

Gilded Weathervanes

From Ship Stems to Church Spires

Ingrid Birch Eide



Supervisor: Kaja Kollandsrud

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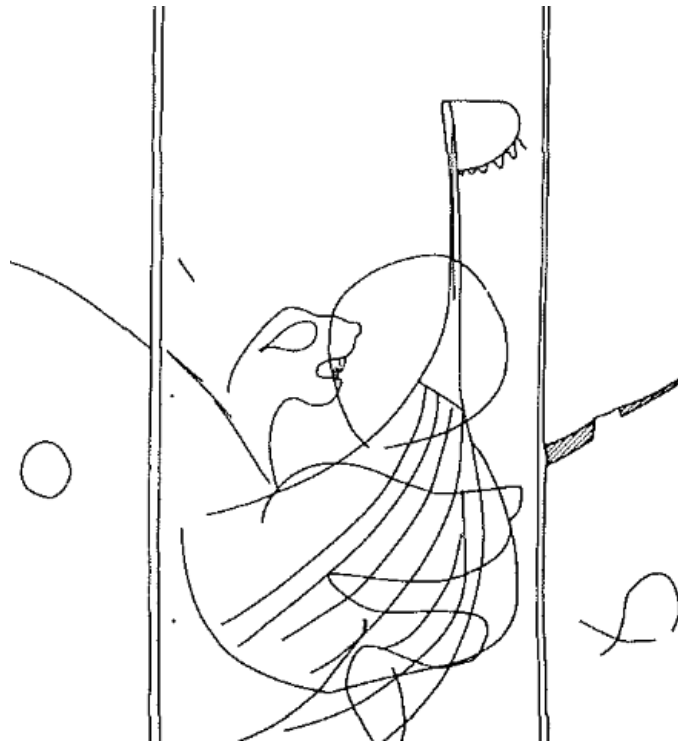
Department of Philosophy, Classics, History of Art and Ideas
Faculty of Humanities

UNIVERSITY OF OSLO

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Abstract

Gilded, beautifully ornamented weathervanes adorned edifices of the highest status in early medieval Norway and Sweden. This thesis looks at four exemplars of this convention, from Heggen (c. 1000), Källunge (c. 1000), Söderala (c. 1030-1050), and Tingelstad (c. 1110-1160). Originally placed in the stems of longships, they eventually relocated to the spires of early medieval churches, where they continued to be displayed to the public until the 20th century.

In the attempt to approach an understanding of the four weathervanes in their own time, the thesis discloses a medieval belief in their immanent powers, evoking awe, wonder, and installing fear in perceivers. This was due to the aesthetic experience of the artefacts from afar: the brilliant golden optics, acoustic aura, and animation. The spectacle captured the perceiver's attention and triggered associations. It is argued that a significant function of the weathervanes was the capacity to avert evil forces from the area they protected. This, in turn, allowed them to persist in cultural memory and take part in a long-standing, evolving tradition of material culture. The tradition, and its significance to medieval people, is reflected in an array of visual and literary evidence analysed in this thesis. The underlying aim is to demonstrate the efficacy of the artefacts and their use and reuse in the early medieval period in Scandinavia.

Preface

A warm thank you is due to Kaja Kollandsrud, my supervisor, for good discussions, enlightening feedback, and her enthusiasm and belief in my project. Not only did it make the thesis possible, it made writing it enjoyable and stimulating. I also thank her for inviting me to participate at the Cultural Heritage 360 workshop no.3/6 on Cultural Content and Value, at the University of Durham. This inspiring experience both deepened my interests and broadened my horizons – and for that I am very grateful. I also want to thank Ragnhild Bø for helpful comments and advice, especially in the beginning of the project. And thank you to Karoline Kjesrud at the Museum of Cultural History for kindly discussing topics to write about with me early on and introducing me to the weathervanes; these puzzling objects which have not ceased to fascinate and intrigue me ever since.

Finally, I thank my eager proof-readers and good friends, Johanne and Christine. None of this would be possible without my brilliant friends and family. I especially want to thank my parents, Katja, Maja, Selma, and Olayemi, whose encouragement and support I truly appreciate.

Til farfar

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1. INTRODUCTION

*King Hacon had many other big ships and excellently well fitted. And in the sunshine it seemed very like as if fire burnt on the heads and vanes and gilded shields which were on the stems and sterns. As Sturla sung:
Twice-tried gold, O Rhine-flame giver,
In scrolls upon thy sails was seen,
The blood-red prows stretched out like necks
Rose high above thy Dragon ship
The rows of shields glowed bright as fire
Gold-mounted at thy galleys sides,
The burning gold-wave deeply reddened
All shields among that glistening fleet.¹*

This thesis is about the convention of attaching golden weathervanes outdoors, in public, high-status edifices in medieval Scandinavia. Focus is set on four of the extant exemplars, dated c. 1000-1160. The Norse called them *veðrviti*, meaning wind- or weathervanes.² Most likely, they were designed to be attached to the stems of longships. Later, they were mounted to church spires in Norway and Sweden. The weathervanes remained here until they were “re-discovered” in the early 20th century, followed by a wide interest in their original meaning and function.

The four early medieval weathervanes in this study were never melted nor re-made, they were altered slightly but never significantly; never buried, deposited, nor taken out of the chain of circulation and use. The intricate ornamentation, precious materiality; and specific ways of displaying and using them, indicate that medieval people believed them to be noble, powerful, and potent objects. Passages in saga literature and images in different media and contexts confirm their pre-eminence throughout the Middle Ages. This thesis explores the uses and re-uses of the vanes, and the kinds of power they were believed to have in their own time.

¹ Saga of Hacon, chapter 291. Translated by Sir George Webbe Dasent, *The Saga of Hacon and a Fragment of the Saga of Magnus*, vol. 1 (London: Llanerch Publishers, 1997), 305.

² Morten Stige, "Tingelstadfløyen: Skipsfløy På Land," in *Gamle Tingelstad: Liten Kirke Med Stort Innhold*, ed. Morten Stige (Oslo: Gran kirkelige fellesråd, Instituttet for sammenlignende kulturforskning, 2020), 104.

Material

The vane from Heggen, Norway is dated c. 1000, and is today exhibited at the Historical Museum in Oslo, Norway. The vane from Källunge, Gotland, Sweden, is also dated c. 1000, and is found today at the Hall of Antiquities at the Museum of Gotland. The vane from Söderala, Sweden is dated c. 1030-1050, today at The Swedish History Museum in Stockholm. Finally, the vane from Tingelstad, Norway, is dated c. 1110-1160, and is also to be found at the Historical Museum in Oslo. Each vane has unique ornamental designs. They clearly belong to the same type of object: plates of 1-3 mm thick gilded copper have been cut into triangular shapes with a blunt upper angle and a deeply arched underside. They are c. 21-25 cm high and c. 33-35 cm long.³ A cast animal figurine of a lion or dragon is attached to the tips of the upper edges, and the vanes and the top animals are equally, brilliantly gilded.

This small group of artefacts will be called “early medieval weathervanes”, due to their *approximate* dating within the early Middle Ages, also called the Viking age, c. 800-1100.⁴ The object group is the primary source of this study. The term suggests that their dating separates them from similar artefacts, and leaves questions of their possible functions open. Previous research has called them golden or bronze “wind vanes” or “weathervanes”.

Two additional sub-groups of Scandinavian weathervanes are identifiable. The first is the miniature vanes, dated c. 800-900, of which nine have been discovered in Northern Europe. The second group dates from the high Middle Ages (c. 1130-1350⁵) and consists of three vanes dated c. 1250-1300. These are larger in size than the two older groups, and were discovered in Norwegian church spires, like the early medieval vanes. All the sub-groups of weathervanes are listed in Table I in the Appendix to this thesis. All artefacts are connected by a shared visual and material identity: they are copper alloys, triangular in outer shape, and intricately decorated. The exception is the Tovdal vane shaped like a dragon; and the older, squared Grimsta vane.

The term “weathervane” also has a broad, general significance. It unifies the Scandinavian artefacts above and ties them to wind-indicating tools across Northern Europe and beyond –

³ See Table 1 in the Appendix for detailed information about each vane’s dimensions.

⁴ Stephen A. Mitchell, *Witchcraft and Magic in the Nordic Middle Ages*, The Middle Ages Series (Philadelphia: University of Pennsylvania Press, 2011), 9.

⁵ Per Norseng and Erik Opsahl, "Norge I Høy middelalderen," in *Stor Norske Leksikon*, at snl.no (last updated April 2019). [1.6.2021].

from antiquity until today. In a general sense, then, the term refers to the wider convention of attaching decorative wind-indicating metal objects in edifices with elevated status.

The tables in the Appendix give an impression of the available Scandinavian weathervanes and their variety, including fragments and some images of them. As mentioned, only the four early medieval vanes are central to the following analysis, due to the scarcity of previous research on the miniature- and high-medieval weathervanes. The miniatures were likely amulets due to their size and deposition in graves, or they were attached to ship models.⁶ This is not yet certain. The available information on the two other sub-groups is given in the Appendix. Otherwise, these artefacts are brought into the discussions when relevant – to look at possible connections, continuities, and differences between these very similar objects across time.

Research Questions

The aim of the thesis is to illuminate some of the meanings and functions of the early medieval weathervanes in their own time. The time frame spans from c. 1000, that is, when the first early medieval vanes were created, until the later 11th – 14th centuries, when the vanes most likely were relocated to the churches. Since previous research has not reached consensus on the date of the relocation, the wide time frame here is meant to accommodate more precise future finds.

Furthermore, this thesis is less interested in the specificities of the artefacts' "biographies", which have been researched previously and are discussed in chapter 3. Rather, it is asked what the appropriation of the weathervanes entailed; how the transition led the vanes' meanings to change and continue. In other words, what were the conceptual changes which followed the physical relocation – from the Viking warships to the most sacred place in Christianity, the closest to the Godhead, the church spires? This is treated very briefly in previous research. It seems that attempting to answer this very wide question may provide some insight into the significance and status of these remarkable artefacts in their own time.

The departing hypothesis is that people believed that the weathervanes had special powers and inherent properties, which required them to be handled in unusual ways. They were not empty

⁶ The most comprehensive studies of the miniature vanes are Veronica Ekberg, "På Resa Till En Annan Värld: Vikingatida Miniaturflöjlar" (Stockholm University, 2002).; and Jan Peder Lamm, "De Havdjärves Märke: Om Vikingatidens Skeppsflöjlar," *Gotländskt Arkiv* 74 (2002).

status markers nor symbols representing specific individuals or families, institutions, or social groups. They must have existed at the centre of ordinary experience – as extraordinary things which could affect people.

Theory and Methodology

Various approaches and viewpoints to the material are used to suggest possible answers to these questions. Recently, Morten Stige underlined that the early medieval weathervanes' importance must have derived from values beyond the symbolic and aesthetic but did not explore this further. This thesis wants to continue where he stopped. Focus is shifted from representation to action, situation, and experience: the performative aspects of the vanes in the encounters with the medieval audiences. In this view, meaning and value is created when artefact and perceiver meet,⁷ and the analyses are open to ambiguous and at times contradictory polysemy. This will, hopefully, keep the material objects at the fore, and bring out new aspects of them.

The aim to bring about a wider understanding of the otherwise fragmentary material, three topics central to the medieval experience of the vanes have been selected for closer analysis. These will be presented in chapters 4, 5 and 6. Each address one aspect of the total experience and complement the others. Naturally, the selection of three central topics has omitted many interesting angles and topics for discussion, and the thesis does not claim to be comprehensive. Each of the chapters outline its specific research questions, theory, and methodology. Thus, the following paragraphs explore some general approaches to artefacts as sources of knowledge.

The material and sensory object

The thesis departs from the weathervanes as sensory, physical objects – an emphasis inspired by the recent material and sensory turns in visual culture studies.⁸ The physical, material components of the medium are regarded as fundamental placeholders for meaning. Both matter

⁷ Madeline Harrison Caviness, "Reception of Images by Medieval Viewers," in *A Companion to Medieval Art: Romanesque and Gothic in Northern Europe*, ed. Conrad Rudolph, Blackwell Companions to Art History (Malden, MA: Blackwell, 2006), 67.

⁸ On the material turn, see for instance W. J. T. Mitchell, "Showing Seeing: A Critique of Visual Culture," *Journal of Visual Culture* 1, no. 2 (2002); James Elkins, "On Some Limits of Materiality in Art History," *Das Magazin des Instituts für Theorie* 31, no. 12 (2008). On the sensory turn, see for instance Bissera V Pentcheva, "Hagia Sophia and Multisensory Aesthetics," *Gesta* 50, no. 2 (2011); Mary Carruthers, *The Experience of Beauty in the Middle Ages*, Oxford-Warburg Studies (Oxford: Oxford University Press, 2013).

and the multisensory experiences of matter were central aspects of the medieval understanding of material objects and the connotations they evoked. The materiality of copper, and of gilding, is significant for the meanings and functions of the weathervanes in different ways, as will be explored in the thesis. For instance, chapter 2 describes the material and visual properties of the vanes, and chapter 4 investigates the multisensory experiences of them as they might have appeared to the medieval audience in the two specific situations they were used.

Survivals and social networks

The approaches to the artefacts in the thesis are primarily inspired by Aby Warburg and Andrew Jones. According to Warburg, an artwork is not ahistorical or passively reflecting a wider context. Rather, it is a complex historical moment, opening to symbolic and cultural realms. It is an *image*, an *act* (i.e. the corporeal and social) and a *symbol* (i.e. psychological and cultural). For this reason, art history must investigate the complex, sometimes contradictory forces within the artwork, and its specific historical, social, and cultural relations.⁹ Art objects become anthropological phenomena: historically specific and culture condensed. “In short, the image should not be dissociated from the overall actions and way of acting of the members of a society; nor from the knowledge and ways of thinking of an epoch; nor, of course, from beliefs and ways of believing”.¹⁰ Artworks thus have an inherent “mythopoetic” power and efficacy.

Both Warburg and Jones operated with artworks as traces or *survivals*, consisting of multiple pasts and the present, in the fields of art history and archaeology respectively.¹¹ Survivals are traces, indices, referring to past moments. They can be experienced today, but the meanings and functions have been modified drastically as they are traces of something lost, no longer in use. Jones is particularly interested in the performativity of the object as survival, which ensures it is not understood merely as carriers of meaning, but as material and sensual embodiments of past events, which affect the person experiencing it. They become cultural performances, both enduring and immediate; not simple carriers of information.¹² He further introduces material citation to suggest that the objects are linked to others; becoming nodes in a large network:

⁹ Georges Didi-Huberman, *The Surviving Image: Phantoms of Time and Time of Phantoms: Aby Warburg's History of Art*, trans. Harvey L. Mendelsohn (University Park, PA: Pennsylvania State University Press, 2017), 22-23, 24-25.

¹⁰ *Ibid.*, 25.

¹¹ *Ibid.*, 29-30, 32.

¹² Andrew Jones, *Memory and Material Culture: Tracing the Past in Prehistoric Europe*, Topics in Contemporary Archaeology (Cambridge: Cambridge University Press, 2007), 75.

*The concept of citation differs from the index because it also captures the way in which, as novel cultural performances, the production of artefacts draws on past artefacts and in doing so both reiterates and transforms them. It is helpful to consider citations as activities which both reiterate past events and through the creative juxtaposition of differing elements of past events, also recombine to create fresh cultural performances.*¹³

Thus, the social relational aspect is central: how people use things and how things enable people to act – in addition to the material and sensual. To Jones, the specific social cultural practices and uses of material culture create meaning, and the objects' mnemonic character.¹⁴ The approach also makes it valuable to see connections and differences of material traces in a longer time-perspective to better understand how past objects influenced each other. Focus is set on the cultural performative aspect of the experience of artefacts through time, accessed through the material, sensual object, and its status as a node in a social relational network.

