

**SCANDINAVIAN NATURE IN THE PERIOD OF CHRISTIANIZATION,
ACCORDING TO LATIN SOURCES**

by © Roza Gabdullina

A Thesis submitted to the
School of Graduate Studies in partial fulfillment
of the requirements for the degree of

Master of Arts

Department of History, Faculty of Humanities and Social Sciences
Memorial University of Newfoundland

September 2022

St. John's Newfoundland and Labrador

Abstract

This thesis focuses on the reciprocal relationship between humans and nature in Norway and Sweden between the 9th and 12th centuries. The period under study is that of the Christianization of Scandinavia, when Scandinavians, who practiced paganism, changed their culture and society. The first missionaries sent to Christianize Scandinavians wrote Latin sources about their mission. These sources give medieval Christian authors' worldviews, perceptions of nature, and descriptions of the Scandinavian environment and culture. This study applies medieval environmental history, linguistic analysis, and archaeological sources to study human-nature relations. Archaeological sources complement the Latin texts to understand these relations better. The research uses Richard Hoffmann's interactive model of culture and nature to discuss reciprocal relationships between culture and the environment; Julian Steward's culture area concept to understand the role of culture in these relationships; Malthusian theory to comprehend the human impact on the environment since increasing demography leads to greater use of natural resources. The interconnections of humans and medieval nature are represented through agricultural and wood utilization activities, which depended on how people perceived their surroundings.

Acknowledgements

I first began to delve into the medieval world when I was writing my thesis for a master's degree in the Archaeology Department of Udmurt State University. I wondered if the culture of Scandinavians influenced the art of Rus'. However, this interest of mine grew into the study of the environment in Scandinavia in the Middle Ages. This was thanks to Dr. Sébastien Rossignol, who supervised my master's thesis at Memorial University of Newfoundland. His interest in urbanization and the environment inspired me to work on natural resources in Scandinavia and human impact on the environment. I would also like to thank my supervisor for helping me with Latin sources and for supporting me in improving my historical research skills. Without him, I would not have started this incredible research to learn about the perception of nature in medieval Scandinavia and the ways of natural resources use. I would like to thank Dr. Stephan Curtis, who introduced me to the Theory and Methods course and showed me the world of historical studies; Dr. Dominique Brégent-Heald, whose course coordinated and improved my research; Dr. Michael D. Kirkparick, whose lectures have increased my knowledge of historical methods. I would like to acknowledge the examiners of my thesis, Dr. Neil Kennedy and Dr. William Schipper, for their valuable comments. And finally, and most importantly, I want to thank my husband, whose love and support kept me going and focused on the task at hand; my mother-in-law and mother for always supporting and understanding me. I thank all my friends and people who have supported me without reserve throughout my studies.

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Abbreviations

<i>VA</i>	<i>Vita Ansgarii</i>
<i>Gesta</i>	<i>Gesta Hammaburgensis Ecclesiae Pontificum</i>
<i>HN</i>	<i>Historia Norwegie</i>
<i>Passio Olavi</i>	<i>Passio et Miracula Beati Olavi</i>

1. INTRODUCTION

Scandinavians led to the emergence of settlements in unexploited territories in Northern Europe in the Middle Ages.¹ They established a model of agricultural and fishing settlements, primarily based on farming, hunting, gathering, and fishing, which varied according to the natural resources available. The utilization of the environment and natural resources had a severe long-term impact on the local flora and soil, which probably created problems for the use of these lands by subsequent generations. But initially, the development of Scandinavian culture was influenced by the physical landscape, climate, and natural vegetation. Therefore, the use of natural resources should be considered through the reciprocal relationship between medieval *natura* and culture. Medieval nature had a much broader sense than the wild environment, which requires a definition of its meaning and perception by medieval writers.

Scandinavia is understood here as consisting of Norway, Sweden, and Denmark. To provide an enhanced understanding of relations between nature and culture in Scandinavia, for this research different territories were chosen in terms of topography and perception by medieval writers: Norway—*montes*, *nemora* and *frigora* (mountains, forests and frozen

¹ Birgit Sawyer and Peter Sawyer, *Medieval Scandinavia: From Conversion to Reformation, Circa 800-1500* (Minneapolis: University of Minnesota Press, 1993), ix. During the period under study, Scandinavians expanded to many parts of Northern Europe. The period is known as the Early Middle Ages (the Viking Age), which started in AD 800 and ended in AD 1100 (AD 1000 or 1050, according to Knut Helle), and the Central Middle Ages, which is considered to be from AD 1100 to AD 1300. Knut Helle, "Introduction," in *The Cambridge History of Scandinavia, Vol. 1, Prehistory to 1520* (Cambridge: Cambridge University Press, 2008), 5.

territories),² *sterilis* (sterile, barren) used only for *pecus* (cattle)³ bordering the North Atlantic Ocean and Sweden—*fertilissima* (the most fertile), rich in *ager frugibus*, *melle*, *sylva* (vegetation/crop, honey, wood),⁴ bordering the Baltic Sea. The use of the comparative approach allows us to see how different natures were perceived, how people adapted to it, and how different environments influenced Scandinavian cultures.

To begin with, what is the perception of nature? People make sense of their surroundings, places, natural phenomena, and disasters, giving them meaning, causes and stories. They place themselves in their environment. People use their perception of nature to interpret natural phenomena and events and thus formulate their actions to overcome them. Stories and beliefs about the environment are the basis of the perceptions of nature that cultures formulate. Culture is a socially transmitted and learned set of behavior that responds to natural processes, and human labor.⁵ That is, the perception of nature that affects the consumption of natural resources is shaped by cultural aspects and transmitted from one generation to another.⁶ Different cultures have different perceptions of their surroundings. The culture of the Scandinavians in the 9th-12th centuries was shaped by the

² *Historia Norwegie*, ed. Inger Ekrem and Lars Boje Mortensen, trans. Peter Fischer (Copenhagen: Museum Tusulanum Press, 2001), c. I, 52-3. *Dictionary of Medieval Latin from British Sources*, ed. Ronald Edward Latham, Richard Ashdowne, and David R. Howlett (Oxford: British Academy, 1975-2013), s.v. “*mons*,” “*nemus*,” “*frigus*.”

³ Adam von Bremen, *Gesta Hammaburgensis Ecclesiae Pontificum*, ed. Bernhard Schmeidler (Hannover and Leipzig: Hahnsche Buchhandlung, 1917), Book IV, c. XXXI, 263; *Dictionary of Medieval Latin*, s.v. “*sterilis*,” “*pecus*.”

⁴ Adam, *Gesta Hammaburgensis*, Book IV, c. XXI, 251. *Dictionary of Medieval Latin*, s.v. “*fertilis*,” “*frux*,” “*melleus*,” “*silva*.”

⁵ Julian H. Steward, *Area Research Theory and Practice* (New York: Social Science Research Council, 1950), 98; *A Dictionary of Sociology* (4th ed.), ed. John Scott (Oxford: Oxford University Press, 2015), s.v. “*Culture*.” Richard Hoffmann, *An Environmental History of Medieval Europe* (Cambridge: Cambridge University Press, 2014), 10.

⁶ Steven Epstein, *The Medieval Discovery of Nature* (New York: Cambridge University Press, 2012), 113-114.

Christianization of the North.⁷ Since this study is limited to the vision of the world by Christian medieval authors related to Scandinavia through the Christian mission, religion is considered as one of the driving factors in determining the sense of nature and its perception. Consequently, the study of medieval Scandinavia must take into account how nature was understood through the perspective of a religious lens. One must not forget that during the period of study, theological ideas in Scandinavia were shaped by two different religions: paganism and Christianity. Therefore, this research should consider how this conversion changed the use of natural resources. A visible example of this transformation is the increase in number of church buildings during Christianization.⁸ The increased consumption of building materials⁹ emphasizes the importance of including in this research the cultural development of Scandinavians, depending on religious aspects. Cultural evolution, in turn, is modified by adapting to the environment. Therefore, the interrelationship between humans and nature is always accompanied by the transformation of cultural traditions and the human impact on the environment.

This research focuses on the following interactions between nature and culture: agriculture and construction (wooden buildings) as some of the main anthropogenic impacts on nature in the Middle Ages. The economy of the pre-industrial era was mainly based on agriculture. There was a growth of settlements and other anthropogenic activities

⁷ The Latin sources used in this study were aimed at proselytizing Christianity among the pagan peoples of the North. Barbara H. Rosenwein, ed., *Reading the Middle Ages: Sources from Europe, Byzantium, and the Islamic World* (Toronto: University of Toronto Press, 2013), 225-226. By the 11th century most of the pagans were converted to Christianity.

⁸ See the connection of religion with nature in Lynn White Jr's "The Historical Roots of Our Ecologic Crisis," *Science* 155, no. 3767 (1967).

⁹ Maria R.D. Corsi, *Urbanization in Viking Age and Medieval Denmark: from Landing Place to Town* (Amsterdam: Amsterdam University Press, 2020), 136.

investigated by environmental historians. The environment experienced Scandinavians' influence, not as much as after the Industrial Revolution, but the impact has been present there since the Middle Ages.

What is the Middle Ages in Scandinavia? Medieval studies got their name from the founders of the Renaissance period, which means the middle era between antiquity and their period (15th-16th centuries). The Middle Ages is usually considered as the period between AD 500 and AD 1500.¹⁰ However, when it comes to Scandinavia, the Middle Ages began there in 800 and lasted until AD 1523.¹¹ The period from AD 800 to around AD 1050 is also known as the period of Scandinavian expansion into many parts of Northern Europe, commonly referred to as the Viking Age. The Vikings were Scandinavian traders, navigators, and pirates, also known as barbarians, who attacked and plundered abbeys and churches.¹²

Research objectives: This study seeks to answer four main questions: 1—Does religion influence descriptions of nature and the vision of the world? 2—What prerequisites did nature provide for developing a Scandinavian culture in two distinctive territories (Norway and Sweden)? 3—How did the authors of the medieval Latin sources perceive nature, and how did their religion influence this perception? 4—What was the anthropogenic impact on nature in Norway and Sweden in the 9th-12th centuries based on activities related to agriculture and the utilization of wood, and did the religious worldview

¹⁰ Hiram Kümper, "The Term 'Middle Ages'," in *Handbook of Medieval Studies: Terms – Methods – Trends*, ed. Albrecht Classen, 1310-1319 (Berlin: De Gruyter, 2010), 1311.

¹¹ Boyer, "Scandinavia."

¹² Peter Sawyer, "Vikings and the Viking Age," in *The Oxford Dictionary of the Middle Ages*, ed. Robert E. Bjork (Oxford: Oxford University Press., 2010). Régis Boyer, "Vikings," in *Encyclopedia of the Middle Ages*, ed. André Vauchez (Cambridge: James Clarke & Co, 2005). Adam, *Gesta Hammaburgensis*, Book IV, c. X, 238; *Dictionary of Medieval Latin*, s.v. "barbarus." Barbarian—uncivilized, cruel.

play a role in it? Therefore, the research aim is to review Latin sources to reconstruct: the culture and religion of medieval Norway and Sweden through the medieval writers' vision, a picture of the environment, the perception of nature by the authors, natural resources (soil and wood); and archaeological sources to obtain data on Scandinavian culture, the topography and climate of Sweden and Norway, agricultural and wood utilization activities and their impact on nature to understand the relations between humans and the environment.

The main field of this research is environmental history, which focuses on the history of the human impact on nature. A reason for the growing interest in environmental problems was the fast population growth between 1850 and 1950,¹³ which led to the rapid consumption of natural resources.¹⁴ John McNeill defined environmental history as “the history of the relationship between human societies and the rest of nature on which they depended.”¹⁵ A main dispute in the field is whether humans and nature are “ontologically distinct.” Therefore, research is not only about human impact on the environment, but rather on their reciprocal relationship.¹⁶ The medieval relationship between humans and the environment is mainly reflected in the perception of nature by medieval people. To understand medieval reciprocal relations, one should understand features inherent in the Middle Ages. The Middle Ages are primarily different from the modern environment

¹³ Alfred W. Crosby, “The Past and Present of Environmental History,” *The American Historical Review* 100, no. 4 (1995): 1179–8.

¹⁴ Crosby, “The Past and Present,” 1179–78; Giorgos Kallis, *Limits: Why Malthus Was Wrong and Why Environmentalists Should Care* (California: Stanford University Press, 2019), 43.

¹⁵ John R. McNeill, “Observations on the Nature and Culture of Environmental History,” *History and Theory* 42, no. 4 (2003): 6; John R. McNeill, “The State of the Field of Environmental History,” *Annual Review of Environment and Resources* 35 (2010): 345–374.

¹⁶ Emily O’Gorman and Andrea Gaynor, “More-than-human Histories,” *Environmental History* 25, no. 4 (2020): 714–17.

because of the predominance of a more non-human environment and of an agricultural society. Society, culture, religion, and even technology determined the vision of medieval nature.¹⁷

Medieval *natura*¹⁸ was not only the uncultivated part of the environment as we know it today but also the sum of living and non-living things, the relationship between God and human beings, and the domain of God or Gods. Nature, for Christians, had a meaning that was often connected with suffering and was a sign of God. That is, the interaction of humans and nature had the goal of completing Creation and understanding the will of God. Nature was the sum of soil, weather, and even the sun humans need to interact with to complete Creation.¹⁹ Thus, the definition of nature in the Middle Ages was firmly associated with and shaped by peoples' culture. Therefore, the interpretation of nature is carried out through cultural and religious features of Scandinavians, based on the medieval Christian writers who lived between AD 800-1200. Religion partly, if not entirely, shapes the perception of medieval nature. This study needs to include features of medieval religion, in particular, because of the religious worldview of medieval writers. However, how people influenced nature in the Middle Ages depended on many other factors. First of all, this research claims that it depended on the perception of nature. Again, as has been said,

¹⁷ Franz-Josef Brüggemeier, "Environmental History," in *International Encyclopedia of the Social & Behavioral Sciences* (Amsterdam: Elsevier, 2001): 4621-4627; Donald Worster, "Transformations of the Earth: Toward an Agroecological Perspective in History," *The Journal of American History* 76, no. 4 (1990): 1089.

¹⁸ *Dictionary of Medieval Latin*, s.v. "*natura*."

¹⁹ Epstein, *The Medieval Discovery*, 153; Hoffmann, *An Environmental History*, 94, 97, 104. Richard Hoffmann, "Homo et Natura, Homo in Natura Ecological Perspectives on the European Middle Ages," in *Engaging with Nature: Essays on the Natural World in Medieval and Early Modern Europe*, eds. Barbara A. Hanawalt, and Lisa J. Kiser (Notre Dame: University of Notre Dame Press, 2008), 12.

religious ideas shaped the vision of nature by medieval writers, although they did not represent the vision of everyone.

Medieval sources written in and about Scandinavia during the 9th-12th centuries were limited, and most were in Latin. This was facilitated by the Christianization of the North when literate clerics left records about their mission to northern Europe. These books, written by hand, are unique and singular, which requires an individual approach from scholars to understand the authentic opinion of the medieval author.²⁰ Medieval Scandinavia is a kind of unknown territory because scholars suffer from a lack of written sources. Moreover, almost all written sources for the period under study have been written outside of Scandinavia.²¹ So are the sources used in this research: *Vita Ansgarii* (865-876), *Gesta Hammaburgensis ecclesiae pontificum* (1072-1076), *Historia Norwegie* (1160-1175), *Passio et miracula beati Olavi* (1170-1188).

Vita Anskarii is the earliest text among the primary sources of this research. It was written by Ansgar's companion, Bishop Rimbert. As hagiography, the source contains a detailed description of the life of Saint Ansgar, his surroundings, and, most importantly, the perception of nature. The author was connected with Denmark and Sweden during his mission. Therefore, the source is used to study how Scandinavian settlers used natural resources and how Rimbert saw his surroundings. It should be taken into account that, as the earliest book among the works about Scandinavia, it was used by subsequent authors who relied on it. Adam of Bremen quotes Rimbert in his *Gesta Hammaburgensis ecclesiae*

²⁰ Susan Noakes, "Manuscripts: Past and Present Approaches," in *Handbook of Medieval Studies*, 807 (Vol 1).

²¹ *The Scandinavians from the Vendel Period to the Tenth Century: An Ethnographic Perspective*. Vol. 5, ed. Judith Jesch (Woodbridge: The Boydell Press, 2002), 1.

pontificum, which covers history from AD 788 to AD 1080. This source is not only about the history of *ecclesia* (the Church) in the North, it also contains a geographical description of Scandinavia, as well as of the inhabitants of these territories. The *Historia Norwegie*, written by an unknown author probably in the 12th century, describes Norwegian history. The source is a unique text about the geography, landscape, and natural resources of Scandinavia during the 12th century. The author was probably from Norway, as the work belongs to the Norwegian government circle, episcopal or royal.²² The daily life of the Scandinavian settlers will be observed in *Passio et miracula beati Olavi* written by an unknown author. The text is about Saint Olaf, his life and miraculous abilities, his surroundings, and the nature of Scandinavia between AD 995 and 1031.²³ Olaf lived most of his life in Norway as a king and a Christian who converted Norwegians.²⁴ The author also probably lived in Norway and served in the church of the blessed Olaf.²⁵ To sum up, what makes these sources indispensable is that they are the earliest written sources about Scandinavia presenting historical events from the view of Christian writers. They provide data on the nature of Scandinavia and how nature was perceived during the period under study.

The primary sources will be researched by reviewing mentions of the cultures of pagans and Christians, the landscape and nature of Scandinavia, natural resources, and

²² Mortensen, "Introduction," in *Historia Norwegie*, 24; Ekrem, "Essay on Date and Purpose," in *Historia Norwegie*, 218.

²³ *Passio et Miracula Beati Olavi*, ed. Frederick Metcalfe (Oxford: Clarendon Press, 1881), 2; Carl Phelpstead, "Introduction," in *A History of Norway and The Passion and Miracles of the Blessed Óláfr*, ed. Carl Phelpstead, trans. Devra Kunin (Exeter: Short Run Press Limited, 2001), xxvi.

²⁴ Phelpstead, "Introduction" in *A History of Norway*, xxv.

²⁵ *Passio et Miracula*, 97. "In prouintia igitur que morre dicitur, non longe a beati olai basilica...;" *A History of Norway and The Passion and Miracles of the Blessed Óláfr*, 54-5. "Thus, in the district called Mœrr, not far from the church of the blessed Olaf..." Metcalfe noted that Nordmøre was mistakenly rewritten as *morre*.

descriptions of timber for construction and soil, through a comparison with archaeological data. Therefore, secondary sources are, firstly, studies of primary sources and, secondly, archaeological analyses of historical sites as well as studies of medieval environmental history.²⁶ Archaeological results are used to complement medieval Latin sources. Moreover, the importance of archaeological sources lies in illuminating cultural changes through the agricultural technologies adapted to the environment and data on deforestation. As already mentioned, cultural changes are always accompanied by changes in nature, namely the impact of humans on the environment, which is also illustrated by archaeological sources.

Overall significance of this research and originality: The relationship between humans and nature to this day is a controversial question that deserves more attention. There is a need for a detailed understanding of the forces driving this relationship, the extent of mutual influence, and the perception of nature. Medieval Scandinavia left few written sources before the 12th century, which makes it challenging to study how the world was viewed by all those who lived during the research period. Northern Europe in the 9th-12th centuries has not yet been as well explored as other parts of medieval Europe in environmental history and through the lens of how literate medieval people perceived their surroundings to understand the relationship between humans and nature. This study will fill this gap by analyzing Latin sources of the 9th-12th centuries. The limitations in written sources will be filled by archaeological data, which are valuable sources to reconstruct the

²⁶ The studies of medieval environmental history are presented in *the theoretical framework* paragraph, and archaeological analyzes of historical sites is presented in *the human impact on the environment* and *the impact of the environment on culture*.

human-nature reciprocal relations. This study helps us understand how the modern landscape emerged and how resource use progressed in the pre-industrial world—an agricultural society, and that the modern environment of Scandinavia, like all other territories, is a product of human activity and adaptation to nature.²⁷ However, what exactly influenced human activity and to what extent are open questions, namely what was the main factor in deciding the utilization of resources: cultural, religious or political? The utilization of resources and the degradation of nature went along with the changes in the culture of the settlers. To what extent nature has influenced culture and how to approach it remain debatable for environmental and medieval historians. The use of resources in the Middle Ages directly depended on how people perceived nature, how they saw it, and what nature was for them—which remains an unexplored question. This study intends to answer this question based on the vision of the world by a specific group of society, literate Christians, who left the earliest written sources about Scandinavia.

There is also a need for a comparative approach. The historical and interdisciplinary studies on the natural resources and human-environment relations in medieval Scandinavia have focused so far on specific locations, and not on a comparison of different territories. Including a comparison of two different territories of Scandinavia—Sweden and Norway, allows this study to better explain the changes in their cultures due to the adaptation to different natural conditions and how the nature of different territories was perceived.

This research brings a new perspective on the Latin sources written before the 12th century. Despite the purpose of their writing—proselytizing Christianity among the pagan

²⁷ Ellen F. Arnold, “An Introduction to Medieval Environmental History,” *History Compass* 6, no. 3 (2008): 902, 905.

peoples and having the Archbishopric of Hamburg-Bremen being recognized in the North²⁸—these sources mention Scandinavian nature through the understanding and vision of it by literate medieval writers. Given their purpose of writing, the study of these sources requires reading against the grain. By reading against the grain and being supported by archaeological sources, this study will analyze the nature of medieval Scandinavia and its resources.

The structure of the thesis is in the following order: Chapter 2 describes the background of the research field—human-environment relations in environmental history and how these methods have been applied to the Scandinavian territories in the Middle Ages; Chapter 3 focuses on an overview of the methods and theoretical framework to reconstruct and interpret relations between culture and nature in medieval Sweden and Norway; Chapter 4 analyzes the primary sources, their reliability and limitations for this study, and the secondary sources used in this research; Chapter 5 provides an overview of medieval Scandinavian cultures in Sweden and Norway, including their religion and population growth; Chapter 6 is concerned with the environment in medieval Scandinavia, its climate and topography, and how medieval nature was perceived by the authors of the primary sources. The settlement of northern Europe was facilitated by the Medieval Warm Period, which played a significant role in the growth of vegetation and humans' exploitation of nature and land. In addition to favorable climatic conditions during the

²⁸ Ildar H. Garipzanov, "Christianity and Paganism in Adam of Bremen's Narrative," in *Historical Narratives and Christian Identity on a European Periphery: Early History Writing in Northern, East-Central, and Eastern Europe (c. 1070–1200)*, edited by Ildar H. Garipzanov, (Turnhout: Brepols Publishers n.v., 2011), 13 and 16. The mission, also known as the "missionary Christian identity." *Cambridge Advanced Learner's Dictionary & Thesaurus*, ed. Colin McIntosh (Cambridge: Cambridge University Press, 2003), s.v. "archbishop," accessed February 18, 2022. Archbishop is "a bishop of the highest rank who is in charge of churches and other bishops in a particular large area."

Middle Ages, the topographic aspects of Scandinavia played a decisive role in the settlement and development of Scandinavian cultures. The lands studied here were not equally arable and suitable for agricultural settlements. Therefore, climate and topography are important factors to show how differently nature influenced people and their cultures in Norway and Sweden. Furthermore, the perception of the landscape by medieval authors also played a significant role, which subsequently influenced the use of natural resources. Chapter 7 explores the natural resources and human-nature interactions through their agricultural activities and the use of woodland resources, and the human impact on the environment.

2. HISTORIOGRAPHY

The second chapter provides background information on fields of study—the historiography of environmental history and how environmental history approaches are used to interpret the relationship between humans and nature in the Middle Ages. Environmental history focuses on the interconnection between human societies and nature or non-human world.²⁹ However, relations between humans and nature in the Middle Ages require an understanding of medieval nature and its perception by medieval people. Therefore, this chapter focuses on environmental history, where and how it began (*US and Northern Europe Environmental history*), and what disciplines influenced its development (*Anthropology*). The chapter then discusses the environmental history of the Middle Ages (*Medieval human-environment relations*) and the fields that contributed to its origin and development (*Religious environmental direction; Archaeology; and Climate history*).

2.1 Human-environment relations in environmental history

US Environmental history:

The main field of this research, environmental history, took its place in the historical discipline in the 1960s. The appeal of environmental history was inspired by the excessive population growth between 1850 and 1950 and challenges with food supplies. The question of how to develop industry and, at the same time, preserve nature has become the driving

²⁹ O’Gorman and Gaynor, “More-than-human,” 714; Worster, “Transformations of the Earth,” 1089-90. As defined by Donald Worster, the non-human environment is independent energies that are not affected by humans and do not come from the inventions of human society

force behind most research.³⁰ The first generation of environmental historians formed the American Society for Environmental History (ASEH) in 1976-1977 to highlight the role of the environment in historical events.³¹ What is remarkable about environmental history is that it is interdisciplinary, according to John Opie, the principal founder of the ASEH.³² John McNeill, an American environmental historian, defines environmental history as “the history of the relationship between human societies and the rest of nature on which they depended.”³³ Richard White, an American historian, wrote in 1985 that cultures and institutions shape the environment.³⁴ Donald Worster documents that human activities render “the natural and cultural” indistinguishable. But he also stated in 1990 that environmental historians distinguish them, because there are natural phenomena, like volcanic eruptions, that humans do not influence.³⁵ The main problem of environmental history is not yet determined, according to Sverker Sörlin and Paul Warde.³⁶ Consequently, as environmental historians Emily O’Gorman and Andrea Gaynor note, the central dispute in the field is that scholars still question whether humans and nature are “ontologically distinct” or whether they should be studied as overlapping. They also noted that an essential part of the field is to analyze how people understand the environment.³⁷

³⁰ Crosby, “The Past and Present,” 1179–8.

³¹ O’Gorman and Gaynor, “More-than-human,” 713; McNeill, “Observations on the Nature,” 6; McNeill, “The State of the Field,” 349-350.

³² Lisa Mighetto, Interview with John Opie, *American Society for Environmental History*, Boise, ID, March 13 (2008), 20, 11-14, 16.

³³ McNeill, “Observations on the Nature,” 6; McNeill, “The State of the Field,” 345-374.

³⁴ Richard White, “American Environmental History: The Development of a New Historical Field,” *Pacific Historical Review* 54, no. 3 (1985): 334-5.

³⁵ Worster, “Transformations of the Earth,” 1089-90.

³⁶ Sverker Sörlin and Paul Warde, “The Problem of the Problem of Environmental History: A Re-Reading of the Field,” *Environmental History* 12, no. 1 (2007): 116-118.

³⁷ O’Gorman and Gaynor, “More-than-human,” 714, 717.

Environmental history (Northern Europe):

A decade after the formation of the ASEH, in 1988, scholars of eastern and western Europe formed the European Association for Environmental History (EAEH).³⁸ Like American scholars, Northern European environmental historians have focused on issues of wildlife and forests.³⁹ The study of the resources has replaced the analysis of problems that endanger resources.⁴⁰ Thomas Hillmo and Ulrik Lohm write about natural resources, their conservation, and regulatory institutions in “Nature's Ombudsmen: The Evolution of Environmental Representation in Sweden” in 1997.⁴¹ In the 1980s, the approaches changed to reconsider what humans have done to the environment—the consequences of anthropogenic activities.⁴² In 1988 was published *The Construction of Nature: A Discursive Strategy in Modern European Thought*, a collection of essays focused on a human activity and nature. According to the editors of the collection Svend-Erik Larsen and Stipe Grgas, nature is “a boundary between that which acquires a function through culture and [is a precondition of culture.]”⁴³ Nikolay Grinzer pointed out that European scholars have always contrasted “nature and man,” and drew attention to the need for cultural interpretation of words in his essay in this collection.⁴⁴ Kenneth R. Olwig, in “Nature,”

³⁸ Verena Winiwarter et al., “Environmental History in Europe from 1994 to 2004: Enthusiasm and Consolidation,” *Environment and History* 10, no. 4 (2004): 503, 509.

³⁹ Scott Farrow, review of *Encountering the Past in Nature: Essays in Environmental History*, rev. edition, ed. Timo Myllyntaus and Mikko Saikku, *The Journal of Economic History* 61, no. 3 (2001): 868.

⁴⁰ Kay Milton, *Environmentalism and Cultural Theory: Exploring the Role of Anthropology in Environmental Discourse* (London and New York: Routledge, 1996), 40; Cioc, “Environmental History,” 400.

⁴¹ Thomas Hillmo and Ulrik Lohm, “Nature's Ombudsmen: The Evolution of Environmental Representation in Sweden,” *Environment and History* 3, no. 1 (1997): 19-43.

⁴² Benjamin J. Vail, “Human Ecological Perspectives on Norse Settlement in the North Atlantic,” *Scandinavian Studies* 70, no. 3 (1998): 297.

⁴³ Svend-Erik Larsen and Stipe Grgas, “Introduction,” in *The Construction of Nature: A Discursive Strategy in Modern European Thought*, eds. Stipe Grgas Svend-Erik Larsen (Odense: Odense University Press, 1994).

⁴⁴ Nikolay P. Grinzer, “Constructions of the Past,” in *The Construction of Nature*,

noted that “nature influences people, and people modify nature” in 2009.⁴⁵ Thus, the debate about the relationship between humans and nature also remains open in Northern Europe, which can be further illuminated through interdisciplinary approaches.

Anthropology:

As noted, environmental history is an interdisciplinary field where anthropology can be used to understand human behavior, culture, and intercultural differences. Anthropology shows how people perceive and use their surroundings. Julian Steward, an anthropologist, invented cultural ecology which influenced the study of the relationship between humans and the environment. He wrote in 1950 that the theory of cultural ecology is “a reciprocal or interactional phrasing of man-environment relations which assumes that neither man nor environment is necessarily dominant.”⁴⁶ Steward notes that the central meaning of ecology is an adaptation to the environment. A modified culture in a particular environment can be traced through its technologies and resource use process. Thus, culture is modified by nature. However, responses to the environment vary among people living in the same environment, that is, their cultural features may be different in the same region.⁴⁷ However, he emphasizes that the extent to which production activities influence culture is always an empirical problem. Thus, according to Steward, the whole pattern of cultural and social manifestations, technology, land use, etc., is entirely derived from culture.

⁴⁵ Kenneth R. Olwig, “Nature,” *International Encyclopedia of Human Geography* (2009), 277.

⁴⁶ Steward, *Area Research Theory*, 120.

⁴⁷ Steward, *Area Research Theory*, 55.

To sum up, the subsection does not touch on many other disciplines that have influenced the studies on the relationship between humans and nature. The aim of the section was to show how environmental history evolved and how interdisciplinary approaches have influenced and enriched its development. Environmental anthropology has given some interpretations of cultural-human relations, namely, that the environment shapes and changes culture, and that culture is modified differently based on cultural ideas and visions of the world. These approaches are used by medieval historians, which gave a massive leap in understanding the human-nature relation in the Middle Ages. However, the directions environmental history has taken for the Middle Ages differ from those for the modern world, which will be shown in the next section.

2.2 Relations between humans and the environment in medieval Scandinavia

Medieval environmental historians must consider the features inherent in the Middle Ages and the definition of medieval nature. In pre-industrial societies, the natural environment usually included non-human-made surroundings such as landscapes, climate, animals, plants, and so forth. These natural factors in an industrial society are supplemented by an environment formed under the influence of humans, which can be called man-made nature, like cities.⁴⁸ The medieval historian Richard W. Unger noted in 2010 that scholars should not apply modern criteria for understanding nature in the Middle Ages. Past

⁴⁸ Brüggemeier, "Environmental History," 4621-4627.

societies, as he stated, had their own distinctive terms and perceptions of the world.⁴⁹ Therefore, understanding past societies is a core problem for medieval historians. The society of medieval Scandinavia was mainly based on agriculture. People of this period described their surroundings differently than modern people.

An important approach that is applied to understanding past societies is the hermeneutic method to study medieval texts.⁵⁰ Steven Epstein highlighted this vital part of medieval studies—linguistic analysis, since today's word meaning should not be applied to a medieval word.⁵¹ This is an essential method of this research to analyze Latin sources. The meanings of words depended on the local language, jargon, people's profession, region, culture, religion and other features, which requires accurate interpretation and understanding a medieval author's intentions. This study requires an understanding of the religious aspects of Scandinavian society, since the period is known as that of the Christianization of the North. Moreover, the sources used are written by Christian authors for the purpose of describing this mission.

Religious environmental direction:

Religious studies influenced medieval environmental history. Medieval Scandinavia was subject to two religious currents—paganism and Christianity. How Christian ideas have shaped the vision of nature and influenced its use was first described

⁴⁹ Richard W. Unger, "Introduction: Hoffmann in the Historiography of Environmental History," in *Ecologies and Economies in Medieval and Early Modern Europe: Studies in Environmental History for Richard C. Hoffmann*, ed. Scott Bruce (Boston: Brill, 2010), 17-18.

⁵⁰ Verena Winiwarter, "Approaches to Environmental History: a Field Guide to its Concepts," in *People and Nature in Historical perspective*, ed. Jozsef Laszlovszky and Peter Szabo (Hungary: Central European University Dept. of Medieval Studies & Archaeolingua, 2003), 3-22.

⁵¹ Epstein, *The Medieval Discovery*, 17.

by Lynn White in “The Historical Roots of Our Ecologic Crisis” in 1967. White writes that religion is a crucial factor influencing how human society relates to the environment. His work gave rise to studying the relationship between religion (Christianity) and nature, namely that rethinking of religious ideas can help with the ecological crisis.⁵² His statements are based on Genesis’s three main points. First, God created nature, and man and woman are allowed to use nature for their own good. Second, Christians did not fear nature as the pagans had because of animism. Third, Christians are responsible for the destruction of nature because it was given to human beings and their needs. Also, nature personified God’s creation, ideas, and thoughts, which means that the exploitation of nature was perceived as cognition of God or approaching God.⁵³ White’s work connected medieval thought and the natural world. However, scholars criticized his ideas for lack of evidence and for this interpretation of the ecological crisis as being due solely to the Christian religion.

Contrary to White’s ideas, Laurel Kearns notes that the roots of the ecological crisis are based on society’s injustice and inequality, defining this with the term eco-justice or Christian social justice. It is distinguished from the concept of stewardship—Christian stewardship is oriented toward a rethinking of an old religion. Its beginning takes from “God’s charge for humans to take care of the earth” or gives them dominion over the earth. Therefore, “human sinfulness” resulted from the crisis, in which secularism⁵⁴ also played a

⁵² Elspeth Whitney, “Lynn White Jr.’s ‘The Historical Roots of Our Ecologic Crisis’ After 50 Years,” *History Compass* 13, no. 8 (2015): 403; White, “The Historical Roots,” 1205.

⁵³ Hoffmann, *An Environmental History*, 88-9.

⁵⁴ Suhraiya Jivraj, “Secularism,” in *The New Oxford Companion to Law*, ed. Peter Cane and Joanne Conaghan (Oxford: Oxford University Press, 2009). Secularism is a “move away from the idea that laws were derived from God and asserting the view that politics should be free from religion.”

role. Thus, according to Kearns, Christianity is not the cause of the ecological crisis but rather it is the disregard for the scriptures.⁵⁵

Richard Hoffmann points out that White's work is "the single most widely read piece of writing connecting medieval thought and the natural world."⁵⁶ However, he states that Christianity was not the only force responsible for the natural disaster; culture also affected the environment. In addition to the concept of dominance described by White, the Christian scriptures also show people's responsibility to nature, that is, care. Another disagreement with White's ideas is that "Christian theology is not itself a cause but rather the effect."⁵⁷ Religious beliefs result from growing material interest. Hoffmann also notes another omission, namely that there were "literate elite" and "popular cultures" in the Middle Ages. That is, White's ideas did not include popular cultures, which left few written sources. Thus, Hoffmann calls for studying the culture of medieval people in order to understand their relationship with nature since focusing only on Christians does not reflect all medieval people.⁵⁸ Despite criticism, White's work is used by medievalists as it provides a point of comparison and reflection on the influence of religion on human actions. Nevertheless, this direction is essential in medieval environmental history because religious ideas shaped the vision of nature, although they did not represent the vision of everyone.

