtuna in eastern Sweden, where about 7% of the 207 individuals analysed from Phase 1, AD 980 – AD 1200, contained evidence of conclusive violence in the form of weapon wounds. Although 7% may not seem like a high percentage in this regard, only 2% of the burials from the later medieval graves of Phase 2, AD 1100 to AD 1300, contain clear evidence of weapon wounds, which supports the idea that the Vikings were quite violent, just maybe not to the extent suggested by contemporary British scholars.¹¹⁰ Despite this, it is also important to consider other forms of trauma, as these may still indicate violence, just not as in a clear-cut manner as weapon wounds. For instance, Hubbard suggests that wounds to the lower legs and head were very common during the period, due to the dimensions of Viking Age shields and Scandinavian combat techniques.¹¹¹ If we account for this, then the evidence of violence present during Phase 1 at Sigtuna increases to about 10%, however, it also increases the evidence of violence during Phase 2 to 15%. This indicates that Scandinavia in the later High Medieval Period was potentially more violent than it was in the Viking Age, an idea contrary to popular belief.¹¹²

¹⁰⁸ Arcini, *The Viking Age*, pp. 60 – 64.

¹⁰⁹ *ibid.*, pp. 60 – 70.

¹¹⁰ Kjellström, Tesch, and Wikström, 'Inhabitants of a Sacred Townscape', pp. 87 – 92.

¹¹¹ Hubbard, *Warriors of the Viking World*, p. 146.

¹¹² Kjellström, Tesch, and Wikström, 'Inhabitants of a Sacred Townscape', pp. 98 – 106.

This idea is further reinforced by skeletal evidence from Trinitatis in southern Sweden where, between the end of the Tenth and Twelfth Centuries, only 1% of individuals examined contained damage to the skull that can be attributed to a weapon. However, during the High Medieval Era, around AD 1100 to AD 1300, evidence of sharp weapon damage to the skull has increased six-fold, with 6% of males and 2% of females exhibiting cranial damage from a sharp weapon.¹¹³ Again, this indicates that the Viking era was a less violent time to be in Scandinavia than following the turn of the millennium. Similarly, this can also be applied to osteological evidence of fractures or other injuries resulting from blunt force damage, with 5% of individuals dating to the earlier period showing signs of fractures, compared to 12% and 8% for males and females in the later period respectively. However, as has already been discussed, it is unclear whether these impression fractures are a result of violence or a by-product of an accident. Either way though, the cranial evidence from the Viking era demonstrates the violence that occurred in Scandinavian society, and how it compared to the levels of violence in the later Middle Ages.¹¹⁴

The final site of interest is that of Kopparsvik on Gotland, where two of the 242 men present exhibited clear evidence of violence. The first of these is the inhabitant of Grave 154, who suffered a fatal 11cm long incision to his skull, the size and severity of which, as well as healed fractures on his ribs and collar bone, all indicate that this individual was not averse to violence. The second of these two individuals is another tall man discovered in Grave 4, who had suffered slashing blows to his right femur and tibia, before another slash to the right side of his mandible finished him off.¹¹⁵ Again, the inhabitant of Grave 4 at Kopparsvik demonstrates osteological evidence of violence, as not only is there damage to the individual's head, but as Hubbard's claim suggests, there is also damage to their legs which

¹¹³ Arcini, *The Viking Age*, pp. 60 – 61.

¹¹⁴ *ibid.*

¹¹⁵ *ibid.*, p. 63.

was one of the most common areas on the body to show signs of violence during the Viking Age.¹¹⁶

Most of the osteological evidence from Scandinavia shows that the Vikings were not an excessively brutal people, despite some evidence of devastating blows at Kopparsvik. However, this is only in 1% of those present at the site, and the evidence from Sigtuna and Trinitatis demonstrate that Scandinavia during the medieval period was more violent than it was in the Viking Age.¹¹⁷ Although it seems that Viking Scandinavia was not overly violent, it is important to examine sites within the British Isles to establish whether they were excessively violent to foreigners, as contemporary sources suggest.

The first British site that we will examine is that of Tarbat Old Church at Portmahomack, which was raided by the Vikings around AD 800, as is evident by the deposits of burnt material and the destruction of stone crosses, indicating that the church was engulfed in flames, ransacked and ravaged, all of which are signs of a Norse incursion.¹¹⁸ Of the burials that date to this event, only two individuals contain evidence of clear violence in the form of weapon wounds.¹¹⁹ The first of these is a 30-year-old male from Grave 152, who exhibits three sharp wounds to his skull which are likely a result of a sword. The first of these cuts is a 7.2cm long incision running along the back-portion of the top half of the skull, and has fractures radiating from either end of the wound, demonstrating the force used in the blow. Not only this, but the second of these wounds also produced radiating fractures, while the final one is a 4cm long cut to the back left of the skull. The positioning of the latter two wounds suggests that this individual was attacked from behind, which would be in line with a

¹¹⁶ Hubbard, *Warriors of the Viking World*, p. 146.

¹¹⁷ Arcini, *The Viking Age*, pp. 63 – 64.

¹¹⁸ Carver, *Portmahomack*, pp. 198 – 200.

¹¹⁹ *ibid.*, pp. 136 – 148.

surprise Viking raid, while the fact that the first wound is located nearer the crown of the head suggests that this individual was in a position lower to that of his assailant, a possible indicator that he had fallen in his attempt to escape before being struck the killing blow.¹²⁰ This burial contrasts with the second individual showing weapon wounds, in that their injuries had healed, meaning they did not succumb to them. This elderly man, the inhabitant of Grave 158, had suffered two blows to the top left side of his skull, one 4.6cm long by 1.2cm wide, while the other was shorter and thinner at 3cm long by 1cm wide. As mentioned, despite the thickness of these incisions, and the linear angle of the blows indicating he was facing his attacker when struck: this individual escaped death on this occasion and seemingly went on to live a relatively long life.¹²¹ Although these examples display evidence of brutality, it is at a relatively low level, and more graves containing weapon wounds would be expected if the violence was to the same extent suggested by contemporary sources.

At Llambedrgoch, two of the five individuals seem to have been bound before their deaths due to the placement of their arms. The first of these was a man in his late twenties, who had been thrown atop the teenage male that shared his grave, while the second man, aged between 35 and 45-years-old, was buried individually in a face down position. Both men seem to have had their wrists tied together, meaning that they were defenceless when they were eventually killed, with the former suffering a sharp blow to his left eye, and both instances demonstrate that little care was taken over their burials.¹²² The fact these individuals were restrained prior to their death indicates that they had likely been subdued, bound unwillingly, and then executed by their assailants, all signs of premeditated violence. This demonstrates an instance of Viking brutality as all five bodies were positioned in a north-south alignment, indicating

¹²⁰ King, 'Human Bone Report', pp. cxxxviii – cxxxix, [Accessed: 11 April 2020].

¹²¹ *ibid.*

¹²² Mark Redknap, 'Viking-age Settlement in Wales: Some Recent Advances', *Transactions of the Honourable Society of Cymmrodorion*, 12 (2006), pp. 5 – 35 (pp. 18 – 28).

that those who buried them were unfamiliar with Christian burial practices, a concept in line with pagan Northmen, and Anglesey was prone to Norse activity in the form of raiding and trading, due to its geographical and political location as part of the larger Hiberno-Norse world, with there even being evidence of a possible Scandinavian conquest of Llambedrgoch, so it is likely that these individuals were a result of said conquest.¹²³

As evident, there are instances of violence against the natives of the British Isles at the hands of the Vikings, however, to the extent suggested by contemporary sources is questionable. That said, if a culture is not a violent one, then any level of violence may be excessive from their point of view. As such, examples of British violence must be analysed before a conclusion can be reached regarding the validity of contemporary British sources.

This analysis will take the form of brutality against the inhabitants of Scandinavia, and the most comprehensive example of this is the St Brice's Day Massacre in AD 1002. This was a royal decree by King Æthelred that stated, according to Henry of Huntingdon, that 'all the Danes who were living peacefully in England [were] to be put to death on the same day' by either fire or sword.¹²⁴ This is an instance of a mass extermination of a specific group, who can be identified via isotopic analysis, with the backing of the head of state, a concept that depicts unexpected brutality and violence on the part of the Anglo-Saxons.¹²⁵

At St John's College, a minimum of 106 wounds have been recorded on the osteological remains of all 37 individuals, which equates to a minimum of three wounds per person, 40 of which were present on skulls. These wounds can be split into three categories relating to their

¹²³ Redknap, *Vikings in Wales*, pp. 5 – 94.

¹²⁴ Henry of Huntingdon, *The History of the English People 1000 – 1154*, ed. and trans. D. Greenway, 2nd edition. (Oxford, 2002), p. 7.

¹²⁵ Pollard, et al. 'Sprouting Like Cockle Amongst the Wheat', pp. 83 – 84.

believed cause, with blade wounds, from swords or axes, being the most common and to the extent that a dismembered hand was discovered, puncture wounds from spear strikes, and finally projectile wounds caused by arrows loosed from bows, demonstrating the range of weaponry used for this act of violence.¹²⁶ Furthermore, the location of the wounds on these remains is a big indicator to who they were and how they were attacked, with almost half of all blows recorded being located on the backs of these individuals, suggesting that they were facing away from their assailants.¹²⁷ This, combined with the quantity and types of wounds present, is a hugely important indicator of the brutality that these individuals were subjected too, in that the most common wounds were those caused by close range weapons from behind, suggesting that the Danes were surprised by this attack, defenceless, and attempted to flee, which is likely when longer range weapons came into play. What the osteological evidence describes here is something you would expect to witness as a result of a Viking raid, based on contemporary accounts, not of the savage brutality that the Vikings were subjected to at the hands of the native British, however, that is what the excavations at St John's College demonstrate.¹²⁸

Likewise, the remains of 52 decapitated males, ranging in age from adolescence to adulthood, were discovered at Ridgeway Hill in Weymouth, with the skulls piled up at the southern side of the grave while the corpses had been thrown into the pit with little regard to their placement or well-being. Of these skulls, 39 of them displayed evidence of sharp blade trauma that occurred peri-mortem, and over half of all these cranial wounds came from

¹²⁶ Thames Valley Archaeological Service, *St John's College, Oxford: Phase 3 – Mass Burial, TVAS Kendrew Quadrangle Excavations January – August 2008* (Reading: Thames Valley Archaeological Service, 2008), pp. Hacked, Stabbed, and Shot – Patterns of Violence, <<http://tvas.co.uk/resources.html>> [Accessed: 28 March 2020].

¹²⁷ *ibid.*, p. Hacked, Stabbed, and Shot [Accessed: 22 April 2020].