Object Agency

The emphasis on performativity and social relations is related to another theoretical concept: object agency. It has various definitions but often related to Alfred Gell's anthropological analyses. Based on the version of Gilchrist, here, agency is when humans ascribe or project the ability of an object to cause things to happen and to affect people. The object does not have free will or intentional action. That is, an object has social agency not inherently but by its position in a social network of relations. Further, superhuman agency can be perceived in objects of human manufacture through specific use and practice, as for instance in religious idols.¹⁵ The potential for humanlike agency in artefacts means that they may have a kind of social or biographical "life". Accumulating experience, like changes in ownership, thus transform the meanings of the artefact and imbue it with agency and power. That is, the object's remembered past endows it with forces inherent to it, and abilities to cause and affect events. The related concepts of animism and object "social life" have been investigated in relation to several artefacts from the Iron Age and medieval Scandinavia, like jewellery, swords, and the like.¹⁶ These artefacts blur the modern distinctions of animate and inanimate; humans, animals, and objects. This thesis will discuss how the weathervanes relate to this concept in different ways.

¹³ Ibid., 81.

¹⁴ Ibid., 32, 40.

¹⁵ Roberta Gilchrist, *Medieval Life: Archaeology and the Life Course* (Woodbridge: Boydell Press, 2012), 216-17.

¹⁶ See for example the introduction and essays in Ingunn Marit Røstad et al., *Charismatic Objects: From Roman Times to the Middle Ages*, (Oslo: Cappelen akademisk forlag, 2018); Julie Lund, "Connectedness with Things: Animated Objects of Viking Age Scandinavia and Early Medieval Europe," *Archaeological Dialogues* 24, no. 1 (2017).

Interdisciplinarity

An analysis of shifting relations and meanings to better understand an artefact in its own time – requires interdisciplinarity. This is the linking of study objects, knowledge, and methods of academic fields that are usually separated, due to an historically increased specialisation of the fields. Linking and multiplying approaches may lead to more thorough interpretations of the historical artwork.¹⁷ Interdisciplinarity is central to visual culture studies, and particularly to medieval art history due to its often fragmentary, cross-disciplinary study objects. It further entails a methodological, immersive “dive” into historical specificities which opens the field. The main concepts of theory above belong to art history, archaeology, and anthropology; and will be further supplemented by history, theology, and social studies, among others.

The interdisciplinary approach and complex method is often seen as stemming from Warburg. Warburg wanted to destroy the frontiers of the art history discipline through a methodological enlargement: “The *Kunstwissenschaft*, the “science of art” that Warburg so ardently wished for [...], thus took the form of a specific investigation of images within the framework of a non-specific, endlessly open *Kulturwissenschaft*”.¹⁸ Thus, Warburg linked different approaches, competences, and knowledges to establish a wider science of culture to interpret images within.

Literary Sources

The investigation of the early medieval vanes as material evidence themselves is supplemented with literary evidence. The Old Norse sagas are the most important source for Scandinavian history before c. 1200. The sagas were written by 13-14th century Christians. As people of an opposing religious system, their descriptions of pagan circumstances and events, either from prehistory or closer to their own time, were therefore tinted.¹⁹ But their knowledge of the pagan world was immense.²⁰ Recent attention has turned to the sagas as useful sources for past

¹⁷ See for instance, again Didi-Huberman, *The Surviving Image: Phantoms of Time and Time of Phantoms: Aby Warburg's History of Art*, 19-21; Svetlana Alpers et al., “Visual Culture Questionnaire,” *October* 77 (1996).

¹⁸ Didi-Huberman, *The Surviving Image: Phantoms of Time and Time of Phantoms: Aby Warburg's History of Art*, 13, 16-18, 26.

¹⁹ Shami Ghosh, *King's Sagas and Norwegian History: Problems and Perspectives*, vol. 54, *The Northern World* (Leiden: Brill, 2011), 1-5.

²⁰ Stephen A. Mitchell, “Magic and Religion,” in *The Pre-Christian Religions of the North: History and Structures*, ed. Jens Peter Schjødt, John Lindow, and Anders Andrén (Turnhout: Brepols Publishers, 2020), 646.

realities, mentalities and worldviews – if too vague as evidence for specific events.²¹ It means that the sagas reflect what writers considered significant values, norms and human behaviour, in the attempt to construct a pagan past which was meaningful in the 13th century. This perspective looked for similarities between the religions and systems rather than their differences and is inextricably linked to the establishment of a written, vernacular culture in medieval Scandinavia.²² The sagas mention the weathervanes several places and are thus important representations of their past uses and responses. The concise, undetailed descriptions are departure points for discussion here. The sagas will not, or not merely, be used for their explicit (technical) knowledge, but for mentalities and contexts which may be interpreted from them.

The conversion in the 11-12th centuries was perhaps the most significant change in the history of Scandinavia, and reorganised virtually all aspects of society and culture.²³ It brought common-European heritage, culture and systems of thought, knowledge, and science to the north; the peripheral location of which apparently unimportant for the saturation of the new value system in the old. This thesis treats the weathervanes as part of a pan-European culture with cultural currents from the east, west and south – by trade routes and the Church and monasteries.²⁴ Christianisation also introduced newly translated Greek and Arabic written works. It is difficult to find evidence for direct communication, that is, presence of specific European literary works in Norway and Sweden at the time in question. Such works are included in discussions of this thesis on the assumption and recognition of the significant European influence on learning and thought in early medieval Scandinavia.

²¹ Hans Jacob Orning, "Legendary Sagas as Historical Sources," *Tabularia. Autour des sagas: manuscrits, transmission et écriture de l'histoire*, no. 15 (2015): 57-60, 65-66; Ármann Jakobsson, *Nine Saga Studies: The Critical Interpretation of the Icelandic Sagas* (Reykjavik: University of Iceland Press, 2013), 14-16.

²² Pernille Hermann, "Concepts of Memory and Approaches to the Past in Medieval Icelandic Literature," *Scandinavian studies* 81, no. 3 (2009): 294-96.

²³ Mia Münster-Swendsen et al., *Historical and Intellectual Culture in the Long Twelfth Century: The Scandinavian Connection*, vol. 5, Durham Medieval and Renaissance Monographs and Essays (Durham, Toronto: Institute of Medieval and Early Modern Studies, Durham University Pontifical Institute of Mediaeval Studies, 2016), 1-3. Anne-Sofie Gräslund, "Conversion, Popular Religion, and Syncretism: Some Reflections," in *Making the Profane Sacred in the Viking Age: Essays in Honour of Stefan Brink*, ed. Irene García Losquiño, Olof Sundqvist, and Declan Taggart (Turnhout: Brepols, 2020).

²⁴ Kaja Kollandsrud, "Evoking the Divine: The Visual Vocabulary of Sacred Polychrome Wooden Sculpture in Norway between 1100 and 1350" (University of Oslo, 2017), 63-65.

On Religion and Magic

It will become clear that the subject of the thesis is suitable to study continuities from pre-Christian Norse beliefs and practices into the Christian Middle Ages. Religion and magic are recurrent themes throughout and require some introductory remarks.

The labels “pagan” and “Christian” will be applied with care. The apparent exception is the biblical narrative depicted on the vane from Tingelstad, although it also engages with pre-Christian tradition. All the Scandinavian weathervanes of this study, dated from c. 800 to c. 1300, belong to the same object group, and were probably identifiable as such during the Middle Ages. The significant cultural changes which followed the Christianisation, make it interesting to look at how the material artefacts changed through the period. It is, however, important to underline that artefacts can neither be inherently pagan nor Christian. Rather, the artefact “becomes” Christian when, for instance, displayed in Christian contexts, when the experience triggers these connotations. This thesis looks closely at uses of the artefacts at specific moments to identify potential religious significances.²⁵

While religion is one of the most discussed topics in Viking Age and early medieval research,²⁶ the fundamental historical role of magic in medieval Europe has become central to scholarly research more recently.²⁷ “Magic can be summarised as a set of practices intended to predict or manipulate the weather and other natural forces, influence the behaviour of people, plants and animals, control the future, supernatural forces and spiritual beings, or to seek the assistance of the latter”.²⁸ The outcomes of magic were intended to be practical. Implied in this magical culture was that the mind and certain objects could manipulate both the natural and the supernatural worlds. The many functions and areas of application of magic made it fundamentally intertwined in everyday experience and influencing all aspects of society.²⁹

²⁵ Gunnar Nordanskog, "Misconceptions Concerning Paganism and Folklore in Medieval Art: The Roglösa Example," in *Old Norse Religion in Long-Term Perspectives: Origins, Changes and Interactions: An International Conference in Lund, Sweden, June 3-7, 2004*, ed. Anders Andrén, Kristina Jennbert, and Catharina Raudvere (Lund: Nordic Academic Press, 2006), 309.

²⁶ Anne Pedersen, "Late Viking and Early Medieval Ornaments: A Question of Faith," in *Conversion and Identity in the Viking Age*, ed. Ildar H. Garipzanov and Rosalind Bonté (Turnhout: Brepols, 2014), 195.

²⁷ Ronald Hutton, *Physical Evidence for Ritual Acts, Sorcery and Witchcraft in Christian Britain: A Feeling for Magic*, (London: Palgrave Macmillan, 2015). 2.

²⁸ Adrian Chadwick, M., "Doorways, Ditches and Dead Dogs: Excavating and Recording Material Manifestations of Practical Magic Amongst Later Prehistoric and Romano-British Communities," in *Materiality of Magic: An Artefactual Investigation into Ritual Practices and Popular Beliefs*, ed. Ceri Houlbrook and Natalie Armitage (Oxford, PA: Oxbow Books, 2015), 37.

²⁹ Neil S. Price, *The Viking Way: Magic and Mind in Late Iron Age Scandinavia*, 2 ed. (Oxford: Oxbow, 2019), 34.

Houlbrook and Armstrong pointed out that the study of magic is challenging both due to the general, widespread reluctance to and avoidance of the topic with pejorative and sensationalist connotations, and to the danger of over-interpretation.³⁰ To evade these pitfalls, the specific situations of the vanes are analysed to suggest some ways in which they may have been considered magic in the past. Moreover, after Houlbrook and Armstrong, this thesis considers magic a central part of everyday experience and the belief system including religion and ritual. Magic was not limited to pre-Christian experience but continued into Christianity since the early converts also saw magic as efficient tools for influence over forces outside of human control.³¹ Importantly, magical beliefs and practices were not only private, illegitimate, and domestic, but apparently also accommodated, and in some ways continued, by the early Church itself. In other words, formal and popular religion overlapped.³² Their symbiotic relationship was dynamic, shifting, and is revealed in the diversity and apparent contradictions of culture. Evidence is found in laws, penitentials, amulets, rituals, and magic manuals. Importantly, magic beliefs and practices were not pagan remnants, but actively engaged and mixed with Christianity. Since magic permeated all levels of society and of life; magic could be viewed without prejudice, as an integrated, beneficial, although dangerous part of culture.³³

Structure of the Thesis

Following this introduction is a formal analysis of the four primary objects of the study, both as they can be experienced today and how they were originally constructed and decorated. By close observation of the artefacts, some tentative first notes and outlines are found about how they may have been used. Next, chapter 3 looks at the research history of the artefacts, to establish a factual point of departure for the following analyses.

As noted above, chapters 4, 5, and 6 analyse the material departing from three central aspects of the experience of them in their own time, bringing in the larger cultural historical context. Chapter 4 is foundational for the following two and concerns the sensory experiences of the vanes *in situ*. Chapter 5 looks at the specific designs and ways of displaying the ornamentation,

³⁰ Ceri Houlbrook and Natalie Armitage, *The Materiality of Magic: An Artefactual Investigation into Ritual Practices and Popular Beliefs* (Oxford, PA: Oxbow Books, 2015), 6-8.

³¹ Price, *The Viking Way: Magic and Mind in Late Iron Age Scandinavia*, 31-34.

³² Gräslund, "Conversion, Popular Religion, and Syncretism: Some Reflections," 215-16, 25.

³³ Mitchell, "Magic and Religion," 646.

focussed on their potential performative and symbolic values. Chapter 6 looks at the weathervanes as continuously associated with the instrumental measuring of the wind and weather, and the early medieval church's appropriation of the old ship vanes to their spires.

2. FORMAL ANALYSIS

The early medieval vanes seem to have been displayed in open air much of the time until they arrived at the museums in the early 20th century. Forces of nature and human activities have left visible marks in the material surfaces in this over 800-year period. Investigating these traces is a good place to start exploring the functions of the artefacts throughout their material “lives”. Further, identifying modifications may uncover past uses. The following looks at the artefacts as they appear today, based on my own and previous researchers’ observations.³⁴ The Heggen, Källunge, Söderala, and Tingelstad, called here by the name of their provenance, share material and visual properties, and the nature of the damages indicate that they were used similarly.

Metal composition

Chemical analyses published by Blindheim in 1983, found that all four vanes consist of 90-95% copper covered by a thin gilding of gold – and not bronze as previously assumed. The metal components of the figurines on top of the vanes vary. The Söderala figurine is a brass alloy of 80% copper and 20% zinc, the Heggen figurine similarly of 70% copper, 20% zinc, 5% lead and 5% other metals. The top animal of the Källunge is 90-95% copper, like the vane, but mixed with other metals, according to Blindheim. Unfortunately, he does not provide details for this. Finally, the Tingelstad figurine is composed like the vane itself of 97% copper. A found horse figurine may derive from a vane, made of 90% copper, 1-5% iron, zinc, silver, tin;³⁵ and an equivalent bird figurine has not yet been dated or analysed chemically. The variation in metal compositions of vanes and figurines led Blindheim to note that top animals and vanes were perhaps created in different melts, and that the top figurines may have been mass-produced and

³⁴ My own observation has, unfortunately, been largely limited to photographs due to the Covid-19 pandemic which struck while writing this thesis.

³⁵ Martin Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," *VIKING Tidsskrift for norrøn arkeologi* XLVI (1982): 104.

ordered. Future material research will hopefully provide new answers in this respect, as time and scope unfortunately has prohibited this in the present thesis. In any case it is possible, as Blindheim noted, that there may have been many more weathervanes in the middle ages.

Construction

The vanes were constructed very similarly. As a result of secondary modifications, the Heggen and Tingelstad appear smaller than the Källunge and Söderala today, the two latter retaining their original dimensions. The modifications are returned to below. The following is based on Blindheim's reconstructions of the original dimensions of the Heggen and Tingelstad.³⁶

As mentioned in chapter 1, the vanes are 1-3 mm thick triangular plates with rounded undersides. The upper inner corner is blunt, 97-99°, causing the vane to point slightly upwards when the short side is vertical. The short side is c. 21-25 cm, while the upper side is c. 33-35 cm.³⁷ The slanting shape is distinctive for the four early medieval vanes. Strengthening the plate, fittings of reinforcement were attached to the outer part of the edges, decorated and gilded. The exception is the Tingelstad's plain, narrow fittings, although they may be secondary additions.

The constructions of the bottom corners are more obscure. On the Källunge, a small diagonal fitting connects the short side to the underside's fittings. The diagonal fitting is broad and decorated like the others and is probably original. The damage of the outer edge is caused by the removal of two iron hinges of more recent date.³⁸ On the Söderala, a small arched, decorated fitting was applied to the arched corner, still well-preserved.³⁹ The arch is probably original or applied shortly after the vane. The bottom corners of the Heggen and Tingelstad were modified, and although Blindheim reconstructed them based on the well-preserved Söderala counterpart, their original construction is unknown. It has been proposed that the bottom corners were arched

³⁶ Ibid., 101-04. See ill. 3 and 8 in the Appendix for Blindheim's reconstructions.

³⁷ See Table 1 in the Appendix for detailed information about the vanes' dimensions.

³⁸ The removal of which was planned by Roosval after he wrote about the vane in 1930, in Johnny Roosval, "Acta Angående Källunge-Flöjeln," *Fornvännen* 25 (1930). He anticipated that the metal beneath the hinges would be severely damaged.

³⁹ Apart from a notch in the short side cutting off the bottom of the two hinges. This is probably a secondary modification or damage.

or diagonal to avoid the bottom corner crashing into an object at the original location, or a result of a reparation of damage caused by this.⁴⁰ The feature could also be of the original design.

Small holes were pierced through the arched undersides of the vanes. They are regularly spaced, c. 0,5 cm, between 12 and 17 in number. The holes on the Tingelstad are largely intact,⁴¹ but the holes on the other vanes are significantly damaged at the bottoms; some broken through. Small metal rings were most likely attached to these holes. From the rings, strings with metal objects hung freely. Set in motion by the wind and the vane moving, the metal objects would cause erosion at the bottom of the holes.⁴² The flying metal devices are in fact depicted on an image from Bryggen, Bergen.⁴³ If this is correct, the metal devices would produce low sounds of metal clinging into each other, adding a distinct aural aspect to the experience of vanes.