Thus, the religious-environmental direction will help interpret human-environment relations in medieval Scandinavia. This study includes how medieval authors interpreted

⁵⁵ Laurel Kearns, "Saving the Creation: Christian Environmentalism in the United States," *Sociology of Religion* 57, no. 1 (1996): 57, 62, 58-60.

⁵⁶ Hoffmann, *An Environmental History*, 87.

⁵⁷ Hoffmann, *An Environmental History*, 90.

⁵⁸ Hoffmann, *An Environmental History*, 90, 102.

and understood their religion and the will of God. It is to be noted that this research focuses on the beginning of Christianity in Scandinavia, which confronted paganism; as such, it requires studying the influence of these two religions on each other and only then on nature. Although Christianity was not the only religion in Scandinavia during the period under study, this study is based on Christian writers' world vision. This study thus leaves the possibility of expanding research in the future to include all cultural features of Scandinavian society, based on other written sources.

Relations between humans and nature in the Middle Ages:

Understanding religious and cultural aspects of the Middle Ages and the linguistic analysis of medieval texts are an integral part of medieval environmental history, which help scholars understand the Middle Ages' nature and its perception by past people. Medieval historians are working on this problem. This subsection shows some scholars who researched the relationship between humans and nature in the Middle Ages.

Vito Fumagalli, a medieval historian, shows the transition of the utilization of medieval nature from hunting-gathering to agriculture. His work also focused on another change that began taking place in the Middle Ages, from non-urban to urban life. The author noted that human “[l]ife and death depended on the forces of nature, and people sought to divine her whims by examining the heavens or observing the terrifying eclipses of the sun or the moon.”⁵⁹ According to Fumagalli, the fear of nature was based on the unknown; that is, nature was unknown. However, after urbanization, a “break” appeared

⁵⁹ Vito Fumagalli, *Landscapes of Fear: Perceptions of Nature and the City in the Middle Ages* (Cambridge, UK: Polity Press, 1994),4.

between humans and nature after the early Middle Ages. The author connects this transition with the beginning of control over nature, which began in the Middle Ages in Italy.⁶⁰ Some of his ideas can be applied to the perception of nature in medieval Scandinavia, especially the transition from fear to control.

This transition is also mentioned by Steven Epstein. His work shows the understanding of nature by medieval people through cultural tools that enabled them to interact with nature. Epstein explores the relationship between humans and nature in medieval Europe, namely, what assumptions and beliefs built medieval people's vision of nature. He shows their relationship through grafting, heredity in the world of animals, the inheritability of sin, property rights, and disasters. He suggests looking at the problem of perceiving nature through heredity. The perception of nature was socially transmitted in medieval human society. The vision of nature was a place for transformation by humankind, but disasters were considered a punishment for sins for the actions of people. However, he suggests a change in farmers' thoughts that not only God gives a good harvest, but the person himself can manage and control the environment with new skills in grafting and seed selection. Human ingenuity could improve nature, regardless of what books said about Creation or the persistence of species.⁶¹

John Aberth's work, published in 2013, shows how people in the Middle Ages perceived their surroundings and what was different in more natural and wilder medieval nature from the modern one.⁶² Aberth focuses on medieval attitudes towards nature. His

⁶⁰ Fumagalli, *Landscapes of Fear*, 18, 1.

⁶¹ Epstein, *The Medieval Discovery*, 4, 78, 113-114.

⁶² John Aberth, *An Environmental History of the Middle Ages: the Crucible of Nature* (London: Routledge, 2013), xv. <https://doi.org/10.4324/9780203107690>.

idea is that people in the Middle Ages represented nature as something powerful, and that some cultures cared about their surroundings.⁶³ That is, human-nature relations are not only about the exploitation of nature by humans. He shows four stages of medieval attitudes towards nature: 1—the “eschatological” view defined by dominance over all living beings on the earth during the 3rd-5th centuries; 2—the “adversarial” when people feared nature, and the early Christians demonstrated their power over nature during the mission of Christianization between the 6th-10th centuries; 3—the “collaborative” stage, when people demonstrated their ability to influence the environment and discovered that nature carries the divine plan for creation from the 11th-13th centuries. It was the period when exploitation of nature increased.⁶⁴ The author mentions the importance of considering agricultural growth and other human activities on the environment. However, the Great Famine, the Black Death, and other disasters reminded people that nature is not subject to humans. Thus, the perception of nature again becomes like the second stage, where humans and nature are in conflict.⁶⁵ Aberth notes that historians paid too much attention to human activities in the Middle Ages; however, to some extent, nature also determined the development of human culture.⁶⁶

Richard Hoffmann provided a well-ordered way to understand the relationship between culture and nature by combining his knowledge of medieval history, environmental history, and scientific terms in 2014. He states that anthropogenic activities

⁶³ Aberth, *An Environmental History*, 3-5. Daniel Lord Smail, review of *John Aberth, An Environmental History of the Middle Ages: The Crucible of Nature*, *Speculum* 90, no. 1 (2015): 195–96.

⁶⁴ Aberth, *An Environmental History*, 5-6.

⁶⁵ Aberth, *An Environmental History*, 29-30, 7-8.

⁶⁶ Aberth, *An Environmental History*, 3, 29-30.

in the Middle Ages, such as agriculture, shaped the landscape of Europe; and that natural disasters shaped cultural development. Culture is a powerful force in human-environment relations and, as he notes, “individuals, groups or institutions remained subject to powerful forces from the natural sphere.”⁶⁷ Hoffmann explores “medieval history as if nature mattered,”⁶⁸ and shows human and nature in his “interaction model” as a hybrid—from the school of social ecology in Vienna, hybrid is a human society, human artifacts, human bodies that exist in both the cultural and the natural spheres. This work shows that “culture and nature co-adapt,” and influence each other over time through programme (“to do something of a material quality”), work, experience, and representation.⁶⁹

This study uses the ideas of the authors mentioned as a way to interpret the medieval relationship between nature and humans. However, these authors did not focus on the territories of Scandinavia. Moreover, they showed how natural disasters changed the vision of nature. This research is focused on the period before the Little Ice Age and the Black Death when people had not yet faced the disasters that formed a pessimistic vision of nature. The concept of heredity proposed by Epstein is more beneficial for a more extended period, but this study must consider the adoption of Christianity, that is, the adoption of a new religion and not just its heritability. His suggestion that the perception of nature has changed over time is also applicable to the period under study, as archaeological sources have shown improvement in agricultural technology, which means people have learned to manage nature and its resources better. Therefore, some of his ideas are used in this study. John

⁶⁷ Hoffmann, *An Environmental History*, 278.

⁶⁸ Hoffmann, *An Environmental History*, 3.

⁶⁹ Hoffmann, *An Environmental History*, 8-10.

Aberth's work includes an interpretation of the research period; his idea is most likely traced to Latin sources. Namely, Christians saw themselves as the masters of nature before the 10th century, and in the 11th-13th centuries, people realized that they could control the environment and needed to explore nature to understand the divine plan of creation. Hoffmann shows Aberth's suggestion that historians should pay attention to nature itself. He presents a model that interprets the relationship between culture and the environment showing it as a hybrid area, that is, an area shaped by the interaction of humans with nature. However, Hoffmann does not focus specifically on Northern Europe and the period of Christianization, which are the focus of this study.

Archaeology:

Early medieval written sources about Scandinavia are rare compared to the end of the Middle Ages. Very few sources written between the 9th-12th centuries provide data for reconstructing the history of medieval Scandinavia. Therefore, there is a need for an interdisciplinary approach. One of the influential disciplines in this research is archaeology. Archaeological data complement the descriptions in written sources, give a picture of nature and culture, and enrich the interpretation of their relationship. Archaeological evidence compensates for gaps in written sources, mainly in material culture and landscape changes.

The study of material remains has led to a better understanding of the past: past settlers, their material culture, settlement organization, land use, etc. In this regard, historians in the 1940s began to consider the relationship between farms and nucleated

settlements in their research.⁷⁰ Agriculture is a critical feature in understanding the relationship between humans and nature, as it was an activity that brought medieval people into contact with nature. Archaeological data has provided a detailed study of agricultural implements. For example, Andreas Holmsen pointed out the importance of archaeological research in his work “The Old Norwegian Peasant Community..,”⁷¹ which showed a different perspective on the development and transformation of farming in Norway in the Middle Ages. His study described the structure of farms and the evolution from multiple to single farms, which raised the question of the causality of this transformation of agricultural society based on cultural and natural aspects.⁷²

Archaeologists shifted from urban studies to rural settlements in recent years. Research on buildings and farmhouses has focused more on the farmlands themselves.⁷³ Sven D. Albrethsen and Christian Keller (1986) advanced “landscape ecology,” pioneering the study of the correlation between land use and the resources available in medieval Norse agriculture. Their studies showed the possibility of studying the social organization and economy of Scandinavians through agriculture. The idea behind “landscape ecology” was to determine how people handled geography and resources or adaptation; and how this adaptation affected their society. Their discovery of changes in agriculture adapted to natural and climate changes shows changes in culture and society.⁷⁴ Janken Myrdal

⁷⁰ Ingvild Øye, “Settlement Patterns and Field Systems in Medieval Norway,” *Landscape History* 30, no. 2 (2009): 38.

⁷¹ Andreas Holmsen, “The Old Norwegian Peasant Community: Investigations Undertaken by the Institute for Comparative Research in Human Culture, Oslo: I. General Survey and Historical Introduction,” *The Scandinavian Economic History Review* 4, no. 1 (1956): 17–32.

⁷² Holmsen, “The Old Norwegian Peasant,” 30–32.

⁷³ Øye, “Settlement Patterns,” 38, 40.

⁷⁴ Sven D. Albrethsen and Christian Keller, “The Use of the Saeter om Medieval Norse Farming in Greenland,” *Arctic Anthropology*, 23 (1986): 92-107.

presented in 1997 a way of using archaeological data for the reconstruction of farming based on various regional tillage materials, noting that “archaeology gives information of a different character from the written sources.”⁷⁵ Archaeology analyzes material objects, like tools and household items, without historical events on how and why past people used them. However, archaeological methods can show how human activities affected the environment. Based on pollen analysis, archaeologists can interpret the development of agricultural activities and the utilization of woodland. Thus, archaeological studies can show how people interacted with their environment and how people and landscapes have changed over time to expand historical research.

Medieval archaeologist Ingvild Øye raised the question of the causality of agricultural transformation in Norway, which requires an interdisciplinary approach and a better understanding of the society of Scandinavians. To do this, Øye pointed out the importance of the meanings of words, that, for example, a farm has a broader meaning than intended and differs depending on the region. The development of settlements, she writes, should be seen as a long process dependent on natural resources and soil conditions, as well as the regulation of land and ownership in society.⁷⁶ The work also includes an attempt to compare medieval Norwegian agriculture with that of southern Europe.⁷⁷

Modern archaeological methods have improved and refined historical theories. Research by archaeologist Ellen Anne Pedersen and agricultural geographer Mats Widgren

⁷⁵ Janken Myrdal, “The Agricultural Transformation of Sweden, 1000-1300,” in *Medieval Farming and Technology: the Impact of Agricultural Change in Northwest Europe*, ed. Grenville G. Astill and John Langdon (Leiden: Brill, 1997): 157, 148.

⁷⁶ Øye, “Settlement Patterns,” 41, 45, 43.

⁷⁷ Øye, “Settlement Patterns,” 48, 52.

presented agriculture growth from the Iron Age to the Viking Age in Norway and Sweden using pollen data and mapping in 2011. In this study, data were obtained on the increase in cultivated land and its boundaries on the map. The land has been transformed due to the human need to produce more food during the period under study. Further north, cultivated and grazed land expanded, and woodlands were cleared.⁷⁸

Archaeology and paleoecology often interact. Jed Kaplan et al. (2009) presented usable land and forest cover based on archaeological, paleoecological records and population density. They calculate usable land based on both climate variables (air temperature, precipitation, and potential sunshine hours) and soil variables (soil pH and soil carbon density). Their results show continued deforestation and an increase in arable land after AD 1000 until AD 1350 in Europe.⁷⁹ Anette Overland and Kari Loe Hjelle, who are paleoecologists interested in environmental archaeology, provide the results of agricultural development using pollen analysis in eastern Norway in 2013. They combine pollen analysis from cleared cairns⁸⁰ and peat profiles⁸¹ and use radiocarbon dating. Their results show the human impact on the environment during the Middle Ages.⁸² Archaeological and paleoenvironmental work by Nicholas L. Balascio and Stephen Wickler's shows in 2018 that “environmental changes and records of past human activity

⁷⁸ Mats Widgren and Ellen Anne Pedersen, “Agriculture in Sweden: 800 BC-AD 1000,” in *The Agrarian History of Sweden*, ed. Janken Myrdal and Mats Morell (Sweden: Nordic Academic Press, 2011), 46-7; Bjørn Myhre, *The Archaeology of the Early Viking Age in Norway* (Four Courts Press, 1998), 9.

⁷⁹ Jed O. Kaplan, Kristen M. Krumhardt, and Niklaus Zimmermann, “The Prehistoric and Preindustrial Deforestation of Europe,” *Quaternary Science Reviews* 28, no. 27-28 (2009): 3025.

⁸⁰ *The Concise Oxford Dictionary of Archaeology* (2021), s.v. “cairn,” by Timothy Darvill, accessed July 2, 2022,. Cairn is “a general term used to describe a deliberately constructed pile of stones or stone rubble, often forming a burial mound or barrow, but sometimes the result of clearing fields in preparation for cultivation.”

⁸¹ Anette Overland, and Kari Loe Hjelle, “Pollen Analysis in the Context of Clearance Cairns from Boreal Forests—a Reflection of Past Cultivation and Pastoral Farming,” *Journal of Archaeological Science* 40, no. 2 (2013): 1031. See Fig.1 for an illustration of peat profiles.

⁸² Overland and Hjelle, “Pollen Analysis,” 1029.

are fundamental for understanding human–environment interactions.”⁸³ Their work includes the analysis of Norwegian settlements’ sea-level change, which must be taken into account when studying the influence of nature on the development of culture near coastal areas, which existed in both Norway and Sweden. Pollen analysis indicates an expansion of agricultural areas during the Viking Age.⁸⁴ Prøsch-Danielsen et al.’s archaeological article provides records on human activities and land use in southwestern Norway based on pollen analysis. Their work shows vegetation species and their change over time for the past 6500 years, including changes during the Viking Age.⁸⁵ These are the works that show agriculture and woodland use development during the period under study. The limitation of these sources is that they are typically concentrated on one place or give the results of one excavation, which cannot give a comprehensive picture of historical development in two countries. Moreover, they recorded what has happened as the result of human activity, but not how and why it happened.

The multidisciplinary volume of *The Cambridge History of Medieval Scandinavia*, edited by medieval historian Knut Helle in 2013, should be mentioned here. It covers the disciplines of archaeology, history, geography, and Latin language. The volumes present Scandinavia's social, cultural, religious, political, and economic history. The work is essential for this research as it discusses landscapes, natural resources, and agriculture in

⁸³ Nicholas L. Balascio and Stephen Wickler, “Human–environment Dynamics During the Iron Age in the Lofoten Islands, Norway,” *Norsk Geografisk Tidsskrift-Norwegian Journal of Geography* 72, no. 3 (2018): 146.

⁸⁴ Balascio and Wickler, “Human–environment Dynamics,” 146.

⁸⁵ Lisbeth Prøsch-Danielsen, Christopher Prescottb, and Erik Daniel Fredha, “Land Cover and Exploitation of Upland Resources on the Høg-Jæren Plateau, Southwestern Norway, over the Last 6500 Years,” *Journal of Archaeological Science, Reports* 32 (2020): 102443.

medieval Norway and Sweden, as well as their historical development and contacts with the rest of Europe until AD 1520 in a single work.⁸⁶

Although archaeology has taken a direction of the study of nature to go beyond the study of monuments and elite structures, a better understanding of the causality of settlement development in connection with nature is still required. Archaeologists have attempted, through linguistic analysis, to understand the meanings of words (e.g., Ingvild Oye) and to combine the archaeological record with history (e.g., Knut Helle), which provided a better understanding of these relationships. However, the question of the relationship between nature and humans needs further research. As the work edited by Helle shows, combining different disciplines can give a holistic picture of historical events. To sum up, archaeological sources are essential in environmental history, as they show the degree of human impact on the environment, based chiefly on pollen analysis and radiocarbon dating methods, and cultural development based on the analysis of material objects. Another discipline included in this research is climate history, which provides insight into the conditions to which Scandinavians adapted as they began to settle in Northern Europe. Therefore, in addition to the material culture and other data provided by archaeologists, the relationship between humans and nature in the Middle Ages must also consider the climatic features of the region.

Climate history:

⁸⁶ *The Cambridge History of Scandinavia*, ed. Knut Helle, *Prehistory to 1520* (Cambridge: Cambridge University Press, 2008), i (Vol. 1).

Climate is an important factor influencing the development of culture as well as the formation of the landscape itself. Climate historians focus on how climate and nature developed and changed over time. The main goal of climate history is to reconstruct the past temperature and humidity.

The main limitation in studying the climate of the Scandinavian territories is the lack of international publications, as Huhtamaa and Ljungqvist explain in their historical climate research published in 2021. Paleoclimatic research provides a climate reconstruction to understand the role of climate in the development of settlements. This area is significant in the study of the northern lands due to the sensitivity of crops to climate change.⁸⁷ McGovern and his colleagues (1988) show that climate change was critical to Scandinavian lifestyles. They write that the main reason for the maladaptation was the economic crisis caused by climate change. The reconstruction of the Warm Period (950 to 1250) and of the Little Ice Age is an essential part of their work to interpret the development and decline of northern settlements.⁸⁸

Over time, climate history has evolved, and new climate reconstructions have been added. In 2002 Håkan Grudd et al. studied the climate history of northwest Sweden based on the tree rings of pine trees. Since pine trees can grow up to 600 years old and are well preserved in wet places, they determined a thermosensitive ring width chronology, that is, a correlation between ring width and temperature.⁸⁹ One year later, Barbro Johansson and

⁸⁷ Heli Huhtamaa and Fredrik Charpentier Ljungqvist, "Climate in Nordic Historical Research—a Research Review and Future Perspectives," *Scandinavian Journal of History* 46, no. 5 (2021): 666.

⁸⁸ Thomas H. McGovern et al., "Northern Islands, Human Error, and Environmental Degradation: a View of Social and Ecological Change in the Medieval North Atlantic," *Human Ecology*. 16, no. 3 (1988): 228, 5–70.

⁸⁹ Håkan Grudd et al., "A 7400-Year Tree-Ring Chronology in Northern Swedish Lapland: Natural Climatic Variability Expressed on Annual to Millennial Timescales," *Holocene* (Sevenoaks) 12, no. 6 (2002): 658.

Deliang Chen analyzed the correlation between precipitation, airflow, and topography.⁹⁰ Michael E. Mann et al. used proxy data to reconstruct global temperatures.⁹¹ Olga N. Solomina et al.'s research reconstructed the climate based on glacier fluctuations in 2016.⁹² In the same year, Peng Zhang et al. used the density of pine tree rings to reconstruct temperature anomalies in Scandinavia.⁹³ Nicholas L. Balascio and Stephen Wickler interpreted cultural development in relation with past climate and sea levels changes.⁹⁴ Manon Bajard et al. used geochemical and palynological analyses to reconstruct the past climate in southeastern Norway. Their research shows how people adapted to past climates through changed in agriculture.⁹⁵ Thus, the history of climate will help to reconstruct what were the natural conditions in medieval Scandinavia and how these conditions influenced the development of Scandinavian culture.

Thus, climate history has evolved due to modern temperature reconstruction technologies. There have also been attempts in the history of climate to interpret the human-climate relations (Balascio and Wickler) and how precipitation also varied with topography, which are useful for this research. The methods of climate history can also lead to a new interpretation of written sources. However, very few written sources from Scandinavia have survived to study the climate of the early Middle Ages. The Latin sources

⁹⁰ Barbro Johansson and Deliang Chen, "The Influence of Wind and Topography on Precipitation Distribution in Sweden: Statistical Analysis and Modelling," *International Journal of Climatology: A Journal of the Royal Meteorological Society* 23, no. 12 (2003): 1523.

⁹¹ Michael E. Mann et al., "Global Signatures and Dynamical Origins of the Little Ice Age and Medieval Climate Anomaly," *Science* 326, no. 5957 (2009): 1256.

⁹² Olga N. Solomina et al., "Glacier Fluctuations during the Past 2000 Years," *Quaternary Science Reviews* 149 (2016): 69.

⁹³ Peng Zhang et al., "1200 Years of Warm-Season Temperature Variability in Central Scandinavia Inferred from Tree-ring Density," *Climate of the Past* 12, no. 6 (2016): 1303.

⁹⁴ Balascio and Wickler, "Human-Environment Dynamics," 146.

⁹⁵ Manon Bajard et al., "Climate Adaptation of Pre-Viking Societies," *Quaternary Science Reviews* 278 (2022), 1-2.

used in this study contain little climate data and do not provide a comprehensive picture of the average temperatures. Therefore, there is a need to use other sources to reconstruct the past climate. Past temperatures can be obtained from tree-lines fluctuations, pollen records, glacier oscillations, and tree rings, as shown in the works mentioned above.⁹⁶

2.3 Conclusion

Thus, environmental history of the Middle Ages is also an interdisciplinary field. Its development was influenced by many other disciplines such as anthropology, archaeology, linguistic analysis, climate history and others. To conclude, medieval environmental historians still question the interpretation of the relationship between humans and nature. The study of these relationships in the Middle Ages requires different approaches than for those in the present age. Medieval environmental history requires paying attention to the society of the Middle Ages and its features. These features differed from modern eras after transitioning to production processes. Therefore, medieval historians must take into account the agricultural society, culture, the predominance of more non-human-made nature, the different meanings of words, religious perception of the world, and all other features that characterized the period of study. In this chapter, it was shown that medieval historians also studied the influence of religions on the perception of nature. This study will also focus on medieval cultural and religious aspects to understand Scandinavian culture. Also, medieval historians used interdisciplinary approaches to reconstruct nature in the Middle Ages. This study uses archaeological sources to interpret

⁹⁶ Phillip Pulsiano and Kirsten Wolf, ed., *Medieval Scandinavia: an Encyclopedia* (Routledge, 2017), 94-95.

the relationship between humans and nature and restore cultural aspects and landscapes; and climate history to reconstruct how medieval temperatures might have influenced historical events. Archaeologists also pay attention to nature itself, since the combination of archaeological and historical research provides a holistic picture of historical events. Archaeologists researched agricultural activity in the Middle Ages, which was one of the main human activities in medieval Scandinavia, therefore the main interconnection between humans and nature. Thus, archaeology and climate history make indispensable contributions to the study of the relationship between humans and nature.

3. METHODS

3.1 Approaches to the relationship between humans and nature

This thesis focuses on cultural and natural changes in medieval Norway and Sweden, which requires an interdisciplinary approach. This study applies environmental history, linguistic analysis, archaeological sources, and climate history to investigate the reciprocal relations between humans and nature.

The approach of studying the primary sources (editions of the original first-hand manuscripts⁹⁷) is supplemented by a hermeneutic analysis to interpret the thoughts of medieval authors. It is important to analyze how medieval nature was perceived and what factors influenced the perceptions and descriptions of nature. The northern territories were described as *nature mirabilis* not because they were marvelous but rather due to the use of the various sources of information. Therefore, they were little known by the medieval authors themselves and may not represent the reality that we understand today, but rather what meanings the medieval authors attached to these descriptions, that is, their vision of Norway and Sweden.⁹⁸

Theoretical frameworks:

⁹⁷ *Dictionary of Medieval Latin*, s.v. “*manuscriptus*,”. *Manuscriptus* is translated from Latin as “written by hand.”

⁹⁸ *Historia Norwegie*, c. II, 54; Ekrem and Mortensen, “Commentary,” in *Historia Norwegie*, 131.

The framework for discussing the relationship between humans and nature used in this study is that of socio-economic metabolism (Figure 3.1). Richard Hoffmann explains this through the interactive model of culture and nature. His model represents the reciprocal relationship as a hybrid (human society, artifacts, human bodies and their activities that exist in both the cultural and the natural spheres). Culture and nature co-adapt and influence each other over time through programme, work, experience, and representation. The hybridity of culture and nature is explained by Hoffmann as the process when people perceive nature through cultural representation and the perceived information is subjected to cultural actions and becomes “a programme to do something of a material quality.”⁹⁹ Thus, *work* and *programme* in this research are shown through agricultural and building (woodland resources) activities. The cultural *representation* frame is a literate medieval Christian’s world vision, which will be shown in the chapter “Scandinavian society and culture.”

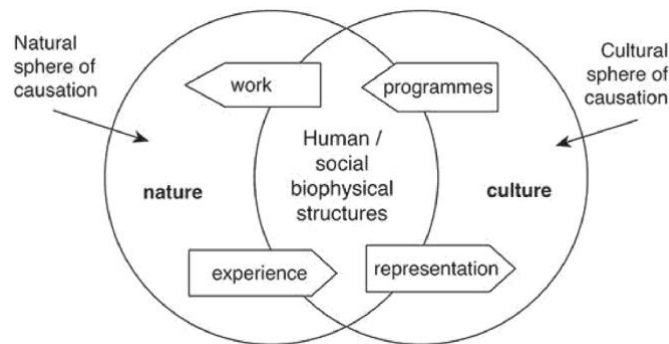


Figure 3.1 Hoffmann’s interaction model. Hoffmann, *An environmental history*, 9.

This study also uses the framework of the culture area concept. This concept is used to study relations between culture and the environment.¹⁰⁰ The anthropologist Julian

⁹⁹ Hoffmann, *An Environmental History*, 8-10.

¹⁰⁰ Douglas A. Feldman, “The History of the Relationship Between Environment and Culture in Ethnological Thought: an Overview,” *Journal of the History of the Behavioral Sciences* 11, no. 1 (1975): 70.

Steward determines this relationship as one in which neither humans nor the environment is dominant.¹⁰¹ The use of natural resources depends not only on their availability and suitability for human needs but also on the culture of their society and on religious traditions that play an influential role. This study will show how the religious worldview affects the perception of nature and the use of natural resources. The cultural area concept helps in discussing the relationship between nature and humans based on cultural aspects, which may differ in the same region.¹⁰² Cultural aspects most likely differed between Norway and Sweden, as well as in regions within these countries, such as those with mountains, plains, and coastal areas. These features will be discussed with agricultural technologies in the chapter “The use of natural resources.” This basis is also taken into account by Richard Hoffmann, who states that “tropical and temperate zones produced peoples of different temperaments.”¹⁰³ Hoffmann probably means to say that different environments form different cultures. The usefulness of the cultural area theory for this study lies in the approach to the relationship between culture and nature, which is seen through the study of people’s behavior in the environment, and the importance and inalienability of culture in these relations.¹⁰⁴ Therefore, the influence of the cultural ideas about the environment calls for a review of the visions of their surroundings by pagans and Christians, as this period is known by two different religions in Scandinavia. However, this research is limited to medieval Christian writers’ vision of nature and pagans’ lifestyles.

¹⁰¹ Ujjal Kumar Sarma et al., *Block-2 Theoretical and Methodological Issues of Environmental Anthropology* (New Delhi: Indira Gandhi National Open University, 2018), 8.

¹⁰² Steward, *Area Research Theory*, 55.

¹⁰³ Hoffmann, *An Environmental History*, 6.

¹⁰⁴ Steward, *Area Research Theory*, 120, 150.

This study argues that the relationship between humans and nature in the Middle Ages primarily depended on the perception of nature. Medieval nature and its perception were different from that in modern ages, as is argued by scholars mentioned in the chapter “Relations between humans and the environment in medieval Scandinavia.” Thus, it is necessary to understand what nature was like for people in the Middle Ages to understand how they utilized natural resources—the perception of nature in this research is interpreted through the model of Richard Hoffmann and Steven Epstein. Epstein’s model interprets the medieval humans’ vision of their surroundings. Their vision of nature was based on the idea that God’s wrath, caused by humans’ sin, creates natural events and disasters, which human societies perceive as a punishment (Figure 3.2). Thus, the relationship with nature was seen by some medieval people as a punishment or reward.

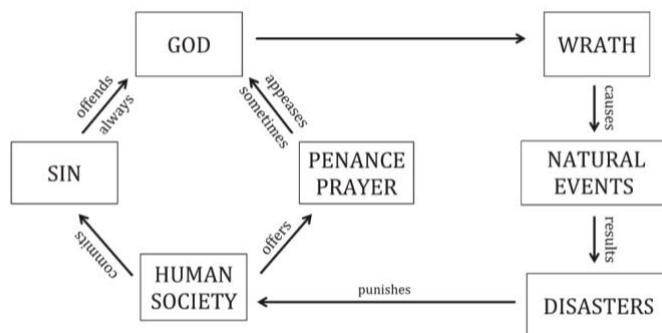


Figure 3.2 Epstein’s medieval disaster model. Epstein, *The Medieval Discovery*, 161.

This study will also analyze how medieval people saw their surroundings using Hoffmann’s interpretation of the perception of medieval nature. He suggests that nature was perceived as a place for suffering, and the material world was perceived negatively and denied. Nature also had a semiotic function or was perceived as a sign that people had to decipher to understand God’s will. So, nature stood for something more real, moral, and religious instruction. Moreover, the collaboration of humans and nature was seen as “nature is a

disorder, so the task of the humans is to bring it into [...] conformity with God's will,” according to Hoffmann.¹⁰⁵ These ideas partly explain how medieval Christians saw the world. Based on these authors, the study will analyze whether these perceptions reflect the vision of the world by the authors of Latin sources in the chapter “Nature of Norway and Sweden during the 9th-12th centuries.”

The perception of nature is important to understand the relations between humans and nature in the Middle Ages. Based on the theories of Hoffmann, Stewart, and Epstein, this research will approach human-nature relations through an analysis of Scandinavian culture to understand their interactions with nature. Since literate Christians wrote the Latin sources about the mission to the North, it became necessary to investigate their religious worldview. Following Stewart's theory, cultural aspects will be shown to be an essential part of reciprocal relations between humans and their surroundings. Cultural and religious aspects created the perception of nature. Hoffmann and Epstein's theories will be used to interpret the vision of nature. Humans and nature interactions will be shown through activities related to agriculture and woodland use, forming a hybrid area, based on Hoffmann's model. Thus, building on these theories, this study will argue that the relationship between humans and nature was mutually influencing. That is, if nature modified culture, people adapted their technologies and lifestyle based on their surrounding conditions, then humans also influenced nature. Therefore, this research needs to understand the human impact on the environment, which will be interpreted through the Malthusian theory.

¹⁰⁵ Hoffmann, *An Environmental History*, 94, 97, 104.

Malthusian theory:

Nature defines and shapes culture through natural conditions and limited natural resources. In this mutual relationship between culture and nature, in addition to cultural influences on the environment, population size also influences the use of natural resources. This research uses the theory of Malthus, according to which population growth leads to environmental degradation because of increased resource consumption. Thomas Robert Malthus's theory, described in the *Essay on Population (Essay)* (1798), argues that increasing demography leads to greater use of resources. The model also explains the causes of population growth, which is due to the existence of large uninhabited lands and available resources. Norway and Sweden in the Middle Ages had vast uninhabited territories. However, the settlement of the territory will eventually lead to a crisis or pauperism (Malthusian catastrophe), when the population exceeds food resources. Malthus explains this process by the reproduction of a population, which is always greater than available resources, even with increased human labor.¹⁰⁶

Nevertheless, Malthus's *Essay* is not only about resource limits as the population grows, but also represents an optimistic view on technologies and the same increase in human happiness and population. Contrary to the generally accepted understanding of his ideas, Malthus states that "no limits whatever are placed to the produce of the earth. It may increase for ever, and be greater than any assignable quantity."¹⁰⁷ According to his theory, a population would grow in a geometrical ratio if left unchecked, and subsistence would

¹⁰⁶ Kallis, *Limits: Why Malthus*, 9, 12-15; Thomas Malthus, *An Essay on the Principles of Population*, 8th Edition (London: Reeves and Turner, 1878), 6, 315.

¹⁰⁷ Malthus, *An Essay*, 6; Kallis, *Limits: Why Malthus*, 11.

grow in an arithmetical ratio.¹⁰⁸ As there are checks, he stated that “the means of subsistence would be equal to this increase [of the population].”¹⁰⁹ Equal growth of population and use of natural resources (subsistence) is applied to this research. The period of study is that of the expansion to the North, when Scandinavians settled in almost unpopulated territories (there lived the Sami in Scandinavia, according to Latin sources). Therefore, subsistence was enough during the period under study for the population growth. Malthus also states that species can fill the earth because of their biological libido, available resources, and uninhabited land.¹¹⁰ So, according to one of Malthus’ ideas about limitless growth, the population increased during the 9th-12th centuries; therefore, the use of natural resources expanded.

In addition to his ideas on the state of population growth, Malthus also discusses some of the world views that existed in the Middle Ages. According to him, suffering from poverty and the need for food are the driving forces in using nature. Nevertheless, Malthus states that the will of God also made people work.¹¹¹ This idea is similar to what Hoffmann writes, that the task of people is to bring the world into line with the will of God, which requires deciphering the will of God, which is in nature. He proposes that humans follow “the laws of nature, which are the laws of God.”¹¹² It is to be noted that Malthus was a priest and considered the principle of population through the scriptural view inspired by Genesis.¹¹³ Thus, his idea was supported by the influence of theological visions on the

¹⁰⁸ To clarify, the geometrical ratio doubles current numbers (2->4), while an arithmetical ratio increases in numerical order (2->3).

¹⁰⁹ Malthus, *An Essay*, 4, 6.

¹¹⁰ Kallis, *Limits: Why Malthus*, 14, 26.

¹¹¹ Kallis, *Limits: Why Malthus*, 17.

¹¹² Malthus, *An Essay*, 431.

¹¹³ Malthus, *An Essay*, 526; Kallis, *Limits: Why Malthus*, 23, 32.

human impact on the environment. The ideas used from his theory in this research are the following: there could be an increase in population, for several reasons, such as the presence of uninhabited lands with suitable resources, following the laws of nature or the will of God to reproduce, as well as simply human libido; population growth is always followed by an increase in food production, that is, the use of natural resources (such as agriculture and woodland sources considered in this study), which in turn increases the anthropogenic impact on the environment. Thus, his theory is used to understand the increase in human impact on the environment due to increased food production, followed by population growth.

3.2 Methods used in archaeology

The section considers the methods used by archaeologists to reconstruct human-environment relations in medieval Scandinavia. The sources used for this research mainly used the following methods: pollen analysis, macrofossil, dendrochronology, radiocarbon dating, and anthracology. These methods give a picture of past natural resources, materials for construction, climate, and the human impact on the environment.

Pollen analyses provide information on past vegetation species at the excavation site or nearby. Based on this method, archaeologists can reconstruct the nature of the past, agricultural activities, sowing grains, and so on.¹¹⁴ However, pollen survival may skew the

¹¹⁴ M. Jane Bunting and Michelle Farrell, "Seeing the Wood for the Trees: Recent Advances in the Reconstruction of Woodland in Archaeological Landscapes Using Pollen Data," *Environmental Archaeology* 23, no. 3 (2018), 228, 272-3. Pollen is produced from vascular plants, ferns and mosses, which circulate in the landscape, and can persist for thousands of years until conditions are favorable for their biological purpose of seed growth. Thus, they may be well stored from the Middle Ages to the present day.

results. For example, according to Overland and Hjelle, fern spores are resistant to oxidation and therefore last longer than pollen from other species. This means that oldest vegetation species may not survive to this day. However, pollen analysis shows trends in vegetation species over time.¹¹⁵ Macrofossils also provide information about plant species, but the analysis is carried out on preserved mature plants.¹¹⁶

Radiocarbon dating (carbon-14 dating) determines the age of organic materials by measuring the content of a particular radioactive isotope of carbon.¹¹⁷ The dendrochronological method measures the growth rings of wood to obtain the age of a tree and changes in wood growth (e.g. felling). Tree-ring analysis also informs on the past climate based on the sensitivity of trees to temperature changes.¹¹⁸ Nonetheless, some wooden buildings could be burned down, e.g. temples during Christianization. Anthracology is a charcoal/macro-remains analysis that can recover burnt wood data. However, there is always the possibility of error that the coal, as well as pollen samples, may not be from the excavated site.¹¹⁹ Another method for determining the species of a tree is the taxonomic identification, which is possible with the availability of modern comparative materials and reference atlases.¹²⁰

¹¹⁵ Overland and Hjelle, "Pollen Analysis," 1038.