¹²⁸ *ibid.*, pp. Hacked, Stabbed, and Shot – Conclusions [Accessed: 28 March 2020].

behind, providing further evidence of decapitation.¹²⁹ However, there are also instances of weapon wounds not associated with this act, such as Skull 3738, which has suffered no less than four significantly brutal wounds prior to the individual's death. Two of these wounds were a result of glancing blows that scratched



Figure 5: Images of 6.9cm by 4.6cm wound on Skull 3738. Top Left – photo taken from left side of skull. Top Right – photo taken from front on. Bottom Left – photo taken from supero-lateral view. Bottom Right – photo taken from above. All images taken from Loe, et al. *'Given to the Ground'*, p. 75.

the right side of the skull, while the third injury is a depression located below the previous two blows. However, the most devastating of these wounds was the removal of a relatively large slab of bone, approximately 6.9cm by 4.6cm, taken from the left side of the cranium, that likely killed, or at the very least incapacitated, this unfortunate victim (See Figure 5). The size of this final wound demonstrates the pure brutality that the Norsemen were subjected to as this cut not only penetrated bone, both entering and exiting the skull, but also likely cleaved off a portion of the brain and produced radiating fractures.¹³⁰ Furthermore, around 68% of the corpses displayed at least one piece of sharp trauma evidence, excluding cranial damage, with 76 wounds being shared between the 27 individuals who depict peri-mortem trauma, which averages out at approximately three wounds per person, a very similar average to that demonstrated by the St John's College finds.¹³¹ As is evident here, the osteological data from the site, in the form of evidence of a brutal execution via beheading, clearly

¹²⁹ Loe, et al. *'Given to the Ground'*, pp. 1 – 72.

¹³⁰ *ibid.*, pp. 70 – 80.

¹³¹ *ibid.*, pp. 75 – 133.

demonstrates the violence that the Vikings were forced to endure at the hands of the Anglo-Saxons.¹³²

Overall, this chapter has demonstrated that although contemporary British sources depict the Vikings as savages, whose only aim was to terrorise the native populations of Britain through raping, murdering, and pillaging, the osteological and archaeological evidence suggests a different story leading to a questioning of the contemporary sources. The analysis of Scandinavian sites demonstrated that the Norsemen were not as violent as the sources indicate, and osteology present at British sites displayed both the violence by and against the Danes. This all indicates that this was quite a violent period in history and the Vikings were no more brutal than their contemporaries.¹³³

¹³² Loe, et al. *'Given to the Ground'*, pp. 211 – 235.

¹³³ Peter Sawyer, 'The Viking Legacy', in Peter Sawyer (ed.), *The Oxford Illustrated History of the Vikings*. (Oxford: Oxford University Press, 1997), pp. 250 – 251.

Chapter 3: Barbarism – ‘More Savage than any Wild Beast’ ¹³⁴

Finally, another common aspect of the Viking stereotype, influenced by various contemporary sources, is that they were a ruthless barbaric people, who had little respect for anyone or anything. This view originates from the Classical Era, where there was a polarised view of the world, with the cultured Mediterranean south being warm, bright, and dry, while the savage north was dark, cold, and inhospitable. Although this era ended with the collapse of the Roman Empire, this ideology continued through to its successor states, and as such is evident in contemporary sources, such as missionary accounts, regarding the inhabitants of Scandinavia.¹³⁵ For example, the life of the Northumbrian monk Willibrord details an encounter with the king of Denmark.¹³⁶

So when the man of God [Willibrord] saw that his efforts were of no avail he turned his missionary course towards the fierce tribes of the Danes. At that time, so we are told, the Danish ruler was Ongendus, a man more savage than any wild beast and harder than stone.¹³⁷

The use of animalistic terminology exemplifies the view of contemporary scholars that the people of Scandinavia were wild, unkempt, and beast-like. Not only this, but it also indicates something regarding the contemporary view of the pagan mentality, in that animals are seen to only focus on their basic bodily desires, so by linking the Danes to animals, it suggests that they are a backward, uneducated, and unenlightened people.¹³⁸

This idea is further demonstrated in the biography of Archbishop Ansgar of Bremen-Hamburg, which states that Ansgar left his home ‘to visit the foreign nations and hold intercourse with unknown and barbarous peoples’, and establish a bishopric ‘from which all

¹³⁴ Alcuin, ‘*The Life of Willibrord*’, pp. 191 – 192

¹³⁵ Chartrand, et al. *The Vikings*, p. 12.

¹³⁶ Alcuin, ‘*The Life of Willibrord*’, pp. 191 – 192.

¹³⁷ *ibid.*

¹³⁸ Owen Davies, *Paganism: A Very Short Introduction*. (Oxford: Oxford University Press, 2011), pp. 1 – 64.

these barbarous nations might easily and profitably receive the sacraments of the divine mystery'.¹³⁹ These extracts indicate a univocal link in the eyes of contemporary scholars between barbarity and paganism, so those who are not known to follow the Christian faith are seen as uneducated and uncivilised.¹⁴⁰ This concept can subsequently be applied to British contemporary sources, with many of them, including the works of Alcuin and the *Anglo-Saxon Chronicle*,¹⁴¹ using terminology such as 'heathen' or 'pagan' to describe the Vikings.¹⁴² As such, it is clear from all of these examples that barbarity is synonymous with a lack of faith in the minds of Christian contemporary scholars.

It is also important to assess how other medieval scholars use this term and as such, Gerald of Wales' account of the Irish will be examined to establish other aspects of barbarism from a medieval point of view. In his *Topography of Ireland*, the Irish are referred to as:

A rude people, subsisting on the produce of their cattle only, and living themselves like beasts – a people that has not yet departed from the primitive habits of pastoral life....[and] truly barbarous, being not only barbarous in their dress, but suffering their hair and beards to grow enormously in an uncouth manner.¹⁴³

This suggests that barbarity can also be linked to the physical appearance of an individual, as was evident in the 'Life of Willibrord'.¹⁴⁴ As witnessed, the medieval concept of barbarism is linked with ideas regarding a lack of Christian faith, an unkempt appearance, and an uneducated and primitive nature with a lack of hygiene and health, all ideas that will be analysed using osteo-archaeological evidence.

¹³⁹ Rimbert, *Vita Anskarii*, pp. 20 – 120.

¹⁴⁰ Davies, *Paganism*, pp. 1 – 64.

¹⁴¹ Alcuin, *Alcuin's Letter to Bishop Hgbald*, p. 778.

¹⁴² ASC, pp. 55 – 69.

¹⁴³ Gerald of Wales, *Topography of Ireland*, pp. 68 – 70.

¹⁴⁴ Alcuin, 'The Life of Willibrord', pp. 191 – 192.

As before, Scandinavian osteo-archaeology will be examined to establish whether the Norse homeland was as uncivilised as the sources indicate, with information regarding the health and hygiene of its inhabitants being focused on. In this regard, we will analyse Scandinavian hygiene based upon dental evidence from tooth decay present at Swedish sites, with individuals at Fjälkinge between the ages of 20 and 40-years-old having, on average, 30/32 teeth remaining, while for individuals around 60-years-old, this average had decreased to below 16 teeth, a trend that is further evident at Kopparsvik and Trinitatis.¹⁴⁵ Moreover, there is actually evidence that the Vikings used tooth picks to maintain their dental health, sometimes to the extent that scars are evident on teeth,¹⁴⁶ which demonstrates an idea that begins to challenge the contemporary view that the Northmen were barbaric.¹⁴⁷

Also, the idea of a primitive North, as indicated by contemporary sources, suggests that the living conditions and way of life for its inhabitants was a short, hard, experience. If this was the case, then we would expect to see a lack of elderly individuals present at Scandinavian sites, as they would be unable to function effectively to survive past their prime. In this dissertation, our definition for the elderly is based upon the average life expectancy of Viking-Age individuals, with no implication to modern times, and as such, will be categorised as sub-elderly for those above 40-years-old, and elderly for those 60 and above.¹⁴⁸ Based on the eight Scandinavian sites studied by Arcini, Skämsta has the highest percentage of individuals between the ages of 40 and 59, with a total of 50%, however, it surprisingly has no evidence of those over 60-years-of-age.¹⁴⁹ Both the northern and southern areas of Fröjel and Kopparsvik respectively have around 30% of their populations falling into

¹⁴⁵ Arcini, *The Viking Age*, pp. 57 – 58.

¹⁴⁶ Pia Bennike, 'An Anthropological Study of the Skeletal Remains of Vikings from Langeland', in Ole Grøn, Anne Hedeager Krag, Pia Bennike (ed.) *Vikingetidsgavpladser på Langeland*. (Rudkøbing: Langelands Museum, 1994), pp. 168 – 183.

¹⁴⁷ Gerald of Wales, *Topography of Ireland*, pp. 68 – 70.

¹⁴⁸ Kirsten Wolf, *Daily Life of the Vikings*. (London: The Greenwood Press, 2004), p. 8.

¹⁴⁹ Arcini, *The Viking Age*, pp. 1 – 71.

the 40 to 59 category, while at Trinitatis, 25% of the individuals present are between this age gap. At the other four locations, the percentage of this older generation is below 15%, and in all except two of the sites, the percentage of over 60s present is less than 10%. These exceptions are from Kopparsvik North and Slite Torg, where the percentage of over 60s is 14% and 20% respectively.

Of interest though is the site of Fjälkinge, where although only around 10% of those present at the site were over the age of 60, the two inhabitants of Grave 65 were both over this threshold, with the male being about 60-years-old, while his female partner was around 80.¹⁵⁰ The fact that some individuals lived for so long, especially since the average life expectancy during the period was around 30 to 40-years-old, is testament to the health and caring nature that the Northmen had in their homeland, a concept contrary to contemporary sources.¹⁵¹

This can equally be applied to the care for the sick and disabled within Viking-Age Scandinavia, with two of the six adults from Skämsta, and one from Kopparsvik, growing no taller than 130cm, indicating they were likely sufferers of dwarfism (See Figure 3).¹⁵² All three individuals provide compelling evidence that the inhabitants of Scandinavia were relatively inclusive rather than exclusive towards one another, as there does not seem to be any difference regarding the burials of these individuals and that of their contemporaries, and all three dwarfs survived to adulthood demonstrating they were cared for despite their limitations. Not only this, but the fact that there are two individuals with such a rare and hereditary illness being buried at the same site, and that strontium analysis indicates that they grew up in different places, suggests that social connections, such as marriage, were not impacted, as one member of this pairing was likely the parent of the other.¹⁵³ This all

¹⁵⁰ Arcini, *The Viking Age*, pp. 1 – 40.

¹⁵¹ Wolf, *Daily Life of the Vikings*, p. 8.

¹⁵² Arcini, *The Viking Age*, pp. 64 – 66.

¹⁵³ *ibid.*

demonstrates that the Vikings, at least in Scandinavia itself, were accepting of those with illnesses, which would not be expected from a backwards and barbaric people, as the Danes are referred to by contemporary sources.