On the top edge of the vanes, at the outer tip, a cast animal figurine was attached.⁴⁴ The figurines pushed the weight of the vane outwards; increasing the strain on the top and bottom of the short side. The animals face outwards, towards the viewers, gazing majestically at and above them. The Heggen, Källunge and Söderala figurines are lions, stylised and stiff, with spiral hips and almond-shaped eyes. A hole is through the mouths for another ring with flying objects. While the Söderala lion is damaged, the other two have head ornaments and upwards-turning tails. The Tingelstad figurine is a dragon with snake-like body, with long wings and feather details. There is significant stylistic likeness between figurines and decorations on the vanes themselves, which suggest they were made around the same time.⁴⁵ Interestingly, two figurines of the same date, material and size as the other figurines have been found. One is a horse found in Lolland in Denmark; the other is perhaps a bird, found in Skvyra, Ukraine.

⁴⁰ Bernhard Salin, "Förgylld Flöjel Från Söderala Kyrka," *Fornvännen* 16 (1921): 5-6. Salin may have been right that the damage on the bottom corner of the Söderala vane (and in extension the other vanes) must be the result of the ways it was originally used and mounted to a rod or stick. However, it is not clear from studying the vane itself if the bottom corners were originally right-angled or not. Further, the kind of object that caused the damage must be explained.

⁴¹ Observed by Anders Bugge, "Bronsefløien Fra Tingelstad Kirke," in *Bronsefløiene Fra Heggen Og Tingelstad Kirker*, ed. Anders Bugge (Oslo: Universitets Oldsaksamling, 1925), 21.

⁴² Salin suggested the presence of such "metal leaves" first, in Salin, "Förgylld Flöjel Från Söderala Kyrka," 2; reasserted by Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 96. It could not have lighter materials like textile because it would be too light to damage the holes so severely.

⁴³ See Table 3 in the Appendix. III. 3. The Bryggen image.

⁴⁴ Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 106.

⁴⁵ Salin, "Förgylld Flöjel Från Söderala Kyrka," 2, 14-15; Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 96.

Techniques of decoration

All parts of each vane are covered with ornaments. The source of the techniques of decoration is *Schedula diversarum artium*, also called *De diuersis artibus*, a 12th century treatise. It was written by Rogerus von Helmerhausen (pseudonym: Theophilus Presbyter), but the authorship is debated.⁴⁶ The treatise compiles recipes of artmaking reflecting much earlier traditions.

The third book of the *Schedula* describes decoration of a copper plate *de opere interrasili*: “in openwork”. First the designs are drawn on the plate. Laying on the anvil, the plate is penetrated with a cold chisel hit by a hammer. Cutting off the background from the design, the edges of the remaining figures should be filed down. Finally, the plate is gilded and polished, also described in the *Schedula*.⁴⁷ The makers of the Söderala and the Tingelstad used this technique. It created a varied surface playing with light and shadow and producing a clear, refined design.

These designs were further pronounced visually by engraving outlines of each figure and adding details to the patterns. This engraving technique is the *opere punctili* or “punched work”. “Theophilus” instructs: “[Copper plates] are engraved with delicate designs of figures, flowers or animals, and the designs are so disposed that the grounds are small”.⁴⁸ After cleaning the gilded surface, designs are drawn and punched with a special punching instrument. Small holes are created by lightly striking it into the plate, and conjoining the holes creating lines. The Heggen and Källunge are decorated only in *opere punctili*. The designs are very detailed, but harder to see at distances due to the bright, reflective surface; but provide a subtle play of light up close. This added dynamism to the surface. The two techniques further allowed motifs to be engraved on both sides. The four vanes have no front or back sides and can be viewed from multiple directions (including the front, meaning you would meet the gaze of the top animals).

⁴⁶ Bugge identified the techniques with Theophilus' recipes first, in 1925: Bugge, "Bronsefløien Fra Tingelstad Kirke."; Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk."; Jan Henrik Munksgaard, "Metal Vexilla on Viking Ships," in *Proceedings of the Xx International Congress of Vexillology: Stockholm, 27th July to 1st August 2003*, ed. Jan Oskar Engene (Stockholm: 2004); "Introduction" in Theophilus Presbyter, *De diuersis artibus The Various Arts*, trans. C.R. Dodwell (London: Nelson, 1961), xix. Ricardo Córdoba, *Craft Treatises and Handbooks: The Dissemination of Technical Knowledge in the Middle Ages*, vol. 91, *De Diversis Artibus* (Turnhout: Brepols, 2013), 36.

⁴⁷ Presbyter, *The Various Arts*, 130. Book 3, chapter LXXII.

⁴⁸ *Ibid.*, 129-31. Book 3, chapter LXXIII.

Motif and style

The quality of the craft and complexity of the ornamental designs are the most striking elements when encountering the vanes in the museums today. All four vanes are engraved, as said, on both sides, each conforming to a similar formal arrangement: a large central motif surrounded by plants and zoomorphic motifs. Around the edges and fittings of the Heggen, Källunge, and Söderala, ornaments are rhythmically engraved and frame the motifs at the centres. Identifying the styles of the vanes have been crucial in dating the different vanes in relation to each other.

The Heggen Vane

In his *Schedula*, “Theophilus” claimed that the appropriate decorations for the *opere punctili* technique are organic, delicate figures filling up the entire surface. Both the Heggen and Källunge seemingly follow these instructions. At the centre of the A side of the Heggen, one large and one small lion follow each other, advancing forwards; the small in front, looking back to the larger one as if chased.⁴⁹ The elongated bodies have spiral hips; fur indicated by small trefoils on the large lion; ears; a large eye; and a curly, open mouth. Both have large head pieces, like majestic crowns, composite of trefoils and elongated tendrils ending in small curls. The tails correspond to the head piece. The elongated tendrils and trefoils are repeated in the acanthus rank pattern on the fittings, where elongated, curled tendrils grow down towards the plate. An ornament “frieze” of geometric acanthuses is placed between the fittings and lions. This double ornamental band gives compositional balance and rhythm. The repeated tendrils and trefoils blur plant and animal ornaments. Complex, unified, additive composition, motif repetition, and the elongated curled tendrils make the vane archetypical of the Ringerike style.⁵⁰

The fittings of the Heggen’s B also has the acanthus, but the inner frieze is classical-like; semi-circular arches are joined by a ring, each arch finishing in a fleur-de-lis.⁵¹ At the centre is a large eagle in battle with a snake. The eagle has a long neck with feathers. Like the lions on the A side, the eagle has a large head piece and wings of elongated, curled tendrils. Around its neck

⁴⁹ David M. Wilson and Ole Klindt-Jensen, *Viking Art* (London: Allen and Unwin, 1966), 136-37.

⁵⁰ Signe Horn Fuglesang, "Some Aspects of the Ringerike Style: A Phase of 11th Century Scandinavian Art" (pHd, University of Bergen, 1974), 13-20.

⁵¹ A.W. Brøgger, "Bronsefløien Fra Heggen Kirke," in *Bronsefløiene Fra Heggen Og Tingelstad Kirker*, ed. Anders Bugge (Oslo: Universitets Oldsaksamling, 1925), 16; Thor B. Kielland, *Norsk Guldsmidkunst I Middelalderen* (Oslo: Steenske forlag, 1927).

and wings is the strangling snake, the eagle flapping the wings and opening the beak in a cry. The style is stiff and linear, but the eagle is strong and dynamic, evoking a sense of struggle.

The Källunge Vane

The Källunge designs share the linear clarity and additive complexity of the Heggen's Ringerike design and style. Side A depicts a lion, with a beak-like mouth, almond-shaped eye, ears, and claws. It is in battle with a looping snake with shell-like skin around its neck. Their bodies are stiff and elegant. The lion's tail is a tendril branching into large acanthus ranks which envelop the two animals: plants and animals intertwine. Fleur-de-lis arches decorate the short side, and the outer fittings have waving acanthus ranks of spirals, curled tendrils, and rings.

The Källunge's B side points in another stylistic direction. The centre depicts two large snake or worm-like animals intertwined in a figure-eight, their heads in profile. Four or five smaller snakes with tendrils off-shooting from their bodies loop around the two larger, with heads from above. There is no inner frieze. The upper fitting is decorated with intertwining small snakes,⁵² and the others have the characteristic acanthus band. The looping snake design and shorter, thicker tendrils are typical of the Mammen style which preceded the Ringerike, although still strong ties to the Ringerike group with its unified, complex, tendril-dominated design.⁵³

The Söderala Vane

The curled, regularly dispersed tendrils and additive composition places the Söderala in the Ringerike group. But compared to the Heggen and Källunge, the tendrils are longer, narrower, more intricately and fluently bound together, stylistic aspects of the later Urnes style.⁵⁴ At the centre is depicted what probably is a dragon. It has a long, curved neck, almond-shaped eye, ears, and long jaw with a tooth. The smooth, snake-like body extends into a loop, ending in a fleur-de-lis shape – and it has wings.⁵⁵ Around its out-stretched foreleg is a looping snake with profiled head, spiral hips, and claws. A second, longer and narrower snake curves around the dragon's back with an open jaw, and an interlacing tail. These interlace patterns are repeated in the tendrils filling the space around the animals. The fittings are decorated with acanthus ranks.

⁵² Fuglesang, "Some Aspects of the Ringerike Style: A Phase of 11th Century Scandinavian Art," 46.

⁵³ *Ibid.*, 46-47.

⁵⁴ *Ibid.*, 47.

⁵⁵ Salin, "Förgylld Flöjel Från Söderala Kyrka," 9-10; Fuglesang, "Some Aspects of the Ringerike Style: A Phase of 11th Century Scandinavian Art," 46.

The Tingelstad Vane

The Tingelstad stands out from the group because it depicts a biblical scene at the centre. Stylistically it belongs to a wider European tradition of art in the 12-13th centuries, called “Romanesque” in previous literature.⁵⁶ A thick, looping acanthus flows evenly across the surface and frames the motif. Three or four individual plants spring from the sides and merge together in the dense wickerwork. Three-winged leaves are attached to the broad stems. The openwork technique cutting off the grounds, and the added engraved outlines, made the loops appear prominent and clear. Amongst the acanthus, at the centre, is a man bent over the mouth of a lion. His body is depicted in three-quarter profile, and his long garments with ornamental bands falls in folds. His head is in profile, bearded, with two long locks of hair in the air from the struggle of his activity. With his hands he jags open the mouth of the lion. The lion, in turn, has a mane of fur around its neck of elongated, curled tendrils reminiscent of the Heggen lions’ head and tail pieces. It has ribs, four paws and ears. The man pulls a lamb out of the lion’s mouth. This must be the biblical David rescuing the lamb from a lion’s mouth.⁵⁷ The many details, clarity of form, and dynamism and energy make the narrative easily understood.

Original Attachment Method

The vanes’ original function is not obvious from studying their visual and material properties alone. To approach this issue, it is necessary to understand how they were attached to a rod or bar at their short sides. Little remains of the original attachment methods, today replaced by modern hinges. The Söderala is the best preserved, with a possibly original circular tube and two hinges. Below it is argued that all vanes *most likely* had the same mode of attachment.

Attached to the short side of the Söderala is a circular metal tube of 1,5 x 1,2 cm.⁵⁸ The top and the bottom of the tube is broken off. Two hinges connect the tube to the vane on the bottom, both gilded and decorated, but coarser than the vane. Salin concluded that the hinges may have been added shortly after the vane was made, and that the upper hinge was originally placed on the top of the vane, where two rivet holes have the same distance as the rivets on the bottom

⁵⁶ Kielland, *Norsk Guldsmedkunst I Middelalderen*, 76-78; Bugge, "Bronsefløien Fra Tingelstad Kirke," 23-26.

⁵⁷ As will be returned to in chapter 5, David may have been confused with Samson, whose attribute is the two flaps of hair.

⁵⁸ Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 96.

hinge and the gilding continues under. Supporting this is observation of damage at the back of the upper hinge; while the bottom hinge shows damage on the opposite side.⁵⁹ Thus, the upper hinge was originally placed on the top. The bottom hinge has probably kept its original place today but is significantly damaged or modified.

The younger Høyjord vane has also a cylindrical tube and two hinges at the top, one in the middle, and one at the bottom. The tubes are broad, robust, and fastened by large nails. The Norderhov vane has only two broad iron hinges today, but since they probably are later additions, it is possible that this too had a cylindrical tube at its short side originally.⁶⁰

Traces of the original attachment of the Heggen are detectable: there are 3-4 holes in a triangle in the upper corner. One large and two small holes in the bottom corner are cut and filed like the upper ones. Damaged gilding in the top and bottom corners further support the view that hinges were placed here. But Brøgger pointed out that two hinges alone may have been unable to hold the weight of the vane, so the vanes would have to be supported additionally.⁶¹ I am not aware of close study of the holes in the Källunge vane's corners, but photographs show damage on the top and bottom corners and holes like the Heggen. It is possible that both vanes had hinges at the top and bottom of the short side, in addition to a cylindrical tube for attachment.⁶² The vanes are heavy, and the slanting shape with a figurine on the top would push the weight towards the upper tip. This increased the strain on the short sides detectable in the wear and tear, especially affecting the fragile tops and bottoms. Tube *and* hinges would allow the vane to be easily thread onto any round rod. It could then spin around its axis or be fixed to it by placing a screw on top. While all vanes had hinges originally, it is challenging to prove that the Heggen, Källunge and Tingelstad had a cylindrical tube at the short side due to damage. However, it has been shown that the four vanes otherwise were identically constructed. The determination of the original attachment needs supporting evidence outside of the artefacts, which will be seen in the following chapter.

⁵⁹ Salin, "Förgylld Flöjel Från Söderala Kyrka," 3-4; Blindheim later agreed with this observation, in Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 96.

⁶⁰ Anders Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," *Acta Archaeologica* 2 (1931): 173-74.

⁶¹ Brøgger, "Bronsefløien Fra Heggen Kirke," 4.

⁶² Blindheim proposed that the Källunge and Heggen vanes may have had cylindrical tubes and hinges. Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 96, 99-101.

Secondary modifications

The original appearance of the Tingelstad is obscured by a significant secondary cutting of the short side. This turned the originally slanting vane into a perpendicular one. Already in 1925, Bugge observed that it must have had a wedge-shaped part cut off at the bottom of the short side.⁶³ It must be so due to the rubbed-off gilding at the top of the short side where the original fittings were removed. Further, the modification cut off the acanthus ornament. By tracing a slightly sloping line from the upper to the bottom corner, Blindheim proved that the upper corner angle was originally blunt and then modified into a near-right angle.⁶⁴ Applied to the now-vertical short side was a fitting, 2,3 cm broad. The three circular hinges seen today are from the 19th century. Blindheim thought the reason for changing the upper inner corner from a blunt to a right angle was its relocation from a sloping rod to a vertical one, like the church spires the vane was discovered in, for the upper edge to rest horizontally.⁶⁵

Blindheim also discovered that the arched underside of the Heggen had been secondarily reduced.⁶⁶ He observed that the two straight sides had outer fittings (2 cm broad) with acanthus ornamentation, and the “frieze” (1,2 cm broad) between the outer fittings and the plate, as seen above, but the arched underside has only a narrow, undecorated fitting. It cuts off parts of the motif; the two back paws of the large lion, and the front paw of the front lion. X-ray photography proved that the engravings continue beneath the secondary fitting. He thus found that the double frame originally continued around the entire vane, like on the Swedish vanes.

The modification must be a secondary feature but at an unknown time. Interestingly, the Heggen had the slanting shape preserved. If Blindheim is right in claiming the Tingelstad modification coincided with the mounting in a church vane, this may also be so for the Heggen, which was mounted not on a vertical church spire – but a slanting one.⁶⁷ This would keep the upper edge horizontal, as Blindheim thought must be the right way.

⁶³ Bugge, "Bronsefløien Fra Tingelstad Kirke," 20-21.

⁶⁴ See ill. 3 and 8 in the Appendix. Blindheim's reconstructions of the Heggen and Tingelstad. Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 103-04, 07.

⁶⁵ *De Yngre Middelalderske Skipsfløyer I Norge*, Acta Universitatis Upsaliensis, Ars Suetica (Uppsala Imagines mediaevales, 1983), 47.