¹¹⁶ Magnus Hellqvist and Geoffrey Lemdahl, "Insect Assemblages and Local Environment in the Medieval Town of Uppsala, Sweden," *Journal of Archaeological Science* 23, no. 6 (1996), 880.

¹¹⁷ Claire F. Benstead, "The Dead Actually Tell Many Tales: How Archaeologists Have Used Scientific Analysis to Study Scandinavian Burials," *Student Publications* (2020): 4.

¹¹⁸ Grudd et al., "A 7400-Year Tree-Ring," 658.

¹¹⁹ Amina Hilbert, "A Hall Fit for a King: An Anthracological Analysis of the Great Hall at Gamla Uppsala" (Master Thesis, Uppsala University, 2020), x.

¹²⁰ Dawn Elise Mooney, "A 'North Atlantic Island Signature' of Timber Exploitation: Evidence from Wooden Artefact Assemblages from Viking Age and Medieval Iceland," *Journal of Archaeological Science: Reports* 7 (2016): 283.

4. SYSTEMATIC REVIEW OF SOURCES

Chapter four presents the background of the primary sources: what is known about the Latin sources written about Scandinavia between the 9th and 12th centuries. For this period and perhaps for any period in history, attention should be focused not only on what was written, but also on who the writer was and the author's intention. Therefore, this chapter investigates the authors of the primary sources, their goals and motives, the dating of their works, and their location.

Scandinavia is a kind of little known territory because scholars suffer from a lack of written sources. Moreover, almost all written sources from 800-1[2]00 were written outside of Scandinavia,¹²¹ and so are the sources used in this research: *Vita Ansgarii (VA; Life of St. Ansgar)*, *Gesta Hammaburgensis ecclesiae pontificum (Gesta; History of the archbishops of Hamburg-Bremen)*, *Historia Norwegie*¹²² (*HN; History of Norway*), *Passio et miracula beati Olavi (Passio Olavi; The Passion and Miracles of the Blessed Olaf)*. The Latin sources used in this study were aimed at supporting the proselytizing of Christianity among the pagan peoples of the North (of Scandinavia). Therefore, it is necessary to study the intentions of their authors in writing these texts to understand how they influenced the descriptions of nature and natural resources. Since the study is also based on archaeological sources, this chapter presents the following categories of research used in the thesis: funerary archaeology, settlement archaeology, palynology, dendrochronology, and

¹²¹ Jesch, *The Scandinavians*, 1.

¹²² Mortensen, "Introduction," in *Historia Norwegie*, 8. Original title probably was *Ystoria Norwagensium* according to Ekrem.

landscape archaeology. Thus, the second section of this chapter provides an overview of the usefulness of these categories and what information they can provide for this research.

4.1 Primary sources

4.1.1 *Vita Ansgarii*

Centuries before the work of Adam of Bremen and *HN*, Bishop Rimbert wrote the *VA* in 865-873 (or according to James Palmer, in 869-876).¹²³ The author of the work, Rimbert, was a hagiographer, companion, disciple and the successor of Ansgar.¹²⁴ According to *Vita Rimberti*, he was raised at the Turnhout monastery in Flanders, which was given to Ansgar to support his mission to evangelize pagans in northern territories. Rimbert was also possibly sent to Birka (Sweden) as a priest in the 860s. After Ansgar's death, he was appointed as a priest in Hedeby (Denmark).¹²⁵

VA is addressed to the monks of the monastery of Corbie in West Francia.¹²⁶ The purpose of the panegyric, as Rimbert writes, is “to make known to [the monks of Corbie] how [Ansgar] lived with us and what we know concerning him, in order that you may, with us, praise the divine mercy that was manifested in this blessed man and that his sacred

¹²³ Torstein Jørgensen, “8. ‘The Land of the Norwegians is the Last in the World’: A Mid-Eleventh-Century Description of the Nordic Countries from the Pen of Adam of Bremen,” in *The Edges of the Medieval World*, ed. Gerhard Jaritz and Juhan Kreem (Budapest: Central European University Press, 2009), 48; Boyer, “Scandinavia,” 70; James T. Palmer, “Rimbert's *Vita Anskarii* and Scandinavian Mission in the Ninth Century,” *The Journal of Ecclesiastical History* 55, no. 2 (2004): 236.

¹²⁴ Charles H. Robinson, “Introduction,” in *Anskar, The Apostle of the North, 801-865*, ed. and trans. Charles H. Robinson from the *Vita Anskarii* (London, UK: The Society for the Propagation of the Gospel (SPG), 1921), 20. The name Ansgar, or Anskar, or Anshar may have come from the old German word “schar” (shore or onshore) or from Old High German “ans” meaning God and “ger” or “ker” meaning “spear.”

¹²⁵ Palmer, “Rimbert's *Vita Anskarii*,” 237-238.

¹²⁶ Palmer, “Rimbert's *Vita Anskarii*,” 236.

devotion may show the way of salvation to those who are willing to imitate him.”¹²⁷ Rimbert describes Ansgar's life, who he was, and what he did for those who wanted to imitate him. So Rimbert describes him as an ideal person for Christians who needed a guide.

Rimbert's hagiography is about Ansgar. Ansgar was the archbishop of Hamburg-Bremen and is known as the “Apostle of the North.”¹²⁸ He is also mentioned in Adam's first book as *evangelista noster* (our evangelist).¹²⁹ Ansgar lived in 801-865 and may have been born in Foliet, a suburb of Corbey. Ansgar was a monk and schoolteacher at the Saxon monastery Corbey near Amiens (France), then at the monastery of New Corbey near Hörter (Saxony, present-day Germany). He and another monk, Autbert, preached the gospel in Denmark in 826-829. Ansgar was sent on a mission to Sweden after his expulsion from Denmark. He soon became the first bishop of Hamburg in 831,¹³⁰ appointed by Emperor Louis the Pious; and then the archbishop of Bremen in 849.¹³¹ He returned to Scandinavia in 850 and built new churches in Hedeby and Ribe (854) in Denmark, and in Birka in Sweden (852).¹³²

As a hagiographer, Rimbert creates the image of a “most holy father”¹³³ that his readers could emulate. Moreover, the account of Ansgar's missionary life was intended to complete Ansgar's mission. According to Palmer, “[the author] could [...] twist the truth, if

¹²⁷ *Anskar, The Apostle of the North, 801-865*, ed. and trans. Charles H. Robinson, c. I, 27.

¹²⁸ Katherine Holman, *Historical Dictionary of the Vikings* (Oxford: Scarecrow Press, 2003), 34-35.

¹²⁹ Garipzanov, “Christianity and Paganism,” 23.

¹³⁰ Boyer, “Scandinavia,” 69; Robinson, *Anskar-The Apostle of the North*, c. II, 28; Robinson, “Introduction,” in *Anskar-The Apostle of the North*, 9, 11, 13, 15.

¹³¹ Eric Knibbs, *Ansgar, Rimbert and the Forged Foundations of Hamburg-Bremen*, ed. Brenda Bolton, Anne J. Dugganand, Damian J. Smith (New York: Routledge, 2016), 1; Robinson, “Introduction,” in *Anskar-The Apostle of the North*, 11, 13; “[Hamburg] was founded by Charlemagne in 808.”

¹³² Holman, *Historical Dictionary*, 34-35.

¹³³ Robinson, *Anskar-The Apostle of the North*, c. I, 27.

not lie outright, if it contributed to a greater purpose.”¹³⁴ James Palmer explained that the purpose of the work is to induce the bishops of the East Franks to support the accomplishment of the mission, for which Rimbert could misrepresent some of the descriptions of the mission.¹³⁵ Eric Knibbs argues that not everything that is written about Ansgar is true; he describes all the dubious points in his book *Ansgar, Rimbert and the Forged Foundations of Hamburg-Bremen*. For instance, the province of Ansgar (Hamburg-Bremen) was not the largest in Christendom, but rather the smallest church along the Elbe River; Ansgar did not convert as many pagans as his predecessors and did not succeed very well in his mission.¹³⁶

The manuscript is stored in Stuttgart, to which Adam refers in his *Gesta*. Rimbert wrote this text in the first decade after the death of Ansgar and finished in 876 (the year of the death of Louis the German, whom Rimbert mentions in his text as living). Manuscripts with parts of the text are stored in Paris and Amiens (starting from chapter 7). There is a second edition, made in the 12th century; it is a revised version of the original one, in which some information has been removed and some added.¹³⁷

Summing up, Rimbert writes a description of the life of his companion Ansgar. He supports Ansgar's mission to convert pagans in Scandinavia. The purpose of the panegyric is to describe the devotion of the blessed Ansgar for Christians to emulate and to induce support from the bishops of the East Franks. Rimbert sees in his predecessor a pious

¹³⁴ Palmer, “Rimbert's Vita Anskarii”, 238-239.

¹³⁵ Palmer, “Rimbert's Vita Anskarii”, 235-6.

¹³⁶ Knibbs, *Ansgar, Rimbert*, 4.

¹³⁷ Vladimir Rybakov, *Хроника Адама Бременского и первые христианские миссионеры в Скандинавии (The Chronicle of Adam of Bremen and the First Christian Missionaries in Scandinavia)* (Москва: Языки Славянских культур, 2008), 33, 34.

and ambitious person who does God's work and suffers for God's sake. Therefore, this source is not necessarily reliable concerning Ansgar's abilities, the descriptions of the pagans and the success of Christianization. In addition to the theological aspects, namely concerning the mission to the north, Rimbert's work also describes political events and mentions the customs of the northern peoples.¹³⁸ Ian Wood writes that the text is a personal discourse on mission problems.¹³⁹ Ansgar preached the gospel in Denmark and Sweden, Rimbert was a priest in Denmark and may have accompanied Ansgar to Sweden. This means that the description of these territories might have been made by the author based on his own experience and what Ansgar conveyed to him. In view of the aim of the source, there is a little reason to assume that the author intended to purposefully distort the descriptions of Sweden's nature. However, the descriptions reflect Rimbert's vision of the world, and one might say Ansgar's vision; both were Christian missionaries.

4.1.2 *Gesta Hammaburgensis ecclesiae pontificum*

The *Gesta* are about the history of the Hamburg-Bremen diocese and its mission to the North. The author of the source is Adam of Bremen—"A. minimus sanctae Bremensis ecclesiae canonicus,"¹⁴⁰ also known as "the first medieval geographer."¹⁴¹ He was from Würzburg, Germany and probably was born before 1050 and lived his younger years in

¹³⁸ Rybakov, *Хроника Адама Бременского*, 33, 34.

¹³⁹ Palmer, "Rimbert Vita Anskarii," 239; See this source for more information on the historical events happened around Rimbert during the period when he wrote this work and for detailed reasons to write it.

¹⁴⁰ Stanisław Rosik, *The Slavic Religion in the Light of 11th-and 12th-Century German Chronicles (Thietmar of Merseburg, Adam of Bremen, Helmold of Bosau)* (Leiden, The Netherlands: Brill, 2020), 197. This is how Adam introduced himself in his *Gesta*.

¹⁴¹ Francis Joseph Tschan, "Introduction," in *Adam of Bremen, History of the Archbishops of Hamburg-Bremen*, ed. Timothy Reuter, trans. Francis Joseph Tschan (New York: Columbia University Press, 1959), xx.

Meissen and Lusatia. Adam came to Bremen in 1066-1067, during the tenure of Archbishop Adalbert, who possibly invited him for his scholarly attainments. He soon became a canon of the cathedral chapter at Bremen and was in charge of its school in 1069.¹⁴²

Adam started to write the *Gesta* in Bremen, most likely from 1072 to 1075-1076, and revised it until 1081 (when he may have died). He wrote the second book of the *Gesta* probably around 1074, and the third book in 1075.¹⁴³ The text was dedicated to the archbishop of Hamburg-Bremen Liemar (who was archbishop between 1072 or 1073 and 1101).¹⁴⁴ Adam's work was a literary response to the crisis of the archbishopric and its northern mission after the pontificate of Adalbert. Gerd Althoff states that Adam could have written this work to protect the interests of his see since Liemar had been elevated to the archbishopric without consultation of the chapter of the cathedral. There also was another reason to write this treatise. Volker Scior writes that the Scandinavian kings (Emund and Harald Hardrada) wanted to found national churches independent of Hamburg-Bremen, which, according to Ildar Garipzanov, gave rise to the need to defend the legal right of the archbishopric to oversee the northern churches.¹⁴⁵

Eric Knibbs argues that the archdiocese of Hamburg-Bremen was going through political and ecclesiastical strife rather than missionary triumph.¹⁴⁶ Adam's work is not only

¹⁴² Stanislaw Lipiec, "Inspirations of Adam of Bremen. Comparative Source Criticism," in *Proceedings of the 7th CER Comparative European Research Conference*, 1st ed., IV/1: 142-145 (London: Science Publishing, 2017), 142; Tschan, "Introduction," in *Adam of Bremen*, xiii. Holman, *Historical Dictionary*, 18;

¹⁴³ Tschan, "Introduction," in *Adam of Bremen*, xvi.

¹⁴⁴ Adam, "Praefatio" in *Gesta Hammaburgensis*, 1; Adam of Bremen, "Prologue," *History of the Archbishop of Hamburg-Bremen*, ed. Timothy Reuter, trans. Francis Joseph Tschan, 3; Rybakov, *Хроника Адама Бременского*, 24; Ildar H. Garipzanov points out in "Christianity and Paganism in Adam of Bremen's Narrative," "Liemar was an active member of the anti-Gregorian faction" (p. 24).

¹⁴⁵ Garipzanov, "Christianity and Paganism," 14.

¹⁴⁶ John Eldevik, "Ansgar, Rimbert and the Forged Foundations of Hamburg-Bremen by Eric Knibbs," *German Studies Review* 36, no. 1 (2013): 163-164.

about the history of the Church in the North or the *gesta episcoporum* “the deeds of bishops” (history of bishops); it also contains a geographical description of the Baltic Sea, and North Sea and North Atlantic regions, as well as about the inhabitants of these territories. It is the main historical source of Scandinavia from the 11th century.¹⁴⁷ The first three books are rather historical texts and are fragmentary compared to the fourth. The first book is about the missionary activity of the archbishopric in general until AD 936. The second book is about the Viking raids on the Frankish lands and on the territory of the archbishopric; Denmark is the central territory of events. The third one is a biography of Adalbert (1043-1072), archbishop of Hamburg-Bremen. The final chapters of Book Three discuss Adalbert's unfulfilled plans to travel to Scandinavia. Thus, Anne Kristensen, according to Stanislaw Rosik, argues that these chapters represented the first chapters of the original Book Four (IV. 1a–7a).¹⁴⁸ Book Four describes the missionary work of the archdiocese of Hamburg-Bremen, the northern lands and customs of the northern peoples. The author describes the lands of Scandinavia that were part of his archdiocese. The text is most likely intended to show the need to maintain the authority of the archbishopric in the North. These four books are known as being about the Ottonian period, early Salian Germany, the Viking Age, and early medieval Scandinavia¹⁴⁹ (also known as *Descriptio insularum aquilonis*).

¹⁴⁷ Olof Sundqvist, “The Temple, the Tree, and the Well: A Topos or Cosmic Symbolism at Cultic Sites in Pre-Christian Northern Europe?” in *Old Norse Mythology-Comparative Perspectives*, ed. Pernille Hermann, Stephen A. Mitchell, and Jens Peter Schjødt with Amber J. Rose (Cambridge: The Milman Parry Collection of Oral Literature, 2017), 163.

¹⁴⁸ Rosik, *The Slavic Religion*, 203.

¹⁴⁹ Christopher Robert Cheney, “History of the Archbishops of Hamburg-Bremen. By Adam of Bremen, trans, with introduction and notes by Francis J. Tschann (Records of Civilization Sources and Studies, liii). New York: Columbia University Press; London: Oxford University Press, 1959,” *The Journal of Ecclesiastical*

Adam's purpose in writing this text is to record the activities of the Hamburg-Bremen archdiocese about the conversion of the Slavic and Scandinavian peoples.¹⁵⁰ It should be borne in mind that Adam was a learned theologian and his text contains eschatological perspectives¹⁵¹ which could distort the description of the pagans, since the purpose of the text was to convert them. Lesley Abrams writes that Adam's text "is a work of propaganda. It is impossible, therefore, to reconstruct the historical development of missions to Scandinavia."¹⁵² Ildar Garipzanov writes that Adam's narration is focused on the dramatic confrontation between paganism and Christianity.¹⁵³ Stanislaw Lipiec argues that this work is an "example of the technique of construction of the narration—mixing the reality with a tale, author's ideas and experience with works of other writers."¹⁵⁴

From Adam's point of view, nature is viewed as something powerful and symbolic. Olof Sundqvist argues that its description is more reliable than that of the process of Christianization. However, Sundqvist writes that some of Adam's nature descriptions are not reliable due to coincidences with myths.¹⁵⁵ This is also supported by Thorstein Jørgensen, who argues that Adam's text reflects a more spiritual world than a material world.¹⁵⁶ Therefore, it is important to look at Adam's sources about the Scandinavian territories available in Bremen, where he lived.

History 12, no. 2 (1961): 262; Garipzanov, "Introduction. History," 13; and "Christianity and Paganism," 17, 18, 21.

¹⁵⁰ Sundqvist, "The Temple, the Tree," 164.

¹⁵¹ Jørgensen, "8. 'The Land of The Norwegians,'" 47.

¹⁵² Lesley Abrams, "The Anglo-Saxons and the Christianization of Scandinavia," *Anglo-Saxon England* 24 (1995): 214.

¹⁵³ Garipzanov, "Introduction. History," 6.

¹⁵⁴ Lipiec, "Inspirations of Adam of Bremen," 143.

¹⁵⁵ Sundqvist, "The Temple, the Tree," 174.

¹⁵⁶ Jørgensen, "8. 'The Land of The Norwegians,'" 48.

Bremen attracted northern traders and sailors. It was a good place to meet the people from these lands that Adam described in his *Gesta*. Consequently, the descriptions of Scandinavia and the events taking place were based in part on the informants' personal experiences. Moreover, the author had access to the archives of his archbishopric and to the cathedral repositories. As Francis Joseph Tschan notes, Adam prefers to use works of biographers (the lives of Boniface, Ansgar, Willehad, and Willibrord) instead of the records of annals and chronicles. Because of this preferences, some of the information is inaccurate. He also uses the works of ancient poets (Horace, Lucan, Vergil) and ancient scholars (Orosius and Solinus). However, he also consulted with trusted peoples: the Danish king Svein Estridsson whose knowledge of geography was obtained firsthand; the Swedish bishop Adalward the Younger; and especially Archbishop Adalbert, whom he knew personally.¹⁵⁷ Thus, many descriptions of Adam are based on secondary information, on those who told him stories.

Summing up, Adam was from Germany and he described in his *Gesta* the history of the diocese of Hamburg-Bremen and its northern mission. Adam, also known as the first geographer, gave a geographical description of Scandinavia, its lands, and northern peoples in the Fourth Book of the *Gesta*. Bremen was a good place to meet people from northern European lands. Adam described Scandinavia based on the informants' personal experiences, that is, he himself, probably, has never been to Sweden and Norway. The eschatological perspective of the text is focused on the confrontation between paganism

¹⁵⁷ Tschan, "Introduction," in *Adam of Bremen*, xvii, xix, xxi; Terry Gunnell, "Blótgyðjur, Goðar, Mimi, Incest, and Wagons: Oral Memories of the Religion (s) of the Vanir," in *Old Norse Mythology-Comparative Perspectives*, ed. Pernille Herman, Stephen A. Mitchell, Jens Peter Schjødt, Amber J. Rose (Cambridge: Harvard University Press., 2017),128.

and Christianity to praise the accomplishments of the bishop. The text's purpose makes it impossible to reconstruct the history of the mission to northern Europe. The author mixed reality with tales, his experience with the works of other writers and 90% of his text is most likely imported from other sources, as Stanislaw Lipiec writes.¹⁵⁸ The description of nature by Adam is probably more reliable than that of the process of Christianization. However, some descriptions of nature reflect the mystical (spiritual) world and the Christian vision of the world.

4.1.3 *Historia Norwegie*

*HN*¹⁵⁹ is one of the earliest preserved works about the history of medieval Scandinavia. Its first three chapters out of eight preserved—25 pages out of 50-100 pages¹⁶⁰—cover the description of the Orkney, the Hebrides, the Faroe Islands, and Iceland, beginning from Norway and moving west up to Greenland. The text provides unique descriptions of Scandinavia, which gives an illustration of the natural resources. The other five parts describe the history of Scotland;¹⁶¹ based on the orthography of Scottish names, it can be assumed that the author of the written source was a native speaker of the Scottish

¹⁵⁸ Lipiec, "Inspirations of Adam of Bremen," 144.

¹⁵⁹ The text is only fragmentary (35 leaves), located in the private possession of the Earl of Dalhousie manuscript at Brechin Castle in Scotland. Authorship and the dating of the text is a controversial issue to this day.

¹⁶⁰ Lars Boje Mortensen, "Historia Norwegie and Sven Aggesen: Two Pioneers in Comparison," in *Historical Narratives and Christian Identity on a European Periphery: Early History Writing in Northern, East-Central, and Eastern Europe (c. 1070–1200)*, edited by Ildar H. Garipzanov (Turnhout: Brepols Publishers n.v., 2011), 58.

¹⁶¹ Phelpstead, "Introduction," in *A History of Norway*, x.

language. Above all, the text has an ecclesiastical purpose, describing the rulers and the conflict between Christianity and paganism in Norway.¹⁶²

Debates about the date of composition: According to most scholars of the nineteenth and twentieth centuries, *Historia Norwegie* (hereafter *HN*) was the earliest work of history in the Norwegian literature. Most scholars date the work to between 1000/1170 and 1220.¹⁶³ The author of *HN* used words from Honorius of Autun's *Imago mundi* written in 1110-1139; also, the *Gesta* (1072-1081) are taken as a model in the text,¹⁶⁴ which suggests that it was written after the second half of the 11th century. However, Gustav Storm and other earlier scholars put forward the date of composition as being between 1443 and 1460. Michael Chesnutt argues that the date is even later—1500-1510. Carl Luke Phelpstead posits that *HN* was written before 1330 because of the fourteenth-century lists of Swedish kings based on this text. Phelpstead suggests 1266 as the latest possible date since this year Norway recognized the sovereignty of the Scottish king over the Hebrides after the Peace of Perth.¹⁶⁵ However, the author of *HN* does not use well-known sources of the 13th century. Because other authors used available sources of the 13th century, Lars Boye Mortensen concludes that the work was written between 1160 and 1175, assuming that the author must have used all available materials.¹⁶⁶ Therefore, this is the most probable dating.

¹⁶² Ekrem, "Essay on Date and Purpose," in *Historia Norwegie*, 222; Mortensen, "Introduction," in *Historia Norwegie*, 10.

¹⁶³ Phelpstead, "Introduction," in *A History of Norway*, xvi.

¹⁶⁴ Mortensen, "Introduction," in *Historia Norwegie*, 17-23.

¹⁶⁵ Phelpstead, "Introduction," in *A History of Norway*, xi.

¹⁶⁶ Mortensen, "Introduction," in *Historia Norwegie*, 8, 17-24.

About the author: *HN* was probably written in Norway, somewhere between Nidaros (the medieval name of Trondheim) and Eastern Norway, as the text belongs to the Norwegian government circle or episcopal or royal.¹⁶⁷ The Norwegian origin of the author can also be traced in the following sentence where the author calls Norwegian kings “our” kings or “his”: *Qui item insulani regibus nostris certis temporibus tributa persoluunt* (“As before, these islanders also pay tribute to our kings at set times”).¹⁶⁸ The king is also called *Olauus noster* (“our Olaf”),¹⁶⁹ with the meaning that the Norwegian king is “his” king. The author is influenced by German historians, for example, the text of Adam,¹⁷⁰ which makes it challenging to establish the origin of the work. The text is dedicated to a certain Agnellus. Agnellus may have been a bishop, from the monastery of Elgeseter (Norway) or a French Franciscan friar, a patriarch of Jerusalem, who died in 1277, or an archdeacon of Wells at the end of the 1100s.¹⁷¹

Tu igitur, o Agnelle, iure didascalico mi prelate, utcumque alii ferant hec mea scripta legentes non rhetorico lepore polita, immo scrupulosis barbarismis implicita, gratanter, ut decet amicum, accipito.¹⁷²

Inger Ekrem argues that *HN* may well be the early work of Archbishop Eystein Erlendsson of Trondheim (served between 1164 and 1188).¹⁷³ The author of *HN* is also credited with

¹⁶⁷ Mortensen, “Introduction,” in *Historia Norwegie*, 24; Ekrem, “Essay on Date and Purpose,” in *Historia Norwegie*, 218; Tatjana N. Jackson, “The Far North in the Eyes of Adam of Bremen and the Anonymous Author of the *Historia Norwegie*,” in *The Global North*, ed. Carol Symes (Arc Humanities Press, 2021), 78.

¹⁶⁸ *Historia Norwegie*, c. VII, 68-9; translation from Fisher.

¹⁶⁹ *Historia Norwegie*, c. XVIII, 102; translation from Phelpsstead, 24.

¹⁷⁰ John Lindow, “*Historia Norwegie*. Inger Ekrem, Lars Boje Mortensen, Peter Fisher,” *Speculum* 80, no. 4 (2005): 1271.

¹⁷¹ Ekrem, “Essay on Date and Purpose,” 158, 218.

¹⁷² “Prologus,” in *Historia Norwegie*, 50-1; translation from Fisher: “However much, then, others who read this document of mine may say it is unpolished and lacks the charm of eloquence, or indeed accuse it of being tangled up in jagged, barbaric expressions, you, Agnellus, who have been set over me with a teacher’s authority, receive it graciously as befits a friend.”

¹⁷³ Mortensen, “Introduction,” in *Historia Norwegie*, 14.

Passio et miracula beati Olavi,¹⁷⁴ but the connection between the two works remains unclear.¹⁷⁵ Ekrem also connects *HN* with the emergence of the archiepiscopal see in Trondheim. Lars Boje Mortensen considers this statement to be incorrect and that the author was close to the bishopric and the principality, but not to Eystein in Trondheim. Scholars did not find any mention of *HN* in other medieval sources. The text was not distributed outside its ecclesiastical territory. Therefore, the purpose of the work to disseminate information was not achieved, according to Mortensen.¹⁷⁶

The author of *HN* used the text of Adam. The *HN* and the *Gesta* have similar geographical and other descriptions. However, they are quite different regarding the authors' intentions.¹⁷⁷ The *Gesta* aim to preserve the power of Hamburg-Bremen in Northern territories. *HN's* author, by contrast, "implicitly supports Norwegian ecclesiastical independence and emphasizes the English rather than German involvement in the conversion of Norway."¹⁷⁸

The *HN* contains information similar to that of other sources on the early history of Norway, which is difficult to verify or disprove. There are two limitations in this text, on the one hand, several sources coincide but cannot be considered reliable; on the other, that some information is only available in this text does not necessarily mean that it is unreliable. In the second case, some data found only in this text were actually confirmed by later sources.¹⁷⁹

¹⁷⁴ Phelpstead, "Introduction," *A History of Norway*, xx.

¹⁷⁵ Lindow, "Historia Norwegie," 1272.

¹⁷⁶ Mortensen, "Historia Norwegie and Sven Aggesen," 66-67, 69.

¹⁷⁷ Ekrem, "Essay on Date and Purpose," in *Historia Norwegie*, 160.

¹⁷⁸ Phelpstead, "Introduction," in *A History of Norway*, xxi-xxii.

¹⁷⁹ Phelpstead, "Introduction," in *A History of Norway*, xxiv.

Inger Ekrem writes that “[t]he medieval text [*HN*] has been subjected to thorough and frequent scrutiny since its first publication in 1850. Nevertheless, it remains to be established when, why, where, for whom and by whom it was written.”¹⁸⁰ Ekrem is one of the authors who commented on the text together with Lars Boje Mortensen in 2003. Carl Phelpstead released his edition two years earlier, in 2001. There was another work earlier than these two. The first comments on the text were published by Halvdan Koht in 1950, in Norwegian. However, Koht’s version may have shortcomings due to insufficient information about the Middle Ages during the years of its publication. The first English translation by Devra Kunin, was published with Phelpstead’s edition, and there is a later translation by Peter Fisher with Ekrem and Mortensen's edition.

To summarize, *HN* is one of the earliest surviving works that tells the story of medieval Scandinavian nature, with a strong focus on Norway. Like other texts, *HN* has an ecclesiastical purpose. Its date and authorship are still a controversial issues. It was most likely written by a Norwegian writer or in Norway between 1160-1175 in support of Norwegian ecclesiastical independence. The author used the text of Adam and ancient sources, therefore, it has similarities with the two previous texts. The descriptions of nature, just like in *VA* and the *Gesta*, might be more authentic than the descriptions of the mission of Christianization. However, Scandinavian nature is described also here through the vision of a Christian writer describing populated areas.

¹⁸⁰ Phelpstead, “Introduction,” in *A History of Norway*, xi.

4.1.4 *Passio et miracula beati Olavi*

Passio Olavi is a work about the Norwegian Saint, Olaf Haraldsson. The first part presents the saint's life, and further chapters describe Olaf's miracles. Olaf II Haraldsson was born in AD 995 in south Norway and died on August 3, 1031; he was the king of Norway from 1015 to 1028.¹⁸¹ He was buried in Trondheim.¹⁸² Olaf's shrine became the seat of the archdiocese encompassing Norway, Iceland, Greenland, the Faroe Islands, the Orkney and Shetland Islands, the Hebrides and the Isle of Man in 1152/1153. His cult as a saint spread over the world after 1035 when Olaf's son Magnus the Good became the king of Norway.¹⁸³

An unknown author wrote the text at the end of the 12th century. Kirsten Wolf and Frederick Metcalfe believe that the text was written by Archbishop Eysteinn.¹⁸⁴ However, Metcalfe comments that the author was probably not from Scandinavia by virtue of spelling mistakes in Scandinavian names.¹⁸⁵ Lars Boje Mortensen suggests that the work might be associated with high-ranking Norwegian travelers of the second half of the 12th century.¹⁸⁶ Moreover, the author of the text probably served in the church of the blessed Olaf, located near the district Nordmøre¹⁸⁷ in Norway. The author writes that he and monks of "his"

¹⁸¹ *Passio et Miracula*, 2; Phelpstead, "Introduction," in *A History of Norway*, xxvi; Jackson, "The Far North," 77.

¹⁸² Adam of Bremen, *History of the Archbishops of Hamburg-Bremen*, ed. Timothy Reuter, trans. Francis Joseph Tschan, Book IV, c. XXXIII, 213.

¹⁸³ Phelpstead, "Introduction," in *A History of Norway*, xxvi; Mortensen, "The Anchin Manuscript of *Passio Olavi*," 170.

¹⁸⁴ Kirsten Wolf, "Pride and Politics in Late-Twelfth-Century Iceland: The Sanctity of Bishop Þorlákur Þórhallsson," in *Sanctity in the North: Saints, Lives, and Cults in Medieval Scandinavia*, ed. Thomas DuBois (Toronto: University of Toronto Press, 2008), 265.

¹⁸⁵ *Passio et Miracula*, 2.

¹⁸⁶ Lars Boje Mortensen, "The Anchin manuscript of *Passio Olavi* (Douai 295), William of Jumièges, and Theodoricus Monachus: New Evidence for Intellectual Relations Between Norway and France in the 12th Century," *Symbolae Osloenses* 75, no. 1 (2000), 173.

¹⁸⁷ *Passio et Miracula*, 97. Metcalfe noted that Nordmøre was mistakenly rewritten as *morre*.

church received a donation to *ecclesiam beati Olavi* (the church of the blessed Olaf¹⁸⁸): *ex pecunie redditione quam suscepimus euidenter agnouimus*.¹⁸⁹ Inger Ekrem notes that in *HN* there is no reference to *Passio Olavi*. If the work had been written around the same time as *HN*, the author of *HN* would likely have mentioned it. Therefore, *Passio Olavi* was probably written later than 1160-1175, and before 1188.¹⁹⁰ Mortensen agrees that the text was still being written in 1170.¹⁹¹

There are two Latin versions of the *Passio Olavi*: the shorter version, *Acta sancti Olavi regis et martyris*, was edited by Gustav Storm in *Monumenta historica Norwegiæ* based on the 1400-1500 printed editions; it was published in 1880. The longer version from a manuscript of 1200, is the *Passio et miracula beati Olavi*, edited by Frederick Metcalfe in 1881, and translated by Devra Kunin; it is the version used in this research.¹⁹²

To sum up, an unknown author wrote about St. Olaf, the Norwegian Olaf II Haraldsson and his miracles in the 12th century, after *HN*. Olaf lived AD 995-1031 and was king of Norway from 1015 to 1028; he Christianized many pagans. The author of the work was a bishop and he describes the miraculous abilities of Olaf, with which he helped people. Thus, the author does not have the goal of describing nature in Scandinavia; however, in the stories of Olaf's miracles, there are references to nature and natural resources. The

¹⁸⁸ *Passio et Miracula*, 97: “In prouintia igitur que morre dicitur, non longe a beati olavi basilica...;” translation from Phelpstead, 54-5: “Thus, in the district called Møerr, not far from the church of the blessed Olaf...”

¹⁸⁹ *Passio et Miracula*, 97; translation from Phelpstead, 54-5: “it has been clearly confirmed by the donation of money that we have received.”

¹⁹⁰ Phelpstead, “Introduction,” in *A History of Norway*, xx; Ekrem, “Essay on Date and Purpose,” in *Historia Norwegie*, 178.

¹⁹¹ Mortensen, “The Anchin Manuscript of *Passio Olavi*,” 187.

¹⁹² Phelpstead, “Introduction,” in *A History of Norway*, xxvi-xxvii; Ekrem, “Essay on Date and Purpose,” in *Historia Norwegie*, 178, note 102.

source is, like the previous works mentioned here, an ecclesiastical text where the author shows the process of Christianization. The author's aim is similar to Rimbert's: to describe a blessed person both for imitation and possibly to enlist the support of the bishops. The author also shows Olaf suffering for the sake of God. Therefore, this source is not necessarily reliable regarding Olaf's abilities, the descriptions of the pagans, and the process of Christianization. The description of Norway is, however, most likely made by the author based on his own experience. One must remember that the references to nature reflect the worldview of a Christian bishop.

4.2 Secondary sources

This research uses the following categories of archaeological materials to reconstruct human-nature relations in medieval Norway and Sweden:

Funerary archaeology is an essential source to study Scandinavian culture due to the limited written sources from the period of study. Mortuary customs reflect cultural traditions and their change over time. Analyses of burials reflect past religious and social traditions through the conceptions of death. The nature and character of ritual sites also attracted the attention of archaeologists, as they could have had meaning for past people and may tell something about social and economic situations.¹⁹³ Julie Lund argues that religion should not be read directly from the material, as the presence of pagan amulets and inscriptions or crucifixes and other Christian objects does not always signify a clear

¹⁹³ Kristina Jennbert, "Archaeology and Pre-Christian Religion in Scandinavia," *Current Swedish Archaeology* 8, no. 1 (2000): 131-2.

division between these two religious burials in Scandinavia. She calls for an interpretative model to distinguish Christian and pagan grave goods. Funeral archaeology provides a better understanding of religious worldviews through the vision of death in the Middle Ages, going beyond the study of burial material objects and paying attention to the buried bodies themselves, their completeness or fragmentation, and their cardinal direction.¹⁹⁴ What is remarkable about medieval Scandinavian research is that funerary archaeology provides more information about Christianization. Written sources are mostly written only by Christian authors. As Sten Tesch points out, historians can study the process of Christianization from a local and regional perspective based on burials. The period of Christianization can be characterized as a combination of both religions based on funerary archaeology. According to Tesch, in written sources, the study of hybrid religious traditions is impossible due to an exclusively Christian point of view.¹⁹⁵

The interaction of nature and humans can also be studied through settlement archaeology, which gives a picture of past settlements. Medieval societies were predominantly agricultural, which requires a study of agricultural land along with settlements. This study provides data on population growth with an increase in the area of settlements and on cultural, social, and political changes. Settlements and farmlands are transformed due to demographic, economic, and social changes, which are interpreted through the types of settlements, types of agrarian settlements and their increase, household

¹⁹⁴ Julie Lund, "Fragments of a Conversion: Handling Bodies and Objects in Pagan and Christian Scandinavia AD 800–1100," *World Archaeology* 45, no. 1 (2013): 47-8.