As seen, the contemporary opinion regarding the barbarity of the Scandinavians, whether it be their ragged look or primitive nature, is questionable based upon the health and hygiene of the Vikings.

The giant individual buried in Grave 511 at Repton portrays many examples that can be used to demonstrate the barbarity of the Vikings in Britain, from the way he was buried to the care over his wounds. For example, not only was this man buried in an east-west orientation, indicating he may have been a follower of the Christian faith, but he was also laid to rest with a pendant of Thor's hammer around his neck, a symbol of Norse paganism.¹⁵⁴ The fact that he is buried with symbolism of contradictory beliefs is an interesting idea as it suggests that this individual, or at least the people who buried him, were either considering conversion or had been recently converted, as the alignment and the pendant indicate that this individual was keeping their options open regarding the afterlife. If this is the case, then the contemporary accounts relating barbarity to a lack of Christianity can be questioned, as it demonstrates that some Vikings were followers of the Christian faith, at least by the mid-Ninth Century.¹⁵⁵ Regarding his death, this individual had suffered a blow to his skull and was disembowelled, before a devastating cut to the top of his left femur, which removed his genitalia, finished him off. During his burial, a boar's tusk was used in place of his lost reproductive organs, indicating that those who laid him to rest cared for him enough to

¹⁵⁴ Biddle, and Kjølbye-Biddle, 'Repton and the 'Great Heathen Army'', pp. 60 – 65.

¹⁵⁵ Richards, 'Pagans and Christians at the Frontier', pp. 384 – 390.

restore to him his manhood in case it was needed in the afterlife.¹⁵⁶ As such, this all clearly indicates a complex level of care and understanding contradictory to the backwards and barbaric view of contemporary accounts.

Furthermore, there is also evidence regarding the hygiene and care for appearance that the Vikings had, with John of Wallingford claiming:

they [the Vikings] were – according to their country’s customs – in the habit of combing their hair every day, to bathe every Saturday, to change their clothes frequently and draw attention to themselves by means of many such frivolous whims.¹⁵⁷

This idea of a dutiful care for their presentation is supported by archaeological finds of personal hygiene sets, containing combs to brush their hair and beards, tweezers to neaten up their facial features, and small spoons for removing ear wax.¹⁵⁸ The former of these is evident at the Anglo-Scandinavian site of Coppergate in York, which contains evidence indicating a large centre of comb production, as well as other antler, bone, and horn products, at various stages of development. Likewise, the quantity and distribution of finds from the manufacturing process indicate that the peak of this production was around the early to mid-Tenth Century, dates in line with the Viking occupation of the city, and there is possible evidence of dedicated production hubs home to either one or many craftsmen making antler combs for commercial sale, although more production waste would be expected if this was the case. However, over 212 examples of comb production, dating to the Tenth and Eleventh Centuries, have been unearthed at the site, the majority of which were composite combs, which is to say those constructed using multiple individual pieces, while a smaller percentage were of double sided combs.¹⁵⁹ Not only does the quantity of combs support John of

¹⁵⁶ Richards, ‘Pagans and Christians at the Frontier’, pp. 384 – 388.

¹⁵⁷ John of Wallingford, *Chronicle of John of Wallingford*, pp. 625 – 676.

¹⁵⁸ Chartrand, et al. *The Vikings*, pp. 71 – 72.

¹⁵⁹ Arthur MacGregor and Ailsa Mainman, ‘The Bone and Antler Industry in Anglo-Scandinavian York: The Evidence from Coppergate’, *Crafting Bone – Skeletal Technologies Through Time and Space: Proceedings of*

Wallingford's claim regarding the hygiene of the Danes, but the complexity and craftsmanship that went into these items contradicts the primitive and simplistic nature that contemporary sources suggested the Vikings had.¹⁶⁰

As the discussed examples demonstrate, the Vikings in Britain were not the barbaric people that contemporary British sources present them to be, as although some Scandinavians were not Christian, our individual from Grave 511 at Repton indicates that this is not true for all Danes.¹⁶¹ Likewise, the production of combs at Coppergate further questions the legitimacy of contemporary sources, although an analysis of native British sites is required before it can be established as to whether the Vikings were a more barbaric people than their British contemporaries.¹⁶²

Firstly, it is difficult to assess the levels of hygiene of the Anglo-Saxons solely from archaeological evidence, as although hygiene kits are present at Edix Hill, it is unclear as to how this compares to Scandinavian hygiene.¹⁶³ However, the extract by John of Wallingford goes on to state that 'in this way [their appearance], they [the Danes] besieged the married women's virtue and persuaded the daughters of even noble men to become their mistresses'.¹⁶⁴ This demonstrates the jealousy that the Anglo-Saxons had for the Vikings'

the 2nd Meeting of the (ICAZ) Worked Bone Research Group. (Budapest: BAR International Series, 2001), pp. 343 – 354 (pp. 343 – 346), <https://www.wbrg.net/images/stories/references/Macgregor_Mainman_2001_WBRG_Budapest.pdf>, [Accessed: 27 April 2020].

¹⁶⁰ John of Wallingford, *Chronicle of John of Wallingford*, pp. 625 – 676.

¹⁶¹ Biddle, and Kjølbye-Biddle, 'Repton and the 'Great Heathen Army'', pp. 60 – 65.

¹⁶² MacGregor and Mainman, 'The Bone and Antler Industry in York', pp. 343 – 354, [Accessed: 27 April 2020].

¹⁶³ Malim and Hines, *The Anglo-Saxon Cemetery at Edix Hill*, pp. 218 – 219.

¹⁶⁴ John of Wallingford, *Chronicle of John of Wallingford*, pp. 625 – 676.

appearance and attractiveness, as there would be no need for the Anglo-Saxons to be jealous if their standard of hygiene was up to that of the Danes.¹⁶⁵

Furthermore, an analysis of Anglo-Saxon dental evidence can be used to assess the level of health among the British natives, with those around 20-years-of-age from Edix Hill having lost approximately 12% of their teeth pre-mortem, while by the time they were 30, this percentage had more than doubled. Not only this, but by the time an individual from Edix Hill was 40, it was likely they had lost 50% of their dentition, a figure that was not reached in Scandinavian sites until an individual was about 60-years-old.¹⁶⁶ These figures are quite unbelievable if the contemporary accounts regarding the barbaric and primitive appearance of the Vikings are to be believed, however, this just goes to show the greater levels of dental hygiene and health among the Scandinavians compared to their British contemporaries.

Furthermore, 35% of the individuals dating to the Viking-Age at Tarbat Old Church were over the age of 46 at their time of death, which is, according to King, an anomalously high percentage considering other contemporary Scottish locations, such as the Isle of May or Hallow Hill, only have 26% and 6% respectively of their populations falling into this old adult category.¹⁶⁷ Despite this, the percentages at Tarbat seem to be greater than the oldest group present at Scandinavian sites, however, the elderly at Tarbat constitutes anyone above the age of 46, while at the sites studied by Arcini, the elderly group consists of those above 60-years-of-age. If we use 46-years-old as our boundary between adult and elderly, then the percentage of the older generation present at some Scandinavian sites, such as Skämsta and Kopparsvik, remain greater than it is at Scottish ones.¹⁶⁸ Due to both the irregularly high results and the miscommunication regarding who constitutes as the elderly generation, it is

¹⁶⁵ MacGregor and Mainman, 'The Bone and Antler Industry in York', pp. 343 – 346, [Accessed: 27 April 2020].

¹⁶⁶ Malim and Hines, *The Anglo-Saxon Cemetery at Edix Hill*, pp. 170 – 173.

¹⁶⁷ King, 'Human Bone Report', pp. ciii – cvi, [Accessed: 26 April 2020].

¹⁶⁸ Arcini, *The Viking Age*, pp. 1 – 40.

clear that those from Viking-Age Scandinavia lived longer than their contemporaries present at various Scottish sites, indicating the greater level of health of the Vikings.¹⁶⁹

Likewise, of the 122 individuals who could be aged from Edix Hill, 20 of them were over the age of 45, which constitutes 13% of the overall assemblage, a figure that is greatly below that of some of the examples from Scandinavia, even when the benchmark for the elderly is put at 45-years-old. However, some of the ages of these individuals can be narrowed down further, with three of them being between the ages of 45 and 50, a further three in their 50s, while another individual was certainly over the age of 60.¹⁷⁰ Despite this, as well as the possibility that any of the remaining 13 individuals could be around these ages or even older, the low percentage of surviving members of the elderly generation at Edix Hill compared to that of sites in the Viking homeland is testament enough to indicate that some Scandinavian lived longer than their Anglo-Saxon counterparts, demonstrating that the Vikings were not as barbaric, in terms of a primitive and uncaring nature, than their British contemporaries.¹⁷¹

Overall, this chapter has demonstrated that although contemporary British sources suggest the Vikings were a backwards, primitive, Christian-less people, who had no care for one another or their own unkempt appearance, the osteo-archaeological evidence disputes this. The higher percentage of surviving elderly at Scandinavian sites compared to British ones, as well as the inclusive rather than exclusive nature of the former, all indicates that the concepts regarding primitive health and care put forward by contemporary accounts are incorrect.¹⁷² This is further exemplified by the evidence regarding the appearance and cleanliness of the Vikings, where the osteological and archaeological evidence, in support of some British sources,

¹⁶⁹ King, 'Human Bone Report', pp. ciii – cvi, [Accessed: 26 April 2020].

¹⁷⁰ Malim and Hines, *The Anglo-Saxon Cemetery at Edix Hill*, pp. 159 – 161.

¹⁷¹ Arcini, *The Viking Age*, pp. 1 – 80.

¹⁷² *ibid.*

demonstrates that the Norsemen were in fact very conscientious over their appearance, leading to accounts of Anglo-Saxon jealousy, and clearly indicating that the Vikings were not as barbaric as their native British contemporaries.¹⁷³

¹⁷³ Hubbard, *Warriors of the Viking World*, pp. 60 – 62.

Conclusion

In conclusion, this dissertation has used osteological and archaeological evidence to assess the validity of contemporary British sources that have influenced the modern-day stereotype of the Vikings. As identified, this stereotype revolves around the idea that the Norsemen were enormous individuals, who were unimaginably brutal, savage, and originated from an uncivilised and barbaric homeland, all concepts evident within the contemporary records of the period.¹⁷⁴

Regarding the build of the Vikings, the *Annals of Fulda* suggested that the Danes were taller than their Saxon and Frankish contemporaries, with the evidence from Scandinavian sites indicating that the average height of a Northman was around 172cm,¹⁷⁵ although there is definitely variation with some individuals reaching as tall as 190cm.¹⁷⁶ However, there does also seem to have been a certain bias towards taller males going ‘*a vikingr*’,¹⁷⁷ as demonstrated by the stature of Scandinavians present at Repton and its near-by burial mound.¹⁷⁸ These sizes were subsequently compared to the statures of the inhabitants of Britain, with the average Scot being around 170cm tall while the average Anglo-Saxon was approximately 169cm tall.¹⁷⁹ There does also seem to be a theme of taller individuals being warriors, as evident by the stature of Anglo-Saxons present at Repton, whose average height was 173cm tall, which is still smaller when compared to the Scandinavian warriors.¹⁸⁰ All this osteo-archaeological evidence, whether it be comparing warriors to warriors or civilians to civilians, indicates that the contemporary sources are accurate regarding the superior

¹⁷⁴ Richards, ‘Pagans and Christians at the Frontier’, pp. 383 – 835.