⁶⁶ "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 99-101.

⁶⁷ See Table 3 in the Appendix. Ill. 11. The church of Heggen with a sloping spire with a weathervane.

Wear and Tear

Damages, wear, and tear left traces throughout the centuries of use on the surfaces of the vanes. The gilding is partly, sometimes entirely, worn off. The top and bottom of the short sides are particularly damaged since these parts would carry most of the weight. For instance, the figurine of the Söderala has fallen off, and the upper corner of the Heggen is seemingly pulling away at the seams. The Heggen vane has at least four dents in the plate, and similar dents have been evened out on the Söderala vane more recently. It is difficult to date the arrow dents,⁶⁸ and they may equally be traces from attempts of looting or from arrows in battle.

The vanes have several engraved inscriptions. The Tingelstad vane has a high number of them, some are commemorating a repair, others, names of pastors and priests. The youngest date is 1589.⁶⁹ Additionally, it has one small ship image which may be older.⁷⁰

The Tingelstad vane shows signs of corrosion. Bugge wrote, after conversation with foreman Gaarder, that small pores in the metal surface derive from the chemical reaction with the salty sea air.⁷¹ Since the vane was discovered in the dry inland climate surround of the Tingelstad church, the nature of the corrosion indicates that the vane has *not* spent its entire material life in the church, but has endured a significant amount of time in a marine environment. These are physical, visible traces suggesting a sea context; but to determine the matter of original function and meaning, it is necessary to bring in context and analyses of the uses of the weathervanes.

⁶⁸ There is no evidence of the dates of the dents, and they may be more recent. Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 102.

⁶⁹ For the total list of inscriptions, see Bugge, "Bronsefløien Fra Tingelstad Kirke," 21-22.

⁷⁰ Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 102-03.

⁷¹ Bugge, "Bronsefløien Fra Tingelstad Kirke," 26.

3. RESEARCH HISTORY

Research on the early medieval vanes is published in articles, mainly from the 20th century; the most critical of which by Bernhard Salin, 1921; Anders Bugge, 1925, 1931; Martin Blindheim, 1983; and most recently, Morten Stige, 2020. These articles are foundational for this thesis. This chapter discusses the main topics of previous research to establish some circumstances from which the following, analytical chapters (4, 5 and 6) depart. First is the question of provenance. Second, the original location of the vanes in the Viking longships is discussed.

Provenance

It is difficult to precisely locate the four vanes in time and space: they are unique and lack context. Style, then, is the criterium for provenance. Every motif and stylistic element have been described. As seen, the Heggen, Källunge and Söderala are decorated in the Ringerike style, dated from late 10th -11th centuries,⁷² with stylistic variation showing different “stages” of the style.⁷³ Since the Heggen and the Källunge’s A side are “classical” examples of the Ringerike style, although the latter’s B side has Mammen elements,⁷⁴ both are dated c. 1000.⁷⁵

The Söderala is considered, as seen, as a transitional Ringerike-Urnes style.⁷⁶ There is a more fluent, looping use of lines, and the typical Urnes drawn-out tendrils and flowing animal bodies than the Heggen and Källunge which must be older. Thus, researchers agree to date it c. 1050.⁷⁷

The Tingelstad vane does not have any significant Ringerike, Mammen or Urnes style elements. Rather, it has been considered part of a wider European “Romanesque” style, with the stylised,

⁷² Fuglesang, "Some Aspects of the Ringerike Style: A Phase of 11th Century Scandinavian Art," 13-20; Wilson and Klindt-Jensen, *Viking Art*, 136-37.

⁷³ Fuglesang, "Some Aspects of the Ringerike Style: A Phase of 11th Century Scandinavian Art," 13-20. Wilson and Klindt-Jensen, *Viking Art*, 136-37.

⁷⁴ Fuglesang, "Some Aspects of the Ringerike Style: A Phase of 11th Century Scandinavian Art," 46-47.

⁷⁵ Brøgger, "Bronsefløien fra Heggen kirke", p. 16. Brøgger dated the Heggen vane between 1000 and 1050.

⁷⁶ Several researchers noted a “stylistically advanced version of the Great Beast motif”, based on the notion of a Viking style “evolution”, in James Graham-Campbell, *Viking Art, World of Art* (London: Thames and Hudson, 2013), 125-26.

⁷⁷ Bernard Salin reached this conclusion in 1921, in Salin, "Förgylld Flöjel Från Söderala Kyrka," 8-9. Bugge dated it c. 1030-1050, in Fuglesang, "Some Aspects of the Ringerike Style: A Phase of 11th Century Scandinavian Art," 46-47; Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 162, 65.

looping, leafy acanthus and the dynamism and detail of the top dragon. This challenging term opens for dates between 12 and 13th centuries.⁷⁸ Recently, Stige reviewed the discussion and brought new objects for comparison. He convincingly dates it c. 1110-1160.⁷⁹

Some have attempted to determine the workshops and artisans of the weathervanes, but they remain, as admitted, speculative. Blindheim thought the Tingelstad was made by an Englishman since it lacks the Urnes style popular in Scandinavia at the time,⁸⁰ while Kielland thought it was a Norwegian familiar with English art. He suggested the Tingelstad, Heggen and Norderhov were from East Norway.⁸¹ Salin thinks a Swede with English influences created the Söderala.⁸²

Earliest Function and Location

Interest in the vanes' ornamentation has usually been for the sake of determining provenance. In a general sense, it must have made the vanes status symbols, but it is not likely they represented specific families, ship owners, institutions, or individuals,⁸³ due to the small size of the vane, and the unclear detailed ornaments.⁸⁴ Attention, then, turned to the specific physical location of the vanes before they ended up in the church spires.

Viking Ships

It is likely that the four early medieval vanes were originally in Viking longships, which the following reviews the evidence for. Previous research has not, however, always agreed on the exact location in the ships: in the mast tops *or* the stems. If the vanes, due to the blunt upper

⁷⁸ Ebbe Nyborg, Hannemarie Ravn Jensen, and Søren Kaspersen, *Romanesque Art in Scandinavia*, vol. 12, Hafnia (Copenhagen: University of Copenhagen, Department of Art History, 2003); Stige, "Tingelstadfløyen: Skipsfløy På Land," 99.

⁷⁹ "Tingelstadfløyen: Skipsfløy På Land," 98, 100. Previously, the Tingelstad was dated c. 1150-1200 by Bugge, "Bronsefløyen Fra Tingelstad Kirke," 22-23. and Kielland, *Norsk Guldsmedkunst I Middelalderen*, 76-77. Blindheim dated it c. 1100 or slightly later, in Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk."

⁸⁰ "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 89, 103.

⁸¹ Kielland, *Norsk Guldsmedkunst I Middelalderen*, 77-78.

⁸² Salin, "Förgylld Flöjel Från Söderala Kyrka," 22.

⁸³ Notably in Bugge, "Bronsefløyen Fra Tingelstad Kirke," 25. "Gyldne Fløier," *Norske Årsberetning (Årsberetning for Foreningen for Norske Fortidsmindemærkers Bevaring)*, 83 (1927): 43-46; "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 183-84. Munksgaard, "Metal Vexilla on Viking Ships," 476.

⁸⁴ Blindheim doubted this argument: there is no clarity of design; and the Højjord lion, for instance, is too energetic, dynamic to convey a specific family's insignia. The vanes were placed too far away from people. See also Stige, "Tingelstadfløyen: Skipsfløy På Land," 106-07.

angle, was mounted on a vertical rod (mast or spire) it would turn slightly upwards; but if placed on a gently sloping rod (a sloping stem for instance), the upper edge would rest horizontally, but it could, for instance, not have indicated the wind. The earliest location, then, is important to identify to understand the vanes' construction and previous functions.

Images

There are numerous medieval images of weathervanes across Scandinavia. Most the images below are listed in the Appendix tables to this thesis. The most important and detailed medieval image of vanes in ships is from Bryggen in Bergen, c. 1200-1250. 45 ship's stems are carved on one of the sides, probably being the front of a levy fleet. Three of the stems have triangular vanes with characteristic arched underside, circles hanging in strings from it, and lines and dots indicating decoration on the vane itself. All face the same direction towards the sea.⁸⁵

Blindheim dated a set of carved images in Norwegian stave churches 1160-1250.⁸⁶ They depict ship stems with triangular vanes, sometimes with small lines from the underside indicating the sounding metal device, described in chapter 2. The image from Reinli stave church depicts the vane in a ship mast. Further, stems with vanes are found in the Inchmarnock image; an image from Hagia Sophia, c. 850-1000; and a 13th century image from Tønsberg, Norway.

These images have traditionally been called "graffiti", meaning informal drawings stylistically and technically different from the artefacts they adorn. They are often interpreted as eye-witness testimonies more realistically representing circumstances than "formal" images.⁸⁷ Following this thinking, Blindheim was sceptical that these images, especially the Bryggen image, depicts the four extant weathervanes. The image depicts vanes on vertical ship stems, and he thought the extant vanes were attached to sloping stems due to their sloping short sides.⁸⁸ Stige in fact rejected that the four vanes are depicted in images at all.⁸⁹ Challenging this, ship graffiti may be interpreted as ideograms, i.e. signs of concepts. The ideograms show only the object's

⁸⁵ Bjørn Hougen, "Den Havdjerne," *VIKING Tidsskrift for norrøn arkeologi* 38 (1974): 10-13.

⁸⁶ Drawings found in Urnes, Borgund, Kaupanger and Reinli stave churches, see Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 96.

⁸⁷ Liz le Bon, "Ancient Ship Graffiti: Symbol and Context," in *The Ship as Symbol in Prehistoric and Medieval Scandinavia: Papers from an International Research Seminar at the Danish National Museum, Copenhagen, 5th-7th May 1994*, ed. Birgitte Munch Thye, et al. (Copenhagen: National Museum of Denmark, Department of Archaeology and Early History, 1995), 172-73, 75.

⁸⁸ Blindheim thus believed the Bryggen image displayed the high medieval vanes because they lack the blunt upper angle, but admits the cause may be a too quick hand. Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 94, 96.

⁸⁹ Stige, "Tingelstadfløyen: Skipsfløy På Land," 104.

characteristic elements to make it recognisable and memorable.⁹⁰ Interpreting the images above as ideograms, with only essential aspects, they may depict either blunt-angled or right-angled weathervanes. After all, the artist of the Bryggen image saw the ships from afar or perhaps drew from memory and should not be expected to notice if the ship stem was 90° or 95-98°. A sloping stem may also appear vertical from afar. The sketch-like images should perhaps not be used as sources of technical information, but as responses or impressions of the vanes *in situ*.

In all the images, vanes turn towards the sea, not the ship. The exception is the Inckmarnock image where two vanes face the same direction. In the Hagia Sophia image, the vane faces the same direction of the ship's movement, in the direction the ships are heading;⁹¹ and same concerns the Bryggen image. If this is a characteristic aspect of the vanes, which the informal images seem to suggest, they did *not* rotate, as Engvig and Salin argued thought they did. If the slanting vanes were attached to slanting stems, they would be prohibited from free rotation.

Other images of the weathervanes include two identical iron candelabra from Norwegian stave churches from the high Middle Ages. These are narrow, elegant ships, with tall vertical stems, each with a vane attached. The vanes look like the vanes from Høyjord and Norderhov with vertical short sides and animal heads, which correspond with the dates of the candelabra. On St Oran's churchyard, Scotland, there are three depictions of vaned ships. One has square vanes in the stems; and the others are shaped as animals. Three stones from Gotland depict smaller, triangular vanes on ship's masts, likely depictions of miniature vanes.

Literary Evidence

In 1921, Salin discovered that the Söderala vane was probably the object which the Norse called *veðrviti*,⁹² "wind or weathervane" related to Old French *wirewite* or *wirewire*.⁹³ The term is found several places in the saga literature in Old Norse prose. The saga testimony may be compared with the "graffiti" images. Both represent central, recognisable elements of an event or motif, to aid memory and repetition, but interpretation of the exact words is here avoided. The passages can be used as sources for the use, and in some cases, reception, of vanes while acknowledging the challenges of interpretation. Indeed, each passage could and should be

⁹⁰ le Bon, "Ancient Ship Graffiti: Symbol and Context," 177.

⁹¹ Thomas Thomov, "Four Scandinavian Ship Graffiti from Hagia Sophia," *Byz. mod. Greek stud* 38, no. 2 (2014): 181-82.

⁹² Salin, "Förgylld Flöjel Från Söderala Kyrka," 19-21.

⁹³ Hjalmar Falk, *Fornordisk Sjöfart*, trans. Bo Varenus (Skärhamn: Båtdokgruppen, 1995), 42.

investigated separately in terms of origins and translations for a truly multidisciplinary research and precise interpretation of the important texts, but unfortunately falls outside the scope here.

St Olaf's saga tells of an event of 1025 where Canute the Great of England and Denmark sailed to fight King Olaf of Norway and King Onund of Sweden. When the two latter returned the fleet last minute, Haarek of Tjøtta, the liegeman of King Olaf, attacked Canute's fleet:

There he let the sail and the vane, and the flag mast be taken down, and let the upper works of the ship be covered over with some grey tilt-canvas, and let a few men sit at the oars in the fore part and aft, but the most were sitting low down in the vessel.

This made the ship appear to Canute's men as an ordinary salt- and herring ship:

Now when Haarek came farther through the Sound, and past the fleet, he raised the mast, hoisted sail, and set up his gilded vane. The sail was white as snow, and in it were blue and red stripes, of cloth interwoven. When the king's men saw the ship sailing in this state, they told the king that probably King Olaf had sailed through them.⁹⁴

The vane was set up swiftly, discretely, after the mast. This indicates the vane was in a stem.⁹⁵

The saga of Hacon contains several passages about *veðrviti*. The following happened in 1221:

The King called his councillors to him. And it was settled that the small-ships would fare first and the long-ships after them, and the masts should stand up in them. Then the Ribbalds would think they were all ships of burthen or small. And so it was done. [...]. The Ribbalds thought these were ships of burthen on a voyage and rowed as straight on against them as they could. But when they fell to shooting on board the small-ships at those who were nearest to them the Ribbalds saw that weather vanes glistened in the sunshine of the long-ships. Then they thought they knew that there were greater men in company with the Birchshanks than liegemen alone.⁹⁶

Bugge rightly stated that the Ribbalds would have noticed the *veðrviti* right away if they were placed in the mast tops of the ship. He noted how the passage described the vanes identifying the ship as a warship, installing fear in enemies like the St Olaf's saga passage (above) did too.⁹⁷

In the next chapter, Skule Jarl forced the bishop to lend him his ships and vanes. This confirms that vanes could be detached as loose objects, and further, they could switch ownership:

After that the bishop lent [the earl] the ship with her figureheads and all her [veðrvitum].⁹⁸

⁹⁴ Snorre Sturluson, "St. Olaf's Saga». In Old Norse: "veðrvitann" and "gylta veðrvita". 168: "Um ferð Háreks or Þjóttu". English translation by S. Laing, cited in S. Lindgrén and J. Neumann, "Viking Wind Vanes," (Berlin: Gebrüder Borntraeger, 1984), 25.

⁹⁵ Stige, "Tingelstadfløyen: Skipsfløy På Land," 106.

⁹⁶ Saga of Hacon, chapter 66. In Norse: «veðrviti». Translation by Dasent, *The Saga of Hacon and a Fragment of the Saga of Magnus*, 1, 60.

⁹⁷ Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 179-80.

⁹⁸ Hacon's Saga, chapter 67. Dasent translated "veðrvitum" to "tackling". Original text: "Siðan læði biskup skipin jarli með öllum höfðum ok veðrvitum". In Dasent, *The Saga of Hacon and a Fragment of the Saga of Magnus*, 1, 61.