¹⁹⁵ Sten Tesch, "A Lost World?: Religious Identity and Burial Practices During the Introduction of Christianity in the Mälaren Region, Sweden," *Dying Gods-Religious Beliefs in Northern and Eastern Europe in the Time of Christianisation*, ed. Christianne Ruhmann and Vera Brieske (Stuttgart: Konrad Theiss, 2015), 192.

items, the development of technologies, and more.¹⁹⁶ Settlement archaeology has also been used to study changes in the landscape by clearing the territory for the construction of permanent settlements.¹⁹⁷

Palynological research is based on regional pollen records to see how past vegetation species grew. This research can significantly improve archaeological and environmental history through the knowledge of prehistoric human activities and their environmental impacts.¹⁹⁸ Pollen data can show a woodland reduction, increase in grasslands, cereal cultivation, past field systems, and more. Agricultural expansion informs about population growth, according to Nicholas Balascio and Stephen Wickler.¹⁹⁹ Determined vegetation species based on palynological research also tell about past temperatures since some species only grow in certain temperatures. However, this research has limits, one of which is negative data (no species found) which does not always mean a lack of vegetation species. Another is that species that are found did not always grow in that area of excavation since spores could be carried by wind or other forces from one place to another.²⁰⁰

Dendrochronological research provides datings and information on past climate, using tree rings. The sensitivity of trees to climate changes allows archaeologists to determine past temperatures through the widths of the annual tree-rings, which is

¹⁹⁶ Øye, "Settlement Patterns," 39, 41; Widgren and Pedersen, "Agriculture in Sweden," 47.

¹⁹⁷ Widgren and Pedersen, "Agriculture in Sweden," 56.

¹⁹⁸ Bunting and Farrell, "Seeing the Wood," 228; Overland and Hjelle, "Pollen Analysis," 1029, 1038.

¹⁹⁹ Balascio and Wickler, "Human-environment Dynamics," 149; Widgren and Pedersen, "Agriculture in Sweden," 51.

²⁰⁰ Bunting and Farrell, "Seeing the Wood," 228. Overland and Hjelle, "Pollen Analysis," 1039; Prøsch-Danielsen et al., "Land Cover and Exploitation," 13.

proportional to the overall temperatures.²⁰¹ Dendrochronological analysis of the timber provides the location of building material and the dating of buildings or an objects.²⁰² This method of study give a picture of agricultural adaptation to climate and therefore, of the development of settlements. In addition to temperature reconstructions, dendrochronology also allows to see changes in humidity.²⁰³

Medieval agricultural settlements were utterly dependent on the landscape. The territory of Norway was more severe, colder, and poorer, with smaller and fewer species of vegetation and unsuitable land for cultivation compared to Sweden. This requires a review of their landscapes, as that has determined the development of agriculture and culture. Landscape archaeology shows the uniqueness of topography. The northern parts of Norway were not suitable for cultivation, which led to the creation of more fishing settlements than agricultural ones. The quality of land for cultivation, the geographical location, and the topography all hindered the development of agricultural technology. The archaeology of the landscape allows for a better understanding of the factors that influenced the process of adaptation and cultural development.²⁰⁴

²⁰¹ Zhang et al., "1200 Years of Warm-season," 1297; Grudd et al., "A 7400-Year Tree-Ring," 658.

²⁰² Else Roesdahl and Preben Meulengracht Sorensen, "Viking Culture," in *The Cambridge History of Scandinavia*, 125-6; Myrdal, Janken. "Farming and Feudalism: 1000-1700." In *The Agrarian History of Sweden: From 4000 BC to AD 2000*, ed. Janken Myrdal and Mats Morell (Sweden: Nordic Academic Press, 2011), 81; Sundqvist, "The Temple, the Tree," 178.

²⁰³ Huhtamaa and Ljungqvist, "Climate in Nordic historical," 677, 683.

²⁰⁴ Øye, "Settlement Patterns," 41, 45, 47-52.

5. SCANDINAVIAN SOCIETY AND CULTURE

Scandinavians gave rise to the emergence of settlements in unexploited territories in Northern Europe in the Middle Ages.²⁰⁵ Scandinavians established a model of agricultural and fishing settlements, mostly based on farming, hunting, gathering, and fishing, which varied according to the natural resources available. In order to understand the world where Scandinavians lived and to interpret the utilization of natural resources, it is important to understand the society and culture of Scandinavians.

The foremost change that occurred during the period of study was Christianization. The written sources of Scandinavia before the 12th century, discussed in the previous chapter, described the conversion of pagans to Christianity. Christianization was oriented toward “the North,” which included Denmark, Norway, Sweden, Finland, Åland and Faroe Islands, and Greenland. These territories had many cultural features in common but differed from the rest of Europe.²⁰⁶ Lesley Abrams notes that Christianization was considered an “alternative route to peace.”²⁰⁷ Pagans from the north plundered the monasteries; for example, in AD 793 the monastery at Lindisfarne was sacked.²⁰⁸ So, Christianization meant to change the lifestyle of the pagans.²⁰⁹ Christianization was supported by Scandinavian kings.²¹⁰ The missionaries attached to the retinue of kings are

²⁰⁵ Boyer, “Scandinavia.”

²⁰⁶ Helle, “Introduction,” 2, 4-5.

²⁰⁷ Abrams, “The Anglo-Saxons,” 215.

²⁰⁸ Abrams, “The Anglo-Saxons,” 215.

²⁰⁹ Garipzanov, “Christianity and Paganism,” 13 and 16. The mission, also known as the “missionary Christian identity.” *The Cambridge Dictionary*, s.v. “archbishop,” by Colin McIntosh, accessed February 18, 2022. Archbishop is “a bishop of the highest rank who is in charge of churches and other bishops in a particular large area.”

²¹⁰ Helle, “Introduction,” in *The Cambridge History*, 4-5.

are often mentioned in the medieval Latin texts. For instance, Ansgar and Witmar, some of the earliest missionaries, were kindly received in Birka by King Biörn, who let them preach Christianity in Sweden.²¹¹ Thus, this religious change was led by Scandinavian kings. Mainly it was a result of political decisions, because it increased rulers' power and control over population and land, as Thomas Lindkvist explains.²¹²

During the Christianization period, the society and politics of Scandinavia also changed.²¹³ The Western Roman Empire was replaced by the barbarian kingdoms in Western Europe, which influenced Scandinavia. In the 7th-8th centuries appeared large and central settlements, like Skåne in Sweden, which were the principal seats of aristocracy, kings, and religious, economic, and political centers.²¹⁴ Eventually, trading centers mediated by chiefs were replaced by capitals occupied by kings in the Viking Age.²¹⁵ The period of study is known as that of the formation of the three Scandinavian kingdoms, Denmark, Norway, and Sweden. Scandinavian territories ruled by local chieftains were unified during the 10th-11th centuries into kingdoms. King Knut the Great ruled a North Sea empire comprising Norway, Denmark, part of Sweden, and England until AD 1035. After his death, and the end of his North Sea empire began the process of independence for Norway and Sweden.²¹⁶ Thus, Olaf Tryggvason (ruled between 995-1000 AD²¹⁷) and Olaf

²¹¹ Robinson, *Anskar-The Apostle of the North*, c. XI, 48.

²¹² Thomas Lindkvist, "Early Political Organisation: Introductory Survey," in *The Cambridge History of Scandinavia*, 166.

²¹³ Peter Sawyer, "The Viking expansion," in *The Cambridge History of Scandinavia*, 119.

²¹⁴ Bjørn Myhre, "The Iron Age," in *The Cambridge History of Scandinavia*, 90, 84-5.

²¹⁵ John C. Sharpe, "The Viking Expansion | Climate, Population, Plunder," Graduate Student Theses, Dissertations, & Professional Papers (The University of Montana, 2002), 38.

²¹⁶ Lindkvist, "Early Political Organisation," 160, 165-6; Holman, *Historical Dictionary*, 8.

²¹⁷ Claus Krag, "The Early Unification of Norway," in *The Cambridge History of Scandinavia*, 191.

Haraldsson (ruled between 1015-1028 AD²¹⁸) received recognition as the first kings of Norway. A Christian kingdom in Sweden was established by King Olof Skötkonung in AD 995.²¹⁹

Christianization also played an essential role in contact with the rest of Europe.²²⁰ The clergy represented literate agents of the Scandinavian kingdoms. They also introduced some advanced government systems from the European system.²²¹ Therefore, the acceptance of Christianity furthered integration into the western world.²²² It also created possibilities for trading (e.g. furs and metals) with western Europe.²²³

Political and social changes went along with the cultural changes in Scandinavia between the 9th and the 12th centuries. This chapter will describe Scandinavian cultures based on medieval Latin texts and archaeological sources. Cultural aspects are presented through the authors' vision of the world as an essential aspect to understanding human-nature relations. As was said earlier, the clergy played an important role in developing the Scandinavian kingdoms. Therefore, the rest of the Scandinavian population accepted their vision of the world over time. Cultural and religious worldview partly affects the utilization of natural resources. Therefore, it is important to understand Scandinavian culture. This chapter also considers how Christian authors represented pagans since the primary purpose of the texts was to show the process of Christianization of pagans; it will also compare the worldviews of Christians and Scandinavians who adhered to paganism before

²¹⁸ Jackson, "The Far North," 77.

²¹⁹ Lindkvist, "Early Political Organisation," 165-6; Thomas Lindkvist, "Kings and Provinces in Sweden," in *The Cambridge History of Scandinavia*, 223.

²²⁰ Sawyer, "The Viking Expansion," 119.

²²¹ Lindkvist, "Early Political Organisation," 166.

²²² Helle, "Introduction," in *The Cambridge History*, 4-5.

²²³ Sawyer, "The Viking Expansion," 106-7.

Christianization. Thus, it will help to understand the changes that took place during the period under study, which affected the relationship of humans with nature. Another influence on the use of natural resources and on human impact on the environment is considered to be population size. The population growth during this period led to an expansion of human activities, that is, the use of agricultural land and the use of timber. Therefore, this chapter also discusses the demography of Sweden and Norway during the period under study.

5.1 Pre-Christianity and Christianity: cultural and religious aspects

5.1.1 Latin sources

Culture is the learned complex of knowledge, beliefs, art, morals, law, custom, and symbolic aspects of human society. Religious aspects were an indispensable part of Scandinavian culture in the Middle Ages.²²⁴ Religion in sociological perspective is defined as “a set of beliefs, practices (e.g. rituals) based on the idea of the sacred, [...] rather than [on] a belief in a god or gods.”²²⁵ The medieval word “*religio* meant the monastic life” and *religiosi* meant “monastic regulars (cloistered monks and nuns living according to a rule).”²²⁶ The study of Scandinavian religion should pay attention to the process of Christianization of the North. Therefore, this study examines the culture of Scandinavians through their two religious beliefs between the 9th and 12th centuries, that is, the characteristics of pagans and Christians described by literate Christian authors.

²²⁴ Boyer, “Scandinavia,” accessed March 5, 2022.

²²⁵ *A Dictionary of Sociology* (4th ed.), ed. John Scott (Oxford: Oxford University Press, 2015), s.v. “Culture,” “Religion.”

²²⁶ Christine Caldwell Ames, “Medieval Religious, Religions, Religion,” *History Compass* 10, no. 4 (2012): 335.

Paganism:

The mission of Christianizing the North was oriented toward the conversion of pagans. The term “pagan” in Christian Antiquity and in the Middle Ages referred to people in the countryside or villages who resisted Christianity and “venerate[d] the ancient gods and worshipped the forces of nature.”²²⁷ The Latin sources used the words *barbarus* and *paganus*, suggesting uncivilized pagan peoples. It was inherent in pagans to gather around sacred springs to *sacrificio idola placare* (appease the idols with a sacrifice) and drinking-bouts and ask for the forces of nature.²²⁸ In Latin texts, pagans are also often distinguished by their land as peoples living in *alter mundus* (another world), namely Sweden and Norway, and further in the lands of *septemtrio* (the north).²²⁹

Mentions of the pagans in the Latin sources will now be examined. *Vita Anskarii* (*VA*) is the earliest text among them. The author of the text, Rimbert, quotes the words of *quidam* (someone). This man had been, so he said, at a meeting of the pagan gods, who had sent the following message to the king and people before Ansgar arrived in Birka with his mission of Christianization:

Vos quoque nobis sacrificia et vota debita persolvistis, grataque nobis vestra fuerunt obsequia. At nunc et sacrificia solita subtrahitis et vota spontanea segnius offertis et, quod magis nobis displicet, alienum deum super nos introducitis. [...] Porro, si etiam plures deos habere desideratis, et nos vobis non sufficimus, Ericum quondam regem vestrum nos unanimes in collegium nostrum asciscimus, ut sit unus de numero deorum. [...] Nam et templum in honore supra dicti regis dudum defuncti statuerunt et ipsi tanquam deo vota et sacrificia offerre coeperunt.²³⁰

²²⁷ Boyer, “Scandinavia,” 1067.

²²⁸ Boyer, “Scandinavia,” 1067. *CMS Level One Latin Word List* (Toronto: University of Toronto, 2014), s.v. “*paganus*,” by Morris Tichenor.

²²⁹ Garipzanov, “Christianity and Paganism,” 22-23; *Historia Norwegie*, c. I, 52.

²³⁰ *Vita Anskarii Auctore Rimberto, Accedit Vita Rimberti*, ed. Georg Waitz (Hannoverae: Impensis Bibliopolii Hahniani, 1884), c. XXVI, 56; translation from Robinson, 89-90: “You have also duly sacrificed

The religion of the pagans is presented by Rimbert as a cult that practices *sacrificia* and *vota* (sacrifices and vows). Moreover, in addition to the gods, they are honoring peoples, e.g. King Eric, as one of the *dei* (gods).

Adam of Bremen also writes about pagans. He describes Uppsala (a temple in Sweden), where pagans prayed to the gods. Also, they prayed to *dei ex hominibus facti* (gods made from humans), based on Adam quoting Rimbert.²³¹ The author describes pagans and their rituals in this temple, which include sacrifices. Three pagan gods were worshiped in the temple. The author draws attention to these gods and what they could do, perhaps for comparison with their God. He also points out the importance of this temple for the Swedes since various events are celebrated there; for example, a general feast of all the provinces of Sweden is held there. Also, the temple serves as a place for the re-adoption of paganism after Christianity. Medieval writers wanted to show that this temple interfered with the mission because it was a critical place for the existence of the pagan religion, where the pagans could return to paganism.

In [Ubsola], quod totum ex auro paratum est, statuas trium deorum veneratur populus, ita ut potentissimus eorum Thor in medio solium habeat triclinio; hinc et inde locum possident Wodan et Fricco. Quorum significationes eiusmodi sunt: Thor, inquit, presidet in aere, qui tonitrus et fulmina, ventos ymbresque, serena et fruges gubernat. Alter Wodan, id est furor, bella gerit hominique ministrat virtutem contra inimicos. Tercius est Fricco, pacem voluptatemque largiens mortalibus. Cuius etiam simulacrum fungunt cum ingenti priapo. Wodanem vero sculpunt armatum, sicut nostri Martem solent; Thor autem cum sceptro Iovem simulare videtur. Colunt et

and performed the vows made to us, and your worship has been well pleasing to us. But now you are keeping back the usual sacrifices and are slothful in paying your freewill offerings; you are, moreover, displeasing us greatly by introducing a foreign god in order to supplant us. [...] Furthermore, if you desire to have more gods and we do not suffice, we will agree to summon your former King Eric to join us so that he may be one of the gods.[...] For they had resolved to have a temple in honour of the late king, and had begun to render votive offerings and sacrifices.”

²³¹ Adam, *Gesta Hammaburgensis*, Book IV, c. XXVI, 259.

deos ex hominibus factos, quos pro ingentibus factis immortalitate donant, sicut in Vita sancti Ansgarii legitur Hericum regem fecisse.²³²

This description of Uppsala by Adam suggests that pagans perceive nature as something powerful, dominated by their gods—*Thor [...] presidet in aere, qui tonitrus et fulmina, ventos ymbresque, serena et fruges gubernat* (“Thor [...] presides over the air, which governs the thunder and lightning, the winds and rains, fair weather and crops”),²³³ and that people entrust their destinies to these gods—*Wodan [...] bella gerit hominique ministrat virtutem contra inimicos* (“Wotan [...] carries on war and imparts to man strength against his enemies”).²³⁴

Adam and Rimbert write that the pagans worship demons, as they called their gods. The description of pagans by Adam dates back to 1075 when Christianity was already in Scandinavia, which means these descriptions may reflect pagans’ lifestyle as influenced by Christians.²³⁵ However, it should be considered that he also uses the *VA*, a source written in 865-873. Adam writes that pagans practiced sacrifices of *masculus* (male or human) and of *canes* (dogs) and *equi* (horses) to *placare* (to appease) their Gods, and as a result of the

²³² Adam, *Gesta Hammaburgensis*, Book IV, c. XXVI, 258-9; translation from Tschan, 207: “In [Uppsala], the people worship the statues of three gods in such wise that the mightiest of them, Thor, occupies a throne in the middle of the chamber; Wotan and Frikko have places on either side. The significance of these gods is as follows: Thor, they say, presides over the air, which governs the thunder and lightning, the winds and rains, fair weather and crops. The other, Wotan – that is, the Furious – carries on war and imparts to man strength against his enemies. The third is Frikko, who bestows peace and pleasure on mortals. His likeness, too, they fashion with an immense phallus. But Wotan they chisel armed, as our people are wont to represent Mars. Thor with his scepter apparently resembles Jove. The people also worship heroes made gods, whom they endow with immortality because of their remarkable exploits, as one reads in the Vita of Saint Ansgar they did in the case of King Eric.”

²³³ Adam, *Gesta Hammaburgensis*, Book IV, c. XXVI, 258; translation from Tschan.

²³⁴ Adam, *Gesta Hammaburgensis*, Book IV, c. XXVI, 258, translation from Tschan.

²³⁵ Else Roesdahl, *The Vikings*, trans. Susan M. Margeson and Kirsten Williams (London, UK: The Penguin Press, 1998), 152.

rituals, the place becomes *sacer* (holy, sacred, consecrated to God).²³⁶ With this passage, Adam wants to support the perception of pagan gods and pagans as different from Christianity:

Reges et populi, omnes et singuli sua dona transmittunt ad Ubsolam, et, quod omni pena crudelius est, illi, qui iam induerunt christianitatem, ab illis se redimunt cerimoniais. Sacrificium itaque tale est: ex omni animante, quod masculinum est, novem capita offeruntur, quorum sanguine deos placari mos est. Corpora autem suspenduntur in lucum, qui proximus est templo. Is enim lucus tam sacer est gentilibus, ut singulae arbores eius ex morte vel tabo immolatorum divinae credantur. Ibi etiam canes et equi pendent cum hominibus, quorum corpora mixtim suspensa narravit mihi aliquis christiaanorum LXXII vidisse.²³⁷

Rimbert also calls pagans' gods *daemones* (demons) in the episode when the former Swedish king Anoundus attacks Birka with the Danes to take back his kingdom. The inhabitants of this city flee to the neighboring city of Sigtuna and begin to make sacrifices to their gods, that is, demons, according to the author. This is how medieval Christian authors describe the gods of the pagans:

Cooperunt quoque diis suis, immo daemonibus, vota et sacrificia plurima promittere et offerre, quo eorum auxilio in tali servarentur periculo.²³⁸

Based on the written sources about medieval Scandinavia, according to these authors, the *gentes* (heathens/pagans) were distinguished by their culture and their ethics, from the point of view of literate Christians. However, pagan traditions changed under the

²³⁶ Adam, *Gesta Hammaburgensis*, Book IV, c. XXVII, 259. *Dictionary of Medieval Latin*, s.v. “masculus,” “canis,” “equus,” “placare,” “sacer,” Ekrem and Mortensen, “Commentary,” in *Historia Norwegie*, 145: “*gentilis, paganus* are used interchangeably.” Garipzanov, “Christianity and Paganism,” 26.

²³⁷ Adam, *Gesta Hammaburgensis*, Book IV, c. XXVII, 259-60; translation from Tschan, 208: “Kings and people all and singly send their gifts to Uppsala and, what is more distressing than any kind of punishment, those who have already adopted Christianity redeem themselves through these ceremonies. The sacrifice is of this nature: of every living thing that is male, they offer nine heads, with the blood of which it is customary to placate gods of this sort. The bodies they hang in the sacred grove that adjoins the temple. Now this grove is so sacred in the eyes of the heathen that each and every tree in it is believed divine because of the death or putrefaction of victims. Even dogs and horses hang there with men. A Christian seventy-two years old told me that he had seen their bodies suspended promiscuously.”

²³⁸ *Vita Anskarii Auctore*, c. XIX, 42; translation from Robinson, 65: “Being in great difficulty they fled to a neighbouring town and began to promise and offer to their gods, who were demons, many vows and sacrifices in order that by their help they might be preserved in so great a peril.”

influence of Christianization, making it difficult to distinguish between the two religions of this period clearly. Ildar Garipzanov, referring to David Fraesdorff's book *Der barbarische Norden*²³⁹ states that pagans exercised vices like *crudelitas* (cruelty), did not possess Christian virtues like *humanitas* and *misericordia* (mercy), and did not know the creator of the truth (Jesus Christ).²⁴⁰ This picture of pagans reflects the descriptions of the heathens by Christian authors.

Nevertheless, Adam emphasizes that pagans (in this case, the pre-Christian Saxons) followed righteous norms, like the *lex naturae* (the law of nature). The author notes that the useful and honorable regulations of pagans would give them true happiness if they worshiped the true God.²⁴¹

Et multa utilia atque secundum legem naturae honesta in morum probitate studuerunt habere; quae eis ad veram beatitudinem promerendam proficere potuissent, si ignorantiam creatoris sui non haberent et a veritate culturae illius non essent alieni.²⁴²

Here is how the pagans are perceived by the author of *HN*, which was written after the text of Adam. The author describes the seaboard region's king, Håkon, who was raised a Christian. His adoption of paganism is called *tantum errorem* (serious delusion) by the author of *HN*. To describe Håkon's choice of monarchy instead of an eternal kingdom, the author uses the word *transitorium* (temporary) with the meaning of material and worldly,

²³⁹ David Fraesdorff, *Der barbarische Norden: Vorstellungen und Fremdkategorien bei Rimbert, Thietmar von Merseburg, Adam von Bremen und Helmold von Bosau* (Berlin/Boston: De Gruyter, Inc, 2005).

²⁴⁰ Garipzanov, "Christianity and Paganism," 16-17; *Dictionary of Medieval Latin*, s.v. "crudelitas," "misericordia," accessed March 19, 2022; Ekrem and Mortensen, "Commentary," in *Historia Norwegie*, 145; "gentilis, paganus" are used interchangeably."

²⁴¹ Garipzanov, "Christianity and Paganism," 16-17; Adam, *Gesta Hammaburgensis*, Book I, c. VI, 8; translation from Tschan, *Adam of Bremen*, 10. *Dictionary of Medieval Latin*, s.v. "lex," accessed June 2, 2022.

²⁴² Adam, *Gesta Hammaburgensis*, Book I, c. VI, 8; translation from Tschan, *Adam of Bremen*, 10; "And in the interest of upright morals they strove to have many useful and, according to the natural law, honorable regulations, which could be very helpful to them in meriting true happiness if they were not ignorant of their Creator and strangers to the truth of His worship."

and therefore temporary. Moreover, the word *ydola* is used in Christian texts about pagans with the meaning of “images of false gods, “idols,” as Inger Ekrem explains. On the other hand, the author of *HN* describes Christianity positively, using the word *dignitas* (eternal, liberty).²⁴³

[Hacon a Norwegie rex] educatus in tantum errorem incurrit, ut miserrima commutatione eterno transitorium preponeret regnum ac detinende dignitatis cura—proh dolor—apostata factus, ydolorum seruituti subactus, diis et non Deo deseruiet.²⁴⁴

When it comes to the pagans who lived in Norway before the reign of Saint Olaf and the beginning of Christianization, the author of *Passio Olavi* notes that they were led into *supersticiosos errores* (superstitious errors): *hactenus sacrilegis ydolorum mancipate ritibus, et supersticiosis erroribus deluse, nationes ille [...]*.²⁴⁵ The author also describes pagans as heartless: *ulla miseratio pagane mentis* (nor any mercy from the heartless pagans) and mentions that they also have *auaritia naturalis* (natural avarice).²⁴⁶

Medieval authors explained that pagans worshipped demons or false gods, practiced human and animal sacrifices, and that paganism was an error. This vision of pagans by literate Christian authors aimed at providing a reason for Christianization, to show that Christianity and Jesus Christ were better than paganism and their gods. Therefore, this subsection requires further research of other sources and pieces of evidence.

²⁴³ *Historia Norwegie*, c. XIII, 82-3; translation from Fisher; Ekrem and Mortensen, “Commentary,” in *Historia Norwegie*, 136; *Dictionary of Medieval Latin*, s.v. “dignitas,” “transitorius.”

²⁴⁴ *Historia Norwegie*, c. XIII, 82-3; translation from Fisher: “[Håkon a ruler of Norway] fell into such serious delusion that he underwent a wretched change and valued his temporal monarchy before the eternal kingdom; and in his concern to hold on to royal grandeur, sad to say, he turned apostate and submitted himself to the bondage of idolatry, serving gods instead of God.”

²⁴⁵ *Passio et Miracula*, 67; translation from Phelpstead, 26: “The peoples of that country, previously subject to the ungodly rites of idolatry and deluded by superstitious error.”

²⁴⁶ *Passio et Miracula*, 85; translation from Phelpstead, 43.

Christianization:

The populations of Sweden and Norway had already been converted to Christianity by the time the *Historia Norwegie* was probably written, in 1160-1175.²⁴⁷ Christianization took longer in Sweden than in the other countries. Adam writes that Swedes could have been Christianized if it were not for *mali doctores* (bad teachers).²⁴⁸ He also mentions that after the death of Ansgar (865), all the kings of Denmark were still pagans. That is, the missionary work of Ansgar, Rimbert, Gautbert, and Nithard did not give the expected results.²⁴⁹ As Vladimir Rybakov notes, the period of missionary work ended in the middle of the 12th century, that is, the North was by then fully Christianized.²⁵⁰ However, in some regions, for example, the peoples of *Courland* (in Sweden) and *Chori* converted later.²⁵¹

Christianization is the acceptance of the Christian religion by a society and it includes its components such as symbolism, rituals, dogma, morality, and culture. Perhaps it can be said that Christianization is a long process of adoption and processing by one religion of the essential elements of another religion.²⁵²

Christianization occurred thanks to the bishops appointed to serve in Scandinavia. In Scania (present-day Sweden), Gerbrand and Avoco (died in 1057) were the first bishops. After them, Eginio and Henry were appointed in 1060/61 to serve at Dalby and Lund, respectively. Eginio was well-educated and could convert pagans to Christianity without

²⁴⁷ *Historia Norwegie*, 94; Rosenwein, *Reading the Middle Ages*, 225 and 226; Roesdahl, *The Vikings*, 147.

²⁴⁸ Adam, *Gesta Hammaburgensis*, Book IV, c. XXII, 252.

²⁴⁹ Robinson, "Introduction," in *Anskar-The Apostle of the North*, 19.

²⁵⁰ Rybakov, *Хроника Адама Бременского*, 14.

²⁵¹ Adam, *Gesta Hammaburgensis*, Book IV, c. XVI, 244; translation from Tschan, *Adam of Bremen*, 197.

²⁵² Rybakov, *Хроника Адама Бременского*, 18.

coercion, according to Adam; according to him, this had not been the case for Henry and Avoco.²⁵³ The Swedish town Skara had as first bishop a man called Thurgot (Thorgaut) who was a bishop in attendance in 1013,²⁵⁴ then Godescalcus (Gottshalk); the third bishop was Adalward, in the 1060s. Adalward was *laudabilis* (praiseworthy/laudable), had “miraculous powers,” and attracted people to Christianity. Adalward’s miraculous powers are described by Adam when he asks God for rain and his wish is granted. He leads the Swedes (in Signuta and around) to the Christian faith and turns his gaze to the people of Uppsala.²⁵⁵ Another archbishop in Sweden after Adalward was Tadico of Ramelsloh.²⁵⁶ Stenphi (or Simon) was the first bishop in Halsingland (between Norway and Sweden), where he converted many pagans.²⁵⁷ Other people also promoted Christianity. For example, an unnamed pagan priest who worshipped demons in Uppsala became blind; after the Virgin Mary cured his blindness, he began to persuade the pagans to convert to the faith of Christ.²⁵⁸ The first bishop, according to Adam, in Norway was John (from England), who converted Norwegians and Olaf Tryggvason. Olaf Tryggvason ruled in Norway from AD 995 to AD 1000 as a Christian,²⁵⁹ therefore, John was probably a bishop since AD 994. The second bishop was Grimkil, then came Sigefrid. Grimkil lived in the days of Adam and also preached in Sweden. After Grimkil’s death, Bishop Tolf was sent to the Norwegian cities

²⁵³ Adam, *Gesta Hammaburgensis*, Book IV, c. VIII, 235-6; translation from Tschan, 191-2.

²⁵⁴ Adam, *Gesta Hammaburgensis*, Book II, c. LX, 119; translation from Tschan, 95.

²⁵⁵ Adam, *Gesta Hammaburgensis*, Book IV, c. XXIII, 254; translation from Tschan, 204-5. Holman, *Historical dictionary*, 107. *Dictionary of Medieval Latin*, s.v. “*laudabilis*.”

²⁵⁶ Adam, *Gesta Hammaburgensis*, Book IV, c. XXX, 262; translation from Tschan, 210.

²⁵⁷ Adam, *Gesta Hammaburgensis*, Book IV, c. XXVIII, 256; translation from Tschan, 206.

²⁵⁸ Adam, *Gesta Hammaburgensis*, Book IV, c. XXVIII, 260-1.

²⁵⁹ Ian Howard, “Olaf I Tryggvason,” in *The Oxford Encyclopedia of Medieval Warfare and Military Technology*, ed. Clifford J. Rogers (Oxford, Oxford University Press, 2010).

of Trondheim and Seward.²⁶⁰ Ansgar preached Christianity in Sweden and Denmark. According to Rimbert, his speech inspired fear, and people embraced him as a brother and revered him as a father. Ansgar possessed missionary zeal and courage, uncomplaining patience, generosity, and strict self-discipline, and was able to lead people, according to Rimbert.²⁶¹

An essential role in the Christianization of the Norwegians and Swedes was played by Saint Olaf Haraldsson (ruled in Norway between 1015-1028 AD²⁶²) and King Stenkil (ruled in the middle of the 11th century), respectively. Stenkil introduced the death penalty or the expulsion from the kingdom for those opposing the Christian faith.²⁶³ Olaf gave up worldly affairs for the sake of heavenly matters. Even the most devoted pagans followed him: *Nonnullos ad seculi contemptum, et amorem superne patrie mirabilis eius deuocio et uita continentissima medullitus inflammauit* (“His wonderful devotion and most abstemious life kindled in the hearts of many contempt of this world and love of the heavenly homeland”).²⁶⁴ As the author of *Passio Olavi* describes, Olaf was distinguished by justice and extreme kindness even to the pagans; he had *humilitas* (humility) and *mansuetudo* (mildness).²⁶⁵

According to the aforementioned descriptions, the personalities who influenced the process of Christianization of the North possessed oratorical and persuasive abilities;

²⁶⁰ Adam, *Gesta Hammaburgensis*, Book IV, c. XXXIII, 268; translation from Tschan, 214, 218.

²⁶¹ Robinson, “Introduction,” in *Anskar-The Apostle of the North*, 17, 19, 14.

²⁶² Jackson, “The Far North,” 77.

²⁶³ Adam, *Gesta Hammaburgensis*, Book IV, c. XXX, 262; translation from Tschan Tschan, 210.

²⁶⁴ *Passio et Miracula*, 69; translation from Phelpstead, 27.

²⁶⁵ *Passio et Miracula*, 70; translation from Phelpstead, 29.

people believed them and were ready to follow them. They gave an example of how to live and what to do, and, according to the Christian authors, most of the pagans imitated them.

Rimbert also gives another example of the adoption of Christianity:

Herioldus quidam rex, qui partem tenebat Danorum, ab aliis ipsius provinciae regibus odio et inimicita conventus, regno suo expulsus sit. Qui serenissimum adiit imperatorem Hludwicum, postulans, ut eius auxilio uti mereretur, quo regnum suum denuoevindicare valeret. Qui eum secum detentum tam per se quam per alios ad suscipiendam christianitatem cohortatus, quod scilicet inter eos ita maior familiaritas esse posset, populusque christianus ipsi ac suis promptiori voluntate in adiutorium sic veniret, si uterque unum coleret Deum, tandem gratia divina tribuente ad fidem convertit, et sacro baptisate perfusum ipse de sacro fonte suscepit sibi in filium adoptavit.²⁶⁶

The author here describes that Harald, the king of South Jutland, was attacked by another king and had to ask help from Louis the Pious who agreed to help only if Harald and his people were to adopt Christianity. Harald is known to have been baptized in AD 826.²⁶⁷

To sum up, we can say that some Scandinavian kings supported Christianization. With their approval, priests preached Christianity in their kingdoms. The medieval authors studied here wanted to show that Christian bishops were people who were listened to by pagans and who converted them to Christianity.

Christianity:

The first peoples involved in the Christianization of the North were presented above. Who were, however, Christians, and how did they differ from the pagans according

²⁶⁶ *Vita Anskarii Auctore*, c. VII, 26; translation from Robinson, 38: “[A] king named Harald, who ruled over some of the Danes, was assailed by hatred and malignity, and was driven from his kingdom by the other kings of the same province. He came to serene majesty the emperor Ludovic [ie. Ludwig] and asked that he might be thought worthy to receive his help so that he might be able to regain his kingdom. While the emperor kept him at his court he urged him, by personal persuasion and through the instrumentality of others, to accept the Christian faith, because there would then be a more intimate friendship between them, and a Christian people would more readily come to his aid.”

²⁶⁷ Birgit Sawyer and Peter Sawyer, “Conversion of Scandinavia,” in *The Oxford Dictionary of the Middle Ages*, ed. Robert E. Bjork (Oxford: Oxford University Press, 2010).

to literate Christian writers? The conversion process started with baptism—the sprinkling *sacro fonte* (“with holy water”).²⁶⁸ In the *VA*, Rimbert describes Ansgar’s Christianity in this way:

Sicque, omni postposita levitate, compunctionis divinae coepit amore languescere, totumque se in Dei servitium convertens, orationi et vigiliis atque abstinenciae operam dabat. Cumque his virtutum exercitiis verus athleta Dei insisteret, atque in hac gravitate permanenti mundus illi mortuus fieret, et ipse mundo. [...] [C]oepit se sollicitius in divino exercere timore bonisque operibus de die in diem ardentius inherere...²⁶⁹

Thus, Christianity, according to the life of Ansgar, is the opposite of *levitas*, and is associated with *languescere* (remorse),²⁷⁰ *oratio* (oration, pray, speech), *vigilia* (watch, nightwatch), and *abstinentia* (abstinence from food or sex).²⁷¹ Rimbert's vision of the ideal Christian person can be said to correspond to someone secluded from the world: this is in opposition to Lynn White's idea, as was highlighted by Richard Hoffmann: to use nature as one pleases. That is, the world was created by God and given to people, and they could use its resources in whatever way they wanted. By contrast, according to Ansgar's description, they had to limit themselves in using the benefits of nature, food, and comfort.²⁷² This reflects Augustine of Hippo’s idea that the material world is only a way to reach God, that is, the material world is made of sins, opposed to non-material salvation.²⁷³

²⁶⁸ *Vita Anskarii Auctore*, c.VII, 26.