¹⁷⁵ Arcini, *The Viking Age*, pp. 56 – 57.

¹⁷⁶ Nicolaysen, *The Viking Ship Discovered at Gokstad in Norway*, pp. 1 – 63.

¹⁷⁷ Chartrand, et al. *The Vikings*, pp. 12 – 14.

¹⁷⁸ Biddle, and Kjølbye-Biddle, ‘Repton and the ‘Great Heathen Army’, pp. 56 – 75.

¹⁷⁹ Malim and Hines, *The Anglo-Saxon Cemetery at Edix Hill*, pp. 1 – 161.

¹⁸⁰ Biddle, and Kjølbye-Biddle, ‘Repton and the ‘Great Heathen Army’, pp. 50 – 77.

stature of the Vikings to their contemporaries,¹⁸¹ even if the difference is only a few centimetres rather than a size that denotes 'giant' status.¹⁸²

Furthermore, the accounts of the Viking raid on the monastery of Lindisfarne are just some of the contemporary sources that have influenced the violent image of the Norsemen, although osteo-archaeological data leads us to question these accounts. In Scandinavia, it has been demonstrated that the High Middle Ages, which followed the Viking-Age, was a more violent time for its inhabitants based upon osteological evidence, and regarding Viking brutality in Britain, there are indicators of violence at Tarbat Old Church and Llambedrgoch,¹⁸³ although neither of these are to the extent that would be expected if the contemporary accounts are taken at face value.¹⁸⁴ Likewise, the osteological data for the St Brice's Day Massacre present at St John's College and Ridgeway Hill is further evidence leading to doubt over the excessive violence depicted in contemporary accounts, which demonstrates that this period of history was incredibly violent, and the Vikings were no more brutal than their British contemporaries.¹⁸⁵ As such, these contemporary sources are questionable at best regarding their validity, as proven in the osteo-archaeological record.

Finally, missionary accounts have demonstrated the medieval view of barbarity and how it applies to the Norsemen, with animalistic, unkempt, un-Christian, and primitive, all being terms used to define this term.¹⁸⁶ Despite these accounts, the osteo-archaeological evidence again indicates that the above sources may not be the most accurate, with a relatively high level of health and hygiene, as seen by the dental information and inclusive rather than exclusive nature present at Scandinavian sites.¹⁸⁷ Furthermore, the care and complexity over

¹⁸¹ Arcini, *The Viking Age*, p. 55.

¹⁸² Hubbard, *Warriors of the Viking World*, pp. 56 – 60.

¹⁸³ Arcini, *The Viking Age*, pp. 60 – 65.

¹⁸⁴ Alcuin, *Alcuin's Letter to Æthelred*, pp. 775 – 777.

¹⁸⁵ Pollard, et al. 'Sprouting Like Cockle Amongst the Wheat', pp. 83 – 100.

¹⁸⁶ Rimbert, *Vita Anskarii*, pp. 20 – 120.

¹⁸⁷ Arcini, *The Viking Age*, pp. 55 – 65.

individuals and goods, as shown at Repton and Coppergate, demonstrates a civilised and complex people opposed to the primitive and simplistic ideas contemporary accounts put forward.¹⁸⁸ Finally, the comparative evidence present at Anglo-Saxon sites, as well as John of Wallingford's quote regarding jealously, all demonstrate that the Vikings were not a barbaric group and in fact, it seems that it is the Anglo-Saxon natives of Britain who deserve this title of barbarity rather than their Scandinavian brethren.¹⁸⁹ This all proves that the contemporary accounts regarding Viking barbarity are incorrect due to osteo-archaeological evidence.

Based on the osteological and archaeological evidence, a more accurate concept of the Viking stereotype can be established. Although the data shows that the Danes were marginally taller than their contemporaries, they were no more brutal than their British counterparts, as this period of history was very violent overall. It is also clear that the Vikings were not a barbaric people, with impressively high standards of health and hygiene, at least when compared with the inhabitants of Britain, some of whom, such as the Anglo-Saxons, are more in line with the concept of a barbaric people. This all demonstrates that the Vikings have been much maligned, both in the past and the present, despite osteo-archaeological evidence for the build, brutality, and barbarism of the Norsemen disputing this.

¹⁸⁸ MacGregor and Mainman, 'The Bone and Antler Industry in York', pp. 343 – 346 [Accessed: 2 May 2020].

¹⁸⁹ John of Wallingford, *Chronicle of John of Wallingford*, pp. 625 – 676.

Bibliography

Primary Sources

Ahmed Ibn Fadlān, *Ibn Fadlān and the Land of Darkness: Arab Travellers in the Far North*, ed. and trans. P. Lund, and C. Stone. (London, 2012).

Alcuin of York, *Alcuin's Letter to Æthelred*, c. 793, in D. Whitelock, *English Historical Documents: Volume. 1 c. 500 – 1042*, 2nd edition. (Abingdon: Routledge, 1979).

Alcuin of York, *Alcuin's Letter to Bishop Higbald*, c. 793, in D. Whitelock, *English Historical Documents: Volume. 1 c. 500 – 1042*, 2nd edition. (Abingdon: Routledge, 1979).

Alcuin of York, 'The Life of Willibrord, c. 796', trans. C.H. Talbot, in T.F.X. Noble, and T. Head (ed.), *Soldiers of Christ: Saints and Saints' Lives from Late Antiquity and the Early Middle Ages*. (London: Sheed & Ward Ltd, 1995), pp. 189 – 212.

Anglo-Saxon Chronicle, ed. and trans. G.N. Garmonsway, 2nd edition. (London, 1953 – 92).

Annals of Fulda, ed. and trans. T. Reuter, revised in. T. Reuter, *The Annals of Fulda: Ninth Century Histories*, Vol. 2. (Manchester: Manchester University Press, 1992).

Bede, *Ecclesiastical History of the English Nation*, trans. L.C. Jane (1903), revised by. V.D. Scudder. (London: J.M. Dent, 1910), pp. 1 – 388.

Gerald of Wales, *The Topography of Ireland*, ed. T. Wright and trans. T. Forester. (Cambridge, 2000).

Gildas, *De Excidio Britanniae*, ed. and trans. J.A. Giles, revised in. J.A. Giles, *Six Old English Chronicles*. (London: Henry G. Bohn, 1848), pp. 1 – 38.

Gregory of Tours, *History of the Franks*, ed. and trans. E. Brehaut, revised in. E. Brehaut, *Records of Civilisation 2*. (New York: Columbia University Press, 1916).

Henry of Huntingdon, *The Chronicle of Henry of Huntingdon: Comprising the History of England, from the Invasion of Julius Cæsar to the Accession of Henry II. Also, the Acts of Stephen, King of England and Duke of Normandy*, ed. and trans. T. Forester. (London: 1853).

Henry of Huntingdon, *The History of the English People 1000 – 1154*, ed. and trans. D. Greenway, 2nd edition. (Oxford, 2002).

John of Wallingford, *The Chronicle of John of Wallingford*, trans. W. Hunt (1899), revised in. T.D. Hardy, *Descriptive Catalogue of Material Relating to the History of Great Britain and Ireland to the End of the Reign of Henry VII*. (Cambridge: Cambridge University Press, 2012), pp. 625 – 676.

Rimbert, Bishop of Bremen-Hamburg, *Vita Anskarii*, ed., trans. and revised. C.H. Robinson. (London, 1921), pp. 1 – 136.

Simeon of Durham, *The Historical Works of Simeon of Durham*, ed. and trans. J. Stevenson, revised in. J. Stevenson, *The Church Historians of England*, Vol. 3, Part 2. (London: Seeleys, 1855).

Snorri Sturlason, *Heimskringla: A Chronicle of the Kings of Norway* (Vol. 3), ed. and trans. A. Finlay and A. Faulkes. (London: 2015).

The Battle of Maldon Poem, ed. and trans. Kevin Crossley-Holland, revised in. B. Mitchell, *The Battle of Maldon and Other Old English Poems*. (London: Macmillan, 1965).

Secondary Sources

Allmäe, R., Maldre, L. and Tomek, T. ‘The Salme I Ship Burial: An Osteological View of a Unique Burial in Northern Europe’, *Interdisciplinaria Archaeologica Natural Sciences in Archaeology*, 2.2 (2011), pp. 109 – 124.

Arcini, C. A. *The Viking Age: A Time of Many Faces*. (Oxford: Oxbow Books, 2018).

Bennike, P. ‘An Anthropological Study of the Skeletal Remains of Vikings from Langeland’, in Grøn, O., Hedeager Krag, A. and Bennike, P. (ed.) *Vikingetidsgavpladser på Langeland*. (Rudkøbing: Langelands Museum, 1994).

Biddle, M. and Kjølbye-Biddle, B. ‘Repton and the ‘Great Heathen Army’’, in Graham-Campbell, J. et al. (ed.) *Vikings and the Danelaw: Select Papers from the Proceedings of the Thirteenth Viking Congress*. (Oxford: Oxbow Books, 2001).

Brownworth, L. *The Sea Wolves: A History of the Vikings*. (London: Crux Publishing Ltd, 2014).

Buckberry, J.L. et al. ‘Finding Vikings in the Danelaw’, *Oxford Journal of Archaeology*, 33.4 (2014), pp. 413 – 434.

Carroll, J., Harrison, S.H. and Williams, G. *The Vikings in Britain and Ireland*. (London: The British Museum Press, 2014).

Carver, M. *Porkmahomack: Monastery of the Picts*. (Edinburgh: Edinburgh University Press, 2008).

Chartrand, R. et al. *The Vikings*. (Oxford: Osprey Publishing, 2016).

Coupland, S. ‘The Vikings on the Continent in Myth and History’, *History: The Journal of the Historical Association*, 88.2 (2003), pp. 186 – 203.

Davies, O. *Paganism: A Very Short Introduction*. (Oxford: Oxford University Press, 2011).

Davis, J. R. *Charlemagne’s Practice of Empire*. (Cambridge: Cambridge University Press, 2015).

Dougherty, M. J. *The Golden Age of the Vikings: A History of the Norse People*. 2nd edition. (London: Amber Books Ltd., 2017).