King Hacon's new ships had weathervanes, shields, heads – in the stems, making the ship appear striking, blood-red golden like fire:

King Hacon had many other big ships and excellently well fitted. And in the sunshine it seemed very like as if fire burnt on the heads and vanes [veðrviti] and gilded shields which were on the stems and sterns. As Sturla sung:

*Twice-tried gold, O Rhine-flame giver,
In scrolls upon thy sails was seen,
The blood-red prows stretched out like necks
Rose high above thy Dragon ship
The rows of shields glowed bright as fire
Gold-mounted at thy galleys sides,
The burning gold-wave deeply reddened
All shields among that glistening fleet.⁹⁹*

The next lines of the same saga further explain that a stem detached and fell into the sea after a ship crashed into another. The vane, however, stuck to the sail of the other ship:

When the king sailed east out of Vegg, the Hardangers Thorir Grips' son and Bard Gro's son ran aboard the ship of archbishop Einar, and from the stern down to the waist, all fell into the sea together, the stern and the shields which were on it; but the vanes [veðrvitana] caught in the sail of Thorir's and Bard's ship, and they sailed away with them.¹⁰⁰

Ívarr Ingimundarson was the 12th century court poet of *Sigurðarbǫlkr*, the *Saga Sigurd in the Western Islands*. The terrible weather before the naval battle, the vanes shook in the wind:

The ruler's retainers, tested in magnanimity, rushed to the ropes in the roaring rainstorm. Men had to tend the sail and some bailed; then it was cold at sea. The weather-vane shook in the wet wind, adorned with gold, above the lord's ship. The thin planks of the warship became pliable around Sigurðr, and the king was steering.¹⁰¹

Another passage tells that Harald Hårdråde's ship had vanes looking as if they were red gold:

Vedrvittar váru svá at sjá sem rautt gull væri.¹⁰²

A final passage situates a weathervane in the stem of a longship:

⁹⁹ Saga of Hacon, chapter 291, translated by *ibid.* 305.

¹⁰⁰ Saga of Hacon, chapter 291, In Norse: «En vedrvitana festi í seglinu þeira þoris, ok sigldu þeir i brot með þá». Translated by *ibid.* 305.

¹⁰¹ Ívarr Ingimundarson, *Sigurðarbǫlkr*, stanza 15-16. «Þegnar ræsis, reyndir at risnu, drifu til reipa í rotuveðri. Seggir urðu at gæta segls, en sumir jósu; þá vas svalt á sæ. Veðrvita skók í vôtum byr, glæstan gulli, of skipi grams. Sneisar snekkju urðu kløkkar of Sigurði, en konungr stýrði.» Kari Ellen Gade, at Skaldic Project Academic Body, "Sigurðarbálkr ('Bálkr About Sigurðr'), Chapter 15-16," <https://web.archive.org/web/20151018170307/http://www.abdn.ac.uk/skaldic/db.php?id=3286&if=default&table=verses&val=edition>. [1.6.2021].

¹⁰² About Magnus the Good's saga described Harald Hårdråde's ship. *Flateyjarbok*, ed. Vigfússon Guðbrandur and C. R. Unger (Christiania: Mallings, 1868), 287.

*Sá þeir fara eitt lánsskip at landi þat var fritt ok vel búit gyldir/gulli ennisþæmir ok veþrvitar, skjaldat allt milli stafna [...]*¹⁰³

The use and location of the *veðrviti* was probably conventional, and thus unnecessary to explain to contemporary readers. They clearly adorned longships, and were visible in dramatic events, often naval battles, and are nearly always described as golden, beautiful, glittering, but also intimidating and fear-instilling, which will be further explored in chapter 4. They were loose objects able to be attached and detached at wish, and they could change ownership. It seems that a ship could have two vanes, suggested by the noun in plural.¹⁰⁴

One passage explicitly places a vane in the mast top of a ship. The Norman *Le Roman de Rou* mentions a golden *wirewire* allegedly attached to the mast top by William the Conqueror, right before sailing the coast of England in the 11th century.¹⁰⁵ The Viking vane practice thus existed in Viking-influenced areas of France, eventually becoming weathercocks on churches and buildings.¹⁰⁶ It is uncertain what type of weathervanes this was. It may have been the same type as the depiction on the Tingstäde image stone from Gotland, where a vane reminiscent of a miniature vane is in a mast top – but may perhaps also be of fabric or thinner metal.

A final Norse passage on *veðrviti* is worth mentioning, about an event in c. 500 described in St Olaf's saga. In it, Eymundur Hringsson killed King Borislav whose costly, beautiful tent had a tall stick at the top on which there was a golden *knappr*, button, and a weathervane:

*Konúngs tjaldit var harðlóa dýrligt ok vel gert; þar voru fjórar stúkur af, ok staung mikil upp or, ok knappr á or gulli ok veðrviti með.*¹⁰⁷

Already in the age of the saga writer, then, weathervanes were known outside the ship context.

¹⁰³ Sigurður Nordal, *Orkneyinga Saga*, vol. 40, Skrifter (København: Samfund til Udgivelse af Gammel Nordisk Litteratur, 1913), 225.

¹⁰⁴ Falk, *Fornnordisk Sjöfart*, 54.

¹⁰⁵ Wace (1120-1180), *Le Roman de Rou*, lines 6449-6450. «Une lanterne fisli li dus metre en sa nef el mast desus, que les altres nes la veissent e emprés lui lor cors tenissent; une *wirewire* doree out de coivre en somet levee.» Cited in Susanne Lindgrén and Jehuda Neumann, "Viking Weather-Vane Practices in Medieval France," *Fornvännen* 78 (1983).

¹⁰⁶ *Ibid.*, 198-200.

¹⁰⁷ *Fornmanna sögur* 5, chapter 9: «Kongeteltet var meget kostbart og vel gjort; det var avdelt i fire stuer, og en høy stang stod opp derfra, på hvilken der var en gullknapp og en værthane». Sturluson Snorri, *Fornmanna Sögur: Eptir Gömlum Handritum: Saga Ólafs Konúngs Hins Helga*, vol. 4-5, 1 (Kaupmannahöfn: Hins Konúngliga Norræna Fornfræða, Félags, 1829). See also Stige, "Tingelstadfløyen: Skipsfløy På Land," 108.

Wind Indication: *Veðrviti* or *Flaug*?

Assuming the *veðrviti* originally functioned as wind-indicators, in the literal meaning of their name, Olaf Engvig made two replicas of the Heggen and attached them to a mast and a vertical stem of a longship replica during sailing. In both positions, the upwards-turning vanes rotated violently, but more by the movement of the sea than the wind. The rotation caused significant erosion.¹⁰⁸ The vanes must have been used in another way – or rarely at all. If sloping vanes were attached to a stem sloping in the same degree, the upper edge would be horizontal and the top animal look straight ahead. It could *not* rotate freely but turn slightly if not fixed entirely.¹⁰⁹ In any case, they would be poor wind indicators. Stige thinks they were completely fixed to sloping stems: they are too heavy and some in openwork, giving unstable wind-indication.¹¹⁰ Törnquist added that a vane in a fore-stem would be invisible and in fact detrimental for the steer-man.¹¹¹ But images depict the vanes in the fore-stems, not only in the back-stems.

Stems of Viking longships may have been sloping in a degree corresponding to the one on the vanes themselves; but there is little to no archaeological evidence of the actual stems of Viking ships. Only two Viking ships have fully preserved stems. The Oseberg ship, with curved stems ending in a worm's head and tail, could not have had vanes. The other preserved stem is from Skuldelev 3, dated c. 1040. This stem is curving outwards and is approaching a near-right angle at the top, which it may have been possible to attach an oblique vane to.¹¹² I do not think that the possibility of the existence of ship stems sloping c. 95-97° should be ruled out.¹¹³

Stige explained how the non-wind-indicating *veðrviti* kept this name, nonetheless. The name originally denoted functional wind-indicators in fabric or thin metal in mast tops, now lost. Later, they found their way down to the ship stems, thus losing their primary practical function.

¹⁰⁸ Olaf T. Engvig, "A Symbol of Kings: The Use of Golden Vanes in Viking Ships," *Viking Heritage Magazine* 1 (2003); *ibid.*, 2.

¹⁰⁹ Blindheim thought the vanes could swing a little out to the sides in this way, see Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk."

¹¹⁰ Stige, "Tingelstadfløyen: Skipsfløy På Land." After Sibylla Haasum, "Vikingatidens Segling Och Navigation" (Universitetsforlaget, Oslo, 1974).

¹¹¹ Leif Törnquist, "Sjökonungens Märke Och Riddarens Baner: Nordiska, Särskilt Svenska Fälttecken I Ett Internationellt Perspektiv under Forntid Och Medeltid" (Stockholms universitet, 1993).

¹¹² Skuldelev 3 was a medium-sized (14 m) cargo ship, and not a longship. Bill pointed out the matter per email 15.01.2021. Morten Ravn, *Viking-Age War Fleets: Shipbuilding, Resource Management and Maritime Warfare in 11th-Century Denmark*, vol. 4, Maritime Culture of the North (Roskilde: The Viking Ship Museum, 2016), 150.

¹¹³ Blindheim measured the upper inner angle to 110°, The correct angle is in fact c. 95-97°, which enables the suggestions of other ships than Blindheim did.

The transition probably occurred before the extant vanes were created. In *Le Roman de Rou*, the *wirewire* has kept its original function as a wind indicator in the mast top.¹¹⁴

Synonymous to *veðrviti* was *flaug*, which preserved its meaning and function throughout the middle ages. The Norse word is probably related to “flying”, and is thus function-neutral.¹¹⁵ As *flaug* is mentioned briefly in Snorri’s Edda, *Nafnabulur*,¹¹⁶ and twice in the Bishops’ sagas where they signify flags or wind vanes in ship masts.¹¹⁷ It was unusual to take down the mast during sailing, and the *flaug* was likely always in the masts.¹¹⁸ Images of *flaug* include the image from Ala church, Gotland; a large square *flaug* with long strings blowing in the wind, possibly of textile and producing the linguistic derivation *flaugarskjegg*.¹¹⁹ These are in the same direction as the *flaug* itself, and both must be of textile or thin metal. Both *flaug* and *veðrviti* are depicted in the Bryggen image: a square *flaug* with *flaugarskjegg* is in a vertical rod, pointing in the opposite direction of the *veðrviti* which is in the direction of the ships’ movement. The *flaug* must have indicated the wind – and the *veðrviti* did not.¹²⁰

Alternative Theories

The early medieval weathervanes may originally have adorned churches. Aron Andersson claimed they were created for the sloping gable points on ridge-pieces of early stave churches. When stone churches replaced earlier churches, the vanes relocated to the spires where they lasted until more recently.¹²¹ The possibility is both hard to rule out or prove correct, due to the absence of evidence of the earliest churches.¹²² Previous research has found three images of vanes in churches. They are younger than the early medieval vanes and lack the characteristic outer form: a 1701 image depicts a seemingly Baroque vane in a gable of the Flesberg church;¹²³ drawing of Heggen church has a similarly sloping gable with a decorated, but square,

¹¹⁴ Stige, "Tingelstadfløyen: Skipsfløy På Land," 104-05, 07.

¹¹⁵ Leiv Heggstad, *Gamalnorsk Ordbok: Med Nynorsk Tyding* (Oslo: Samlaget, 1930), 163, 784.

¹¹⁶ *Nafnabulur* 82. «Söx, stæðingar, | svipting ok skaut, | spíkr, siglutré, | saumr, lekstólpar, | laukr, siglutoppr, | lína, eyru, | flaug, flaugarskegg | ok farnagli.» <https://heimskringla.no/wiki/Nafna%C3%BEulur> [15.06.2021].

¹¹⁷ Falk, *Fornnordisk Sjöfart*, 74. Falk cites *Biskupa sögur I*, (c. 1200-1350) p. 442: “ok ofan drap (áfallit) flaugin ok af vígin bædi”; and *Biskupa sögur II*, p. 50: “hana (báruna) bar hærri enn flaugina (vågen var hafgylgja sem fjall væri)”.

¹¹⁸ Brøgger, "Bronsefløien Fra Heggen Kirke," 7.

¹¹⁹ Stige, "Tingelstadfløyen: Skipsfløy På Land," 104-05.

¹²⁰ *Ibid.*, 103.

¹²¹ Aron Andersson and Peter Anker, *The Art of Scandinavia*, vol. 2 (London: Hamlyn, 1970), 329-30.

¹²² Stige, "Tingelstadfløyen: Skipsfløy På Land," 108, 11; Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 181-82.

¹²³ "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 182.

vane with a top figure;¹²⁴ and finally, a 1846 drawing of Grinaker stave church has five spires with vanes, all of unknown date, and only one triangular.¹²⁵ This argument is possible, but it seems inevitable that they have been in the ship stems at least at some time early on.

In 1925, Brøgger made an interesting proposition reworked in two German texts in the 1950s. They all argued that the vanes were originally attached to lances marking the leader in battles.¹²⁶ Literary denotations for lance tabs or military banners are *merkí, vé* and *gunnfani*. According to them, vanes were *gunnfani* before relocating to ships.¹²⁷ But there is no evidence of *gunnfani* made of metal; lance tabs would probably be more useful if made of lighter, softer materials, stiffened to stand out. Unlike the *veðrviti, merkí, vé* and *gunnfani* are described as flapping in the wind, and none of the objects proposed as evidence have the same shape as the vanes.¹²⁸

It has also been suggested that the vanes functioned as navigational instruments. Engström and Nykänen thought Vikings could measure the sun's height on the horizon by means of shadows and holes in the arched underside for measuring, perhaps with a sun stone attached. The miniature vanes measured the height of the stars above the horizon.¹²⁹ Christensen pointed out the lack of evidence on the vanes themselves and for such practices in the Viking age.¹³⁰

Conclusion on the Earliest Function and Location

In short, it is ascertained that the vanes were attached to the sloping stems of Viking longships, before ending up in the church spires of Heggen, Källunge, Söderala, and Tingelstad. They were loose objects, and most likely fixed, perhaps able to swing to the sides. Therefore, they were not indicating the directions of the wind in the ships, although the association with wind-indication continued through the name (*veðrviti*). Thus, the early medieval vanes were valued for other reasons than their instrumentality. This led many researchers to think they were only decorative. Crucially, Stige noted that the vanes must have marked high status in a general sense

¹²⁴ Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 107, 08.

¹²⁵ Stige, "Tingelstadfløyen: Skipsfløy På Land," 109., fig. 14.

¹²⁶ Brøgger, "Bronsefløien Fra Heggen Kirke," 6-7. Percy Ernst Schramm, *Herrschaftszeichen Und Staatssymbolik: Beiträge Zu Ihrer Geschichte Vom Dritten Bis Zum Sechzehnten Jahrhundert*, vol. 13, Schriften Der Monumenta Germaniae Historica (Stuttgart: Hiersemann, 1955), 655-56; Peter Paulsen, *Feldzeichen Der Normannen*, vol. 39 (Köln: Archiv für Kulturgeschichte, 1957), 16.

¹²⁷ Brøgger, "Bronsefløien Fra Heggen Kirke," 6-7.

¹²⁸ Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 89.

¹²⁹ Jan Engström and Panu Nykänen, "New Interpretations of Viking Age Weathervanes," *Fornvännen* 91, no. 3 (1996): 137-39.

¹³⁰ Arne Emil Christensen, "The Viking Weathervanes Were Not Navigation Instruments," *ibid.* 93 (1998): 202-04.

and believed to have certain qualities and powers inherent in them.¹³¹ The following chapters look at the consequent functions of the vanes if they were never *primarily* valued as instruments.

Transition to the Second Function and Location

As seen in chapter 1, the vanes were mounted in the church spires in Norway and Sweden. The Heggen vane was in a sloping spire,¹³² but the others were mounted in vertical ones, turning with the wind as functional windvanes. Bugge and Blindheim claimed that when longships went out of use in the 13th century, law ordered the old equipment to be stored in safe, local churches.¹³³ The vanes were among this equipment, and the law of Magnus Lagabøte stated:

*The sails shall be taken care of by those who are the most judicious and live closest to the church closest to the ship. But all the equipment shall follow the sail to the church, as well as all tools, and it shall be stored so that it will not be damaged.*¹³⁴

By sailing Tyrifjorden and Randsfjorden in Norway, the Vikings reached far inland areas around the churches of Tingelstad, Heggen and Norderhov, while the Källunge, Söderala and Højjord churches are close to the sea. The Lagabøte law may then be why the vanes ended up in these inland churches. The war-levy system declined with the introduction of new ships and naval techniques, and was lastly documented in use in 1356 in Norway and 1429 in Sweden.¹³⁵ Blindheim thought the vanes were mounted to the church spires in the 15th century, when the old function was forgotten.¹³⁶ Stige proposed they were mounted to the spires as part of a church dedication or as votive gifts; perhaps already in the 10-11th centuries. The mounting of the vanes in the spires must have been part of a wider transfer of symbols and values, due to the evocative, complex meaning potential of the vanes and their inherent power, according to him.¹³⁷

¹³¹ Stige, "Tingelstadfløyen: Skipsfløy På Land," 107.