²⁶⁹ *Vita Anskarii Auctore*, c. III, 21, 24; translation from Robinson, 30, 34: “Accordingly he put aside all levity and began to languish with a divinely inspired remorse; and, devoting himself wholly to the service of God, he gave attention to prayer, watching and fasting. By these virtuous exercises he became a true athlete, of God, and, as a result of his persistent severity, the world became dead to him and he to the world. [T]he servant of God was both terrified and comforted, and in the fear of the Lord he began to live more carefully, to cleave day by day to good deeds.”

²⁷⁰ Translation from Robinson, 30.

²⁷¹ *Dictionary of Medieval Latin*, s.v. “oratio,” “vigilia,” “abstinentia.”

²⁷² Hoffmann, *An Environmental History*, 88.

²⁷³ Hoffmann, *An Environmental History*, 92.

Furthermore, the author of the *Passio Olavi* describes Christianity as [*v*]itam indeficientem and gaudia eterna (unfailing life and eternal joy) and [*v*]eritas (the truth or fact):²⁷⁴

Audierunt auditum a domino, et legatos ad illas gentes misit, precones uerbi sui, qui ueritatem, que est in christo ihesu, partibus illis predicarent, culturam euerterent ydolorum, credentibus uitam indeficientem et gaudia eterna promitterent, incredulos et rebelles futuri iudicii et perhennis supplicii metu deterrarent.²⁷⁵

Something similar is said by the author of *HN*, namely that Christianization is a conversion into the *fides* (truth, faith).²⁷⁶

Christians believed that God created the world and everything living and non-living.²⁷⁷ Any circumstances were perceived as being *nutu Dei* (by the will of God), like grace or punishment,²⁷⁸ according to the medieval writers of this study. This is also similar to paganism—people of both religions trusted their lives, their actions, and actions acted upon them, to their Gods or God, according to these same authors. Christian authors could take their own traditions and vision of the world to project them unto the pagans.

There are very few sources describing pre-Christians, and besides, the Scandinavian texts are all written by Christians, which leaves doubts about their reliability. The Latin sources used in this research are aimed at proselytizing Christianity among the pagan peoples. The mission, also known as the “missionary Christian identity,” was oriented toward the northern lands inhabited by pagans to defend the institutional identity of the

²⁷⁴ *Dictionary of Medieval Latin*, s.v. “gaudium,” “indeficiens,” “veritas.”

²⁷⁵ *Passio et Miracula*, 67-8; translation from Phelpstead, 26: “They heard of the teaching of the Lord, and he sent messengers to them as heralds of his word. They should preach in those parts the truth which is in Christ Jesus, overthrow the cult of idols, promise unfailing life and eternal joys to those who believed, and deter the unbelieving and contumacious with the fear of judgement to come and everlasting torment.”

²⁷⁶ *Historia Norwegie*, c. XVII, 94; *Dictionary of Medieval Latin*, s.v. “fides.”

²⁷⁷ Hoffmann, *An Environmental History*, 91.

²⁷⁸ *Vita Anskarii Auctore*, c. X, 32.

archbishopric of Hamburg-Bremen.²⁷⁹ The interpretation of religion and religious rituals is also carried out by archaeologists, namely through material culture and artifacts that complement the written texts provided above.

5.1.2 *Archaeological sources*

Beyond the vision of literate Christian peoples, Scandinavian culture can also be traced to material culture. Burial customs allow the study of Scandinavian traditions through their perception of death. It is an essential source for archaeologists to interpret religion and for historians to complement written sources. This can be done through the study of buried objects relating both to paganism and Christianity, as well as through the linguistic analysis of the texts of runestones.²⁸⁰

Material culture can be studied within the framework of a hybrid culture of Christians and pagans. The written sources analyzed above present Christians' view of pre-Christians and Christians, which limits the study of Scandinavia as a hybrid culture. Hybridity is seen as the contact of two religious systems, where both religions, that is, paganism and Christianity, embrace and reflect each other.²⁸¹ This hybrid culture is shown very well in the Jelling Monument, created in the 10th century in Denmark. The Viking King Gorm was buried in Jelling²⁸² with suitable equipment (men's money, arms,²⁸³ a horse, a silver cup, a small wooden cross, etc.) to arrive in the afterlife. This Viking tradition

²⁷⁹ Garipzanov, "Christianity and Paganism," 13 and 16.

²⁸⁰ Jennbert, "Archaeology and Pre-Christian," 133.

²⁸¹ Tesch, "A Lost World?," 192.

²⁸² Jelling is a town in Denmark next to Vejle.

²⁸³ Tschan, *Adam of Bremen*, note a, 212.

existed until the 10th century.²⁸⁴ The primary sources described the burial of animals as pagan rites. The inclusion of animals in burial to support the person in the afterlife is not typical of Christian burials.²⁸⁵

The burial tradition of Christianity prohibited burying grave goods. This was most likely due to the desire to reject the material and to prefer a modest life, as Rimbert suggests.²⁸⁶ When the Danish king, Harald, the son of King Gorm, became a Christian, he “Christianized” his father’s burial site, dug up his father’s body, took it to the church, and erected large stones—the “Jelling Monuments.” The texts of the stone reflect Harald as a “traditional warlord” and “good Christian ruler.”²⁸⁷

However, due to mutual influence, sometimes there was no clear border between the two religions or differences in some burial practices. For example, both pagans and Christians were oriented toward the West.²⁸⁸ Inhumation graves with coffins and stone cists represent the early Christian burial ritual, but could also be pagan. The representation of the afterlife by Christians influenced burial traditions that can be traced back to the period of Christianization. For example, early Christian graves were exclusively inhumation burials. That is, the bodies of Christians were not burned like those of pagans were. This reflects their belief in eternal life, which is contrasted with cremation, since the bodies of Christian were expected to remain whole and indestructible. The same can be said about buried objects. As Julia Lund suggests, the absence of grave goods may also reflect

²⁸⁴ Dates varied depending on the territory

²⁸⁵ Tesch, “A Lost World?,” 193-4.

²⁸⁶ *Vita Anskarii Auctore*, c. III, 21, 24; translation from Robinson, 30, 34.

²⁸⁷ *Reading the Middle Ages*, 225 and 226.

²⁸⁸ Rybakov, *Хроника Адама Бременского*, 16.

Christians attitudes towards the body and things in everyday life. Bodies were buried more carefully, and containers, in which bodies were placed, appeared. Lund also notes that it is difficult to trace social differences in Christian burials. Burial rites involve the acceptance of traditions and their observance by all levels of society. These traditions, as she suggests, reflect not only their religion but also the mentality of Scandinavians.²⁸⁹

A vivid image of a hybrid culture was found in the region of Lake Mälaren, in Sweden. First of all, the excavations show that cremation graves are older than the inhumation graves, which suggests a transition from paganism to Christianity. It is in this place that the largest number of Thor's-hammer rings in Scandinavia was found. Thor's-hammer rings reflect the belief in gods, one of which is Thor, described by Adam. In this region of Sweden, more pagan items were found than in other parts of Scandinavia. However, pagan attributes were also found in inhumation graves and in one Christian burial (dated AD 1100). This mixture tells of the emergence of hybrid cultural traditions, where the pagans adopted the traditions of Christianity and vice versa. The appearance of children's burials during Christianization is also associated with the transformation of the religious vision of death by the Scandinavians.²⁹⁰

Continuing on the subject of hybridity, the mid-11th century Turinge boat in the Mälaren Region is an example of a “pre-Christian context in a Christian world.”²⁹¹ During this period, traditions of boat graves, burial jewellery, or costumes had long been abandoned, but they were nonetheless present in this hybrid burial grave. This grave was

²⁸⁹ Lund, “Fragments of a Conversion,” 54, 56-7.

²⁹⁰ Tesch, “A Lost World?,” 193-4.

²⁹¹ Tesch, “A Lost World?,” 197.

interpreted as a sign of resistance not to the Christian faith, but to changes in society, according to Sten Tesch.²⁹²

A distinctive feature of the two religions discovered by archaeologists is connected to the location of burials. Old customs obligated the Scandinavians to bury the dead next to their ancestors and near the home to maintain connections with them. This custom was followed by farmers and people outside the towns. The second type of graves dated to the period under study were located closer to the towns and to the churches, and represented the Christian grave customs.²⁹³ Another distinctive feature found among the pagans in Scandinavia during the period under study is that the pagans practiced animism— when people believe that life and spirit are in all things, including inanimate objects, which is often traced in the artifacts of the Vikings, which depicted animals.²⁹⁴

Thus, archaeological evidence shows a hybrid Scandinavian culture between the 9th and 12th centuries. This is the period of the contact between pagan and Christian religious systems, when both religions embraced and reflected each other. On the basis of archaeological data, it is difficult to tell the difference between pagan and Christian burial cultures, except for some features, such as the location of burials. The medieval authors analyzed in this chapter, by contrast, drew a clear distinction between the two religions. For example, the offering of sacrifices and the worship of several gods are described by medieval authors as typical for pagans. The burial of a person with animals and other grave

²⁹² Tesch, “A Lost World?,” 197.

²⁹³ Tesch, “A Lost World?,” 197.

²⁹⁴ Aberth, *An Environmental History*, 4; Hoffmann, *An Environmental History*, 88-9; Julie Lund, “Connectedness with Things. Animated Objects of Viking Age Scandinavia and Early Medieval Europe,” *Archaeological Dialogues* 24, no. 1 (2017): 100.

goods (Thor's-hammer ring) is interpreted by archaeologists as reflecting a pagan burial. Christians, as medieval authors write, had to renounce the material world and be closer to the church, that is, to God. Therefore, burials near the church and without grave goods (that is, worldly material) are interpreted as Christian burials.

5.2 Demography

Cultural and religious features have influenced the perception of the world and, consequently, the use of natural resources. Population change also indicates human impact on the environment. According to Malthus, the higher the level of resources, the higher the population growth rate. It is assumed that the number of people settled in new regions to some extent depends on available resources. The exploration of the new land and of the available resources led to an increasing population. Population growth, “population pressure,”²⁹⁵ and easily accessible land led to immigration and the settlement of new northern territories. However, what happens when an equilibrium is reached—when the population corresponds to the available resources? The Malthusian model explains this equilibrium. When the rate of crops used exceeds the resource regeneration rates, then the renewable resources is depleted. Thus, the pattern of population growth and resource degradation (Malthusian trap) is most often observed.²⁹⁶

For these reasons, it is important to explore what is known about the population of Norway and Sweden in the 9th-12th centuries. According to estimations based on

²⁹⁵ Kim Hjärdar and Vegard Vike, *Vikings at War* (Havertown: Casemate Publishers & Book Distributors, LLC, 2016), 20.

²⁹⁶ Kallis, *Limits: Why Malthus*, 9, 12-14.

archaeological sources, the population of Scandinavia in AD 800 was of less than a million, as Hjarðar and Víke writes. The increase in population forced them to emigrate in the Viking Age.²⁹⁷ The population of Scandinavia can be studied from a quantitative analysis of graves and cemeteries. Few sources left about the population in the early Middle Ages. Therefore, the population of Scandinavia in the Middle Ages is more of an estimate than a precise number. The increase in buildings evidences population growth. According to James H. Barrett, buildings increased with the congregation's growth. The number of churches, which doubled between the 12th and the 14th centuries, can also indicate the population growth, or this was done so that more people have access to churches near where they lived. Demography is also related to the expanding production of crops, which can support a larger population than animal husbandry. Deforestation to settle new lands also tells us about population growth, but it can also say more about the need for more construction material, land for cultivation and settlements.²⁹⁸ Christianity also influenced population growth through the prohibition of infanticide.²⁹⁹ Thus, the Scandinavian population density increased by about 40% from Neolithic times (0.1 persons per km²) to the Viking Age (4 persons per km²) or by 4% every year between AD 400 and AD 700.³⁰⁰ The most notable population growth occurred in less populated areas in the 12th-13th centuries.³⁰¹

²⁹⁷ Hjarðar and Víke, *Vikings at War*, 20.

²⁹⁸ Corsi, *Urbanization in Viking Age*, 136.

²⁹⁹ Sharpe, "The Viking Expansion," 36.

³⁰⁰ Sharpe, "The Viking Expansion," 36.

³⁰¹ Corsi, *Urbanization in Viking Age*, 136.

Sweden. The most populous areas were Scania (currently a region of Sweden territory) and the area around Birka. The population of Birka varied from 800 to 1000 people during the 8th-11th centuries.³⁰² By the 13th century, the number of settlements was probably around 75,000 in Sweden (Table 1).³⁰³ Farms in Sweden increased from between 1000 and 2000 in the 8th century to between 4000 and 5000 in AD 1100 and even more in AD 1300, which indicates population growth.³⁰⁴

Norway. In AD 800, the entire population of Norway was around 100,000-150,000.³⁰⁵ At the end of the 9th century, the population was about 150,000-200,000; in AD 1000, about 400,000; and it grew to approximately half a million by AD 1300.³⁰⁶ Between AD 800 and AD 1300, there was a rapid increase in population and settlements in Norway due to the warm climate that was more suitable to agriculture.³⁰⁷ A high point was reached in the 12th century. The number of settlements was probably around the same or less as in Sweden by the 13th century (Table 5.1).³⁰⁸

Table 5.1 Medieval settlements in Scandinavia. Øye, "Technology, land use," 298.

Areas	Number of rural households AD 1300
Norway	64,000/75,000
Sweden	75,000

³⁰² Hjarðar and Vike, *Vikings at War*, 116.

³⁰³ Ingvild Øye, "Technology, Land Use and Transformations in Scandinavian Landscapes, c. 800-1300 AD," in *Economic Archaeology: From Structure to Performance in European Archaeology*, eds. Tim Kerig and Andreas Zimmermann (Habelt: Bonn, Germany, 2013), 298.

³⁰⁴ Sharpe, "The Viking Expansion,"

³⁰⁵ Hjarðar and Vike, *Vikings at War*, 29.

³⁰⁶ Maja Krzewińska et al., "Mitochondrial DNA Variation in the Viking Age Population of Norway," *Philosophical Transactions of the Royal Society B: Biological Sciences* 370, no. 1660 (2015): 2; Hjarðar and Vike, *Vikings at War*, 29.

³⁰⁷ Bajard et al., "Climate Adaptation," 37.

³⁰⁸ Øye, "Technology, Land Use," 298.

To sum up, the growth of agriculture and of settlements increased during the 9th-12th centuries, which indicates population growth in Norway and Sweden. Historical sources also confirm that the number of buildings grew in these countries during this period.³⁰⁹ The fertility of the lands of Norway and Sweden also tells us that the conditions were suitable for population growth.³¹⁰

5.3 Conclusion

So, what was the culture of the Scandinavians like during the 9th-12th centuries? The vision of the world of pre-Christians and Christians cannot be distinguished clearly. Instead, it should be viewed as a culture that changed slowly over time, bearing in mind the differences in religious aspects of both cultures. However, based on the fact that “[e]very pastor or priest should cultivate three things: knowledge, eloquence and good [manner of] life,”³¹¹ pagan life changed and adopted Christian culture.³¹² Nevertheless, changes were based on the world vision of Christians. According to Vladimir Rybakov, pagans in Scandinavia experienced a cultural upheaval and they began to live “мирно” (peacefully/amicably);³¹³ to have *[v]itam indeficientem* (unfailing life) and *gaudia eterna* (eternal

³⁰⁹ *Vita Anskarii Auctore*, c. XI, 32, 36: “[Herigarius ..] ecclesiam fabricavit;” “ecclesiam inibi fabricare” – Rimbert mentioned these churches in Sweden in his work written in 865-876. *Passio et Miracula*, 70: “fabricabantur ecclesie”—churches built in Norway during the reign of Olaf are mentioned in *Passio et miracula beati Olavi* written in 1170-1188; Birgit Sawyer, “Scandinavia in the Viking Age,” in *Vinland Revisited: the Norse World at the Turn of the First Millenium*, ed. Shannon Lewis-Simpson (St. John’s, NL: Historic Sites Assosiation of Newfoundland and Labrador, Inc., 2000), 59.

³¹⁰ *Vita Anskarii Auctore*, c. XXVI, 56; Øye, “Settlement Patterns,” 38.

³¹¹ *Reading the Middle Ages*, 264.

³¹² Holman, *Historical Dictionary*, 5.

³¹³ Rybakov, *Хроника Адама Бременского*, 22.

joy),³¹⁴ according to the author of *Passio Olavi*.³¹⁵ The new religion changed their world view, especially the vision of death, as can be seen through archaeology. What is also important for this research is that Christianization changed the understanding of nature. Christianity, to whose vision of the world this study is limited, was described by medieval authors as the only true worship. This world is created for people to understand the will of God, which is achieved through suffering and limitations of comfort. Thus, in the following chapters, this study will use the overview of the Scandinavian culture presented above and the evidence on population growth to interpret the vision of nature by medieval writers, based on their religion, and to discuss the use of natural resources in Norway and Sweden during the 9th-12th centuries.

³¹⁴ *Dictionary of Medieval Latin*, s.v. “gaudium,” “indeficiens,” “veritas.”

³¹⁵ *Passio et Miracula*, 68.

6. NATURE IN NORWAY AND SWEDEN IN THE 9TH-12TH CENTURIES

The sixth chapter will investigate nature in Norway and Sweden in the 9th-12th centuries. The written sources used in this study were not focused on describing nature³¹⁶ as we know and perceive it today. However, they give a vision of nature and natural phenomena by medieval authors, namely literate Christian people, who left descriptions of Scandinavia in their accounts of the mission of Christianization written between the 9th and 12th centuries. How they understood and perceived their surroundings depended partly on their beliefs, as shown in the previous chapter about Scandinavian culture and society. Christians believed that God created the world and everything living and non-living in it. Any circumstances were perceived as being *nutu Dei* (by the will of God) as a grace or punishment.³¹⁷

First of all, this chapter will analyze how nature (the visible landscape), including weather and natural phenomena (there is little mention of climate in the primary sources), was perceived by medieval authors who described Scandinavia in missionary texts.³¹⁸ This chapter will then reconstruct the topographic land form—the landscape³¹⁹ of Norway and

³¹⁶ *A Dictionary of Environment and Conservation* (3rd ed.), ed. Chris Park and Michael Allaby (Oxford: Oxford University Press, 2017); Nature is the “physical world including plants, animals, and landscape, [...] unchanged by humans.” *The Oxford Dictionary of Christian Art and Architecture* (2nd ed.), ed. Tom Devonshire Jones, Linda Murray, and Peter Murray (Oxford: Oxford University Press, 2013), s.v. “nature;” Nature “relates to the idea of the creative power of God as evidenced in creation [or] to the creative power of nature itself;” *Dictionary of Medieval Latin*, s.v. “natura;” Natura—birth, the physical world, the world, supreme nature.

³¹⁷ Hoffmann, *An Environmental History*, 91; *Vita Anskarii Auctore*, c. X, 32.

³¹⁸ Garipzanov, “Christianity and Paganism,” 13 and 16. The mission, also known as the “missionary Christian identity,” oriented toward the northern lands inhabited by pagans to have the institutional identity of the Archbishopric of Hamburg-Bremen.

³¹⁹ *A Dictionary of Geography* (5th ed.), ed. Susan Mayhew (Oxford: Oxford University Press, 2015), s.v. “landscape.” Landscape is “all the visible features of an area of land, the appearance of an area, or the

Sweden in the Middle Ages beyond the perception of medieval authors. Climatic conditions play a significant role in settlement, the use of land, the exploitation of natural resources, and even in the perception of nature. Therefore, it is important to discuss the climate during the period under study.

6.1 The perception of nature (analysis of primary sources)

Landscape and geography:

Scandinavia is considered as the northern part of Europe. Its perception depended on its location and its remoteness. Therefore, one should start with the meaning of northern territories in the early Middle Ages. The *aquilo* (north) had a broader meaning than just the cardinal direction in reference to the northern landscape. Medieval authors associated *aquilo* with paganism, in all manifestations of this word, connecting it with an evil nature and *durus* (rigour).³²⁰ These territories were geographically tied to the north but were also characterized by their inhabitants. From a missionary perspective, northern Europe was described as evil and dangerous primarily because of differences in religion. For the purpose of the mission, it was necessary to show why these territories needed to be converted. That is, because the inhabitants of northern Europe practiced demonic traditions,

gathering of objects which produce that appearance.” Topography – “the arrangement of the natural and artificial physical features of an area.” Denis E. Cosgrove, *Social Formation and Symbolic Landscape* (Madison, Wisconsin: University of Wisconsin Press, 1998), 1: “Landscape is a way of seeing that has its own history, but a history that can be understood only as part of a wider history of economy and society; that has its own assumptions and consequences, but assumptions and consequences whose origins and implications extend well beyond the use and perception of land; that has its own techniques of expression, but techniques which it shares with other areas of cultural practice.”

³²⁰ Garipzanov, “Christianity and Paganism,” 16; *Passio et Miracula*, 67; translation from Phelpstead, 26; *Dictionary of Medieval Latin*, s.v. “durus,” . *Durus* – harsh, firm.

such as animal and human sacrifice, polygamy, and piracy; according to the authors, this was all different from Christianity. Different natural conditions (cold, harsh, and barren land) and unexplored territories could also make Scandinavia seem alien.

Before diving into a discussion of the lands themselves, Adam of Bremen, as a “geographer,” described in detail the surroundings of the Swedish and Norwegian lands. He described the waters around the lands where his mission was directed. It was important for Adam and other medieval authors to include a description of the waters surrounding Scandinavia. This was due to the fact that the North Sea and Baltic Sea were the only ways to Scandinavia. The Baltic Sea connects Sweden, Finland, Denmark, and other territories of medieval Europe. Its name was known, according to Adam, as the Barbarian Sea or Scythian Lake, and it had been named by “barbarian” peoples.³²¹ Adam describes the British Ocean (present-day North Sea) as *cuius latitudo immensa, terribilis et periculosa* (“It is of immense breadth, terrible and dangerous”),³²² quoting the *Vita Karoli* (Life of Charlemagne) written by Einhard³²³ around AD 817-823.³²⁴ In the west of this ocean were the lands of Britain; in the east, Denmark and Norway; in the south, the Frisians and the Saxons; in the north, Iceland and Greenland; and farther north—the *oceanus caligans* (the dark ocean).³²⁵ As Adam notes, this farther north the ocean is of *incompertae* (unknown) length. Adam explains that his descriptions are based on what has been told him by a

³²¹ Adam, *Gesta Hammaburgensis*, Book IV, c. X, 238; *Dictionary of Medieval Latin*, s.v. “barbarus.” *Barbarus*—barbarian, uncivilized.

³²² Adam, *Gesta Hammaburgensis*, Book IV, c. X, 238; translation from Tschan, 194.

³²³ Adam, *Gesta Hammaburgensis*, Book IV, c. X, 238; translation from Tschan, 194.

³²⁴ Rosamond McKitterick, *History and Memory in the Carolingian World* (Cambridge: Cambridge University Press, 2004), 29-30.

³²⁵ Adam, *Gesta Hammaburgensis*, Book IV, c. X, 238-9; translation from Tschan, 193-4. *A Latin Dictionary*, ed. Charlton T. Lewis, Charles Short (Oxford, 1933), s.v. “caligo.” *Caligans*—darkness, blindness, with the meaning of unexplored.

governor (*satrapa*) of Denmark, Ganuz Wolf, and by the king of Norway, Harold, who had traveled on this ocean and had been forced to turn back due to various dangers and the winds, as well as because of pirates.³²⁶ Dangers that could be faced on the way to Scandinavia are also described by Rimbert, such as the episode of Father Witmar. Witmar accompanied Anskar on the mission to Sweden and was prior of the Corbey monastery. On their way to Sweden, Ansgar and Witmar were attacked by pirates and everything they had for the mission was robbed.³²⁷ These are how medieval historians put territories on a map, using the known names of waters, lands, and cardinal directions; and most importantly for them, they include dangers that people could meet on their way to Scandinavia, based on written sources and on the accounts of people who had visited these lands.

To begin to analyzing the perception of Scandinavian lands, we should first mention the geography of Norway and Sweden described by medieval writers. The reason to include the description of Scandinavian territories in the missionary texts was to enrich knowledge about the Scandinavian peoples.³²⁸ Therefore, it was important for the authors to observe the places that influenced the formation of Scandinavian culture, as Scandinavians at that time were pagans.

*Sweden (Sueonia*³²⁹) borders Norway to the east and south, and is separated from it by mountains. Adam of Bremen describes this land as being surrounded by the Goths³³⁰ and

³²⁶ Adam, *Gesta Hammaburgensis*, Book IV, c. XI, 240; translation from Tschan, 194. *Dictionary of Medieval Latin*, s.v. “incompertus.”

³²⁷ *Vita Anskarii Auctore*, c. X, 31; translation from Robinson, 47; Robinson, “Introduction,” in *Anskar, The Apostle of the North*, 12; c. V, 36.

³²⁸ Adam, *Gesta Hammaburgensis*, Book IV, c. XX, 249.

³²⁹ Adam, *Gesta Hammaburgensis*, Book III, c. XXVI, 169.

³³⁰ Adam, *Gesta Hammaburgensis*, Book IV, c. XXIII, 253-4; translation from Tschan, 204. Adam noted that among the Swedish peoples, the Goths, called by the Romans *Getae*, are *proximus* (closest) to Germany, that

having the city Skara in the west; the Warmilani and the Skritefingi lived in the north; the Baltic Sea is to the south; and the Rhiphaean Mountains³³¹ are in the east. He took this information from the ancient writers Solinus and Orosius.³³² The Riphean Mountains are mentioned in this text as a metaphor for the Christian belief in *[v]itam indeficientem* (unfailing life) and *gaudia eterna* (eternal joy).³³³ The mountains are the extreme point of habitable territories—*extremum terrae, [...] finis mundi in aquilonis partibus in Sueonum coniacet regionibus*,³³⁴ and are followed by warm and fertile land on the other side.³³⁵ The warm and fertile land on the other side of the Riphean Mountains is perhaps seen as a joyful place with endless life. Therefore, Christians saw Scandinavia as a land to be explored for the martyrdom, followed by the reward of eternal life.³³⁶

is, they lived in the south of Sweden. Skara, located in southern Sweden was a city of the Goths, and according to Adam, there were also Eastern Goths in Sweden.

³³¹ Kirsten A. Seaver, *Maps, Myths, and Men: the Story of the Vinland Map* (California: Stanford University Press, 2004); Timothy Bolton, “A Textual Historical Response to Adam of Bremen’s Witness to the Activities of the Uppsala-Cult,” in *Transformasjoner i Vikingtid og Norrøn Middelalder*, ed. Gro Steinsland. Møteplass Middelalder, 61–91 (Oslo: Unipub, 2006), 64. The Rhiphaean Mountains are “imaginary,” according to Bolton.

³³² Eric Herbert Warmington, “Julius Solinus, Gaius,” in *The Oxford Classical Dictionary* (3rd ed.), ed. Simon Hornblower and Antony Spawforth (Oxford: Oxford University Press, 2005): Gaius Julius Solinus “wrote (probably soon after AD 200) *Collectanea rerum memorabilium* [also titled *De mirabilibus mundi*], a geographical summary of parts of the known world, with remarks on origins, history, customs of nations, and products of countries. [...] He introduced the name ‘mare Mediterraneum’ (‘Mediterranean sea’);” E. David Hunt, “Orosius,” in *The Oxford Classical Dictionary* (3rd ed.), ed. Simon Hornblower and Antony Spawforth (Oxford: Oxford University Press, 2005): Paulus Orosius was “a young presbyter [minister of the Christian Church] who arrived in Africa from NW Spain (Braga) in AD 414; [...] he compiled the seven books of his *Histories against the Pagans*, stretching from the Creation to the history of Rome down to AD 417 - an apologetic response to the pagan argument that the coming of Christianity had brought disaster to the world.”

³³³ *Passio et Miracula*, 67-8; translation from Phelpstead, 26; *Dictionary of Medieval Latin*, s.v. “gaudium,” “indeficiens,” “veritas.”

³³⁴ *Vita Anskarii Auctore*, c. XXV, 54; Rimbert, *Anskar*, 88: “the end of the earth, [] in the north the end of the world lay in Swedish territory.”

³³⁵ Adam, *Gesta Hammaburgensis*, Book IV, c. XXI, 251; Alexander Podossinov, “A Concept ‘Riphaean Mountains’ in Ancient Geocartography: Myth, Cosmology, Symbol and/or Reality?” *Miscellanea Geographica* 23.3 (2019): 197.

³³⁶ *Passio et Miracula*, 67-8.

Norway (*Nordmannia*³³⁷), one of the three countries of Scandinavia, was a land of inlets and innumerable promontories, partially uninhabitable because of the large number of *montes, nemora and frigora* (mountains, forests, and frozen territories),³³⁸ as is described in the *History of Norway*.³³⁹ The book was a pioneer text about Norway.³⁴⁰ According to the author of *HN*, Norway is named after King Nórr³⁴¹ and called *Nortmannia* because of its length to the north.³⁴² The land is surrounded by Denmark, across the ocean to the west and north; the Baltic Sea to the south; and Sweden, Angrmannaland, Gautland, and Yamtaland to the east. Despite the immense territories of Norway, the author of *HN* pays attention to the habitability of the country. To understand the people to whom the author's mission, as part of the Christianization of the north, is directed, it is important to explain the territories where Norwegians lived. There are three habitable areas according to the author's description: *maritima* (the seaboard region), *mediterraneus* or *montanus* (mountainous or remote midland), and *siluestris* (woodland).³⁴³ Mountains separated Norway from Sweden, and they are *altissimis* (very high) and higher in Norway.³⁴⁴

The seaboard region was notable for its whirlpools, frozen headlands, and icebergs. The author of *HN* writes about the farm Møre, in a seaboard region in northern Norway, where *nature mirabilis*, *o]mnes enim stipites arborumque abcisi ramusculi, si per unius*

³³⁷ Adam, *Gesta Hammaburgensis*, Book III, c. XII, 310.

³³⁸ *Dictionary of Medieval Latin*, s.v. "nemus," "frigus."

³³⁹ *Historia Norwegie*, c. I, 52-3; translation from Fisher.

³⁴⁰ Mortensen, "Historia Norwegie," 59.

³⁴¹ *Historia Norwegie*, c. I, 53; translation from Fisher. King Nor, Norr in Old Norse.

³⁴² Tschan, *Adam of Bremen*, 211.

³⁴³ *Historia Norwegie*, c. I, 52-3; translation from Fisher. *Dictionary of Medieval Latin*, s.v. "maritimus," "mediterraneus," "montanus," "siluestris."

³⁴⁴ Adam, *Gesta Hammaburgensis*, Book IV, c. XXVI, 169; translation from Tschan, 202.

*anni spacium terre inhereant, in lapides conuertuntur.*³⁴⁵ The author of *HN* most likely took this passage from the account of Bjørkedalsmyra, as Ekrem and Mortensen write, where a branch left in a swamp for three winters turns into stone.³⁴⁶ The northern territories, because of a lack of sources describing them, are presented as *ingognita* (unknown).³⁴⁷ The medieval authors of this study used texts of ancient and medieval writers to get information about Northern Europe. In this case, as Inger Ekrem states, the author of *HN* uses Solinus's book titled *De mirabilibus mundi* ("The Wonders of the World") and Honorius's *Imago Mundi*.³⁴⁸ The author also refers to Adam's book and his description of Norway and Sweden. The author of *HN* follows Adam's description of these territories and describes them as *diversa* and *insueta* (different and unusual).³⁴⁹ Therefore, the descriptions of marvelous phenomena found in ancient sources are included by the author as though they were real.

Norway's mountainous region is described as having some natural resources: *Est fluius in montanis aureis rubens arenis.*³⁵⁰ The third inhabited region is the wasteland or forest region: *Est igitur uastissima solitudo affinis Norwegie diuidens eam per longum a*

³⁴⁵ *Historia Norwegie*, c. II, 54, 56; Ekrem, "Essay on Date and Purpose," in *Historia Norwegie*, 171-2; translation from Phelpstead, 3: "Marvellous nature, for every felled tree and cut branch turns to stone if they lie one year on the ground there."

³⁴⁶ Ekrem and Mortensen, "Commentary," in *Historia Norwegie*, ch. II, sec. 4, 117.

³⁴⁷ Adam, *Gesta Hammaburgensis*, Book IV, c. XXI, 250.

³⁴⁸ Ekrem and Mortensen, "Commentary," in *Historia Norwegie*, ch. VIII, sec. 13, 131; Mortensen, "Introduction," in *Historia Norwegie*, 17. *Imago mundi* was written around 1110-1139. Hoffmann, *An Environmental History*, 100.

³⁴⁹ Adam, *Gesta Hammaburgensis*, Book IV, c. XXXII, 267. *A Latin Dictionary*, s.v. "*diversus*," "*insuetus*,".

³⁵⁰ *Historia Norwegie*, c. III, 58-9; translation from Fisher: "There is a river in the mountains which bears a reddish tinge on account of its gold-bearing sands."

paganis gentibus.³⁵¹ This forest region is described as *solitudo* (isolated, uninhabited place).³⁵²

The perception of Scandinavia was derived from its location and landscape features. The authors described the surrounding waters and nearby territories to show where Scandinavia was located. Medieval authors also described the remoteness of the north of Scandinavia. The analysis of the description of the geographical location requires an understanding of the meaning of medieval words. The north, for medieval writers, meant paganism, that is, the inhabitants of Scandinavian. The Barbarian Sea was also named after the inhabitants of “barbarian” people. The surrounding waters were the only route to Scandinavia. Therefore, the description of the waters was also of a survey of the natural world. The authors explained the dangers on the way to Scandinavia. Thus, the recipients of these texts had an idea of where these lands were located and what dangers they could encounter on the way to these lands.

In addition to the geographical location, it was essential for the authors to describe the places where Scandinavian culture was formed, as well as where the pagans lived. Norway was presented as a country of bays and promontories, partly uninhabited due to mountains, forests, and frozen territories. Despite this, the author of *HN* draws attention to the habitability of the country in order to understand the people and their living conditions. Unknown places could be described based on ancient writers, for example, the Riphean

³⁵¹ *Historia Norwegie*, c. IV, 58-9; translation from Fisher: “On the borders of Norway is an immense wilderness, which divides the country along all its length and separates the Norwegians from the heathens;” translation from Phelpstead, 5: “Bordering the length of Norway is a vast wasteland, separating it from the pagan peoples.”

³⁵² Roesdahl, *The Vikings*, 95.

Mountains in Sweden. Their description most likely reflects the Christian belief in a place of eternal life and joy, which Christians believed to be located on the other side of these mountains. However, before arriving this place, they had to go through cold Scandinavia inhabited by pagans, which could lead to martyrdom. Moreover, to go there, it was necessary to understand these places; what territories were inhabited by pagans, how they lived and what was there. Therefore, the authors described the characteristics of these lands and the dangers that the missionaries could face. Thus, Christians perceived their mission as a chance for martyrdom, which would be rewarded with eternal life.

Weather phenomena:

What was the weather like for medieval authors? *Vita Ansgarii* is the earliest work among the primary sources, written in 865-873, and in it, Rimbert presents the weather as a phenomenon controlled by God. Rimbert tells a story taking place in Birka, where there was no priest for some time until a priest named Ardgar arrived.³⁵³ During the tenure of Ardgar, people again began to abide by the customs of the Christian religion. Herigar, the king's counselor and a supporter of Ardgar, is a Christian and he leads the public divine ordinances in Birka. At a council on an open plain, to which pagans and Christians took part, Herigar says: *..et ego invocabo dominum meum Iesum Christum, ne aliqua stilla pluviae me contingat.*³⁵⁴ He wants to prove that there is only one God. Herigar does not get wet in the rain, while the others, who have called on the pagan gods, do, according to

³⁵³ Robinson, *Anskar, The Apostle of the North*, c. XIX, 62-3, c. XI, 48-9; "Introduction," in *Anskar, The Apostle of the North*, 14; Ardgar was a priest in Sweden for ten years from 851.

³⁵⁴ *Vita Anskarii Auctore*, c. XIX, 40; translation from Robinson, 63: "..I will ask my Jesus Christ that not a drop of rain may touch me."

Rimbert. This example shows that rain is perceived as if it were controlled by God and God could use it to punish or reward Christians.