- Duhig, C. 'The Human Skeletal Material' in Malim, T. and Hines, J. (ed.) *The Anglo-Saxon Cemetery at Edix Hill (Barrington A), Cambridgeshire: Excavations 1989–1991 and a summary catalogue of material from 19th century interventions*. (York: Council for British Archaeology, 1998).
- Eaton, J. *An Archaeological History of Britain: Continuity and Change from Prehistory to the Present*. (Barnsley: Pen and Sword Archaeology, 2014).
- Gestsdóttir, H. 'Themes in Icelandic Bioarchaeological Research', in O'Donnabhain, B. and Lozada, M. C. (ed.) *Archaeological Human Remains: Global Perspectives*. (London: Springer, 2014).
- Harman, M. 'The Human Skeleton', in Welander, R.D.E., Batey, C.E. and Cowie, T.G, 'A Viking Burial from Kneep, Uig, Isle of Lewis', *Proceedings of the Society of Antiquaries of Scotland*, 117 (1987), pp. 149 – 174.
- Haywood, J. *Northmen: The Viking Saga 793 – 1241*. 2nd edition. (London: Head of Zeus Ltd, 2016).
- Haywood, J. *The Penguin Historical Atlas of the Vikings*. (London: Penguin Books, 1995).
- Heiberg, J. 'The Human Bones Found in the Gokstad-Ship', in Nicolaysen, N. (ed.) *The Viking Ship Discovered at Gokstad in Norway: Described by N. Nicolaysen*. (Christiania: Alb. Cammermeyer, 1882).
- Hjardar, K. and Vike, V. *Vikings at War*. (Oxford: Casemate Publishers, 2016).
- Hubbard, B. *Warriors of the Viking World: The Seafaring Raiders and Explorers who Terrorised Europe for Centuries*. 2nd edition. (London: Amber Books Ltd, 2018).
- Jesch, J. *The Viking Diaspora*. (Abingdon: Routledge, 2015).
- Kjellström, A., Tesch, S. and Wikström, A. 'Inhabitants of a Sacred Townscape: An Archaeological and Osteological Analysis of Skeletal Remains from Late Viking Age and Medieval Sigtuna, Sweden', *Acta Archaeologica*, 76 (2005), pp. 87 – 110.
- Knibbs, E. *Ansgar, Rimbert, and the Forged Foundation of Hamburg-Bremen*. (Farnham: Ashgate Publishing Limited, 2011).
- Loe, L. et al. 'Given to the Ground': *A Viking Age Mass Grave on Ridgeway Hill, Weymouth*. (Dorset: Dorset Natural History and Archaeological Society, 2014).
- Magnusson, M. *The Vikings*. 5th edition. (Stroud: The History Press, 2016).
- Mainman, A. J. and Rogers, N.S.H. 'Craft, Industry and Everyday Life: Finds from Anglo-Scandinavian York', *The Archaeology of York: The Small Finds*, 17.14 (2000), pp. 2451 – 2681.
- Malim, T. and Hines, J. *The Anglo-Saxon Cemetery at Edix Hill (Barrington A), Cambridgeshire: Excavations 1989–1991 and a summary catalogue of material from 19th century interventions*. (York: Council for British Archaeology, 1998).

- Mays, S. *The Archaeology of Human Bones*. 2nd edition. (Abingdon: Routledge, 2010).
- Nicolaysen, N. *The Viking Ship Discovered at Gokstad in Norway: Described by N. Nicolaysen*. (Christiania: Alb. Cammermeyer, 1882).
- Parker, P. *The Northmen's Fury: A History of the Viking World*. (London: Vintage, 2015).
- Pollard, A. M. et al. 'Sprouting Like Cockle Amongst the Wheat': The St Brice's Day Massacre and the Isotopic Analysis of Human Bones from St John's College, Oxford', *Oxford Journal of Archaeology*, 31.1 (2012), pp. 83 – 102.
- Redknap, M. 'Viking-Age Settlement in Wales: Some Recent Advances', *Transactions of the Honourable Society of Cymmrodorion*, 12 (2006), pp. 5 – 35.
- Redknap, M. *Vikings in Wales: An Archaeological Quest*. (Cardiff: National Museums & Galleries of Wales, 2000).
- Richards, J. D. et al. 'Excavations at the Viking Burrow Cemetery at Heath Wood, Ingleby, Derbyshire', *The Antiquities Journal*, 84 (2004), pp. 23 – 116.
- Richards, J. D. 'Pagans and Christians at the Frontier: Viking Burials in the Danelaw', in Carver, M. (ed.) *The Cross Goes North: Processes of Conversion in Northern Europe AD 300 – 1300*. (Woodbridge: The Boydell Press, 2005).
- Richards, J.D. 'The Scandinavian Presence', in Hunter, J. and Ralston, I. (ed.) *The Archaeology of Britain: An Introduction from the Upper Palaeolithic to the Industrial Revolution*. (London: Routledge, 1999).
- Sawyer, P. 'The Viking Legacy', in Sawyer, P. (ed.) *The Oxford Illustrated History of the Vikings*. (Oxford: Oxford University Press, 1997).
- Short, W. R. *Icelanders in the Viking Age: The People of the Sagas*. (London: McFarland & Company, Inc. Publishers, 2010).
- Trotter, M. and Gleser, G. C. 'A Re-Evaluation of Stature based on Measurements taken during Life and Long Bones after Death', *American Journal of Physical Anthropology*, 16.1 (1958) pp. 79 – 124 (pp. 79 – 124), <DOI: 10.1002/ajpa.1330160106>, [Accessed: 26th March 2020].
- Waldman, C. and Mason, C. *Encyclopaedia of European Peoples*. (New York: Facts On File Inc., 2006).
- Welander, R.D.E., Batey, C.E. and Cowie, T.G. 'A Viking Burial from Kneep, Uig, Isle of Lewis', *Proceedings of the Society of Antiquaries of Scotland*, 117 (1987), pp. 149 – 174.
- Williams, T. *Viking Britain: A History*. (London: William Collins, 2017).
- Wolf, K. *Daily Life of the Vikings*. (London: The Greenwood Press, 2004).

Electronic Sources

Friðriksson, A. et al. 'Hringsdalur í Arnarfirði', *Archaeological Survey 2006: FS413-06441*, Reykjavík: Archaeological Institute of Iceland (2010), pp. 1 – 28, <<https://www.nabohome.org/cgi-bin/explore.pl?seq=99>> [Accessed: 18 April 2020].

Holk, P. 'Bone Material Densities in the Prehistoric, Viking Age, and Medieval Populations of Norway', *International Journal of Osteoarchaeology*, 17.2 (2006), pp. 199 – 206, <DOI: <https://doi.org/10.1002/oa.870>>, [Accessed: 11 April 2020].

King, S. 'Human Bone Report', in Carver, M. *The Tarbet Discovery Programme*. (York: Archaeology Data Service, 2017), pp. cii – clxvii <DOI: <https://doi.org/10.5284/1031216>>, [Accessed: 10 May 2020].

MacGregor, A. and Mainman, A. 'The Bone and Antler Industry in Anglo-Scandinavian York: The Evidence from Coppergate', *Crafting Bone – Skeletal Technologies Through Time and Space: Proceedings of the 2nd Meeting of the (ICAZ) Worked Bone Research Group*. (Budapest: BAR International Series, 2001), pp. 343 – 354, <https://www.wbrg.net/images/stories/references/Macgregor_Mainman_2001_WBRG_Budapest.pdf>, [Accessed: 10 May 2020].

Sjøvold, T. 'Estimation of Stature from Long Bones utilizing the line of Organic Correlation', *Human Evolution*, 5(5), (1990) pp. 431 – 447, <DOI: 10.1007/BF02435593>, [Accessed: 16 April 2020].

Thames Valley Archaeological Service, *St John's College, Oxford: Phase 3 – Mass Burial, TVAS Kendrew Quadrangle Excavations January – August 2008*, (Reading: Thames Valley Archaeological Service, 2008) <<http://tvas.co.uk/resources.html>> [Accessed: 8 May 2020].

Visual Sources

FreeWorldMaps.net, *Europe Outline Maps* (2019) <https://www.freeworldmaps.net/europe/blank_map.html> [Accessed: 2 May 2020].

Frölich, L. *Strandhungst: Vikings Plundering a monastery* [Oil on Canvas, 90cm x 147cm] (1883 – 1886), The Museum of National History, Frederiksborg Castle, Denmark <<https://dnm.dk/kunstvaerk/strandhugst-tavistok-kloster-plyndring-og-brand/>> [Accessed: 8 May 2020].

Appendix 1 – Build

Tables and graphs containing the height information used above.

		N	Height T&G	Range	SD	Height Sjøvold	Range	SD
Men	Phase 1	47	173.8	162.1–182.5	4.83	172.7	159.4–182.6	5.47
	Phase 2	51	174.2	165.3–185.5	5.07	173.2	163.0–186.0	5.75
	Phase 3	10	170.7	162.1–179.9	5.78	169.3	159.4–179.6	6.55
	Total	108	173.7	162.1–185.5	5.08	172.6	159.4–186.0	5.75
Women	Phase 1	15	162.8	155.8–177.4	5.01	165.7	158.2–181.2	5.34
	Phase 2	14	159.6	147.6–176.9	6.27	162.3	149.5–180.7	6.68
	Phase 3	1	152.1	–	–	154.3	–	–
	Total	35	160.8	147.6–177.4	6.00	163.5	149.5–181.2	6.39

Figure Appx. 1.1: Table depicting the statures of individuals from the different phases at Sigtuna, based upon femora measurements. Phase 1 is the period that dates to the Viking Age. ‘Height T&G’ represents the method proposed by Trotter and Gleser, while ‘Height Sjøvold’ represents measurements ascertained using Sjøvold’s method. Tables taken from Kjellström, Tesch, and Wikström, ‘Inhabitants of a Sacred Townscape’, p. 104.

Method bone	Gerhards (2000)	Trotter & Gleser (1952)
<i>Humerus S1</i>	179,7	182,9
<i>Humerus S2</i>	175,5	176,7
<i>Humerus S3</i>	178,5	181,3
<i>Tibia commingled bones</i>	174,6	177,1
<i>Femur (pair) commingled bones</i>	178,3	180,6
	178,3	180,6

Figure Appx. 1.2: Table depicting the statures of individuals from the Salme 1 Ship Burial, in cm. Taken from Allmäe, Maldre, and Tomek, ‘The Salme I Ship Burial’, p. 112.

Group	Males		Females	
	Mean	Range	Mean	Range
Mound deposit	176.1	166.9–193.6	159.4	151.7–166.0
Cemetery 3M	176.4	166.5–185.5	164.2	161.3–166.5
Cemetery 3	173.5	159.2–185.2	158.4	149.9–170.9
Cemetery 4	168.1	160.4–175.5	160.1	150.4–166.0

Date: Mound deposit closed 873–4; Cemetery 3M, early tenth to early eleventh century; Cemetery 3, 873–4 to mid twelfth century; Cemetery 4, 1172 to late fifteenth/early sixteenth century.