¹³² Lamm, "De Havdjärves Märke: Om Vikingatidens Skeppsflöjlar," 36.

¹³³ Blindheim, *De Yngre Middelalderske Skipsfløyer I Norge*.

¹³⁴ *III Landevernsbolken*, chapter 14, 4. In Munksgaard, "Metal Vexilla on Viking Ships." Footnote 3.

¹³⁵ Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 181-83.

¹³⁶ Blindheim, *De Yngre Middelalderske Skipsfløyer I Norge*, 51; Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland."; Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk."

¹³⁷ Stige, "Tingelstadfløyen: Skipsfløy På Land," 108.

4. MEDIEVAL AESTHETICS

AWE AND MEMORY

In quiet, cool museum halls, the four vanes are each brightly lit by electric lights. Some of them are placed in glass cubes which separate their space from the viewers'. This mode of display enables close study and aesthetic appreciation of every ornamental detail, dent, and pore in the metal surface. Encountering the weathervanes in the Middle Ages would be a very different affair.¹³⁸ Displayed outdoors, afar, elevated in the sea- or landscape, a vane's appearance would fluctuate according to the light and weather conditions. They would move "by themselves" when the ship moved, or when a gust of wind caused the vane in the spire to rotate. Moving closer, a light, metallic sound was audible, produced by metal items hanging from the vane's underside, which were clanging together in the wind. The animated vanes produced extraordinary spectacles, largely inaccessible to audiences at the museums today. It lacks a central aspect of the medieval aesthetic: the temporal, complex, ephemeral, and ever-changing.

This chapter attempts to re-place the vanes in their two specific medieval situations and describe the multisensory spectacles they evoked there. One of the most prominent, immediate functions of the vanes, out of a myriad, seems to be as decorative status symbols. This is indicated in the sagas, cited in chapter 3, where interest in the golden artefacts is mainly due to the impressive surface material's brilliance seen from afar. This aspect is often highlighted but rarely elaborated on in previous research. The following will explore how the early medieval weathervanes created memorable experiences of beauty by evoking awe in medieval audiences.

¹³⁸ Lena Liepe, *A Case for the Middle Ages: The Public Display of Medieval Church Art in Sweden 1847-1943*, vol. 55, Kungl. Vitterhets-, Historie- Och Antikvitets Akademiens Handlingar (Stockholm: Kungl. vitterhets historie och antikvitets akademien, 2018), for instance, 71, 229.

Theory and Methodology

This chapter is influenced by Mary Carruthers' rhetorical analyses of medieval art. She looks at the interrelationships between *autor* (performer, creator), oration (artefact) and audience. These three agents constantly interplay to create specific, social, performative *occasions* reminiscent of the survivals of Warburg and Jones, seen in chapter 1. The created occasions sought to persuade; to affect the audience by installing in them a "confident consent to believe".¹³⁹ As such, art was designed and displayed to evoke specific aesthetic, persuasive responses. This chapter investigates these processes: the artefacts' relations to the immediate, physical environment they were part of and how the occasions may have been experienced.

Implied is the attempt to access a sensory level of experience and knowledge: a pre-analytical level of interpretation. It is the immediate responses to a phenomenon which triggers the projection of meanings and associations onto what is experienced.¹⁴⁰ In this way, the sensory information in this chapter becomes foundational for the following analyses of the content of these associated meanings. Such responses are found, the most clearly, in the sagas which describe the vanes in the longships. The descriptions are quite uniform, concerning not the symbolic but visual appearance and its resulting installing of fear and awe in viewers. The saga texts are, however, from different dates, places, and contexts, and are, as seen in chapter 1, uncertain evidence. Limitations of time and scope prevented studying the challenges of each saga text in-depth, which would admittedly improve the plausibility of my argument. In the following, the sagas are used as points of departure for discussion on their remembered effects.

Mnemological perspectives

It will be shown that the weathervanes created forceful sensory experiences, which supported memory by physiologically transforming the mind of the perceiver. Sensory experience was fundamental for memory and knowledge in the Norse Middle Ages, according to Pernille Hermann.¹⁴¹ The sagas do not explicitly explain how sensory perception led to knowledge.

¹³⁹ Carruthers, *The Experience of Beauty in the Middle Ages*, 13-14, 44.

¹⁴⁰ Laugerud, "Visual Culture", in Jürg Glauser, Pernille Hermann, and Stephen A. Mitchell, *Handbook of Pre-Modern Nordic Memory Studies: Interdisciplinary Approaches*, (Berlin, Boston: De Gruyter, 2018). 293-95.

¹⁴¹ Pernille Hermann, "The Mind's Eye: The Triad of Memory, Space and the Senses in Old Norse Literature," *European Journal of Scandinavian Studies* 47, no. 1 (2017): 204-06, 12-15; "Memory, Imagery, and Visuality in Old Norse Literature," *Journal of English and Germanic philology* 114, no. 3 (2015).

Several medieval European texts describe these processes, however, and may improve understanding of the Norse conditions as part of the common-European heritage.

Sensing a worldly artefact, discrete sense data were sent through five external senses; the eyes, ears, tongue, nose, and skin, to five corresponding senses in the brain.¹⁴² Here, the sense data were processed into coherent forms, mental images called *phantasmata* in the *sensus communis* faculty. From here, the *phantasmata* went to the temporary memory *imaginatio*, and then to the *imaginative*, which could combine mental images in creative ways (like the modern imagination). *Phantasmata* were thus composed of smells, touches, tastes, and sights but stored as visual images. Importantly, they were not neutral but tinted as attractive or repulsive, which was done by the cognitive faculty of *estimativa*. It assessed whether the retained *phantasmata* was beneficial or not – attractive, pleasurable or the opposite. In short, they were composed of a “likeness” of the external artefact plus a value of attractiveness. Thus, all things sensed were judged aesthetically, as pre-analytic judgements. *Phantasmata* were permanently stored in memory, *memorialis*, by being inscribed in the brain.¹⁴³ That is, the mental images were physically imprinted on the mind; involving *vision as touch or a kind of contact*.¹⁴⁴ From the stored *phantasmata*, higher intellectual capacities, knowledge and understanding, could be generated, and memory is continually identified with wisdom and knowledge.¹⁴⁵

Below, it is demonstrated that the four early medieval weathervanes were constructed, decorated, and displayed in ways which ensured forceful imprints in the minds of their medieval perceivers, which could persist and be visualised internally after the experience itself. I argue that the main aspects of the aesthetics of these spectacles related to optical and acoustic signal-effects, movement, and complexity; and bound in various ways to their golden surfaces.

¹⁴² Based on Avicenna, *De Anima*, translated from Arabic to Latin in the 12th century. This theory corresponds largely to Augustine, Albertus Magnus and other medieval writers with some differences. Corinne Saunders, "Hearing Medieval Voices," *The Lancet* 386, no. 10009 (2015): 413.

¹⁴³ Carruthers, *The Experience of Beauty in the Middle Ages*, 43, 45.

¹⁴⁴ Georgia Frank, "The Pilgrim's Gaze in the Age before Icons," in *Visuality before and Beyond the Renaissance: Seeing as Others Saw*, ed. Robert S. Nelson (Chicago: University of Chicago, 2000), 108.

¹⁴⁵ This is seen, for instance, by the mythological master Mímir, “the one who remembers”, guarding the source of wisdom and intelligence. Furthermore, Odinn's ravens are the sources of the god's knowledge, embodying thought and wisdom respectively. See Hermann, "Memory, Imagery, and Visuality in Old Norse Literature," 328.

Optical Signal Effects

The saga writers described the vanes as “gilded”, “adorned with gold”, and as if of red gold; others described this material’s effects: they “glistened” and looked “as if on fire” in the sun. The same ship could have several golden objects, the weathervane only one of them,¹⁴⁶ which amplify appearance of the ship’s golden, bright, pulsating glow. The constant movement of the ship would cause blinks of light to be reflected from the vane into all directions, reaching far-away viewers. Almost all the passages note the brilliant material’ striking optical effects: it clearly drew the attention of witnesses and made them noteworthy for the writers of the sagas.

The gilding’s highly light-reflective, almost mirror-like, quality was not only for the sake of displaying the economic status of the ship owner or church. It was also chosen for the far-reaching optical effects it created in the encounter with changing light and weather conditions. From one angle, the sun’s reflection in the vane could overwhelm the eyes, circumscribing vision for a second. From another angle, in another weather, the vane looked darkened, matte. The optical effects were in a *fluxus* of ever-changing light.¹⁴⁷ Olaf Engvig reported that the optical signalling was the gilded vanes’ only observable function, when sailing with the vanes:

Not only did they sparkle in bright sunlight. Even in overcast or dull skies their flashing or signalling effect was worth recording as outstanding. Most impressive was their appearance when the sun was low on the horizon. It was almost frightening how the vanes sent off beams of light [...].¹⁴⁸

The vanes produced golden signals in grey weather as excellent “grey weather lanterns” for communication between ships. In a large fleet like the depiction on the Bryggen image, a vaned ship would be clearly visible to others, for instance indicated by the saga passage where the golden vane enabled identification of the ship as a powerful battleship – and not an ordinary salt- and herring ship.¹⁴⁹ Furthermore, it would be in darkened weather that the little light available would be magnified in the golden surface, and make them shine the most brilliantly.

¹⁴⁶ **Saga of Hacon:** “And in the sunshine it seemed very like as if fire burnt on the heads and vanes [veðrviti] and gilded shields which were on the stems and sterns”. Cited in chapter 3.

¹⁴⁷ Carruthers terms the experience of *fluxus* of the medieval spectacle of artefacts *Varietas*. It is the stylistic effects experienced as oscillating between poles of too little and too much; the bland and monotonous – and the chaotic and multifaceted. The medieval understanding encompasses also the changes of feeling and affect they cause in perceivers. Carruthers, *The Experience of Beauty in the Middle Ages*, 135-37.

¹⁴⁸ Engvig, “A Symbol of Kings: The Use of Golden Vanes in Viking Ships,” 6.

¹⁴⁹ **St Olaf’s Saga:** “Now when Haarek came farther through the Sound, and past the fleet, he raised the mast, hoisted sail, and set up his gilded vane [...]. When the king’s men saw the ship sailing in this state, they told the king that probably King Olaf had sailed through them”. Cited in chapter 3.

Similarly, the vane in the church spire contributed to signal the church's position in the landscape: it marked the highest point of the building. The Old Tingelstad church, for instance, is crowning a small hill, which makes the building visible from afar. From the church, the view of the landscape is spectacular. A golden vane in the spire would appear as a single golden spot of light to approaching pilgrims, depending on the position and angle of the perceiver related to it, in addition to the weather and light conditions. The optical signal effects attracted the gaze of a distanced perceiver and would hold it in wonder at the extraordinary spectacle.

Acoustics

Wholly integrated and inseparable from the experience of weathervanes was an acoustic aspect. Bissera Pentcheva noted that light and sound are wave particles moving through space, refracted and reflected in all directions when meeting material barriers, and may produce synesthetic experiences of bright light and sound amplifying each other.¹⁵⁰ She calls this *aura*, aiming at the experience of medieval non-figurative art. This concept seems applicable to the aesthetics of the spectacles of the golden weathervanes as experienced in both ship stem and church spire.

As the previous chapter discovered, the vanes had strings with large metal items attached to the underside. Moved by the sea or wind, the noise produced may have been metallic, lightweight, and sonorous. Unfortunately, the acoustic devices are lost. It is uncertain when the acoustic device dissociated from the weathervanes, that is, if they were still attached to them in the church spires. Nevertheless, the sound must have been a characteristic aspect of the weathervanes which was different from other artefacts encountered in the Middle Ages.¹⁵¹

The acoustics unfolded parallelly with the optical effects of the golden surface in shifting light. Optical and aural aspects both depended on movement: the gusts of wind and the physical movement of the vane. A strong gust of wind in the right direction may have made sounds travel far. This likely characterised the experience of vanes at closer distances in both ship and church, and absorbed by perceivers' external sense organs, eyes, and ears. While the optical effects imposed on the perceiver from afar, the acoustics may have amplified the visual radiance.

¹⁵⁰ Bissera V. Pentcheva, "Optical and Acoustic Aura in the Medieval Image: The Golden Retable of the Pentecost at Stavelot," *Material religion* 16, no. 1 (2020): 10-12.

¹⁵¹ Other examples of sonorous artefacts include the rattles of the Oseberg ship. See Jan Bill, "Protecting against the Dead? On the Possible Use of Apotropaic Magic in the Oseberg Burial," *CAJ* 26, no. 1 (2016): 144, 48-49.

Animation

The early medieval weathervanes thus generated spectacular optical and acoustic varying signals, unfolding in temporal performances. This vibrating, changing event of light and sound was animated by the movement of the weathervanes themselves, either by the ship's movement, or by the wind turning it around the spire, as mentioned. Thus, two agents external to the vanes themselves put them in motion. The first was mechanical and man-made: the physical attachment to the stem or spire, described in chapter 3. This enabled the movement. The second agent was the natural forces of wind, weather, and light conditions making the spectacle visible. This created the movement. Strong wind at sea caused the ship to ride waves up and down; and in the church spire it was the direction of the wind which determined the movement.

The perceived movement of the artefact without the aid of humans, may have been interpreted as a sign of the inherent agency, dynamic, and "kind of life" in the weathervanes. This is also indicated by the saga passages, which described the experience of them as shaking in the wet wind and attaching and detaching seemingly by their own will.¹⁵² Further, the saga writers say they looked *as if* on fire; not *as* burning, or as fire *itself*. They were aware of their crafted, earthly materials; but they seem to have understood them as more than their materiality, as imbued with a certain inner energy and dynamism which at times could make things happen.

The vanes created signs of life; movement, shifting optical and aural appearances which created an illusion of life by motion, while retaining their status as crafted by earthy materials.¹⁵³ The resulting performance was perceived immediately, sensually as signs of *a kind of life*. It was a *mechanical* animism, according to Hans Henrik Lohfert Jørgensen's categorisation.

Mechanical and Magical animation

The animation of Viking artefacts like swords is well-known. Swords were treated as elevated status objects of precious materiality and were often ornamented. Unlike the weathervanes, the sagas name swords personally, giving them a personality and volition of their own. If the swords were altered, damaged, or ownership changed, the personality of the sword persisted. Thus, Julie Lund argued that swords were imbued with animated life upon production, which was

¹⁵² **Sigurðarbólkr**: "The weather-vane shook in the wet wind, adorned with gold, above the lord's ship"; **Saga of Hacon**: "but the vanes caught in the sail of Thorir's and Bard's ship, and they sailed away with them". Both cited in chapter 3.

¹⁵³ Hans Henrik Lohfert Jørgensen, "Live Matter and Living Images: Towards a Theory of Animation in Material Media," *Konsthistorisk tidsskrift* 86, no. 3 (2017): 261, 64-68.

further developed and enhanced by events of its “biographical life”.¹⁵⁴ The individual, animated sword could intertwine and interfere with the life of the owner, and was buried with him or her.¹⁵⁵ The buried sword could be stolen from the grave, meaning it was believed to have travelled through the realms of the dead and returned to the world. The swords were thus animated by private, personal owner-relations, which accumulated through the sword’s “life”. The bond between owner and sword made it inalienable, indestructible, and animated. This is a magical kind of animation, according to Jørgensen: it is believed to have inherent, individual life and ability to act by itself.¹⁵⁶ No such personal relationship is detectible in the use of the early medieval weathervanes. On the contrary, one of the sagas suggest ownership was easily transferrable.¹⁵⁷ The animation of the weathervanes was thus of a different kind but clearly, as seen, acting in ways which transgressed the inert, dead material. While the swords are animated magically, according to Lohfert Jørgensen, then; the vanes were likely animated mechanically.