Adam of Bremen shows a similar understanding of natural phenomena in his *Gesta* written in 1072-1076: *Thor [...] presidet in aere, qui tonitrus et fulmina, ventos ymbresque, serena et fruges gubernat.*³⁵⁵ Weather changes are perceived as corresponding to the will of gods. Adam writes this sentence to describe the pagans and their gods and what the gods could do. Moreover, the ability to control the weather is also seen in references to Christianity in Adam's text. Adalward is the third bishop of the Goths in Sweden and is a Christian worth imitating, according to Adam: *Claruit etiam virtutum miraculis, ita ut poscentibus in necessitate barbaris ymbrem faceret descendere vel denuo serenitatem venire et alia, quae hactenus quaeruntur a doctoribus.*³⁵⁶ Here the author shows that worshipping the only God gives miraculous abilities. Adalward is a Christian saint through whose intercession God does miracles. In this context, Adalward can ask for rain to fall, which is presented as the ability of *uerus deus* (the true God).³⁵⁷

Natural phenomena were perceived as something that was controlled by God. Medieval Christian writers wrote that only their God could regulate natural phenomena. They also believed that God controlled the phenomena of nature through the mediation of the saints. Consequently, weather events were perceived as a favor for the service of God or a punishment for apostasy.

³⁵⁵ Adam, *Gesta Hammaburgensis*, Book IV, c. XXVI, 258-9; translation from Tschan, 207: "Thor, they say, presides over the air, which governs the thunder and lightning, the winds and rains, fair weather and crops."

³⁵⁶ Adam, *Gesta Hammaburgensis*, Book IV, c. XXIII, 254; *Dictionary of Medieval Latin*, s.v. "imber," *Ymbrem* or *imbrem*—rain, shower of rain; translation from Tschan, 205: "[Adalward] was renowned, too, for his miraculous powers, such as were shown when, the barbarians in their need having asked for rain, he had it fall, or again had fair weather come, and he worked other wonders that still are sought of teachers."

³⁵⁷ *Passio et Miracula*, 67.

Land ownership:

The same can be said about “ownership” of land. The words of a pagan quoted in *Vita Anskarii* show that, according to Rimbart, the lands belong to the pagan gods. Moreover, dwellers on this land have to make *sacrificia*, so that their gods will be *propitii* (favorable, goodwill) to them and make the land fertile :

Susceptum itaque peragens iter, viginti ferme diebus navigio transactis, pervenit as Byrca. Ubi invenit regem et multitudinem populi nimio errore confusam. Instigante enim diabolo, adventum beati viri omnimodis praesciente, contigit eo ipso tempore, ut quidam illo adveniens diceret, se in conventu deorum, qui ipsam terram possidere credebantur, affuisse, et ab eis missum, ut haec regi et populis nunciaret: ‘Vos’, inquam, ‘nos vobis propitios diu habuistis et terram incolatus vestri cum multa abundantia nostro adiutorio in pace et prosperitate longo tempore tenuistis. [...] Si itaque nos vobis propitios habere vultis, sacrificia omissa augete et vota maiora persolvite. Alterius quoque dei culturam, qui contraria nobis docet, ne apud vos recipiatis et eius servicio ne intendatis.’³⁵⁸

The gods own the land of the pagans and make it fertile. In order to have fertile lands, the pagans have to follow their instructions and in this context, as Rimbart writes, make sacrifices. This is contrary to Christianity as shown in the medieval missionary texts used in this research. The reason for including a description of the pagans and of their beliefs was to show that the Christian God was better and kinder. However, the understanding of the ownership of land can be said to have been seen as similar for pagans and Christians in that the land was owned by God or gods. Since nature in the Middle Ages was the sum of

³⁵⁸ *Vita Anskarii Auctore*, c. XXVI, 56; Rimbart, *Anskar*, 89-90: “Anskar accomplished the journey on which he had set out, and after spending nearly twenty days in a ship, he arrived at Birka, where he found that the king and many of the people were perplexed by grievous errors. It happened, at the instigation of the devil, who knew beforehand of the coming of this good man, that someone had come thither and said that he had been present at a meeting of the gods, who were believed to be the owners of this land, and had been sent by them to make this announcement to the king and the people: “You, I say, have long enjoyed our goodwill, and under our protection the land in which you dwell has long been fertile and has had peace and prosperity. [...] If you desire to enjoy our goodwill, offer the sacrifices that have been omitted and pay greater vows. And do not receive the worship of any other god, who teaches that which is opposed to our teaching, nor pay any attention to his service.”

the entire surroundings of humans, and, as was shown above, God controlled natural phenomena, the land was also considered the domain of God.

Religious-cultural meaning:

The presentation of nature as a place where God reigns and the idea that there is only one *uerus deus* is often traced to medieval Latin books written by Christians. Nature was perceived not only as a place created by God but also as an ongoing creation where everything happened according to the will of God. According to the author of *HN*, the woodland region in Norway is inhabited by the Sami, who are pagans. The author mentions that Christians can come to the Sami for trade and that they can fish together. In the following example, the author wants to show that while fishing, the Sami see that the Christians catch a lot of fish, more than the Sami: *Item dum Finni unacum christianis gregem squamigeram hamo carpere attemptassent, quos in casis fidelium pagani perspexerant, sacculis fere plenis unco suo de abyssu attractis scapham cum piscibus impleuerunt.*³⁵⁹ Christians, due to their true worship, as the author of *HN* wants to say, excelled in fishing. The message that the medieval Christian author wanted to convey was that only their God (Jesus Christ) was the true master of nature. This suggests that nature was perceived as a place of God, created and ruled by God.

These descriptions were not intended to represent reality as we understand it today, but rather, the meaning that medieval literate Christians attached to these descriptions and

³⁵⁹ *Historia Norwegie*, c. IV, 62; translation from Phelpstead, 7: “On another occasion, when Lapps side by side with Christians were trying to hook the squamous flock, the Lapps had noticed creels almost full of fish in the dwellings of the Christians, and these they drew from the water’s depth and almost filled their boat with fish.”

how they understood their surroundings. Therefore, what the writers meant can be interpreted through their cultural and religious ideas. Based on these descriptions, we may say that medieval Scandinavian *natura* was perceived by literate Christians as a powerful, miraculous place and as a God's domain. As shown in the examples above, Scandinavia, especially its northern part, was little known to the authors; some people had been there and the authors were able to question them about these places. Medieval *natura* comprised not only the uncultivated part of the environment as we know it today, but also the sum of living and non-living things, the relationship between God and human beings, and the creation of God or Gods (of pagans). Based on the ideas of Isidore of Seville, medieval writers understood nature as a word originating from the verb “to be born” (Latin *natura* is translated as “birth”). That is, God was the creator of the world and, therefore of nature, and was aware of every incomprehensible recess.³⁶⁰ In the following description of the natural phenomena of Thule Island (Iceland), the author of *HN* notes that people’s intelligence cannot fully/truly understand nature:

Ista quidem et maiora mundi mirabilia licet minime perspicaciter intelligamus, tamen nec eo magis monstra credenda sunt nec portenta mundialis cataclismi presaga reputanda, ymmo omnium incognitorum Cognitori, immutabili mutabilium Conditori quodam mirabili processu preclare famulancia in cunctis naturam obseruant. Verum quoniam corpulente caliginis obliuione nostri ingenioli igniculus undique circumfusus ad inuestiganda altissima profunda haut satis efficax deprehenditur, ipsum, qui illuminat abscondita tenebrarum spiritu intelligencie, nos ut inflammet, inuocemus.³⁶¹

³⁶⁰ Epstein, *The Medieval Discovery*, 153. *Dictionary of Medieval Latin*, s.v. “*natura*,” .

³⁶¹ *Historia Norwegie*, c. VIII, 72-3; translation from Fisher: “Though we people have little close understanding of these and greater marvels in the universe, that is no more reason to think them omens, nor to regard them as warnings which presage a world cataclysm; indeed in their amazing progress they are clearly subservient to the Comprehender of all things incomprehensible, the unchanging Creator of all things changeful, and comply with Nature in all respects. Yet since the spark of our small intellect is enveloped on every side by the oblivion of corporeal darkness and so does not find itself sufficiently capable of penetrating the deepest regions, let us call upon Him who lights the shadowy recesses with the spirit of reason, to kindle it into a flame.”

The author believes that people do not have enough wisdom to understand nature, but God has it, and he can understand things incomprehensible to a person's intelligence; people can understand natural phenomena with the help of God and with the *spiritus intelligencie* (the spirit of reason).³⁶²

Nature also had a semiotic function or it was perceived as a sign.³⁶³ The author of *HN*, in the description of Iceland, writes that people, possibly the inhabitants of Iceland, perceive rare natural events as a foreshadowing: *Quod multis monstris simile uidetur, mundumue mira portendere uel sui interitum in talibus prefigurare coniectant, cum elementa ineuitabiles accessus et naturales sua sponte excercent motus.*³⁶⁴ Inexplicable events could mean a sign of something. As was said above, the author does not explain the understanding of signs from nature but relies on God's help in understanding natural phenomena. The *HN*'s author suggests that people will understand nature if God helps them.³⁶⁵ Rimbart also mentions *signa caelestia* (signs from heaven).³⁶⁶ That is, signs in natural phenomena were interpreted by some Christian authors as an approval of the mission to the north.

Richard Hoffmann shows that nature was sometimes perceived as a hostile world—not for pleasure but suffering. The material world was perceived negatively by Christians but they assumed the existence of meaning for human goals. The primary sources analyzed

³⁶² Ekrem and Mortensen, "Commentary," in *Historia Norwegie*, 132.

³⁶³ Hoffmann, *An Environmental History*, 97.

³⁶⁴ *Historia Norwegie*, c. VIII, 70, 72; translation from Phelpstead, 11: "This will be thought an evil omen by many people, auguring that when the elements spontaneously disturb the regular tides and movements of nature it either portends marvels on earth or prefigures the end of the world."

³⁶⁵ Ekrem and Mortensen, "Commentary," in *Historia Norwegie*, 132.

³⁶⁶ *Vita Anskarii Auctore*, c. XIX, 40. *Dictionary of Medieval Latin*, s.v. "*signum*," "*caelestis*," *CMS Level One Latin Word List*, ed. Morris Tichenor (Toronto: University of Toronto, 2014). *Signum*—a sign and even miracle.

in this research show that this was accurate about the early Middle Ages in Scandinavia. Rimbert presents the life of Ansgar, who lived in AD 801-865, as an example that every Christian have to follow. Since Ansgar's life is a *martyrium* (martyrdom),³⁶⁷ the ideal life is perceived by Rimbert as suffering. The *Passio Olavi*, written at the end of the 12th century, shows a similar meaning for life on earth, created by God: *pro christo pateretur (to suffer for Christ)*.³⁶⁸ We also see this perception in the following sentence about Saint Olaf: *Obiciebat se sponte periculis, martirium, si deo placuisset, suscipere non recusans*.³⁶⁹ The author of the *Passio Olavi* wants to explain that Olaf does not refuse martyrdom for the sake of God. Thus, the Christian authors gave these examples to show that the mission of Christianization in Scandinavia meant suffering for the missionaries, both because of the harsh living conditions in the northern territories, and because of people who had not adopted the Christian faith yet.

6.2 Climate and topography (archaeological sources)

Climate:

The reconstruction of the climate of medieval Scandinavia remains controversial to this day. There is a wide range of methods for analyzing past climates. Climatic conditions in the Middle Ages can be identified through the positions of glacier moraines (a type of glacial sediment) and mass balance estimates. A shrinking glacier means a warming climate

³⁶⁷ *Vita Anskarii Auctore*, c. XL, 74. *Dictionary of Medieval Latin*, s.v. “*martyrium*.”

³⁶⁸ *Passio et Miracula*, 69; *A Latin Dictionary*, s.v. “*patior*.”

³⁶⁹ *Passio et Miracula*, 72; translation from Phelpstead, 30: “He willingly put himself in the way of dangers, not refusing to accept martyrdom if it was God’s will.”

over time. Radiocarbon dating allows the study of specific materials, such as buried soil or pieces of wood in glacial moraines. Lichenometry is also used in dating by determining the age of lichens by their size.³⁷⁰ Based on different proxy data, such as the fluctuations in tree lines, pollen data, documentary evidence, glacier oscillations, and tree rings, the period under study is known for a various and changing climate. Nevertheless, this period is generally characterized as the Medieval Warm Period (AD 950-1250), which gave rise to a period of Norse expansion.³⁷¹ As shown in Figure 6.1, the Medieval Warm Period had approximately the same temperatures and might have been higher temperature anomalies³⁷² than in the 2000s.

The climatic conditions of this period in Scandinavia, based on tree-line fluctuations, pollen records, documentary evidence, glacier oscillations, and tree rings, were determined as follows. Tree-ring analysis showed that from AD 780 onwards, temperatures were cooler until 930 and from 950 to 970 in Sweden. Between 950-1150, the climate was mild in Scandinavia.³⁷³ Glacier-based climate studies show the advancement of glaciers between 600-700 and 800-1000. Glacier retreat in Norway probably occurred from 800 to 900 and advances between 900 and 1000.³⁷⁴ The period of 1000-1100 was a warm peak in Scandinavia.³⁷⁵ The temperature then dropped for a short period, rose briefly,

³⁷⁰ Solomina et al., "Glacier Fluctuations," 69.

³⁷¹ Solomina et al., "Glacier Fluctuations," 62; Hoffmann, *An Environmental History*, 321.

³⁷² National Centers for Environmental Information: <https://www.ncei.noaa.gov/access/monitoring/global-temperature-anomalies>: "The term temperature anomaly means a departure from a reference value or long-term average. A positive anomaly indicates that the observed temperature was warmer than the reference value, while a negative anomaly indicates that the observed temperature was cooler than the reference value."

³⁷³ Pulsiano and Wolf, *Medieval Scandinavia*, 94-95.

³⁷⁴ Solomina et al., "Glacier Fluctuations," 69, 61, 78.

³⁷⁵ Zhang et al., "1200 Years of Warm-Season," 1303.

and began to fall again with the beginning of the Little Ice Age (Figure 6.1 and 6.2).³⁷⁶ The Little Ice Age significantly worsened living conditions. Thus, people had to adapt to different climatic conditions. Considering that the warm climate contributed to the settlement of Northern Europe, it can be said that the climate has shaped the history of Scandinavia. The climate was favorable for vegetation and thus for land cultivation and households. During the period of this study, the climatic conditions were generally favorable for life and warmer than in the 21st century. The climate made it possible to settle even the northern parts of Scandinavia in the 9th-12th centuries.

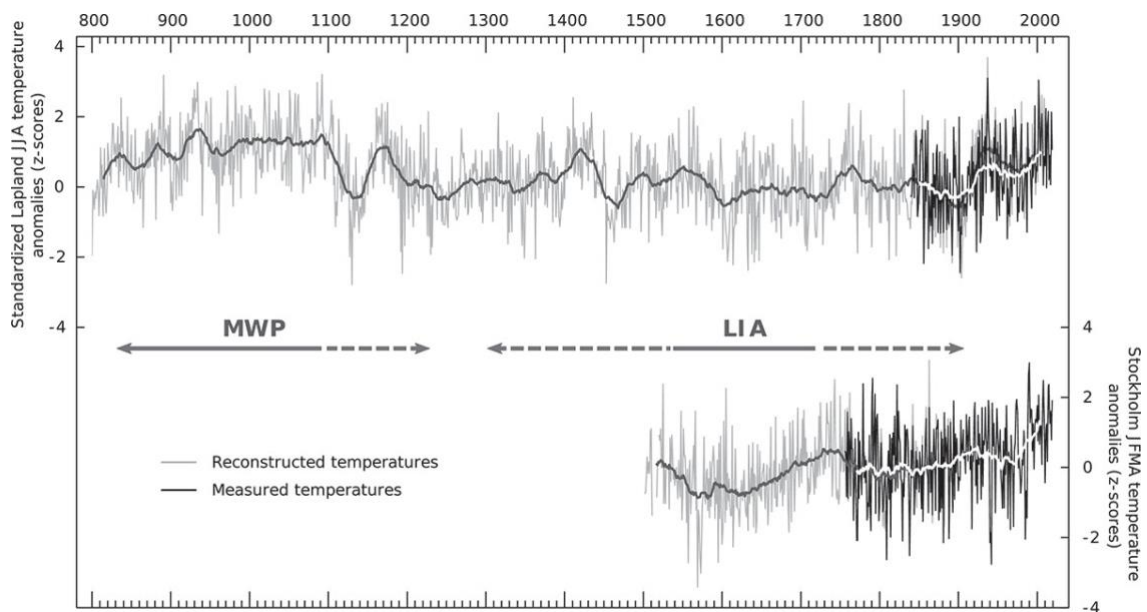


Figure 6.1 Sweden and northern Fennoscandia historical weather observations. Huhtamaa and Ljungqvist, "Climate in Nordic historical," 669.

³⁷⁶ Grudd et al., "A 7400-Year Tree-Ring," 663.

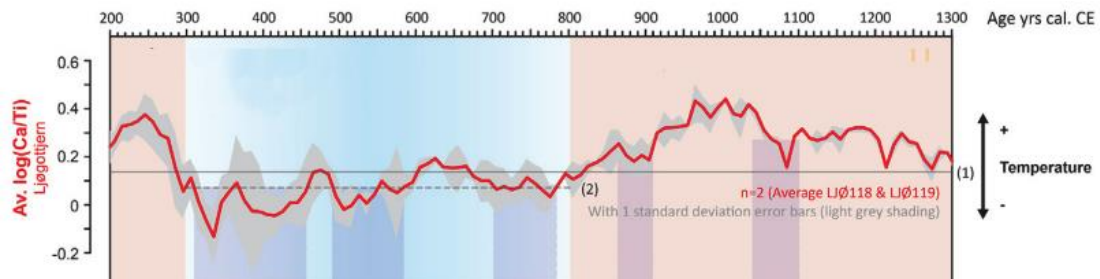


Figure 6.2 Temperature reconstruction, Southeastern Norway. Bajard et al., “Climate adaptation,” 6.

Pollen analysis can also inform on climate. During the Viking Age, warm temperatures allowed for increased yields and reduced tree species due to human clearing of the land for cultivation. A comparison of reconstructed temperature variability with palynological data in Bajard et al.’s study showed synchronous changes in agricultural technology with temperature—animal husbandry increased during cold periods and cultivation in warm periods. In general, the authors concluded that due to the warm climate during the Viking period, there were significant changes; that is, not only was there an increase in cultivated land, but the impact on the environment also grew as a result of human activities.³⁷⁷

In addition to the favorable temperature during the Medieval Warm Period, other features of the Scandinavian landscape influenced the climate and, consequently, human activities. Scandinavia has different topographic land forms. Norway and part of Sweden have different landscape heights shown in Figures 6.3 and 6.4. The elevation maps present different landscape heights in Sweden and Norway. Since the temperature drops by 0.6 °C for every 100 m ascent, the climate must have varied depending on the height of the landscape, making Norway colder than Sweden. Moreover, studies of the climate cannot overlook the surrounding waters of the Scandinavian lands. In the western parts and coastal

³⁷⁷ Boyer, “Scandinavia;” Bajard et al., “Climate Adaptation,” 9.

regions to the north, the climate is influenced by the prevailing western airflow from the North Atlantic. Wind drives the Atlantic Current (Gulf Stream) and brings warm air and water to the west and northwest coasts, which causes a comparatively mild winter.³⁷⁸ Warm air currents from the Gulf Stream create a continental climate (cold winters and hot summers) in the northern parts.³⁷⁹ Furthermore, the surrounding waters and elevation differences in the landscape create unique and varied humidity levels in Scandinavia. The western regions of Norway and Sweden, especially the mountainous and coastal regions, had high humidity. There is more precipitation in areas with east and south winds than with west and north winds. Therefore, some Scandinavian regions, usually in the northern parts with exception of coastal regions, are sparsely populated, not only because of the cold weather, but also because of the aridity of these areas.³⁸⁰

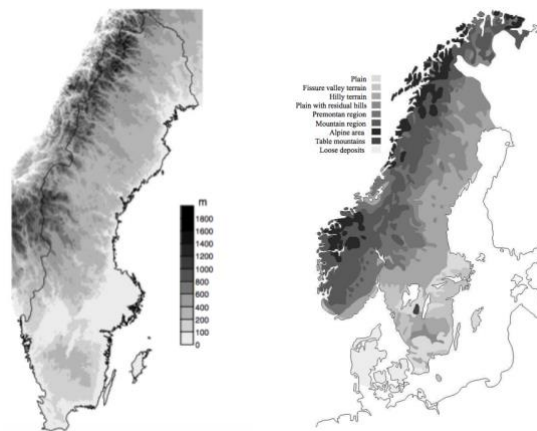


Figure 6.3 (left) Elevation map of Sweden (present-day borders). Johansson and Chen, “The influence of wind,” 1525.

Figure 6.4 (right) Geomorphology of Norway. Øye, “Technology, land use,” 296.

³⁷⁸ Ulf Sporrøng, “The Scandinavian Landscape and its Resources,” in *The Cambridge History of Scandinavia*, 34-35; Bente Magnus, “Dwellings and Settlements: Structure and Characteristics,” in *The Scandinavians from the Vendel Period to the Tenth Century: an Ethnographic Perspective*, ed. Judith Jesch. Vol. 5 (Woodbridge: The Boydell Press, 2002), 7.

³⁷⁹ Sporrøng, “The Scandinavian Landscape,” 34-35.

³⁸⁰ Sporrøng, “The Scandinavian Landscape,” 34-35; Johansson and Chen, “The Influence of Wind,” 1524, 1534.

Coastal areas are susceptible to climate change. As shown in Figure 6.5, Norway’s sea-level during the Early Middle Ages was higher (probably 2–3 m) due to higher temperatures causing deglaciation. However, during the 11th century, the sea level fell when the cold temperatures began.³⁸¹

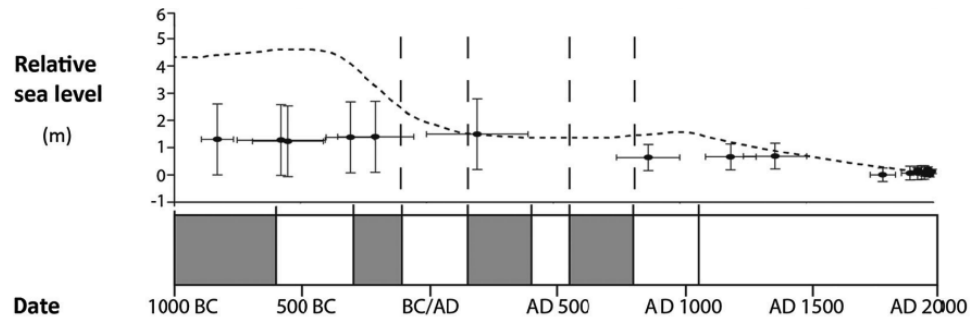


Figure 6.5 Relative sea-level trends for Lofoten and Vesterålen. Balascio, “Human–environment,” 150.

The climate played a crucial role in the settlement of Northern Europe and its unique landscape. Knowledge of climatic features is part of understanding the conditions in which Scandinavians lived. However, even with the warm climate, the Scandinavian landscape had challenges affecting settlement and land use.

Topography:

Scholars consider the topography (physical features of an area) a long-term changing object due to natural phenomena such as erosion or human activities such as deforestation and urbanization. Its role in the development and transformation of human

³⁸¹ Balascio and Wickler, “Human–environment Dynamics,” 153; Sporrang, “The Scandinavian Landscape,” 32–33. Björn E. Berglund and Johan Callmer, “The Viking Age Landscape,” *Ecological Bulletins*, no. 41 (1991): 82.

cultures is vast. Therefore, it is necessary to show what Norway and Sweden's land features were like in the Middle Ages to study the relationship between HN.

The formation of mountain ranges after the retreat of ice, weathering, and erosion have shaped the characteristic landforms of Scandinavia. Considerable changes in this landscape took place over time. Loose material was transported by the ice and deposited as tills or remained as sediments by the subglacial rivers and the sea. Moraines have formed low-lying lands and valleys, creating the typical lake landscapes of Scandinavia, especially in northern Sweden. Eskers (glacial landforms with long and narrow ridges) are typical of the Swedish landscape. They are formed in tunnels and cracks in the ice. The bedrock is often covered by a layer of soil, usually deposited during or after the last ice age. This layer of soil is used by people for cultivation. The cultivation of land and the growth of natural vegetation depended on the soil's composition and, as mentioned earlier, on climate and altitude. Also, vegetation plays a vital role in chemical and physical processes that affect the biosphere. The natural vegetation of Scandinavia varies according to altitude, climate, access to nutrients, and water. The stages of vegetation development (from new seedlings to primeval forest) leave their imprint on the visual landscape and were essential for the environment and subsequent settlements.³⁸²

Norway is a longitudinally shaped land that creates a varied climate in the northern and southern parts. Moreover, its land form (mountains, fjords) and access to the ocean created distinct conditions among coastal, inland, lowland, and highland areas. Areas protected from the ocean had a drier climate than coastal areas, with warmer summers and

³⁸² Sporrøng, "The Scandinavian Landscape," 18-20.

colder winters. Topographically, the landscape of Norway had both flat fertile lands in the southeast and the center, and uneven land and post-glacial deposits near the coast, in the fjords, and in the valleys (Figure 6.4).³⁸³ However, as shown in Figure 6.4, Norway did not have much flat or plain land compared to Sweden. The plains are on the eastern border with Sweden, in the southern part, and a little on the coastlines.³⁸⁴ Two-thirds of the territory of Norway is mountains, massifs, and tablelands, with 15% of the land above 975 m.³⁸⁵ Therefore, Norway is more of a sea and mountainous land. Seawater shaped the unique appearance of Norway, washing the coast and eroding it. Richard and Rutherford Mead quote Henrik Ibsen’s words that “people in Norway are spiritually under the domination of sea.”³⁸⁶



Figure 6.6 (left) Landscape of Norway (Trolltunga). Photo taken by Roza Gabdullina, August 2015
 Figure 6.7 (right) Landscape of Sweden. Photo taken by Martin Wahlborg (from photos.com).

Contrary to Norway, Sweden is surrounded by the Baltic Sea in the south and the east. Moreover, Sweden’s landform is almost flat, with the small internal region of southern

³⁸³ Øye, “Settlement Patterns,” 38.

³⁸⁴ Øye, “Technology, Land Use,” 298.

³⁸⁵ Magnus, “Dwellings and Settlements,” 7.

³⁸⁶ William Richard Mead and William Rutherford Mead, *An Historical Geography of Scandinavia* (London, England: Academic Press, 1981), 11-12.

highlands possessing an elevation of 100 m. There are plains with no more than 20 m in height in the southern and east-central parts of Sweden. Flat land is more suitable for forest regions. There are mountainous regions in the western part of Sweden on the border with Norway; also, the southeast regions consist of loose deposits due to erosion in coastlines (Figure 6.4).³⁸⁷

In summary, the climate played a role in the settlement of the Scandinavian territories. Temperature anomalies show that the climate in these areas was warmer than usual temperatures. Topographic features of Norway and Sweden have significant differences. The climate and topography affected the perception of these territories by medieval people. The next section will show how the environment was perceived in the Middle Ages by the authors of the research's primary sources.

6.3 Comparative analysis and conclusion

Medieval authors saw the northern lands as an extreme point of habitable territories. The perception of Scandinavian nature as a powerful and miraculous place was caused by the uniqueness of the Scandinavian weather and landscape. An air current from the North Atlantic Ocean resulted in colder conditions and dry and infertile land. The end of the northern parts of Scandinavia are not followed by warm and fertile land, but by colder northern lands washed by the Norwegian and Barents Seas. Their perception was influenced by the near impossibility of reaching these distant and inaccessible areas.

³⁸⁷ Øye, "Technology, Land Use," 298; Sporrang, "The Scandinavian Landscape," 22.

Archaeological sources and other secondary sources have provided information about the climate and topography of Sweden and Norway. Climatic conditions have been shown in this chapter to have comprised temperatures favorable for an agricultural society during the period under study. The primary sources do not include much information on climatic conditions or on how these varied, depending on the topography features. Secondary sources filled in gaps about in temperature variability, which is significant for understanding how agriculture developed and woodland was utilized. Thus human activity increased in part due to favorable temperatures in Northern Europe in the 9th-12th centuries.

Moreover, topographic studies show that Norway has a large number of mountains (15% of the land above 975 m).³⁸⁸ The cultivated areas were located mainly in areas sheltered from the ocean, and nowadays, there is only three percent agricultural land.³⁸⁹ As shown in Figure 6.4, there are not many plains in Norway compared to Sweden: the eastern border with Sweden, the southern part, and a little on the coastlines.³⁹⁰ Seawater shaped the unique appearance of Norway, washing the coast and eroding it. Therefore, Norway is more of a sea and mountainous land.³⁹¹ In the Middle Ages, it also was more forested³⁹² and was accurately described by the author of *HN* as having three habitable regions: the seaboard, the mountainous and the forest region.³⁹³ Geomorphology results used by archaeologist

³⁸⁸ Magnus, "Dwellings and Settlements," 7.

³⁸⁹ Øye, "Settlement Patterns," 38.

³⁹⁰ Øye, "Technology, Land Use," 298.

³⁹¹ Mead and Mead, *An Historical Geography*, 11-12.

³⁹² Jørund Aasetre and Bolette Bele, "History of Forestry in a Central Norwegian Boreal Forest Landscape: Examples from Nordli, Nord-Trøndelag," *Norsk Geografisk Tidsskrift-Norwegian Journal of Geography* 63, no. 4 (2009): 234.

³⁹³ *Historia Norwegie*, c. I, 52-3; translation from Fisher.

Ingvild Øye show that Sweden provided better cultivation opportunities due to its flat landscape and crop-friendly soil, more trees, and a milder climate sheltered from the cold North Atlantic Ocean. The southern parts of present-day Sweden (Figure 6.4), which made up medieval Sweden (Figure 6.8), are much flatter than Norway.³⁹⁴ Therefore, the reconstruction of climate and topography can be carried out using archaeological sources based on various interdisciplinary methods. It can be concluded that the reconstruction of climate and topography helps providing a greater understanding of how medieval authors perceived nature and how natural resources were used.



Figure 6.8 Map of Norway and Sweden by Ollie Bye in AD 1188 (possible date of last written work - *Passio Olavi*). Reproduced from *medievalists.net*.

Medieval authors perceived Scandinavia as “fearsome and hostile.”³⁹⁵ Their vision of northern lands was formed from the meaning of the word north. The northern lands and the people who inhabited them were seen as unexploited, unknown, intimidating, and even

³⁹⁴ Øye, “Technology, Land Use,” 298; Angus A. Somerville and R. Andrew McDonald, eds., *The Viking Age: A Reader*. Readings in Medieval Civilizations and Cultures Vol. 14. (University of Toronto Press, 2014), 291.

³⁹⁵ Hoffmann, *An Environmental History*, 96.

wild by medieval Christian writers. One of the interpretations of the perception of the northern lands implies that it was based on severe environmental conditions formed by the climate and the northern landscape. Also, the perception of these lands was based on the vision of pagan peoples that literate Christian writers had. The lands and their inhabitant created a picture of Scandinavia. The purpose of Christianization traceable in the texts also influenced the description of these lands. Medieval *natura*, for Christian writers, was not only the uncultivated part of the environment but the sum of living and non-living things, the relationship between God and human beings, and the domain of God. Nature was the sum of soil, weather, sun, settlements, and simply all surroundings that humans need to interact with to complete Creation.³⁹⁶ Nature was a place to interact with God, something to be explored to understand God's will, a place that changed according to the will of God, as a punishment or encouragement for its believers.

The vision of the environment by medieval writers presented above could also partly correspond to the view of the Scandinavians, since the authors lived in Scandinavia during their mission in the north. Moreover, the author of the *HN* was probably from Norway, as the book belongs to the Norwegian government circle or episcopal or royal.³⁹⁷ Therefore, the medieval texts analyzed in this work may partly correspond to the vision of some Scandinavians. Medieval writers communicated with kings and literate people. However, the understanding and perception of the environment outlined above do not show

³⁹⁶ Hoffmann, "Homo et Natura," 12.

³⁹⁷ Mortensen, "Introduction," in *Historia Norwegie*, 24; Ekrem, "Essay on Date and Purpose," in *Historia Norwegie*, 218.

how ordinary people perceived nature, as the authors of the sources did not consult with them.

Although the descriptions of medieval literate Christians were not intended to represent nature as we understand it today, they are accurate in describing the geography and location of the Scandinavian lands. The ecclesiastical goal could distort the descriptions of the pagans themselves, but the texts most likely described nature without an obvious bias. The description of nature was important to the recipients of the texts and other missionaries. The meaning invested by the authors in these descriptions reproduces their vision of the world, of what nature is, and to whom it belongs. The authors wanted to show a comprehensive picture of nature so that their readers would know where they were going if they wanted to continue the mission to the north. They give reality, as a condition for life, which was necessary for understanding the lifestyle of Scandinavians, in reference to the ongoing and subsequent Christianization of the North, as well for missionaries who would live there during the Christianization. However, the descriptions of nature are tainted by how the authors understood nature. As already mentioned above, they did not find it necessary to describe the climate, the temperature of Scandinavia, but for them the fertility of the land, the presence of gold and silver, the mention of unexplored marvelous northern territories were all important. However, for the purpose of this research, the texts of missionaries and foreigners do not convey a vision of Scandinavian nature by the inhabitants, farmers, and illiterate people. Therefore, the descriptions of the landscape and nature of Northern Europe do not reflect the vision of people close to nature, such as farmers and other inhabitants of Scandinavia. That is, they are not comprehensive, but give

a vision of one class of society, that is, Christian writers, kings and other members of the elite who were sources of information, literate people, and servants of churches.

Overall, the landscape of Scandinavia can be described as a northern type of land. The main difference between the two Scandinavian lands, Norway and Sweden, is that Norway was colder due to the surrounding North Atlantic Ocean, and an all over-elongated and mountainous land, with few plains. Sweden was warmer, flatter, and more favorable for vegetation. The features of these lands influenced the perception of the environment. Moreover, the distinctiveness of northern Europe from the rest of Europe influenced the general vision of the world and the search for meaning from God in nature based on the texts analyzed here. Medieval literate Christians perceived adverse conditions, weather phenomena, and the uncharted lands of Scandinavia as something that needed to be explored and understood.

Most importantly, the perception of the environment affected human interaction with these lands and their use. Christians believed that God was in control of nature, and therefore, favorable conditions were perceived as an endorsement for the use of land. To understand the will of God, it was also assumed that people needed to interact more with nature and, therefore, utilize its natural resources more and use them according to their understanding of God's will. The perception of nature and what the natural conditions were in the period under study are essential to interpret how natural resources were used. In the next chapter, natural resources will be discussed by analyzing the relationship between humans and nature through agriculture and woodland resources.

7. THE USE OF NATURAL RESOURCES

Chapter seven discusses the available resources in medieval Norway and Sweden. The study analyzes the use of natural resources through the mutually influencing relationships between Scandinavians and nature. The framework for discussing this relationship used in this study is that of the socio-economic metabolism (Figure 2.1).³⁹⁸ According to Richard Hoffmann's interactive model, culture and nature co-adapt and influence each other over time through *programme*, *work*, *experience*, and *representation*. The reciprocal relationship of culture and nature is explained by Hoffmann as the process when people perceive nature through cultural representation and the perceived information is subjected to cultural actions and becomes “a programme to do something of a material quality.”³⁹⁹ The relationship between culture and nature is always accompanied by an impact on the environment. The degree of the impact on nature depends on population growth and on the cultural representations of nature. Based on Hoffmann’s model, *work* and *programme*⁴⁰⁰ are shown through the following human activities: agriculture and the use of woodland resources, as these are some of the most significant anthropogenic impacts on nature in the Middle Ages. This chapter gives an overview of these two human interactions with nature based on analysis of archaeological data and written sources. The Latin sources of the 9th-12th centuries were written by medieval literate Christians. They

³⁹⁸ Hoffmann, *An Environmental History*, 9.

³⁹⁹ Hoffmann, *An Environmental History*, 8-10.

⁴⁰⁰ Hoffmann, *An Environmental History*, 8-10.

give a general description of Scandinavian nature and its resources and how people used natural resources based on their culture and beliefs.