¹ There are no statures for the 33 graves in Cemetery 1 (late seventh to early eighth century) and the 43 graves in Cemetery 2 (mid eighth to 873), because bone preservation was very poor and the graves were cut by later graves and features.

Figure Appx. 1.3: Table depicting the statures of individuals from the different sites in and around Repton. The ‘Mound Deposit’ while the other Cemeteries are Anglo-Saxon/Anglo-Scandinavian. Table taken from Biddle, and Kjølbye-Biddle, ‘Repton and the ‘Great Heathen Army’, p. 75.

Age or weapon group	n	Mean height in metres
18–25 years	12	1.748
25–35 years	6	1.747
35–45 years	4	1.735
45 + years	11	1.702
Shield/spear group	10	1.753
Shield only group	5	1.730
Spear only group	5	1.708
Single-weapon groups	10	1.719
All armed	20	1.736
All unarmed	15	1.728
All	35	1.733

(Two with statures are unaged)

Figure Appx. 1.4: Table depicting the statures of males, whose stature could be determined, from the Anglo-Saxon site of Edix Hill.
Table taken from Malim and Hines, *The Anglo-Saxon Cemetery at Edix Hill*, p. 165.

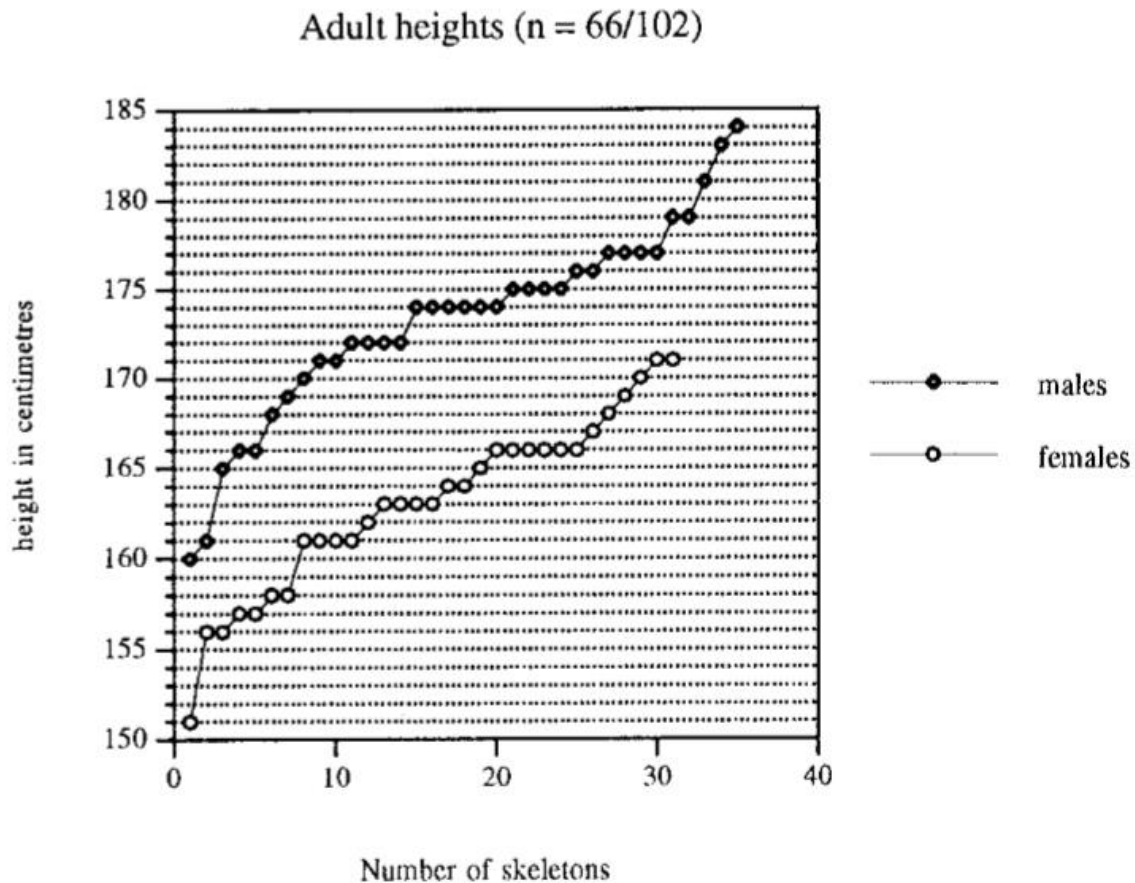


Figure Appx. 1.5: Graph depicting the statures of males and females, whose stature could be determined, from the Anglo-Saxon site of Edix Hill. Table taken from Malim and Hines, *The Anglo-Saxon Cemetery at Edix Hill*, p. 164.

Phase	N	Mean	SD	Minimum	Maximum
1	1	167.7	-	167.7	167.7
2	48	170.1	4.2	160.7	177.3
3 & 4	35	168.3	5.7	156.4	180.3
5	2	168.4	0.8	167.9	169.0
Total	86	169.3	4.9	156.4	180.3

Figure Appx. 1.6: Table depicting the stature of males from the Scottish site of Tarbat Old Church, in cm. Phase 2 is where our evidence of the Viking Age comes from. Table taken from King, 'Human Bone Report', p. cviii, [Accessed: 8 May 2020].

Phase	N	Mean	SD	Minimum	Maximum
1	2	156.8	4.3	153.7	159.8
2	5	159.7	3.5	156.4	165.1
3 & 4	20	153.8	4.6	145.9	159.8
5	1	165.2	-	165.2	165.2
Total	28	155.4	5.1	145.9	165.2

Figure Appx. 1.7: Table depicting the stature of females from the Scottish site of Tarbat Old Church, in cm. Phase 2 is where our evidence of the Viking Age comes from. Table taken from King, 'Human Bone Report', p. cviii, [Accessed: 8 May 2020].

Site	Date	N	Females	N	Males
Tarbat	8th - 11th C	5	159.7	48	170.1
Isle of May	5 th - 12 th C	2	159.1	29	170.4
Hallow Hill*	6 th - 9 th C	17	160.2	11	169.7

* the researcher used the method of Dupertuis and Hadden (1951)

Figure Appx. 1.8: Table depicting the average stature of individuals from the Scottish site of Tarbat Old Church, compared to other comparative sites. Table taken from King, 'Human Bone Report', p. cix, [Accessed: 8 May 2020].

Appendix 2 – Brutality

Tables and graphs containing the number and positioning of wounds as used above.

	Phase 1			Phase 2			Phase 3			Total		
	N	Tr.	%	N	Tr.	%	N	Tr.	%	N	Tr.	%
Arm trauma												
Males	64	5	7.8	55	3	5.5	13	2	15.4	132	10	7.6
Females	37	2	5.4	29	3	10.3	4	0	0.0	70	5	7.1
Sex unknown	16	2	12.5	10	1	10.0	2	0	0.0	28	3	10.7
Total Adults	117	9	7.7	94	7	7.4	19	2	10.5	230	18	7.8
Hand trauma												
Males	56	1	1.8	59	2	3.4	11	0	0.0	126	3	2.4
Females	25	0	0.0	28	1	3.6	2	0	0.0	55	1	1.8
Sex unknown	10	1	10.0	5	0	0.0	3	0	0.0	18	1	5.6
Total Adults	91	2	2.2	92	3	3.3	16	0	0.0	199	5	2.5
Leg trauma												
Males	66	2	3.0	60	2	3.3	11	0	0.0	137	4	2.9
Females	37	2	5.4	27	2	7.4	4	0	0.0	68	4	5.9
Sex unknown	10	1	10.0	9	1	11.1	2	0	0.0	21	2	9.5
Total Adults	113	5	4.4	96	5	5.2	17	0	0.0	226	10	4.4
Cranial vault												
Males	53	4	7.5	56	6	10.7	10	1	10.0	119	11	9.2
Females	38	3	7.9	30	0	0.0	6	1	16.7	74	4	5.4
Sex unknown	13	2	15.4	15	1	6.7	2	0	0.0	30	3	10.0
Total Adults	104	9	8.7	101	7	6.9	18	2	11.1	223	18	8.1
Weapon wounds												
Males	89	8	9.0	95	3	3.2	15	1	6.7	199	12	6.0
Females	56	4	7.1	46	0	0.0	9	0	0.0	111	4	3.6
Sex unknown	62	2	3.2	43	1	2.3	5	0	0.0	110	3	2.7
Total Adults	207	14	6.8	184	4	2.2	29	1	3.4	420	19	4.5

Figure Appx. 2.1: Table demonstrating the proportion of adults with trauma present at Sigtuna. Phase 1 is the period that dates to the Viking Age Table taken from Kjellström, Tesch, and Wikström, 'Inhabitants of a Sacred Townscape', p. 106.

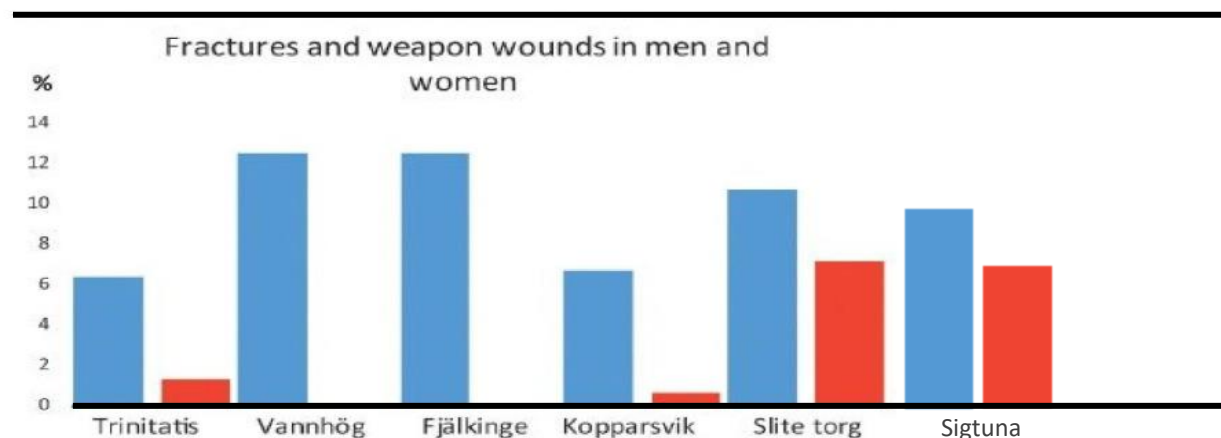


Figure Appx. 2.2: Graph showing the frequency of fractures (in blue) and weapon wounds (in red) at the sites assessed by Arcini. Graph taken from Arcini, *The Viking Age*, pp. 60 – 66. Results from Sigtuna added by Matthew Cowley, using results published in Kjellström, Tesch, and Wikström, 'Inhabitants of a Sacred Townscape', pp. 87 – 92.