Ornamentation

None of the saga writers mentioned the ornamentation of the weathervanes. The natural explanation is that they were invisible from where audiences would see them. Looking at the vane replica in the old Tingelstad church, only the top dragon is discernible; the ornaments are obscured to vision. The *opus punctile* ornaments on the Heggen and Källunge are completely invisible even at short distances.¹⁵⁸ The vanes would be intelligible only in terms its visio-aural effects, both to perceivers of weathervanes in the ship stems and the church spires.

All the four vanes were, however, as seen in chapter 2, intricately ornamented. It was only the ship crew who attached and detached the vane from the stem who could touch the precious artefacts and study the intricate ornaments. They could follow the lines of the designs and try to discern the details. The complexity and intricacy would cause the eyes to not know where to

¹⁵⁴ Lund, "Connectedness with Things: Animated Objects of Viking Age Scandinavia and Early Medieval Europe," 99-100.

¹⁵⁵ Hanne Lovise Aannestad, "Charisma, Violence and Weapons: The Broken Swords of the Viking," in *Charismatic Objects: From Roman Times to the Middle Ages*, ed. Marianne Vedeler, et al. (Oslo: Cappelen akademisk forlag, 2018), 148-55.

¹⁵⁶ See "Magical animation" in Jørgensen, "Live Matter and Living Images: Towards a Theory of Animation in Material Media," 261-63.

¹⁵⁷ **Saga of Hacon**: "After that the bishop lent [the earl] the ship with her figureheads and all her [*veðrvitum*]". As cited in chapter 3.

¹⁵⁸ The engravings may have produced some variation of optical effect at closer distances due to the irregularity of the engraved surface.

see first, and the looping figures would prohibit the gaze from fixing at a single detail. The experience was thus characterised by a temporal unfolding of modes, colours and shapes shifting continually, constantly, suddenly due to varying light conditions – but was an experience seemingly reserved for the few whose task it was to mount the vane to the stem or spire.

The main audience was, as seen, in both locations held at a distance. It may have raised a desire to make the ornaments intelligible and graspable by closer inspection; the process of trying to “solve” the enigmatic, complex, variegated spectacle, even if failing, was itself pleasurable.¹⁵⁹ It is unlikely that the ornamentation of the Heggen, Källunge, and Söderala represented persons, groups, or narratives. If they *were*, decorations would be plainer to ensure comprehension, like the style of the younger Tingelstad’s biblical narrative. Augustine, for instance, argued that literary sermons and homilies should use the “plain or middle” rhetorical style to avoid confusing the congregation. The Tingelstad ornaments do employ a clearer style and indeed show a biblical motif, although it too was placed far away from audiences. Obscure or “grand” style was used when needing to frighten or inspire awe towards salvation, according to him.¹⁶⁰ Stylistic difference and non-aesthetic aspects of the ornaments will be considered in chapter 5.

Awe-inspiring *Phantasmata*

Optical signal effects, acoustics, animation, and ornamentation are the central aesthetic aspects of the spectacles of the vanes *in situ*. The experience was a unified performance. To Carruthers, complexity, variation, and obscurity of style are core aspects of medieval aesthetics in general, where it was the *combination of sensations* which made the experience appealing and delightful.

Thomas Aquinas described these composite sensations:

*For if many sensations are perceived as a rational mixture, they are made pleasurable; just so in tastes, when a thing is according to due proportion either sharp or sweet or salty; then indeed things are entirely pleasing, and all that is mixed is more pleasing than what is single: so a concord is composed as much of a high voice as a low ...*¹⁶¹

Although the sagas say little about the aesthetics of the time, Carruthers’ terms are relevant for the aesthetics of the weathervanes, and perhaps other Norse artefacts of complex, obscure, and highly detailed designs in precious metalwork. The taste for the obscure, complex and delicate

¹⁵⁹ Carruthers, *The Experience of Beauty in the Middle Ages*, 170.

¹⁶⁰ *Ibid.*, 11, 61-63.

¹⁶¹ Thomas Aquinas, *Sententia De Anima* 3, lectio 2, no. 15. Cited in *ibid.*, 47-48.

seems reflected in the choices of the vanes' artisans. In fact, Theophilus' *Schedula*, the recipe book assumed to contain the techniques of the four vanes' decorations, as seen in chapter 2, expressed similar ideas. The preface to book three describes the marvel of church interiors:

You have embellished the ceilings or walls with varied work in different colours and have, in some measure, shown to beholders the paradise of God, glowing with various flowers, verdant with herbs and foliage. You have given them cause to praise the Creator in the creature and proclaim Him wonderful in His works. For the human eye is not able to consider on what work first to fix its gaze: if it beholds the ceilings they glow like brocades; if it considers the walls they are a kind of paradise; if it regards the profusion of light from the windows, it marvels at the inestimable beauty of the glass and the infinitely rich and various workmanship.¹⁶²

Aquinas' favouring of the wondrous, complex, multi-sensorial is echoed the *Schedula*'s ornamental *varietate*.¹⁶³ Artisans should create delightful, and pleasurable creations of "varied beauty", justified by the ultimately praising of God. "Delicate", "fine workmanship" and "Greek foliage" describe the style favoured over the plain, simple, and clear, in metalwork.

The more pleasurable a sensation was, that is, the more complex the sensations derived from an experience – the more affective and memorable it was. In other words, the more striking an experience, the more forcefully were *phantasmata* inscribed on the body of the perceiver. Once inscribed, *phantasmata* could be visualised before the mind's eye, the *augu hugar*, and perhaps the mind's ear, without perceiving the actual external artefact.¹⁶⁴ The perceiver noticed the artefact and desired to take it in, to know it better, and to meditate on its complex, variegated but inaccessible beauty. The resulting, pleasurable *phantasmata* was affective and could appear vividly before the mind's eye and ear. As seen in the beginning of this chapter, the envisioning of *phantasmata* involved the same reactions as actually sensing an artefact then and there.

Thus, the specific aesthetic aspects of the experience made the weathervanes function as mnemotechnic images supporting memory. The ephemeral, animated aesthetics likely gave the impression of unreachability, incomprehensibility. This was the driving force behind the created awe-inspiring *phantasmata* in perceivers, left wondering since: "we wonder at what we cannot in any sense incorporate, or consume, or encompass in our mental categories; we wonder

¹⁶² Theophilus Presbyter, *The Various Arts*, preface to Book III, 63-64.

¹⁶³ Ibid., preface to Book III, p. 61-62. Theophilus uses the word "varietate". "Varietate" and "varietas" are both derivations of the adjective "varius" concerned with aesthetic effects and style, in addition to 'changes' of affect in perceivers, according to Carruthers, *The Experience of Beauty in the Middle Ages*, 135-36, and footnotes 2, 3 on these pages.

¹⁶⁴ The term "hugskots augum" occurs in the *Stave Church Homily*, and "augu hugar" in *Konungs Skuggsjá*. Respectively in: Hermann, "The Mind's Eye: The Triad of Memory, Space and the Senses in Old Norse Literature," 206-08; "Memory, Imagery, and Visuality in Old Norse Literature," 326.

at mystery, at paradox, at *admirabiles mixturae*".¹⁶⁵ The wondering, awe-inspired audience is kept fixed at the extraordinary artefact which imprint them in their minds.

Concluding Remarks: Associative Power

The ability to install fear and awe in perceivers also derived from the inextricable link with the ship or church in which weathervane was located. The associations of these edifices became integral to the experience. The reciprocity of vane and immediate context was significant.

Awe-inspiring power can be transferred between an artefact and a person, role, or institution. Nødseth has written about a 15th century Swedish bishop and his mitre, whose co-dependent relationship provided both person and artefact with authority.¹⁶⁶ The mitre constructed the wearer's identity as a bishop since it is experienced as a "social skin"; a part the body. The place of the artefact in specific, physical contexts (here: the bishop's head and body) makes it able to alter the meanings of the context, and vice versa. The power transfer depended on perceptible, physical relations of the artefact and context, whether an institution, person, or role.

In a related way, a weathervane in a stem integrated it with the ship's identity, and its prominent place and beauty elevated the status of the warships they were located in.¹⁶⁷ The vanes became identifiers of, or synonymous with, the ship's military power; the power of the ship and vane depending on and amplifying each other. The two were linked through calculated performances of the vanes appearing to the enemy or beholder at a distance to install awe, terror, and admiration. Similarly, when the weathervane was mounted to the church spires, its powers depended partly on the link to the building and authority of Christianity. As will be shown, the vane in the church spire may have continued to refer to the previous ship location because people remembered the extraordinary golden spectacles they created.

¹⁶⁵ Caroline Walker Bynum, "Wonder," *The American Historical Review* 102, no. 1 (1997): 12.

¹⁶⁶ Ingrid Lunnan Nødseth, "The Linkoping Mitre: Ecclesiastical Textiles and Episcopal Identity," in *Charismatic Objects: From Roman Times to the Middle Ages*, ed. Marianne Vedeler, et al. (Oslo: Cappelen Akademiske Forlag, 2018), 209-16. Nødseth is concerned with later time period and different medium, but I believe the general processes of power transfer in the medieval period are applicable in later situations too.

¹⁶⁷ For instance, **Saga of Hacon**: the Ribbalds assumed to be rowing towards cargo ships "[...] but when they fell to shooting on board the small-ships at those who were nearest to them, the Ribbalds saw that weather-vanes glistened in the sunshine of the long-ships [...]" As cited in chapter 3.

5. ORNAMENTATION

ANIMALS, WARFARE AND APOTROPAISM

Ornaments cover all the surfaces of the early medieval weathervanes. At the centre of each vane, only visible quite close, battle scenes appear in intricate, detailed, complex designs. From the top edges, cast animal figurines gaze victoriously at viewers. The theme of battle is seemingly mirrored in the immediate contexts the vanes initially appeared in: naval battles. Departing from the four specific designs as experienced in the stems of longships, this chapter asks what roles these ornaments served, executed so detailed and skilfully, but deliberately placed far from the audience. And did these roles change when the vanes changed location?

It is argued that the presence of noble but violent motifs transferred some of these properties to the artefact itself. That is, the ornamentation transformed the vane into a powerful entity which could protect from evil. The ability to protect was not understood metaphorically, but as really, practically occurring by the agency of the artefact. The chapter starts with the symbolic and apotropaic significances of the animal battle engraved on the vanes from Heggen, Källunge, and Söderala, and continues with the biblical motif on the Tingelstad. Next, it is seen how the magic potential may have continued and changed when the vanes relocated. The chapter concludes by comparing the weathervanes to other artefacts conventionally used for apotropaia.

Theory

As seen in chapter 1, artefacts are neither *inherently* pagan nor Christian. Viking ships could be Christian, like the longship *Mariasuden* dedicated to the Virgin and with relics in the stems.¹⁶⁸ Viking ship gear could be moved to or made for churches; like two *skipsbrandr* placed in front of the church door of Miklagardr on Iceland.¹⁶⁹ Pre-Christian beliefs, practices and conventions of material culture continued in the Christian world. While the relocation of early medieval vanes to the church spires implied a definite “Christianisation”, they were tied to their previous employment in the ships, which in turn could be conceived of as pagan, Christian or both. The specific religious content of the weathervanes thus depended on the occasion and perceiver.

Religion aside, some values likely persisted throughout the Norse Middle Ages. One of these related to the socio-cultural meanings of the animal ornamentation. Animals and animal battle motifs dominated Scandinavian art from the late 5th century until the 13th, and thus persisted 800 years, albeit in various styles.¹⁷⁰ It was part of cognitive structures of social and cosmic order, and central to people’s understanding of the world. Importantly, it encompasses the notion of close relationships between animals, humans, and artefacts in the period. This premise shaped the essays of Siv Kristoffersen, Maria Domeji Lundborg, Lotte Hedeager and Anna Hed Jakobsson.¹⁷¹ According to these writers, though in different ways, animal ornamentation had elite connotations and was significant not only in religious content, but as existing at the centre of socio-political cultural values at large. This premise underlies the following analysis too.

¹⁶⁸ Dag Gundersen, Finn Hødnebo, and Hallvard Magerøy, *Sverres Saga*, vol. 3 (Oslo: Gyldendal, 1979), 122.

¹⁶⁹ Falk, *Fornnordisk Sjöfart*, 45.

¹⁷⁰ Maria Domeji Lundborg, "Bound Animal Bodies," in *Old Norse Religion in Long-Term Perspectives Origins, Changes, and Interactions an International Conference in Lund, Sweden, June 3-7, 2004*, ed. Anders Andrén, Kristina Jennbert, and Catharina Raudvere (Lund: Nordic Academic Press, 2006), 39, 43.

¹⁷¹ Siv Kristoffersen, "Half Beast-Half Man: Hybrid Figures in Animal Art," *World archaeology* 42, no. 2 (2010); Lundborg, "Bound Animal Bodies."; Lotte Hedeager, "Dyr Og Andre Mennesker - Mennesker Og Andre Dyr: Dyreornamentikkens Transcendentale Realitet," in *Ordning Mot Kaos: Studier Av Nordisk Förkristen Kosmologi*, ed. Kristina Jennbert, Anders Andrén, and Catharina Raudvere (Lund: Nordic Academic Press, 2004), 219-25; Anna Hed Jakobsson, "Spår Av En Maktideologi: Städer, Tomter, Hantverk Och Djurornamentik," in *Nordeuropæisk Dyrestil: 400-1100 E.Kr.*, ed. Karen Højlund Nielsen and Jens Velle (Højbjerg: Hikuin, 2002).

Animal Battles

The central motifs on the Heggen, Källunge, and Söderala show two or three animals in combat. Small, intricate plants and animals fill in the remaining space and frame the battle motif and will not be included in the following. The Heggen and Källunge vanes have one battle scene depicted per side, while the Söderala's *opus interrasile* ornaments allow only one central motif. The total of five battles, then, have similar formal principles and many of the same animals. The dragon or serpent is depicted seven times; lions three; and the eagle once. The top animals are lions. Two additional top animals have been found, lacking their original weathervanes. One is a bird and the other is a horse.¹⁷² Serpent-dragons, lions, birds, or eagles are high-status animals of predation, valued for their aggression and physical strength.¹⁷³ The horse, not strictly an animal of battle, was nevertheless a warrior status symbol, related to transportation, the Æsir and perhaps to Odinn.¹⁷⁴ Thus, its appearance on a warship weathervane is not so surprising.

All the animal battle motifs are characterised by both violence and a sense of impartiality: it is difficult to predict a winner. The clearest example is on the Källunge's B side depicting the two identical, mirroring serpents biting the other's tail in equal battle. The Heggen's B side depicts a small serpent looping around the neck of a large eagle, strangling it. Despite the size difference, the eagle opens its beak in a cry, and flaps its wings in the struggle. The Heggen's A side depicts a large lion chasing a small one; and on the Källunge's A side, a serpent strangles a lion. The Söderala shows a large dragon-serpent in battle with smaller serpents.

Arrays of symbolic interpretations based on literature may be possible. This is often done with the Norse dragon-serpent, taken to refer to the mythological dragon Fafnir, slayed by Sigurd.¹⁷⁵ It can also refer to the Midgard worm, or to Odinn, the god of war and wisdom, who could turn himself into a worm.¹⁷⁶ Furthermore, Isidore of Seville called Christ the new serpent who will conquer the old one. St Jerome interpreted the motif of serpent-killing eagles as God protecting children from the devil like the eagle protects his children from serpents.¹⁷⁷ Dragons, serpents

¹⁷² See Table 2 in the Appendix to this thesis.

¹⁷³ On the dragon, see Karen Høilund Nielsen, "Ulv, Hest Og Drage: Ikonografisk Analyse Af Dyrene I Stil 2-3," *Hikuin* 29 (2002): 212, 14.

¹⁷⁴ *Ibid.*, 210-11.

¹⁷⁵ Anne-Sofie Gräslund, "The Watchful Dragon: Aspects of the Conversion of Scandinavia," in *Viking and Norse in the North Atlantic: Select Papers from the Proceedings of the Fourteenth Viking Congress Tórshavn, 19-30 July 2001*, ed. Andras Mortensen and Símun V. Arge (Tórshavn: Føroya Frøðskaparfelag, 2005), 415.

¹⁷⁶ Lundborg, "Bound Animal Bodies," 39.