Before diving into the resources from Scandinavia, one should remember the changes during the period under study that were discussed in the chapter “Scandinavian society and culture.” As previously stated, the culture of medieval Scandinavia should be viewed as slowly changing over time, bearing in mind the differences in religious aspects in pagan and Christian cultures. Scandinavians experienced a cultural upheaval and adopted Christianity. The new religion changed Scandinavians' worldview and their use of natural resources. Christians saw nature as something that was created for people to understand the will of God, which is achieved through suffering, limitation of material things, and reverence for God (e.g. by building churches). Another aspect is that Christianity has changed pagans' lifestyles. Adam of Bremen writes that people have to pay tribute to a church and be content with what they have.⁴⁰¹ After Christianization, Viking attacks on other territories decreased.⁴⁰² Based on this documented peace, it can be assumed that the use of local resources for food and construction increased, which was also facilitated by population growth shown in the section “Demography.”

The nature of Sweden and Norway was quite different, despite their existence on the same peninsula. The main differences, as shown in the chapter “Nature of Norway and Sweden...” concerned the availability of land suitable for cultivation and the pre-existing natural vegetation. The settlers in Norway adapted to the mountainous, elongated, and coastal lands. They established an agricultural society that was different from that of

⁴⁰¹ Tschan, *Adam of Bremen*, 212.

⁴⁰² Рыбаков, *Хроника Адама Бременского*, 22.

Scandinavians in Sweden. Medieval authors described Norway's nature as a land of inlets and numerous promontories, partially uninhabitable because of the large number of mountains, forests, and frozen territories.⁴⁰³ However, we know from *Historia Norwegie* that Norway had three habitable areas: the seaboard, mountainous, and forest, all of which were suitable for agriculture and had woodland resources. Sweden provided better cultivation opportunities due to the flat landscape, crop-friendly soil, more trees, and a milder climate sheltered from the cold North Atlantic Ocean.⁴⁰⁴ Using wood and arable land made significant marks on the environment, causing damage and naturally changing it. Wood was used for construction, boat building, household items, and as a fuel source in Sweden and Norway. Medieval authors also mention ships, as they were the primary means of transport from Scandinavia to other parts of Europe and to the North Atlantic territories. Descriptions of soils and mentions of farms are also present in the Latin texts, giving insight into the agriculture of medieval Sweden and Norway. However, these descriptions of agriculture and of the use of woodland resources in primary sources require an analysis of archaeological sources to enrich medieval texts and show the human impact on the environment.

7.1 Descriptions of soil and wood in primary sources

Soil:

⁴⁰³ *Historia Norwegie*, c. I, 52-3.

⁴⁰⁴ Somerville and McDonald, *The Viking Age*, 291; *Vita Anskarii Auctore*, c. XXVI, 56.

Norway: The *HN* was a pioneer text about Norway's land.⁴⁰⁵ For the first ecclesiastical purpose of the text, along with political, geographical, and historical purposes, it was essential to describe the inhabitants of Scandinavia and their environment.⁴⁰⁶ The author describes three inhabited areas: the seaboard region, the mountainous (or remote midland) region, and the forest region.⁴⁰⁷

The seaboard region is notable for its whirlpools, frozen headlands, flooding waves, and icebergs. The author describes the farm Møre located in the seaboard region, as having trees, suggesting that the land is suitable for trees and vegetation. The mention of the farm also suggests that these areas are exploited by farmers for cultivation and for livestock farming.⁴⁰⁸

The mountainous region is rich in gold (Lake Mjøsa), as described by the author of *HN*.⁴⁰⁹ According to Inger Ekrem, the availability of natural resources (gold) resulted in good conditions for the growth and construction of churches. However, these descriptions may be inaccurate since the area from Lake Mjøsa to Oslo, in which the author of *HN* writes that there is gold and silver, is not really a mountainous region.⁴¹⁰ Moreover, Adam writes that the temple in Uppsala is *totum ex auro paratum* ("entirely decked out in gold").⁴¹¹ Therefore, mentioning the availability of some natural resources in the description of Scandinavia might have served to attract clerics. Also, the author of *HN* also mentions a

⁴⁰⁵ Mortensen, "Historia Norwegie," 59.

⁴⁰⁶ Ekrem, "Essay on Date and Purpose," in *Historia Norwegie*, 222, 173.

⁴⁰⁷ *Historia Norwegie*, c. I, 52-3; translation from Fisher.

⁴⁰⁸ *Historia Norwegie*, c. II, 54-7; translation from Fisher; Ekrem, "Essay on Date and Purpose," in *Historia Norwegie*, 171-2. See the section "The perception of nature (analysis of primary sources)" in chapter 6 for the nature in Møre.

⁴⁰⁹ *Historia Norwegie*, c. III, 58-9.

⁴¹⁰ *Historia Norwegie*, c. III, 58-9; Ekrem, "Essay on Date and Purpose," in *Historia Norwegie*, 180.

⁴¹¹ Adam, *Gesta Hammaburgensis*, Book IV, c. XVIII, 245-6; translation from Tschan, 207.

lake that flows into the sea, where there is silver, located in a hard-to-reach place under rocks and water (waterfall):

Est fluuius in montanis aureis rubens arenis, qui de illo magno stagno Miorso surgens mare Orientalis Sinus intrat. Nam quondam Saxones illo aduentantes et per ungulas bouum eundem amnem transnatancium auri metallum inesse deprehendentes furtim conflatum infinitum detulerunt aurum. Est item iuxta ciuitatem Asloiam magna copia argenti metalli, que nunc nimia aquarum fluencia hominibus uetita sub petrina mole latet absconsa.⁴¹²

However, the author of *HN* does not mention the soil and vegetations in mountainous regions, which may indicate that the soil was unsuitable for cultivation in mountainous areas or soil in these areas simply did not attract the attention of the author for some reasons.

The third region was the wasteland or forest region inhabited by the Sami people. According to the author, they practice a *diabolica supersticio* (heathen devilry/ devilish superstition) and pay tribute to the Norwegian kings.⁴¹³ Furs also attracted the attention of medieval authors. Animals were the main source of fur valued for clothing and other items during the Middle Ages. Therefore, the author draws attention to the animals living in the wasteland region:

Est igitur uastissima solitudo affinis Norwegie diuidens eam per longum a paganis gentibus. Que solummodo Finnis et bestiis incolitur, quarum carnibus semicrudis uescuntur et pellibus induuntur. [...] Ibi infinita numerositas bestiarum, scilicet ursorum, luporum, lyncorum, uulpium, sabelorum, lutrearum, taxonum, castorum. [...] Sunt etiam apud Finnos scuriones quam plures ac mustele. De quarum omnium bestiarum pellibus regibus Norwegie, quibus et subiecti sunt, maxima tributa omni anno persoluunt.⁴¹⁴

⁴¹² *Historia Norwegie*, c. III, 58-9; translation from Fisher: "There is a river in the mountains which bears a reddish tinge on account of its gold-bearing sands; it rises from the great lake, Mjøsa, and flows into the sea at Viken. On one occasion Saxons arrived there, and realizing that it contained gold ore because this stuck in the hooves of their cattle as they swam across its stream, they stealthily melted down an immense quantity of the metal and carried it off. Moreover, not far from the city of Oslo there lies an abundance of silver ore, which lurks hidden beneath a mass of rock, but at present men are barred from obtaining it owing to the water's violent current."

⁴¹³ *Historia Norwegie*, c. IV, 60-61; translation from Fisher and Phelpstead, 6.

⁴¹⁴ *Historia Norwegie*, c. IV, 58-61; translation from Fisher: "On the borders of Norway is an immense wilderness, which divides the country along all its length and separates the Norwegians from the heathens. Only Finns dwell here and wild animals whose flesh they eat half-raw and whose skins they clothe themselves with. [...] In that region there live vast numbers of animals, including bears, wolves, lynxes, foxes, sables, otters, badgers and beavers. [...] In Finnmarken there are also very large numbers of squirrels and ermines."

The author of *HN* notes that the land in Norway is partially uninhabitable because of the large number of *montes*, *nemora* and *frigora* (mountains, forests and frozen territories).⁴¹⁵ According to Adam, Norway is a mountainous territory with higher mountains than in Sweden, also *sterillissima* (most unproductive), and suitable only for *pecora* (herds) territory:

Nortmannia propter asperitatem montium sive propter frigus intemperatum sterillissima est omnium regionum, solis apta pecoribus.⁴¹⁶

However, the author of *Passio Olavi* mentions farms in Norway, Uttorgar farm in Halogaland and Mørr.⁴¹⁷ The author writes about some harvests at the farm in the district Mørr. The context of this mention is to show the miracles of Saint Olaf. A wildfire does not touch the harvest of the man who prays to Saint Olaf to save his harvest and he will give half of it to the church of the blessed Olaf. The event is concluded by a donation to the church, according to the author:

In prouintia igitur que morre dicitur, non longe a beati olai basilica, horreum suum quidam rusticus annona impleuerat, cuius parietes de ramis frondosis erant contexti. Set quoniam messis copiam horrei non capiebat angustia, iuxta horrei parietem de reliqua segete adeo contiguum locauit congestum, ut uix interesset cubitalis distantia. Accidit autem ut seges horreis uicina de subito cremaretur incendio, et flantibus uentis in parietes siccis frondibus consertos flamma uehementer fundebatur. Quod uidens homo, in ipso dampnoso casu suffragium sancti olai implorat, addens ut, siqua de incendio saluarentur, medietatem omnium ad ecclesiam beati Olai se redditurum. Quo dicto, repulsa est flamma, nec segeti, nec horrei parietibus, ullam inferens lesionem. Quod autem uestre caritati referimus uicinorum attestazione didicimus, et ex pecunie redditione quam suscepimus euidenter agnouimus.⁴¹⁸

From all these animals' pelts the people pay a large tribute every year to the Norwegian kings, who are their overlords."

⁴¹⁵ *Historia Norwegie*, c. I, 52-3; translation from Fisher.

⁴¹⁶ Adam, *Gesta Hammaburgensis*, Book IV, c. XXI, 250, c. XXXI, 263; translation from Tschan, 202, 211: "On the account of the roughness of its mountains and the immoderate cold, Norway is the most unproductive of all countries, suited only for herds."

⁴¹⁷ *Passio et Miracula*, 97, 107; translation from Phelpstead, 54-5, 64.

⁴¹⁸ *Passio et Miracula*, 97; translation from Phelpstead, 54-5: "Thus, in the district called Mørr, not far from the church of the blessed Olaf, a certain peasant had loaded the year's produce into his barn, the walls of which were constructed of leafy branches. But because the narrowness of the barn could not hold the abundance of the harvest, he had put the remaining crop in a heap beside the wall of the barn, so close that there was hardly a cubit's distance in between. It happened, however, that the crop in neighbouring barns was

The author of *Passio Olavi* writes about the *messis copia* (the abundance of the harvest) and that the farmer cannot fit them into the *horreum* (barn). Although the aim of the author is to discuss the miracles of Olaf, this text touches on the fertility of these lands (some parts of Norway near Nordmøre⁴¹⁹) and on the fact that the walls of the barn are built from *siccis ramis frondosis* (dry leafy branches).⁴²⁰

Sweden's land is separated from Norway by a mountainous zone; it is *fertilissima* (fertile, fruitful) and rich in *frugibus, melle, sylva* (fruits, honey, wood), as described by Adam;⁴²¹ and it has *abundantia* (plenty, fullness) probably with the meaning of "full in vegetations," as described by Rimbert:⁴²²

Fertilissima regio est Sueonia, ager frugibus et melle opimus, extra quod pecorum fetu omnibus antefertur, oportunitas fluminum sylvarumque maxima ubique peregrinis mercibus omnis regio plena.⁴²³

'Vos', inquam, 'nos vobis propitios diu habuistis et terram incolatus vestri cum multa abundantia nostro adiutorio in pace et prosperitate longo tempore tenuistis.'⁴²⁴

suddenly consumed by a fire, and the blaze was spread wildly by blowing winds to the walls woven of dry branches. The man, seeing this, implored the succour of Saint Olaf in this extremity, adding that if any of his property were saved from the fire, he would give over half of everything to the church of the blessed Olaf. That said, the fire was driven back, without doing any harm either to the crop or to the walls of the barn. Moreover, what we relate to your charity, we have learned from the testimony of people from that neighbourhood, and it has been clearly confirmed by the donation of money that we have received."

⁴¹⁹ *Passio et Miracula*, 97; Metcalfe noted that Nordmøre was mistakenly rewritten as *morre*.

⁴²⁰ *Passio et Miracula*, 97; translation from Phelpstead, 54-5; *Dictionary of Medieval Latin*, s.v. "copia," "siccus," "ramus," "frondosus."

⁴²¹ Adam, *Gesta Hammaburgensis*, Book IV, c. XXI, 251; translation from Tschan, 202; *Dictionary of Medieval Latin*, s.v. "fertilis," "frux," "melleus," "silva."

⁴²² *Vita Anskarii Auctore*, c. XXVI, 56; *Dictionary of Medieval Latin*, s.v. "abundantia."

⁴²³ Adam, *Gesta Hammaburgensis*, Book IV, c. XXI, 251; translation from Tschan, 202-3: "The Swedish country is extremely fertile; the land is rich in fruits and honey besides excelling all others in cattle raising, exceedingly happy in streams and woods, the whole region everywhere full of merchandise from foreign parts."

⁴²⁴ *Vita Anskarii Auctore*, c. XXVI, 56; translation from Robinson, 89-90: "You, I say, have long enjoyed our [pagan gods] goodwill, and under our protection the land in which you dwell has long been fertile and has had peace and prosperity." See the context of this sentence in the chapter "Pre-Christianity and Christianity cultural and religious aspects."

Wood

Norway: The author of *Passio Olavi* mentions that barn walls are built from branches in the story of the farm fire near Nordmøre discussed in the previous subsection.⁴²⁵ In the following passage, the author explains that Olaf saves a Christian working on the Uttorgar farm in Halogaland, who goes to fetch firewood into *secreta* (separated/remote/unknown places)⁴²⁶ of forest and mountains:

In uilla, que uttorgar dicitur, iuuenis quidam cum eiusdem uille colono annua se pactione locauerat. Qui cum ad incidendum lingna die quadam nemus peteret, accepta securi, et equi collaro, ad opus festinauit. A finitimis igitur partibus uille intra nemoris et montium secreta deueniens..⁴²⁷

As the author explains, on the way to fetch firewood, the Christian follows two women who lead him to a cave with many people who offered him the desired things. However, the farmer refuse the offer, and the luxurious cave becomes terrible, and the people there become evil spirits and begin to drive the farmer towards the fire. However, Olaf rescues him from the cave, after which the farmer begins to serve in the church in gratitude for his salvation. Based on the words of the author of the *Passio Olavi*, the Norwegians used wood to build farm barns and as firewood.

Another mention of wooden utilitarian objects made by the author of *HN* can be found in the description of the forest region, where the Sami used wooden slats.⁴²⁸ Moreover, the author describes that Norway had a vast habitable region of *nemora*

⁴²⁵ *Passio et Miracula*, 97.

⁴²⁶ *Dictionary of Medieval Latin*, s.v. “secretus.”

⁴²⁷ *Passio et Miracula*, 107; translation from Phelpstead, 64-5: “A certain youth hired himself out for a year to the farmer of the farm called Uttorgar. One day he was bound for the forest to cut firewood, so he took up an axe and a horse collar and hastened to his work. When he was coming from the outskirts of the farm into the wilderness of woods and mountains..”

⁴²⁸ *Historia Norwegie*, c. IV, 58; translation from Phelpstead, 5.

(forests),⁴²⁹ which was most likely exploited by the Norwegians, as the wood material was easily processed, unlike hard materials like stone.

The author of *Passio Olavi* writes that churches can be built either from wood or from stone. Wood as building material is the preferred choice in the absence of stone, as described in the construction of a church in Þelamork (Telemark, southern Norway) in honor of Olaf:

Illud etiam relatione dignum est, quod in quadam prouintia contigit, que Thelemarch uocatur. Die etenim quadam, dum incole illius regionis in multitudine conuenissent, ut de ecclesia in honore beati martiris fabricanda tractarent, et lapides, qui domari possent, non inuenirent, ad opus ligneum propositum conuertunt. Die autem, qua is qui ad opus propositum quasi magister adducebatur, sepe frustratus, iter reuertendi suscepisset, montis uicini latera, uirtute diuina, inpetu mirabili sunt precisa, ubi postmodum lapides ad opus idoneos sufficienter colligunt, et laborem edificii deuotissime subeunt.⁴³⁰

The inhabitants do not find stones for the church in honor of the martyr and decided to build it from wood instead. However, some mountain slopes then happened to be destroyed, and people can get stones there for building. We know from this story that people could not break the rock themselves for the sake of building with stones. However, the slopes shattered by natural disasters provided stone materials that were seen as preferable to wood, probably because wooden structures were sensitive to fire. Moreover, the purpose of building churches in stone was also the glorification of God. Nevertheless, according to Anna Nilsen, wood was the primary building material in Norway in the Middle Ages.⁴³¹

⁴²⁹ *Historia Norwegie*, c. I, 52-3; translation from Fisher.

⁴³⁰ *Passio et Miracula*, 89; translation from Phelpstead, 47: “What happened in a certain district called Þelamork is also worth the telling. For on a certain day the inhabitants of that district held a great gathering to discuss the construction of a church in honour of the blessed martyr, and because they had not found stones that could be used for the purpose, they determined instead upon a building of wood. The man who had been brought in as master-mason of the proposed work, having been frustrated several times, set out upon his return journey, but on that very day, through a divine miracle, the slopes of a neighbouring mountain were shattered with astounding force. Afterwards, they collected enough stones there that were suitable for the work, and they most devoutly undertook the labour of building the church.”

⁴³¹ Anna Nilsen, “Art and Architecture,” in *The Cambridge History of Scandinavia*, 525.

Medieval authors also mentioned the existence of ships. For the construction of ships in the Middle Ages, the most suitable material was wood (e.g. the first well-preserved Tune ship from about AD 892-910 was made of oak, found at the farm Hougen in Norway⁴³²). The author of *HN* shows that the Norwegians had many ships before and during Christianization. The author writes that the Norwegians⁴³³ sailed to the Orkney Islands with a *magna classis* (large fleet) and conquered them. These islands were inhabited by people called Pents and Papes,⁴³⁴ whom the Norwegians exterminated. The author also writes that these Norwegians subjugated Northumbria in England, Caithness in Scotland, and Dublin in Ireland. Gongurolfr, one of them, attacked Rouen (Normandy) with fifteen ships. The author describes how Rouen was conquered. The Norwegians dig pits for the citizens of Rouen to fall into and kill them with a *funesta manus* (cruel hand). The city is captured and the region is later named Normandy.⁴³⁵

Istas itaque nationes in diebus Haraldi Comati, regis uidelicet Norwegie, quidam pirate, prosapia robustissimi principis Rogwaldi progressi, cum magna classe Solundicum Mare transfretantes de diurnis sedibus exutas ex toto deleuerunt ac insulas sibi subdiderunt. [...] De quorum collegio quidam Rodulfus—a sociis Gongurolfr [...] Rodam ciuitatem Normandie cum paucis mirabili ingenio deuicit. Namque in quodam flumine cum XV nauibus latitantes...⁴³⁶

⁴³² Knut Paasche, “The Tune Viking Ship Reconsidered,” *International Journal of Nautical Archaeology* 49, no. 1 (2020): 45, 31.

⁴³³ *Historia Norwegie*, c. VI, 66; Mortensen, “Introduction,” in *Historia Norwegie*, 24. An author used the word *pirate*, which in this text means viking; and started the sentence with the Norwegian king, assuming that Rognvaldr is also from Norway.

⁴³⁴ William P. L. Thomson, “The Orkney Papar-Names,” in *West over Sea: Studies in Scandinavian Sea-Borne Expansion and Settlement Before 1300*, eds. Beverley Ballin Smith, Simon Taylor, and Gareth Williams (Leiden&Boston: Brill, 2007), 528-9, 534, 517-8, 515. The author of *HN* mentioned the Papar as two distinct peoples, one of them named from the word priest from Germany. The author presented the destruction of the Papar by Norwegians as the destruction of the members of an ancient church. However, the author wrote that they were Jews, as Thomson writes, without paying attention to the negative meaning of this religion for Christians. Thomson noted that Pents and Papes were not two different residents but the papar, who “are likely to have been clergy living in places where they were associated with secular communities rather than hermits.”

⁴³⁵ *Historia Norwegie*, c. VI, 64. *Dictionary of Medieval Latin*, s.v. “funestus,” “manus.”

⁴³⁶ *Historia Norwegie*, c. VI, 66; translation from Phelpstead, 8-9: “When Haraldr hárfagri ruled in Norway some vikings of the kin of a very mighty prince, Rognvaldr, crossed the Sólund Sea with a large fleet, drove the Papar from their long-established homes, destroyed them utterly and subdued the islands under their own

Another mention of the Norwegians refers to King Olaf, who orders a considerable fleet from Trøndelag and Gulatingslag to attack the Danes:

Sed quoniam rex Sweino integram Selandiam, quam sorori in sponsalia concesserat, omnino retentare decreuerat, hanc ob causam rex Olauus contra Danos bellum instituit copiosamque classem de Throndemia ac Guv lacia per manus principum ordinari iussit.⁴³⁷

Also, the author mentions that some Norwegians take ships and leave Norway to settle in Iceland, which was discovered by Gardarr:

Tunc quidam Norwagenses Ingwar et Hiorleifr ob reatus homicidiorum patriam fugentes cum coniugibus et pueris naues ingredientes insulam, prius inuentam a Gardaro post ab Oddo, inquirendo per pendulas pelagi undas tandem reperierunt.⁴³⁸

The author describes the islands, their history, and how they became the possessions of Norwegians. Perhaps these stories of conquering other territories should have encouraged the missionaries to Christianize the north as a good deed. In addition, the purpose of these descriptions was to describe the people, their character, and their military capabilities, so as to inform missionaries who were to live with them during their mission. These passages have been presented to show that the Norwegians had ships. For the construction of boats, wood was the best suitable material, although it was not specifically mentioned by the medieval authors what kind of wood they were made of.

rule. [...] In this company was a certain Hrólfir, called Gongu-Hrólfr [...] he took Rouen, a city in Normandy. He came into a river with fifteen ships..."

⁴³⁷ *Historia Norwegie*, c. XVII, 96-98; translation from Fisher: "However, because King Svend was absolutely determined to hold on to Sjælland in its entirety, even though he had yielded it to his sister as a dowry, King Olav consequently opened hostilities against the Danes and ordered a substantial fleet to be assembled from Trøndelag and Gulatingslag by the efforts of his magnates."

⁴³⁸ *Historia Norwegie*, c. VIII, 68-71; translation from Phelpstead, 10: "Then Ingólfr and Hjorleifr, Norwegians who were fleeing their homeland on account of killings, took ship with their wives and children and, seeking their way through the combing waves, finally found the island which had first been discovered by Garðarr and subsequently by Anbi."

Sweden. Like in Norway, ships were also mentioned in Sweden. Moreover, in Sweden there is *sylvarum maxima* (the largest amount of woodlands), according to Adam.⁴³⁹ Natural resources were used to build churches during Christianization.⁴⁴⁰ The author of *Passio Olavi* gives an example of the process of Christianization in how the pagans follow Bishop Egino⁴⁴¹ and give him valuables they have, but the bishop asks to build churches: *Quod renuens episcopus docuit eos ex eadem pecunia fabricare ecclesias, egenos alere redimere captivos, qui multi sunt in illis partibus.*⁴⁴²

The building of churches went along with the destruction of temples, according to the author of the *Passio Olavi*. The author describes how Olaf converts many pagans to Christianity. During his reign, several *delubra* (temples) are destroyed, and *ecclesiae* (churches) are built:⁴⁴³ *Effringebantur statue, succidebantur luci, euertebantur delubra. Ordinabantur sacerdotes, et fabricabantur ecclesie. Offerebant donaria populi cum deuocione et alacritate.*⁴⁴⁴

One of the few surviving descriptions of temples is that of Uppsala, which the author of the *Gesta* recorded. The temple was where people prayed to the gods (Thor, Wotan, and

⁴³⁹ Adam, *Gesta Hammaburgensis*, Book IV, c. XXI, 251; translation from Tschan, 202-3. *Dictionary of Medieval Latin*, s.v. “maximus,” “silva,” .

⁴⁴⁰ Sawyer, “Scandinavia in the Viking Age,” 59.

⁴⁴¹ See the “Pre-Christianity and Christianity cultural and religious aspects” section about Egino page 74; Adam, *Gesta Hammaburgensis*, Book IV, c. XXI, 235-6; translation from Tschan, 191-2. According to Adam Egino was a bishop of Dalby from AD 1060/61.

⁴⁴² Adam, *Gesta Hammaburgensis*, Book IV, c. VIII, 236; translation from Tschan, 192: “But the bishop, declined the offerings, taught them to build churches with that money, to succor the needy, and to ransom captives, of whom there are many in those parts.”

⁴⁴³ *Dictionary of Medieval Latin*, s.v. “delubrum,” “ecclesia.” Both *delubrum* and *ecclesia* refer to the place of expiation or the place of the sanctuary. *Ecclesia* refers to the place of a Christian community; *delubrum* to a pagan, Jew, Christian, or unspecified goes along with the sacrifice.

⁴⁴⁴ *Passio et Miracula*, 70; translation from Phelpstead, 28: “Idols were smashed, sacred groves felled, temples overthrown. Priests were ordained and churches built. The people made offerings with devotion and zeal.”

Frikko or Sicco), as well as to great peoples who had become immortal, like King Eric; and it was surrounded by a sacred wood, according to Adam.⁴⁴⁵ The description of this temple still needs research. Ildar Garipzanov writes that its description has a symbolic role, but this “does not mean that it must have existed in reality.”⁴⁴⁶ For instance, in reference to pagan groves and the hanging of bodies as victims, Adam quotes from Tacitus and Orosius, as Timothy Bolton points out.⁴⁴⁷ Therefore, some passages of Adam reproduce the words of the authors of ancient sources, not an accurate picture of his time.

Nevertheless, Olof Sundqvist argues that Uppsala as a cultic site was an actual cultic place, a political and economic center. He writes that the function of the description of the Uppsala temple was as follows: it was the threshold to the divine world; it had ideological and power implications for the rulers. More remarkably, Olof Sundqvist cites similarities in the descriptions of Uppsala and Valhöll and provides archaeological evidence for the site of the temple in Old Uppsala. Presumably, Adam was inspired by the hall of 70 m long that replaced the temple burnt down in AD 800.⁴⁴⁸

The temple was probably built of wood, as Adam uses the word *crematus* (burning). According to him, the missionaries Adalward and Egino⁴⁴⁹ believed that the pagans would follow Christ if they destroyed the *caput supersticionis barbaricae* (the seat of barbarous/pagans superstition):

⁴⁴⁵ Tschan, *Adam of Bremen*, Book IV, c. XXVII, 207, 208; Robinson, “Introduction,” in *Anskar, The Apostle of the North*, 13.

⁴⁴⁶ Garipzanov, “Christianity and Paganism,” 25.

⁴⁴⁷ Bolton, “A Textual Historical Response,” 75.

⁴⁴⁸ Sundqvist, “The Temple, the Tree,” 163, 170-172; Olof Sundqvist, “Cosmic Aspects of Sanctuaries in Viking Age Scandinavia with Comparisons to the West-Slavic Area,” in *The Viking Age: Ireland and the West*, ed. John Sheehan and Donnchadh Ó Corráin (Bodmin, England: MPG Books, 2010), 477, 480.

⁴⁴⁹ See the “Pre-Christianity and Christianity cultural and religious aspects” section about Adalward and Egino (page 74-5 up).

Conspiravit etiam cum Sconiensi episcopo sanctissimo Eginone, ut pariter adirent illud templum paganorum, quod Ubsola dicitur, si forte aliquem Christo laboris sui fructum ibi possent offerre, omnia tormentorum genera libenter suscepturi, ut destrueretur illa domus, quae caput est supersticionis barbaricae. Illa enim diruta vel potius cremata fore, ut tocius gentis conversio sequeretur.⁴⁵⁰

Summing up, Norwegians and Swedes increasingly used more wood in the period under study. According to the authors, Scandinavians used woodland resources for firewood, the construction of buildings and ships, and for other objects. These texts do not give more detailed information about the use of wood materials and only briefly mention wood in ecclesiastical stories. However, based on the passages with references to wood resources analyzed here, it can be presumed that forest areas were gradually reduced.

7.2 Agriculture and the utilization of woodland (archaeological sources)

Agriculture:

The natural landscape was gradually transformed into an agricultural landscape in the period under study. The colonization concept, which interprets human-environment relationships, explains human activities that affect the natural landscape. The environmental historian Verena Winiwarter describes colonization or “colonizing interventions” as the “actions of societies towards natural systems.”⁴⁵¹ Human actions modify natural conditions to make them favorable for agriculture to achieve the maximum

⁴⁵⁰ Adam, *Gesta Hammaburgensis*, Book IV, c. XXX, 262; translation from Tschan, 210: “He also secretly agreed with Egino, the most saintly bishop of Scania, that they should go together to the pagan temple called Uppsala to see if they could perhaps offer Christ some fruit of their labors there, for they would willingly undergo every kind of torture for the sake of destroying that house which was the seat of barbarous superstition. For, if it were torn down, or preferably burned, the conversion of the whole nation might follow.”

⁴⁵¹ Winiwarter, “Approaches to Environmental History,” 9.

benefit to feed the society. These actions are related to agriculture, livestock raising, and other comparable activities.⁴⁵²

Agriculture owes much of its existence to the environment and land characteristics. The Scandinavian land had unique characteristics that hampered the achievement of the maximum benefit for society's subsistence. Scandinavian soils were mainly composed of large glacial deposits. They consisted of coarse-grained soil, making it difficult to cultivate.⁴⁵³ But in some parts of Scandinavia, there was good and fertile land, not washed by the waves, and with a favorable climate for growing.

Permanent agricultural settlements appeared in southern and eastern Scandinavia during the Viking Age and the Middle Ages. Population growth and the development of agricultural technologies facilitated the growth of agriculture—a large part of Scandinavia's forested regions were converted to agricultural lands.⁴⁵⁴ Cultivated areas were mainly found near lakes—large areas of the cleared cairns around former lakes.⁴⁵⁵ The farming population was affected by and dependent on the conditions dictated by nature before agriculture became industrialized.⁴⁵⁶ Growing conditions and suitable lands were discussed in the chapter “Nature in Norway and Sweden during the 9th-12th centuries.” Natural conditions led to a permanently settled population in only a tiny part of the Scandinavian lands, which

⁴⁵² Winiwarter, “Approaches to Environmental History,” 9.

⁴⁵³ Sporrang, “The Scandinavian Landscape,” 18-19.

⁴⁵⁴ Karl-Johan Lindholm, “Contesting Marginality: The Boreal Forest of Middle Scandinavia and the Worlds Outside,” in *The Global North*, 9.

⁴⁵⁵ Sporrang, “The Scandinavian Landscape,” 25. *The Concise Oxford Dictionary of Archaeology* (2021), s.v. “cairn,” accessed July 2, 2022. Cairn is “a general term used to describe a deliberately constructed pile of stones or stone rubble, often forming a burial mound or barrow, but sometimes the result of clearing fields in preparation for cultivation.”

⁴⁵⁶ Sporrang, “The Scandinavian Landscape,” 15.

people eventually expanded to the north and east following an increase in population.⁴⁵⁷ Furthermore, new crops and technologies were introduced in Scandinavia. In the Middle Ages, Scandinavians began to cultivate barley, and later oats, wheat, and rye. There were infield and outland systems.⁴⁵⁸ The two-course field rotation system was the most common in Scandinavia. The sum of human influence on the natural landscape, that is, farming, grazing, drainage, forest clearance, and other human impacts, increased during the period under study (Figure 7.1).⁴⁵⁹

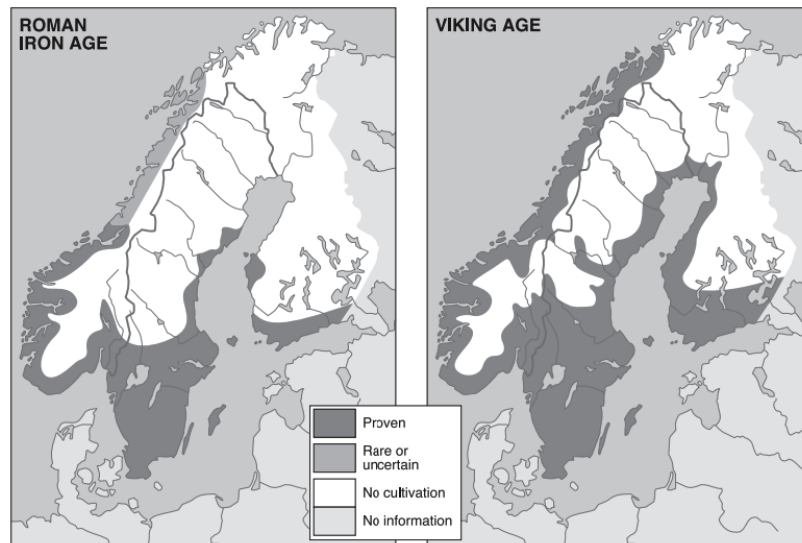


Figure 7.1 “Occurrence of cereal cultivation according to pollen diagrams.” Widgren and Pedersen, “Agriculture in Sweden,” 66.

Norway: There was minimal land suitable for cultivation in Norway. To this day, there is only three percent of agricultural land. As shown in Figure 7.2, cultivated areas

⁴⁵⁷ Sporrang, “The Scandinavian Landscape,” 27.

⁴⁵⁸ Eriksson et al., “Historical Ecology,” 1-2, 6: “Infield systems refer to a particular way of managing land and structuring land use, established during the early Iron Age, i.e., from the first centuries BC onwards. Land was divided into infield and outland. Infields were enclosed areas located near settlements incorporating semi-natural hay-meadows (i.e., manipulated, but comprising a native pool of species) used for production of livestock fodder, and permanent crop fields. The outland was located outside enclosures and was used mainly for livestock grazing, but also for collection of other resources. The outland may have been open land, but was probably mostly forest, or at least land with some cover of trees.”

⁴⁵⁹ Sharpe, “The Viking Expansion,” 32-4.

were mainly the regions sheltered from the ocean (around Oslo and Trondheim). Other parts of the country consisted of coniferous forests and mountains.⁴⁶⁰ According to Figure 7.1, we can say that there was more than three percent of agricultural land. However, it should be noted that the availability of pollen data assuming areas under cultivation does not reflect the actual areas of agricultural land, since pollen tends to disperse distorting the areas where it came from, and secondly, two-field system was practiced in Norway, that is, not all areas were used each year. Compared to Sweden, the land in Norway was less suitable for cultivation and pasture over the past three millennia, as can be deduced from both climate variables (air temperature, precipitation, and potential sunshine hours) and soil variables (soil pH and soil carbon density) shown in Figure 7.3.⁴⁶¹

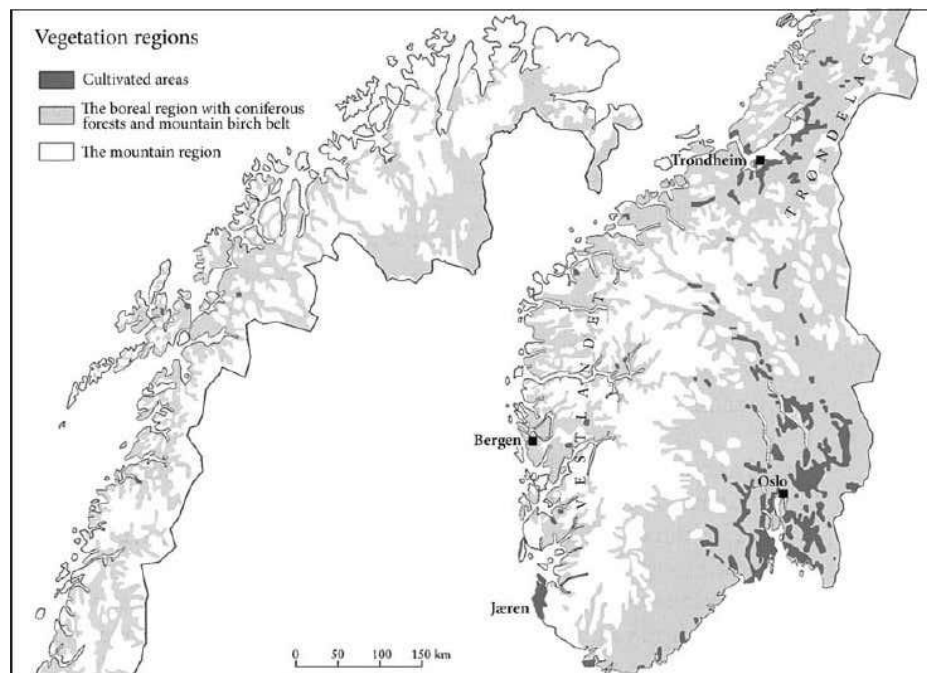


Figure 7.2 Vegetation regions in medieval Norway. Øye, "Settlement patterns," 39.