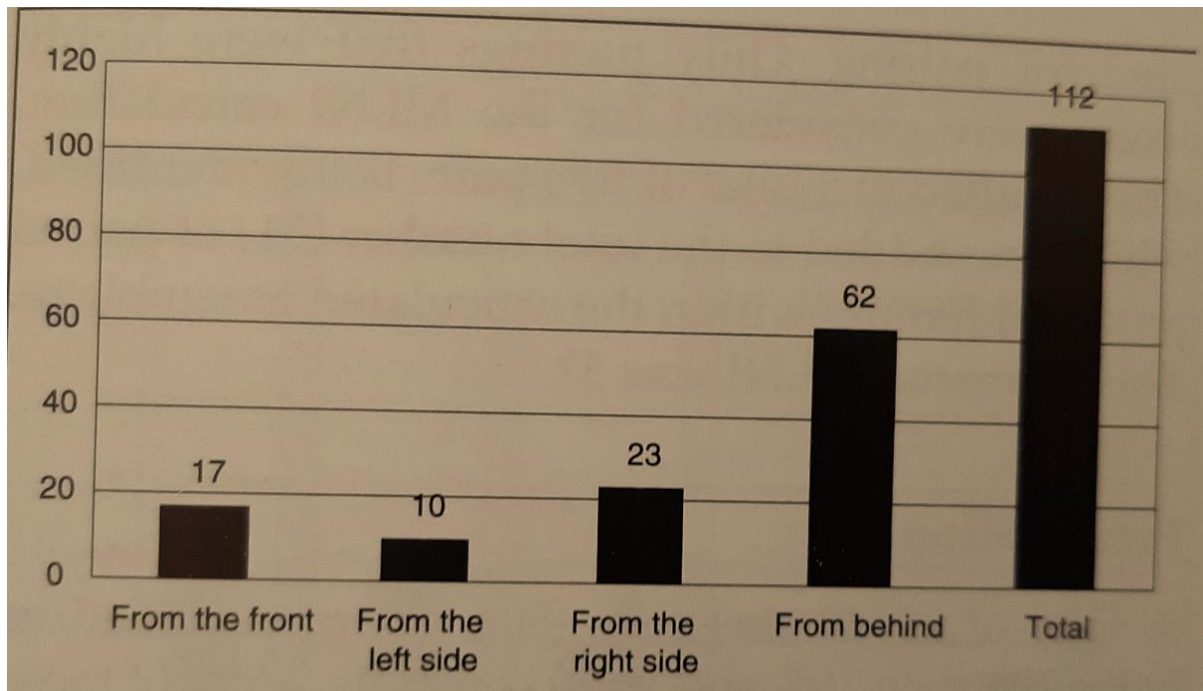
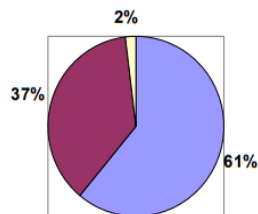


Figure Appx. 2.3: Graph demonstrating the frequency of the direction of blows causing sharp force trauma at Ridgeway Hill. Graph taken from Loe, et al. 'Given to the Ground', p. 81.



Above: Pie chart showing the proportions of wounds caused by blades, punctures and projectiles.

Below: Chart showing the percentage of wounds caused to each body area. Note almost 50% are recorded on the back.

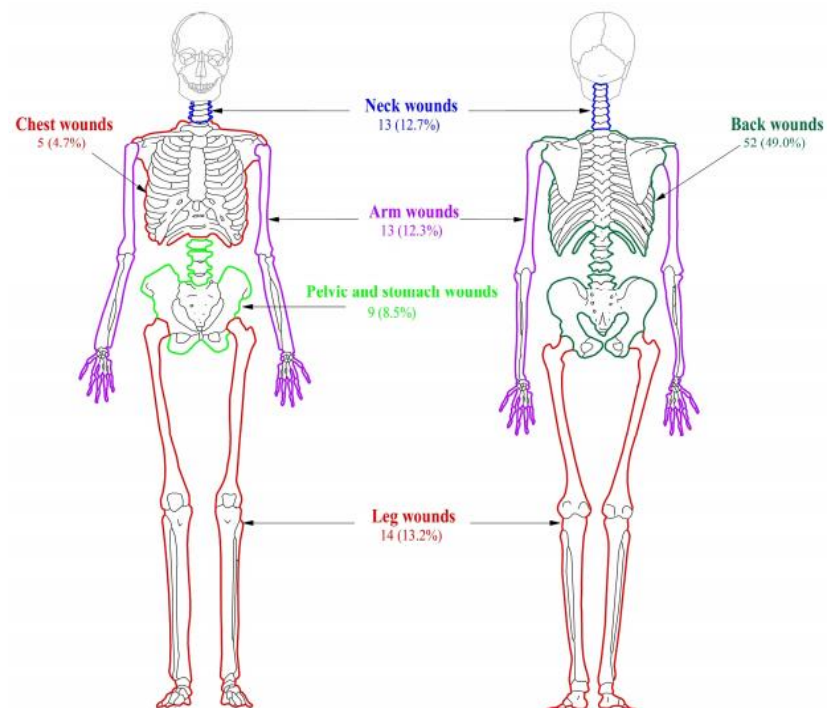
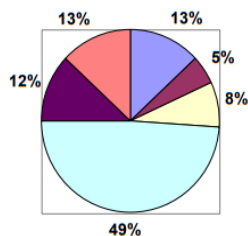


Figure Appx. 2.4: Pie charts and diagram depicted the frequency and positioning of wounds present on the individuals found at St John's College in Oxford. Pie charts and diagram taken from Thames Valley Archaeological Service, *St John's College, Oxford*, p. Patterns of Violence [Accessed: 8 May 2020].

	Females		Males		Total*	
	N	n (%)	N	N (%)	N	N (%)
Phase 1	1	0	2	0	3	0
Phase 2	5	0	55	20 (36)	62	20 (32)
Phases 3 and 4	23	3 (13)	38	4 (11)	61	7 (12)
Phase 5	1	0	2	0	4	0
Total	30	3 (10)	97	24 (25)	130	27 (21)

* includes undetermined sex category

N = number of individuals

n = number of individuals with traumatic injuries

Figure Appx. 2.5: Table depicting the percentage of individuals with traumatic injury by phase present at Tarbat Old Church.
Phase 2 is where our evidence of the Viking Age comes from. Table taken from King, 'Human Bone Report', p. cxxxvi,
[Accessed: 8 May 2020].

Appendix 3 – Barbarism

Tables and graphs containing age information used above.

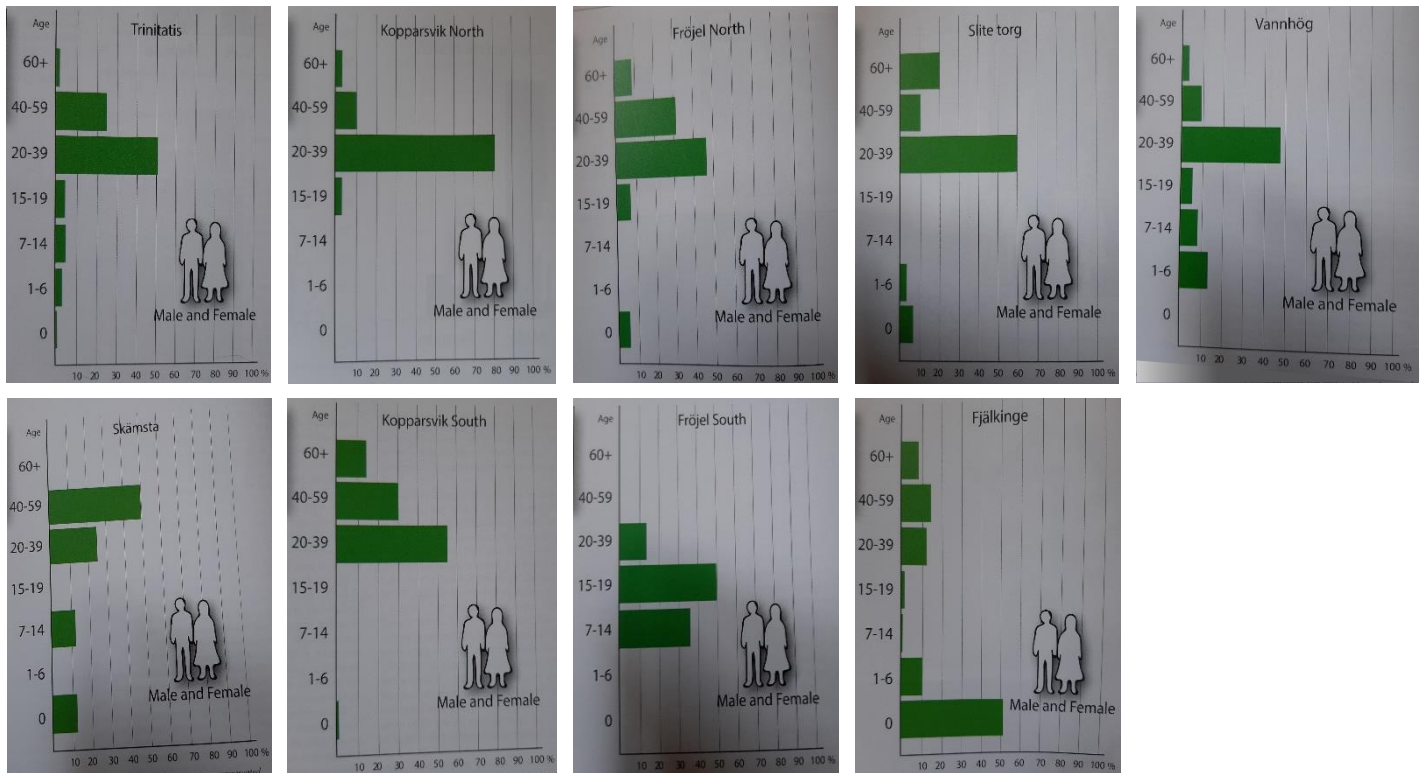


Figure Appx. 3.1: Tables demonstrating the percentage of ages present at seven of the eight sites used in Arcini's study of Scandinavian osteology. Tables taken from Arcini, *The Viking Age*, pp. 9 – 37.

i. Numbers of graves						
	Cem.1	Cem.2	Cem.3	Cem.3M ¹	Cem.4	'Totals
Male and ?male	—	9	69	19	13	110
Female and ?female	1	1	41	10	11	64
Adult unsexed	6	21	106	14	7	154
All adults	7	31	216	43	31	328
Child	26	9	56	2	25	118
Unidentified	—	3	13	—	4	20
TOTALS	33	43	285	45	60	466
ii. Percentages						
	Cem.1 n=33	Cem.2 n=43	Cem.3 n=285	Cem.3M n=45	Cem.4 n=60	Totals n=466
Male and ?male	0	21	24	42	22	24
Female and ?female	3	2	14	22	18	14
Adult unsexed	18	49	37	33	12	33
All adults	21	72	76	96	52	71
Child	79	21	20	4	42	25
Unidentified	—	7	5	—	7	4

Figure Appx. 3.2: Tables comparing the number and percentage of individuals present at the various cemeteries at Repton. Tables taken from Biddle, and Kjølbye-Biddle, 'Repton and the 'Great Heathen Army'', p. 75.