⁴⁶⁰ Øye, "Settlement Patterns," 38.

⁴⁶¹ Kaplan et al., "The Prehistoric and Preindustrial," 3022.

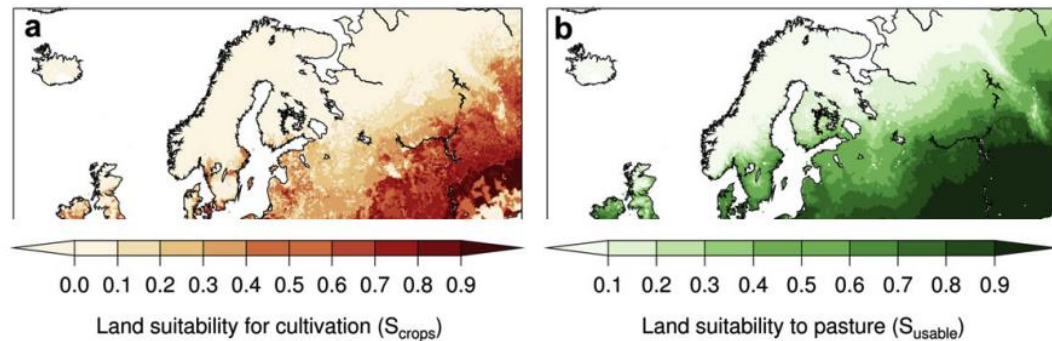


Figure 7.3 Maps of land suitability for cultivation (a) and pasture (b). Kaplan et al., "The prehistoric and preindustrial," 3022

The environment and soil conditions influenced the development of a wide range of farming types in Norway. This is also the reason for a distinct form of society. Farms were mainly of two types but had similarities in their structures and techniques: pastoral farms were in mountainous regions (Østlandet, northern and western parts where cultivated land was limited) and agricultural farms in other regions (Trøndelag, Østlandet and Jæren).⁴⁶² Figure 7.2 represents the northern part of Norway (left map) as covered by the mountain region and boreal forest area. Northern Norway was not suitable for cultivation and therefore led to the creation of more fishing settlements than agricultural ones. The southern part of Norway, based on the map of vegetation regions, also has enormous areas of mountains and forests. Some areas were used for cultivation, which indicates that only a small amount of land was suitable for agricultural activities in Norway. Medieval Norwegian farms were divided into smaller farms over time and back. Farms became subdivided into several holdings, that is, smaller and more dispersed to have better access

⁴⁶² Øye, "Settlement Patterns," 45.

to natural resources and fertile land during the population growth. Therefore, agricultural settlements were created in ways that depended on the surrounding area.⁴⁶³

The uniqueness of Norway's landscape also influenced agricultural technologies in the Middle Ages. The period under study shows the appearance of tillage technology, plowing, harrowing, and harvesting, combined with horsepower and physical and tenurial reorganization. Norway's land quality for cultivation, its geographical location, and its topography hindered the development of agricultural technology. Norway's different topography also resulted in regional diversity. For instance, Ingvild Øye describes that in "areas where arable land was scattered,"⁴⁶⁴ hand tools such as hoes and spades suitable for small fields were used. Small and scattered fields were not suitable for the use of horsepower and extensive tools. Norwegians used a combination of cultivation and fallowing in the regions of middle and eastern Norway, and they used permanent cultivation in west Norway. In general, agriculture in Norway was a combination of cultivation and animal husbandry. Also, there was a trace of less than two/three-course rotational field systems, that is, two or one-field systems. A rotational field system involves a part of the land that is not used yearly to fertilize it. This system requires a balance between domestic animals to produce manure and cultivated land fertilized with manure. The opportunity to have shorter periods for the restoration of arable land is possibly due to forest areas suitable for grazing.⁴⁶⁵

⁴⁶³ Øye, "Settlement Patterns," 41; Sawyer, "Scandinavia in the Viking Age," 55.

⁴⁶⁴ Øye, "Settlement Patterns," 48.

⁴⁶⁵ Øye, "Settlement Patterns," 47-51.

The general development of agriculture in the south of Norway had similarities with southern European territories and Sweden. However, in other parts of Norway, the settlers had to change their methods and farming systems to adapt to the mountainous and northern territories.⁴⁶⁶ Analyses of the northern territories of Norway (the Lofoten Islands) showed an increase in human activity, grassland and agrarian activity, and a decrease in forested areas in the Viking Age (Figure 7.4).⁴⁶⁷

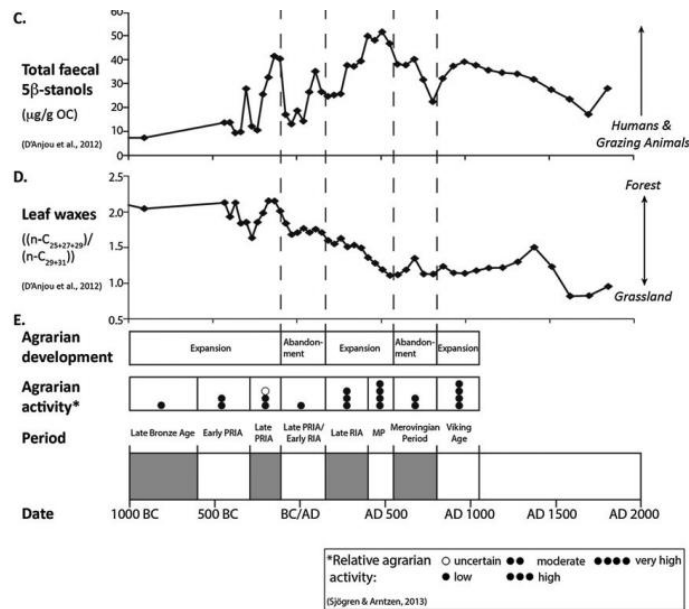


Figure 7.4 “Regional records of environmental change since 1000 BC, including: total faecal stanols (C) and leaf wax distributions (D) from Lilandsvatnet on Vestvågøy, and intervals of agrarian activity for northern Norway (E); relative sea-level data.” Balascio and Wickler, “Human–environment dynamics,” 146–150

Sweden: The land in Sweden was more suitable for cultivation and grazing during the period under study (Figure 7.3).⁴⁶⁸ In southern Sweden, there were more arable lands

⁴⁶⁶ Øye, “Settlement Patterns,” 48, 52.

⁴⁶⁷ Balascio and Wickler, “Human–environment Dynamics,” 150, 153.

⁴⁶⁸ Kaplan et al., “The Prehistoric and Preindustrial,” 3022.

(Figure 7.1).⁴⁶⁹ This is also confirmed by the results of the climate and soil variables shown in Figure 7.3. Figure 7.3 shows a comparison of the soils in Sweden and Norway, where the darker areas (southern Sweden) indicate the suitability of the land for cultivation and grazing. However, the Swedish lands also had infertile soil in the western and northern parts. In western Sweden, the coast is marked by dunes. This coastline was difficult to cultivate as ocean currents constantly changed the coastline. The sparse grasses found in these areas were also insufficient for animal husbandry.⁴⁷⁰ Central and northern Sweden had vast landscapes of lakes and bogs that were unsuitable for agriculture. The soil in the north was too thin for agricultural processes, but it could be used for grazing.⁴⁷¹ Therefore, in northern Sweden, there were single farms. In the south of Sweden, villages and agricultural lands were increased in numbers.⁴⁷²

Arable land expanded during the 9th-12th centuries.⁴⁷³ Infields were found more in southern Sweden than in the central and northern parts. Innovations in farming technology were also introduced, such as the use of various types of iron tools—a sickle for reaping cereals, a scythe with a longer blade, and the iron ard-share.⁴⁷⁴ Subsidiary farms were established in the Middle Ages or earlier in the Iron Age to expand the grazing area. Farmers moved to a secondary farm during the summer, grazing livestock and producing dairy products.⁴⁷⁵ In addition, a two-course field rotation system appeared. However, since the second part of a field remained uncultivated, it did not produce crops. Thus, the two-

⁴⁶⁹ Øye, “Settlement Patterns,” 38.

⁴⁷⁰ Sporrøng, “The Scandinavian Landscape,” 36-37

⁴⁷¹ Eriksson et al., “Historical Ecology,” 10.

⁴⁷² Sawyer, “Scandinavia in the Viking Age,” 55.

⁴⁷³ Sawyer, “Scandinavia in the Viking Age,” 55.

⁴⁷⁴ Sharpe, “The Viking Expansion,” 31.

⁴⁷⁵ Eriksson et al., “Historical Ecology,” 10.

course field rotation system increased the extent of arable land during the Viking Age due to the introduction of the system, having uncultivated land on which crops could be grown, but this wore out the land.⁴⁷⁶ Moreover, pollen analysis from Eastern Sweden indicated a significant increase in agricultural lands between the 9th-12th centuries (Figure 7.5).⁴⁷⁷

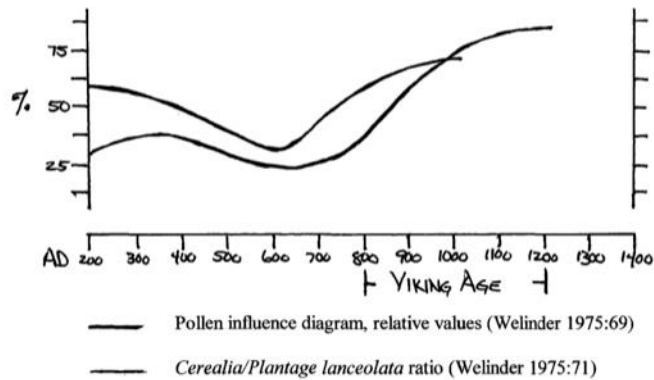


Figure 7.5 Agricultural production from Eastern Sweden. Sharpe, "The Viking expansion," 33.

Summing up, growth in cultivated lands can be observed in Sweden and Norway between AD 800 and AD 1200. Sweden and Norway's agricultural systems were distinguished due to the different landscapes. The natural resources that first attracted a permanent rural population are found in the coastal regions of the south, sheltered areas from the cold North Atlantic Ocean and around the Baltic Sea. In Sweden, these regions were in the south and east. In Norway, they were more common in the low-lying areas in the south. The expansion of agricultural land that occurred during the period under study was on par with the clearing of the area, which led to deforestation. The expansion of agricultural land during the period under study reduced forested areas. Woodland resources played an important role and were used in many industries in the Middle Ages.

⁴⁷⁶ Sharpe, "The Viking Expansion," 31.

⁴⁷⁷ Sharpe, "The Viking Expansion," 32-4.

Utilization of woodland:

The presence of woodland was an essential criterion for settlements in the Middle Ages. Wood was the main resource used for the development of settlements, the construction of buildings and ships, and for making utilitarian objects. Also, the development of iron-making required an ample supply of wood for fuel and charcoal.⁴⁷⁸ Thus, before the development of construction technologies with stone materials, wooden resources were exploited for most of the needs of Scandinavians. Tree species in Scandinavia that were suitable for human needs varied from region to region and were concentrated mainly in the south.

Coniferous and boreal forests dominate Norway and Sweden.⁴⁷⁹ The deciduous tree regions were in southern Sweden and the very south of Norway; coniferous forests were throughout Scandinavia but were less common in the northern parts (Figure 7.6).⁴⁸⁰ In western Sweden and all of Norway, wood was used almost exclusively for building construction, while in eastern Sweden and southern Scandinavia, stone could also be used.⁴⁸¹ The use of woodlands was more intensive in the southern parts, due to the abundance of woodlands, depending on the population size. Forest cover was more widespread in Sweden than in Norway. The relationship between forest cover and population analysed by Kaplan et. al, shows that forest cover decreased with the increase in population.⁴⁸² The boreal forest of Scandinavia was relatively stable over long periods

⁴⁷⁸ Eljas Orrman, "Rural Conditions," in *The Cambridge History of Scandinavia*, 280; Øye, "Technology, Land Use," 298.

⁴⁷⁹ Mead and Mead, *An Historical Geography*, 9.

⁴⁸⁰ Sporrang, "The Scandinavian Landscape," 19.

⁴⁸¹ Hans Andersson, "Urbanization," in *The Cambridge History of Scandinavia*, 338-9.

⁴⁸² Kaplan et al., "The Prehistoric and Preindustrial," 3020, 3023.

with various taxa belonging to the families Pinaceae (e.g. pine), Betulaceae (e.g. birch), Salicaceae (e.g. willow). Beech was a typical tree along with pine, oak, elm, ash, and herbs. However, there was no naturally grown fir.⁴⁸³ Typological changes in houses in Scandinavia during the early Iron Age show a decrease in the availability of woodlands. This can also be seen in the use of timber in shipbuilding.⁴⁸⁴

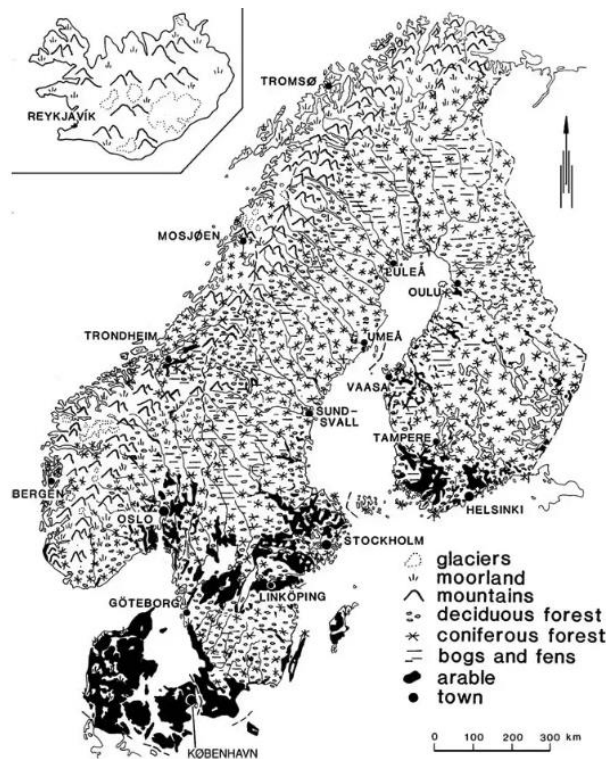


Figure 7.6 “Land use.” Sporrøng, “The Scandinavian Landscape,” 19.

Norway: In the north of southern Norway and in the west lies a large region of mixed forests; in the south-western were mainly coniferous forests.⁴⁸⁵ In Eastern Norway in AD 570-1500, there was an increase of *Picea* (spruce), *Juniperus*, and *Artemisia*-type

⁴⁸³ Laura Parducci et al., “Molecular- and Pollen- Based Vegetation Analysis in Lake Sediments from Central Scandinavia,” *Molecular Ecology* 22, no. 13 (2013): 3517; Lindholm, “Contesting Marginality,” 20.

⁴⁸⁴ Hilbert, “A Hall Fit for a King,” x.

⁴⁸⁵ Sporrøng, “The Scandinavian Landscape,” 39; Hilbert, “A Hall Fit for a King,” 19.

(plants and shrubs); and a reduction of *Pinus* (conifer tree), *Betula* and *Alnus* (birch family).⁴⁸⁶ Conifers are soft and were used for light construction in Norway, while the exported oak was used for heavy timber structures.⁴⁸⁷ Forest cover on usable land in Norway decreased from 1% to 0.6%, then to 0.3% from AD 500 to AD 1000 and AD 1350, respectively.⁴⁸⁸

Sweden was very rich in forest. Coniferous forests and taiga, mainly pine and birch (deciduous tree) predominated in the central and northern regions of Sweden, while oak and beech predominated closer to the south. To the north of the mixed forest area, there was a sharp transition to the taiga. Here grew firs, pines and deciduous trees—birch, oak, elm, and maple.⁴⁸⁹ In the southeast of Skania and the south of Öland the vegetation is that of a steppe. Spruce trees require well-drained, moist fertile soils. Pine, on the contrary, can grow on sandy and rocky places. In the west were mixed forests and wetlands. In the south, the tree line runs at an altitude of 1000 m; in the north—500 m; and in the far north—at sea level. Birch, elm, linden and ash were an important element of household, because they have been used as feed and for many other purposes in agriculture.⁴⁹⁰ Forest cover on usable land in Sweden decreased from 13.8% to 9.9%, and to 4.8% from 500 to 1000 and 1350, respectively.⁴⁹¹

⁴⁸⁶ Overland and Hjelle, “Pollen Analysis,” 1034, 1037.

⁴⁸⁷ Hilbert, “A Hall Fit for a King”, 17, 20.

⁴⁸⁸ Kaplan et al., “The Prehistoric and Preindustrial,” 3020, 3023.

⁴⁸⁹ Sporrang, “The Scandinavian Landscape,” 16; Hilbert, “A Hall Fit for a King”, 20; Petter I. Larsson, “Continuous Presence: A Historical Ecology of Ängesviken, Jämtland,” Master Thesis (Uppsala universitet, Arkeologi, 2021), 6.

⁴⁹⁰ Sporrang, “The Scandinavian Landscape,” 39; Hilbert, “A Hall Fit for a King”, 19.

⁴⁹¹ Kaplan et al., “The Prehistoric and Preindustrial,” 3020, 3023.

Summing up, human interventions—the use of building materials, utilitarian objects, the collection of fuel, the use of fire and the production of charcoal—had a noticeable effect on the environment, leading to deforestation.⁴⁹² Sweden had more suitable forest land than Norway. However, archaeological results show a deforestation both in Norway and Sweden between the 9th-12th centuries.⁴⁹³ In the following section, will be analysed natural resources (soil and wood) described by the medieval authors will be analyzed based on their vision of nature (see the section “The perception of nature (analysis of primary sources)”).

7.3 Comparative analysis and conclusion

Archaeological sources and Latin texts have provided different information. Archaeological sources provide evidence on material culture and, most notably for this research, show the human impact on the environment (expansion of agricultural lands and deforestation). These sources interpreted the sequence of events showing activities related to agriculture and forestry. By contrast, written sources give a sequence of events, when they happened and why. However, written sources required an interpretation of the meaning of the words and how the author's intentions influenced the descriptions of agriculture and natural resources during the 9th-12th centuries. It should be considered that descriptions were based on the authors' perceptions of their surroundings and beliefs. Therefore, there are no descriptions in written sources that were not important for the author's ecclesiastical texts. Thus, the Latin sources provide stories about what happened

⁴⁹² McGovern et al., “Northern Islands,” 231.

⁴⁹³ Balascio and Wickler, “Human–environment Dynamics,” 146-160.

in medieval Scandinavia and what the authors wanted to tell us about Christianization, which include references to the use of certain natural resources.

It was important for these authors to describe Scandinavian nature as it gave an idea of the lifestyle of the Scandinavians. The study of Scandinavians was essential to the missionaries who were sent to convert pagans. Missionaries had to know the people with whom they had to take contact and to convince them to accept the faith in Christ. Christianization required the history of people of both religions to be used by missionaries as an example to show the *uerus deus* (the true God). Thus, their lifestyle, belief, and rituals gained more attention from the authors. However, the texts did not pay much attention to the building materials. We know that farmers built barns from branches. In addition, there was generally no mention of the materials that were expected to be used to build churches, except when they were burned. However, it appeared necessary to the author of *Passio Olavi* to mention that the church was built in stone. The stone church was preferable to glorify God. Stone construction was introduced to Scandinavia with Christianization in the second half of the 11th century.⁴⁹⁴

These descriptions were also intended to motivate missionaries to come to these lands. At first, these lands seemed cold and unfriendly. Moreover, people unknown to Christians lived there, who were mainly known for their paganism and for organizing pirate raids. Both of these characteristics of the lands of Scandinavia were included in the texts. The authors drew attention to the fruitfulness of Scandinavian lands. The description of fertility and the wealth of resources was supposed to overshadow the negative knowledge

⁴⁹⁴ Eljas Orrman, "Church and Society," in *The Cambridge History of Scandinavia*, 439. Construction material mentions: Adam, *Gesta Hammaburgensis*, Book IV, c. VIII, 236; *Passio et Miracula*, 70, 89, 107.

about these lands and attract missionaries to Christianize Scandinavians. The authors separated two territories. Sweden was described as fertile and productive for cultivation rather than mountainous and cold Norway. Sweden was perceived by Adam and Rimbert as a land rich in natural resources.⁴⁹⁵ The regions of Norway had a relative paucity of quality agricultural land and Norwegians supported a large population through fishing, creating a different culture from that of Swedes.⁴⁹⁶ The Norwegians however are known to have maintained farms described by the author of *HN*.⁴⁹⁷ The author also paid attention to animals living in Norway, and the presence of gold, which was supposedly necessary for the development of churches.⁴⁹⁸

As for the archaeological sources, they filled in the missing information in the written sources. Studies on the development of agriculture and on the degree of expansion during the period under study were analyzed. Archaeological sources provided the results of studies on deforestation, and what types of trees existed in the Middle Ages in Norway and Sweden. Archaeological and paleoenvironmental results showed an increase of agricultural territories and deforestation between the 9th and 12th centuries.⁴⁹⁹ Human intervention, including the collection of fuel, the use of fire, the production of charcoal, excess livestock, iron processing, construction work, all had a noticeable effect on the environment, through soil erosion and other forms of environmental degradation.⁵⁰⁰

⁴⁹⁵ Soil/farm mentions: Adam, *Gesta Hammaburgensis*, Book IV, c. XXI, 251, c. XXX, 263; *Passio et Miracula*, 97, 107. *Vita Anskarii Auctore*, c. XXVI, 56;

⁴⁹⁶ Kaplan et al., "The Prehistoric and Preindustrial," 3030.

⁴⁹⁷ *Historia Norwegie*, c. II, 54, 56.

⁴⁹⁸ *Historia Norwegie*, c. III, 58, 61.

⁴⁹⁹ Balascio and Wickler, "Human–environment Dynamics," 146-160.

⁵⁰⁰ McGovern et al., "Northern Islands," 231, 225-270.

8. CONCLUSION

This thesis examined the relationships between humans and the environment through activities related to agriculture and the utilization of woodlands, influenced by the world vision of medieval Christians. The period under study covered the 9th-12th centuries, when literate Christians wrote the very first Latin sources about Scandinavia. The research focused on Sweden and Norway to analyze different environmental conditions and their influences on the culture of Scandinavians, and on the perception of nature by medieval authors. The study has shown how religion affected the perception of nature and the utilization of natural resources in the Middle Ages.

The research objectives were to answer four main questions: 1—Does religion influence descriptions of nature and the world vision? 2—What prerequisites did nature provide for developing Scandinavian culture in two distinctive territories? 3—How did the authors of the medieval Latin sources perceive nature, and how did their religion influence this perception? 4—What was the anthropogenic impact on nature in Norway and Sweden in the 9th-12th centuries based on activities related to agriculture and the utilization of wood, and did the religious worldview play a role in it?

Does religion influence descriptions of nature and the world vision?

Religious aspects were essential in this study since nature was analyzed through the world vision of Christian authors of the 9th-12th centuries. The period of study brought a new religion to Scandinavia, Christianity. The Latin sources described this process: the mission of Christianizing the northern territories. The conversion from paganism to Christianity was a slowly changing cultural upheaval over time. Scandinavian life changed

and embraced the Christian culture. This changed the Scandinavian vision of nature, as shown in written and archaeological sources.

According to medieval Christian authors, the world was created for humans to understand the will of God, which was achieved through suffering, limited consolations, and the search for the will of God in natural phenomena. As Christian writers described, the pagans also saw that their nature was under the control of their gods. However, their nature was an animate one, and their gods influenced natural conditions, demanding sacrifices from pagans. The period of study comprises religious trends that influence each other. However, in the primary sources, this period is described with an emphasis on the advantages of Christianity, highlighting the reliability of the Christian God in providing good natural conditions rather than pagan gods. Archaeological sources have shown that there was a hybrid culture that slowly turned into a Christian one. Thus, the analysis of the sources shows that there was a transition to Christianity that changed the vision of the world of Scandinavians, which supports Richard Hoffmann's model, who stated that people perceive nature through cultural representation.

The goals and intentions of medieval writers were to describe the lands where other missionaries would have to go to continue the mission. Therefore, a description of nature and landscape needed to be attractive. Thus, the authors provided descriptions of the fertility of lands, so that missionaries could be prepared to live there during the mission. However, the northern territories of Scandinavia are presented as harsh places to live. This could be due to the binding of the land description to its inhabitants, the pagans, due to the understanding of the will of God in suffering for the sake of eternal and joyful life, and the northern climate. The description of Scandinavian nature, apart from the influence of the

Christian religion, was also influenced by the Scandinavian weather and landscape. Scandinavia was colder and more barren than the rest of Europe because of the North Atlantic Ocean and the northern landscape.

In conclusion, we can say that religion has played some role in the perception of the world and nature. Religion created instructions, signs, and meanings to be found in nature and natural phenomena, and human activities partly depended on these instructions being interpreted in natural events. The authors described a picture of nature in a way that is similar to Epstein's model (Figure 3.2), according to which natural events were God's punishment for human sins. Christian authors presented sin as accepting paganism or not adopting Christianity, which resulted in unproductive land. Thus, according to Julian Stewart's theory, cultural aspects are integral to the relationship between humans and nature. This study showed that part of the culture: religion, also played an essential role in this relationship. However, determining the extent of the religious influence is difficult and requires the study of other sources and visions of the world by illiterate and non-royal people, which was not considered in this study.

What prerequisites did nature provide for developing Scandinavian culture in two distinctive territories?

Nature provided prerequisites for the development of Scandinavian culture. This research showed that the Scandinavian culture varied depending on the landscapes. Archaeological sources showed the distinctiveness of the topography of Norway and Sweden and that cultures developed differently in these two countries. Medieval authors also perceived the landscapes of these countries differently. Their descriptions of nature in these territories also suggest a diverse development of cultures in these countries.

In general, the landscape of Scandinavia can be described as a northern type of land. The difference between the two Scandinavian lands are that Norway was colder due to the North Atlantic Ocean surrounding it, and was very elongated and mountainous with few plains. Norway's mountainous and rocky landscape created challenges with the cultivation of the land, which was critical for the medieval agricultural society. As archaeological sources analyzing agricultural technologies have shown, Norwegians could not use large cultivation techniques in mountainous places. Consequently, this delayed the development of agriculture, which led to more fishing and pastoral cultures in Norway compared to the agricultural society formed in Sweden. Norwegians adapted their agrarian technologies to the landscape and built a different culture. Sweden was warmer, flatter, and more favorable for vegetation, as described by the medieval authors and explored by archaeologists. The landscape of Sweden provided better conditions for the use of technology than the landscape of Norway. According to archaeological sources, people have adapted to two different territories and formed two different cultures.

The analyzed sources suggest that the differently perceived landscapes of Sweden and Norway eventually formed the distinctive Swedish and Norwegian cultures. As already noted, the missionary purpose of the primary sources could distort the description of the pagans and their religious worldview, but the presentation of nature can be assumed to be more accurate. They reflected reality as a condition of life, which was necessary for understanding the lifestyle of Scandinavians for the following Christianization, as well as for the texts' readers, namely, other missionaries who would live there during Christianization. However, this study is limited to one specific population, literate Christians and their supporters, such as kings and upper-class people. Nevertheless, the

medieval Christian writers perceived Norway and Sweden differently. Like the archaeological sources, the Latin sources also suggest that the formation of the cultures of Norwegians and Swedes differed primarily due to different landscapes, supporting the idea of Julian Steward and Richard Hoffmann that different landscapes form distinctive cultures.

To sum up, the landscape did influence the development of the cultures. However, the study of the influence of the landscape on culture must take into account other impacts, like religion, and political and social changes, which makes it challenging to interpret the degree of the influence of nature on culture. To better understand the cultural changes brought about by topography, further research into local primary and secondary sources is needed. There is also a need for a comparative analysis of Scandinavian culture with the cultures of other territories. Comparing Scandinavian culture with other areas would provide a better explanation of the influence of nature on cultural development.

How did the authors of the medieval Latin sources perceive nature, and how did their religion influence this perception?

The medieval authors' vision of nature and of the Scandinavian lands depended on many factors. First of all, their worldview depended on religion. Nature for the medieval authors was a place of God. Also, the descriptions of the nature of Scandinavia relied on the authors' mission. It cannot be ruled out that the perception of Scandinavia depended on the local dwellers, who at the time of Christianization were pagans. Consequently, the hostility towards pagans also played a role in the perception of nature in Scandinavia. For instance, the word north was associated with pagans. Therefore, the northern territories were perceived as unfriendly pagan territories. Moreover, Scandinavia was an unexplored country, and its landscape and natural conditions were harsher than the rest of Europe for

the authors. Therefore, its perception as a powerful and miraculous place was caused by the uniqueness of the Scandinavian weather and landscape. These descriptions also came under the influence of ancient authors whose sources the authors used. The medieval authors often quoted descriptions from ancient books, which provides challenges in separating medieval authors' ideas. Archaeological sources also showed that burials had a basis in religion. Burial rituals are interpreted by the religious vision of death, which influenced the choice of the place and burial attributes. Therefore, the lands themselves, their inhabitants, the severe conditions for Christian authors, and their religion created the picture of Scandinavia that has come down to us.

Overall, the idea that nature was the place of the relationship between God and human beings and the domain of God can be found in medieval texts. Nature for the medieval writers was a place to interact with God, something to be explored to understand God's will, a place that changed according to the will of God as a punishment or an encouragement for its believers, which supports the ideas of Steven Epstein and Richard Hoffmann. To sum up, we can say that religion was one of the factors influencing the perception of nature. For a better understanding of what nature was for medieval people and how religion influence its perception, it is necessary to study other sources, preferably those of the inhabitants of Scandinavia and ordinary people who did not leave written sources.

What was the anthropogenic impact on nature in Norway and Sweden in the 9th-12th centuries based on activities related to agriculture and the utilization of wood, and did the religious worldview play a role in it?

Although the descriptions of medieval literate Christians were not intended to represent natural resources and the human impact as we understand them today, they are more accurate in describing the fertility of lands and did provide some mention of natural resources, like building materials. This research discussed two human interactions with nature, agriculture and the utilization of wood, to understand human-environment relations based on Hoffmann's model (Figure 3.1). Based on this study, it can be concluded that religion affected human interaction with the lands and the use of natural resources. Christians believed that God was in control of nature, and therefore, favorable conditions were perceived as an endorsement for the use of lands. It is assumed that people needed to utilize more natural resources to understand God's will. Moreover, Christians were looking for salvation in another world, forgetting about this world and its environment,⁵⁰¹ which led to an environmental impact. However, one should not forget that there were other reasons for the increase in environmental exploitation, such as population growth.

Latin and archaeological sources showed human impacts on the environment. Based on agricultural and wood utilization activities, the anthropogenic impact on nature increased between the 9th and 12th centuries in Norway and Sweden. Archaeological sources are more of an interpretation of the sequence of events showing agricultural and forestry activities. In contrast, written sources provided a description of these events, when

⁵⁰¹ Olof Sundqvist, "The Role of Rulers in the Winding Up of the Old Norse Religion," *Numen* 68, no. 2-3 (2021), 290.

they happened and why; most importantly, they provide a past people's vision of the world. However, the medieval authors' intention, the Christianization of the north, influenced the descriptions of agriculture and natural resources during the 9th-12th centuries. The texts presented the authors' perceptions of their surroundings based on their beliefs. According to the texts, the farmers built barns from branches and had structures; therefore, they used the forest, and exploited the lands of Sweden and Norway; from the archaeological sources it can be concluded that woodlands decreased, and that agricultural areas increased during the period under study. The perception of nature made past people use their surroundings with caution and try to interpret the will of God. Malthusian theory suggests that due to the uninhabited lands of Scandinavia in the 9th-12th centuries, population growth, human libido, and the will of God to reproduce, the use of natural resources increased. Archaeological sources showed an increase in human activities. They analyzed two human interventions that have resulted in woodlands clearing and in an increase in cultivated areas. Cultivated areas increased in the southern part and further north of Scandinavia, where the land was suitable for cultivation. In Norway, the arable land was less than in Sweden, which was also said by medieval authors that Sweden was more fruitful than Norway. The increase in agriculture and wood constructions led to the clearing of forested land. Therefore, landscapes were in constant flux due to the Scandinavian agricultural system and deforestation.

A key conclusion of this thesis is that human activities go along with the impact on the environment, and that adaptation to the environment is accompanied by cultural changes. Natural resource usage increased during the period under study. The human impact on the environment depended on the perception of nature. During the 9th-12th

centuries, religion influenced some people's vision of nature and its use. The religious vision of the world is a slowly changing process. The period under study witnessed change from paganism to Christianity, from fear to control of natural resources. Christianity dictated what nature was like and spread these ideas throughout Scandinavia. Nature was ruled by God and the saints who served as God's intermediaries, as described by medieval Christian authors. In compliance with the regulations of Christianity, it was assumed that God would give encouragement in the form of good natural conditions or punishment with infertile land. However, with the development of agricultural technologies, shown by archaeologists, came the understanding that humans also controlled the harvest and used nature more extensively to support the growth of society. Christian authors did not mention this transition in their texts, since for them only God could control nature, which highlights the influence of religion on the exploitation of nature by some people. Thus, based on Hoffmann's model, this research explained that the relationship between humans and nature was reciprocal.

Deforestation and land use for cultivation were only tiny aspects of a complex interplay of impacts upon the environment. The interaction of humans and nature in medieval Scandinavia requires further extended research. This study considered only the impact of agriculture and the use of forests during the 9th-12th centuries. This research could be expanded to include other influences on nature such as climate change, sedimentation, the natural erosion of coasts, fuel and firewood, building materials, and use of natural minerals. This research was based on medieval ecclesiastical texts, which reflected the worldview and perception of nature and natural resources by literate Christians, who did not represent all Scandinavians. To cover Scandinavians of more diverse social

background, the study could be expanded using the following sources: Eiríkr Oddson's *Hryggjarstykki*, *Ágrip af Nóregs Konunga sögum*, Snorri Sturluson's *Heimskringla*, *Sverris saga*, and place names written between the 15th and 16th centuries.

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Appendix

A list of some books written between the 9th -12th centuries for further readings about Scandinavia:

Latin:

1. *Chronicon Roskildense* (Roskilde Chronicle), c. 826-1140.
2. Aelnoth of Canterbury, *Gesta Swenomagni regis et filiorum eius et Passio gloriosissimi Canuti regis et martyris* (The Deeds of King Sven the Great and His sons, and the Passion of the Most Glorious Canute, King and Martyr), Odense literature, c. 1110-1117.
3. Theodoricus Monachus, *Historia de antiquitate regum Norwagensium* (*An Account of the Ancient History of the Norwegian Kings*), c. 1180.
4. Saxo Grammaticus, *Gesta Danorum* (*The History of the Danes*), c. ~1200.

Old Norse:

1. Eiríkr Oddson, *Hryggjarstykki*, about Sigurdr slembir, who died in 1136, c. 1150.
2. *Ágrip af Nóregs Konunga sögum* (Compendium of accounts of the kings of Norway), c. 1190.
3. Snorri Sturluson (born in 1179-8), *Heimskringla* (*History of the kings of Norway*).
4. *Sverris saga* (The Saga of King Sverrir of Norway, who died in 1202), c. 1185-1230.

For more information can also be used place names written in the 15th-16th centuries. They can tell about pre-Christian religion, changes in the landscape, boundaries, communications, and the development of settlements between the 9th-12th centuries.