	<i>Mound</i>	<i>Cemeteries 1-4</i>
	%	%
Male and ?male	82 ¹	63
Female and ?female	18	37
Adult	97 ²	73
Child	3	27
Age <17	5 ³	41 ⁴
17-25	31	19
26-35	37	16
36-45	25	15
>45	3	9

Figure Appx. 3.3: Table comparing the percentage and ages of individuals present at the various cemeteries and the mound at Repton. The 'Mound Deposit' while the other Cemeteries are Anglo-Saxon/Anglo-Scandinavian. Table taken from Biddle, and Kjølbye-Biddle, 'Repton and the 'Great Heathen Army'', p. 74.

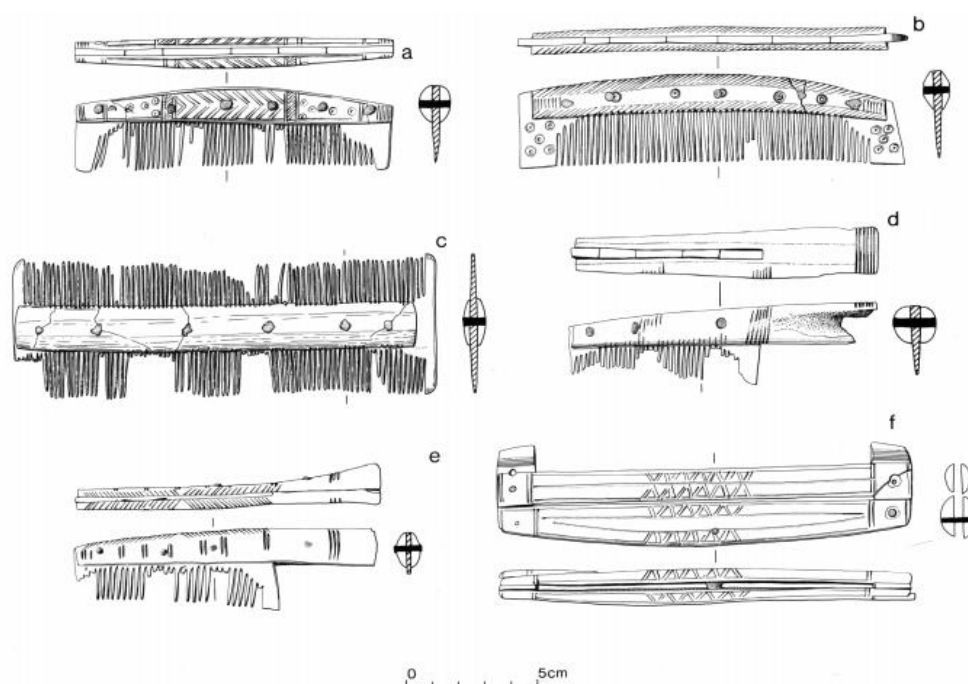


Figure Appx. 3.4: Image of a selection of antler combs discovered at Coppergate. a. and b. are both single sided combs, c. is a double-sided comb, d. is a solid handled comb, e. is a composite handled comb, and f. is a comb-case. Image taken from MacGregor and Mainman, 'The Bone and Antler Industry in York', p. 352 [Accessed: 10 May 2020].

Dental disease prevalence in each age band (percentages in dentitions)			
age band	caries	abscesses	ante-mortem tooth loss
adult 1	11.5	4.0	12.0
adult 2	39.1	28.6	27.3
adult 3	50.0	31.2	50.0
adult 4	50.0	66.7	75.0

Dental disease prevalence in the sexes (percentages in dentitions)			
sex	caries	abscesses	ante-mortem tooth loss
female	43.2	21.6	42.1
male	20.9	30.0	35.0
sex n/d	25.0	0.0	50.0
average	30.9	24.7	50.0

Figure Appx. 3.5: Tables displaying the levels of dental disease present at Edix Hill. The top table demonstrates the dental disease prevalence in each age band, while the bottom table demonstrates dental disease prevalence in the sexes. Tables taken from Malim and Hines, *The Anglo-Saxon Cemetery at Edix Hill*, p. 172.

Age	Phase 1		Phase 2		Phases 3 & 4		Phase 5		Total	
	N	%	N	%	N	%	N	%	N	%
adult	2	50.0	11	16.7	10	15.6			23	16.7
17-25			5	7.6	8	12.5	1	25.0	14	10.1
26-45			27	40.9	16	25.0	1	25.0	44	31.9
46+	2	50.0	23	34.8	30	46.9	2	50.0	57	41.3
Total	4	100	66	100	64	100	4	100	138	100

Figure Appx. 3.6: Table depicting the percentage of individuals within a specific age range by phase present at Tarbat Old Church. Phase 2 is where our evidence of the Viking Age comes from. Table taken from King, 'Human Bone Report', p. civ, [Accessed: 10 May 2020].

Site	Date	N	Subadults (%)	Young Adults (%)	Middle Adults (%)	Old Adults (%)
Tarbat	8th - 11th C	67	1.5	7.5	40.2	34.3
Isle of May	5th - 12th C	42	9.5	16.6	33.3	26.2
Hallow Hill	6th - 9th C	82	29.3	34.1	30.5	6.1

Figure Appx. 3.7: Table depicting the percentage of individuals within a specific age range at Tarbat Old Church and other comparative Scottish sites. Table taken from King, 'Human Bone Report', p. cv, [Accessed: 10 May 2020].

Age band	Sex N/A	Female	Male	Sex N/D	Total	Percentage
Foetal/neonate	1	—	—	—	1	0.7
Infant	2	—	—	—	2	1.3
Child	26	—	—	—	26	17.6
Adolescent	14	—	—	—	14	9.5
Other immature	3	—	—	—	3	2.0
All immature	46	—	—	—	46	31.1
Adult 1	—	11	14	3	28	18.9
Adult 2	—	15	10	0	25	16.9
Adult 3	—	6	5	0	11	7.4
Adult 4	—	7	12	1	20	13.5
Other adult	—	5	7	6	18	12.2
All adult	—	44	48	10	102	68.9
TOTAL					148	100.0

Figure Appx. 3.8: Table displaying the age at death of individuals present at Edix Hill. Table taken from Malim and Hines, *The Anglo-Saxon Cemetery at Edix Hill*, p. 159.

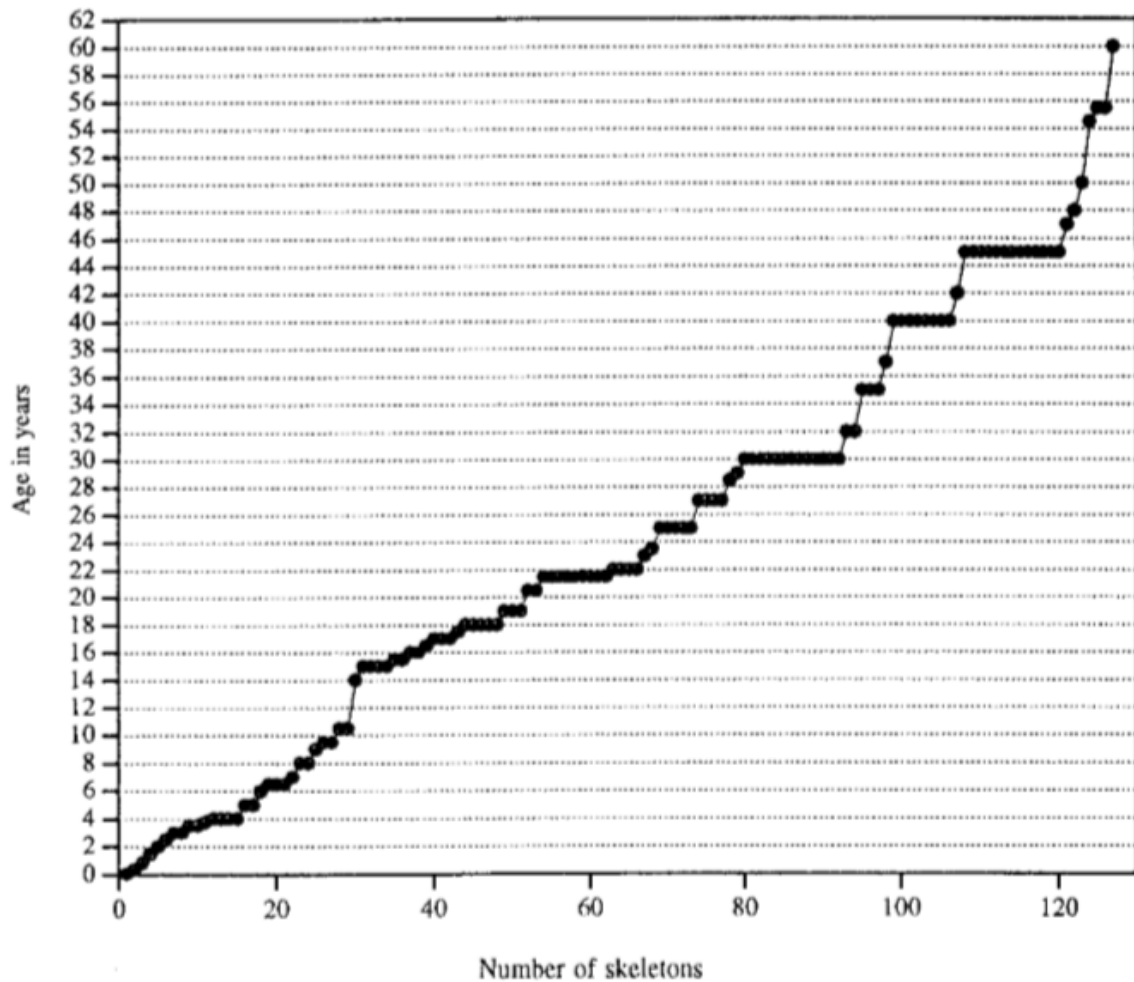


Figure Appx. 3.9: Graph displaying the age at death of individuals present at Edix Hill. Graph taken from Malim and Hines, *The Anglo-Saxon Cemetery at Edix Hill*, p. 160.