¹⁷⁷ Henry Maguire, "Profane Icons: The Significance of Animal Violence in Byzantine Art," *Res* 38, no. 38 (2000): 22.

and worms were variations of the same beast in Norse, classical and biblical literature. Several pagan and Christian meanings are available for interpretation of the serpent-dragon then, which in the literary sources always related to war and violence.¹⁷⁸

The challenge of identifying good and evil animals on the vanes may be solved by the proposition that the larger animal is generally representing good in Norse animal art.¹⁷⁹ But this is not applicable to the identical serpents on the Källunge's B side. Further, it seems unlikely that the animals would be interpreted this way due to the small size of the vane, the intricate, unclear motifs, and the placing of the vane in the ship stems where they could only be studied by the ship crew. It is unlikely that they represent specific historical or mythological events or individuals or social groups, as seen. The motifs seem rather to evoke a sense or *spirit* of battle; the lethal violence of predatory beasts curling around each other, bound together.

A similar notion was proposed by Lundborg, who interpreted bound, intertwining animal bodies in Viking-age art as related to military values. The animal ornamentation becomes metaphoric of the liquidation of enemies in battle, with a poetic counterpart.¹⁸⁰ The vanes' may thus depict the battle's climax and be extending the tradition of animal battle ornamentation on artefacts.

Apotropaic Transformation

The depicted animals re-present a spirit or force of violence which, in fact, may have imbued the weathervanes themselves with power. This argument is based on Kristoffersen. Via Lévi-Strauss, she claims that by drawing the shape of an animal onto an artefact, that artefact is filled with the powers held by the drawn animal. By drawing, a graphic element is imposed on the artefact and thus change its structure to become a new unit. The artefact *becomes* the animal graphically rendered on it. Lévi-Strauss' example was an Indian box, which by the depiction of the animal keeps its capacity to contain things but transforms into the animal. The new unit could actively watch over what was contained in the box. "The final product is a whole: utensil – ornament, object – animal, box – that speaks".¹⁸¹ Kristoffersen interpreted Norse Migration

¹⁷⁸ For an overview of these events, see Paul Acker, "Death by Dragons," *Viking and medieval Scandinavia*, no. 8 (2012): 2-3.

¹⁷⁹ Lundborg, "Bound Animal Bodies," 42.

¹⁸⁰ In the final scenes of battle with Grendel, Beowulf will: "with steady nails | to the bed of death | get that beast bound | and hold him hard | in my grip of hand | until his last moment Beowulf", lines 963-966. In *ibid.*, 38-41.

¹⁸¹ Siv Kristoffersen, "Dyreornamentikkens Sosiale Tilhørighet Og Maktpolitiske Sammenheng: Nydamstil Og Stil I I Sør- Og Sørvestnorge" (University of Bergen, 1997), 246-47. Citing Lévi-Strauss, 1963, 260-261. A version of the same argument is posed by Donceel-Voute: "'re-presenting' Evil means that it is 'made present', that we are

period swords and jewellery accordingly. The unification of object and animal made a sword share the powers with the depicted animal, thus increasing its strike's lethality. The animal depicted, on the other hand, *became the sword*. The transformation of the artefact, then, was not metaphorical but real, actual, and practical.

This interpretation has been extended to Viking-age animal ornamentation generally.¹⁸² The same process may have transformed the animals on the weathervanes. The powers of the depiction were shared with the prototype. Depicting real or fantastic predators, the figurines were imbued with the violent powers believed to be attributes of these animals. This gives new light to the choice of complex, ambiguous styles of ornamentation. Its aims were to puzzle, fascinate, and evoke awe in beholders, as seen in chapter 4, and not to render animals or events mimetically. The mere presence of predatory animals and the spirit of battle was sufficient to transfer characteristics and powers from the original to its likeness and transform the artefact.¹⁸³

This is the principle of likeness, *similia similibus*,¹⁸⁴ which is the notion that artefacts, animals, and humans share transmittable characteristics. Importantly, it implies, as noted by Lévi-Strauss, that a copy of something can protect against the original it copies. For instance, an image of the evil eye represents evil and protects against it because it mirrors it and sends it back. It is the reciprocity which is protective: looking at the evil eye, it looks back.

In fact, the evil eye was imported to pre-Christian Scandinavia from the East and likely brought processes of apotropaia with it.¹⁸⁵ Apotropaia is generally defined as the ability of an object, word, or phrase to ward off evil forces.¹⁸⁶ Depicting strong, fierce animals on the weathervanes, these bestial powers were shared with the material artefact to become so violent and powerful that they could protect against such evil powers in the area around it. Thus, it was favourable to depict strong, violent, predatory beasts with warrior connotations on the war equipment.

brought face to face with it. Indeed, the mere presentation of it on an artefact would allow it to become freely malevolent, wrong-doing, deadly, in and outside that artefact", in Pauline Donceel-Voûte, "The (in)Visible Evil in Sacred Space: Codes, Keys and Clues to Reading Its Image," in *Zeichentragende Artefakte Im Sakralen Raum*, ed. Wilfried E. Keil, Sarah Kiyarad, and Christoffer Theis (Berlin, Boston: De Gruyter, 2018), 41.

¹⁸² Kristoffersen, "Dyreornamentikkens Sosiale Tilhørighet Og Maktpolitiske Sammenheng: Nydamstil Og Stil I I Sør- Og Sørvestnorge," 246-49; Hed Jakobsson, "Spår Av En Maktideologi: Städer, Tomter, Hantverk Och Djuornamentik," 283, and footnote 25.

¹⁸³ Kristoffersen, "Half Beast-Half Man: Hybrid Figures in Animal Art," 263.

¹⁸⁴ Maguire, "Profane Icons: The Significance of Animal Violence in Byzantine Art," 31; Ittai Weinryb, *The Bronze Object in the Middle Ages* (Cambridge: Cambridge University Press, 2016), 120-23; Kristoffersen, "Dyreornamentikkens Sosiale Tilhørighet Og Maktpolitiske Sammenheng: Nydamstil Og Stil I I Sør- Og Sørvestnorge," 246-48.

¹⁸⁵ Bill, "Protecting against the Dead? On the Possible Use of Apotropaic Magic in the Oseberg Burial," 141-44.

¹⁸⁶ *Ibid.*; Weinryb, *The Bronze Object in the Middle Ages*, 122.

Placing weathervanes in outwards-sloping fore-stems, the top animal would look in the direction of sailing, towards what it protected from in front of the ship. When vanes were placed in back-stems, pointing outwards behind the ship, the top animal might have looked for followers or back-hand attacks.¹⁸⁷ The apotropaic function of the vanes in the ship stems may thus be linked to and in support of argument that the vanes were originally in *sloping* stems. Furthermore, the many, different animals engraved look in different directions: straight out at the viewer or in profile. This may have been a feature of design for the depicted animals to meet invisible evil coming from all directions towards the ship.¹⁸⁸

Thus, the specific ornamental motifs did not have to be seen for the apotropaic transformation to take place. But they had to be displayed. It was the presence of the magic artefact which enabled its protective powers. As for the evil eye, visibility and to a degree, audibility, were important passageways for evil. Apotropaic devices required “an act [...] carried out which is believed by the performers to provide supernatural protection of something or somebody”.¹⁸⁹ To control the passageways of evil, then, apotropaic devices were often “activated” or “de-activated” by specific acts or ritual practices.¹⁹⁰ In other words, the act of making the ornamented weathervanes present and perceptible enabled them to protect the ship and its crew.

Apotropaic Ritual?

The sagas claim that weathervanes were mounted for display right before attacking or approaching a battle.¹⁹¹ Chapter 4 interpreted this as evidence for the vanes’ identifying functions for the Viking warship. But it also contains a possible ritual aspect. Ritual mounting of a vane to a stem may have “activated” the apotropaic powers, which were communicated by the far-reaching flashes of light reflected from the golden surface. This created a magic layer of

¹⁸⁷ This argument is based on a comparison with Jan Bill’s. He claimed that the 9th century animal heads on the Oseberg sledges, fixed to the sledges’ fronts and backs looking forwards and backwards like the vanes, protected against evil. They have open mouths and more pronounced eyes than the top animals on the vanes. It seems there may have been a continuation of animal ornamentation on travelling vessels for apotropaic protective functions. See Bill, “Protecting against the Dead? On the Possible Use of Apotropaic Magic in the Oseberg Burial,” 147-53.

¹⁸⁸ Donceel-Voûte, “The (in)Visible Evil in Sacred Space: Codes, Keys and Clues to Reading Its Image,” 20.

¹⁸⁹ Bill, “Protecting against the Dead? On the Possible Use of Apotropaic Magic in the Oseberg Burial,” 142.

¹⁹⁰ *Ibid.*, 143-44. Weinryb, *The Bronze Object in the Middle Ages*, 124.

¹⁹¹ **St Olaf’s saga**: “Now when Haarek came farther through the Sound, and past the fleet, he raised the mast, hoisted sail, and set up his gilded vane. [...] When the king’s men saw the ship sailing in this state, they told the king that probably King Olaf had sailed through them.” **Hacon’s saga**: “But when they fell to shooting on board, the small-ships at those who were nearest to them, the Ribbalds saw that weather-vanes glistened in the sunshine of the long-ships. Then they thought they knew that there were greater men in company with the Birchshanks than liegemen alone”. As cited in chapter 3.

protection around the ship in situations of extreme vulnerability. Correspondingly, ritual dismounting from the stem meant that the ship was out of danger. Due to the lack of evidence it is difficult to determine such specific ritual practices, but the potential for apotropaia and the need to control it, in addition to the contexts the vanes appeared in, makes it a likely possibility.

Rituals have three distinctive qualities, according to Peter Habbe: the actor, the structure, and the social transformative quality.¹⁹² Firstly, the actor who performs the ritual must commit to the specific actions. Secondly, rituals are governed by structures of rules and purposes. That is, the ritualised individual action must conform to stipulated rules bending towards a purpose. This formalises the acts, and the actor is fixed to the structure. The meaning behind the purpose, however, is *not* fixed and does not require the actor to share the ideas behind the ritual.

The actors of the potential ship-vane ritual must have been among the ship crew, who hoisted the vanes up and down according to rules. The structure was probably not based on fixed, routine points in time. Rather, the vanes were probably mounted when the ship needed protection. Such events could be unplanned or planned, the latter described in the attack in St Olaf's saga quoted above. This may have constituted a spontaneous "ritual of crisis", meaning the "unanticipated, uncyclical but potentially recurrent responses to problems".¹⁹³ An example of this ritual is *blót*, the sacrifice to Odinn. While the meaning and purpose of *blót* much differed from the vane ritual, the ways of carrying it out were similar. They were performed spontaneously in crisis, and did not require particular places, equipment, nor sacred performers. The ritual of the vanes may have been performed by ordinary warriors or military leaders. The effects of both the vane ritual and *blót* was expected to be immediate.¹⁹⁴

The third distinctive quality of ritual is the "social transformative quality": a capacity to change the social status of people or objects.¹⁹⁵ The ritual of *blót* involved a relation between the actor, and the god Odinn, which may have excused the actor for his sins and give him victory. This

¹⁹² Peter Habbe, "How to Sort out Ritual from Context of Practice," in *Old Norse Religion in Long-Term Perspectives: Origins, Changes, and Interactions an International Conference in Lund, Sweden, June 3-7, 2004*, ed. Anders Andrén, Kristina Jennbert, and Catharina Raudvere (Lund: Nordic Academic Press, 2006), 92-94.

¹⁹³ DuBois, Thomas, «Rituals, Witnesses, and Sagas», in Anders Andrén, Kristina Jennbert, and Catharina Raudvere, *Old Norse Religion in Long-Term Perspectives Origins, Changes, and Interactions an International Conference in Lund, Sweden, June 3-7, 2004*, vol. 8, Vagar Till Midgård (Lund: Nordic Academic Press, 2006), 74-75.

¹⁹⁴ Ibid. DuBois' example of the ritual of *blót* is based on Snorri who in *Heimskringla* described the pre-Christian ritual. According to him DuBois contains many ethnographical traces of facts of pre-Christian ritual despite the Christian author. Since the vanes may have been understood as pre-Christian and/or Christian; and since there is a continuation of ritual tradition persisting, it is possible to compare the pre-Christian *blót* to the potential ritual of the vanes.

¹⁹⁵ Habbe, "How to Sort out Ritual from Context of Practice," 94-95.

transformed his social status and relation to the god. The gilded-weathervane ritual may not have related to religion since none of the contexts they appear in, textual or imagery, mention religious aspects before the church relocation. Rather, the social transformation could relate to or aim at the apotropaic protection of the ship and its crew from natural and supernatural harm.

*As something out of the ordinary, [...] these activities involve events which are more likely than not to burn themselves into people's memories in one way or another. Indeed, in the case of both festival and ritual, it could be argued that this is one of the main purposes of the activity.*¹⁹⁶

Performative events were most forcefully imprinted in perceivers' minds. Ritual mounting of a vane to the ship stem caused varied visual and acoustic signals to be produced without human intervention. Further, the ability to attract the gaze of beholders from afar, hold it in fascination, and persist vividly in the beholders' memories, may have been evidence for the magical powers of the gilded weathervanes. The aesthetic experiences, activated by ritual, thus enabled the vanes' apotropaic forces believed to be inherent in them to be effectively communicated.¹⁹⁷

Shapeshifting

Another possible transformative process related to the animal battle ornaments weathervanes is *shapeshifting*. People believed they existed and could act in the world through animal "souls" outside their physical bodies. Cognitive shapeshifting demonstrates the fluent boundaries between humans, animals, and artefacts in the pre-Christian cosmology.¹⁹⁸ The sagas present shapeshifting as an ordinary part of human understanding, at times hardly a form of magic.¹⁹⁹

Hugr is the concept of "soul" or "mind", incorporating the modern ideas of personality, thought, and desire. It conceptualised a human being's essence and could be felt intuitively as a kind of aura. Certain people had an especially strong *hugr* acquired by birth or by learning. These people could by their cognitive powers leave the physical body and act through another outside of oneself, that is, change shape of *hamr*, "shape" or "shell". The *hamr* could take the form of

¹⁹⁶ Terry Gunnel, «Performance Studies», in Glauser, Hermann, and Mitchell, *Handbook of Pre-Modern Nordic Memory Studies: Interdisciplinary Approaches*. 107.

¹⁹⁷ Again, this corresponds with the analysis in Bill, "Protecting against the Dead? On the Possible Use of Apotropaic Magic in the Oseberg Burial," 143-44.

¹⁹⁸ Catharina Raudvere, *Kunskap Och Insikt I Norrön Tradition: Mytologi, Ritualer Och Trolldomsanklagelser*, vol. 3, *Vägar Till Midgård* (Lund: Nordic Academic Press, 2003), 70-71. Another expression of this animal-human relationship is the animal name-giving of children. Wolf, bear, worm, and eagle, or combining animal species, are frequent Norse names. By giving a child the name of an animal, the animal's characteristics were perceived to be transferred onto that child, say something about the child's fate. See Hedeager, "Dyr Og Andre Mennesker - Mennesker Og Andre Dyr: Dyreornamentikkens Transcendentale Realitet.," Kristoffersen, "Half Beast-Half Man: Hybrid Figures in Animal Art," 265-66.

¹⁹⁹ Price, *The Viking Way: Magic and Mind in Late Iron Age Scandinavia*, 301.

an animal or a representation of the person. As a real, alternative existence where the person shapeshifting and the *hamr* share personality and abilities; killing the *hamr* killed the person.²⁰⁰ Through the *hamr*, one could travel, gain knowledge and fight against evil. In other words, shapeshifting transformed the *hugr* into an animal capable of acting in the world. The human became an animal, and at the same time, the animal became human by animation.

In addition to having a *hugr* which could change *hamr*, every person had a permanent, immanent *fylgja*, a “follower”, “spirit guardian” or kind of “shadow person”. Unlike *hugr*, a *fylgja* was involuntary, permanent, and inheritable. It was an independent projection of a person, however, and could as such reject the one it no longer favoured.²⁰¹ One’s *fylgja* was protective and could warn those with supernatural sight in threatening situations.

The elite status, power, and skills on the battlefield of certain animals, made them preferable and advantageous for shapeshifting of the *hamr* or *fylgja*. The warrior, by shapeshifting into the *hamr* of a predatorial animal would fight in real life as that animal with all its strengths. For instance, a boar image on a helmet led any wearer of that helmet to become the boar by his strong *hugr*, thus being empowered by the boar’s violent, brilliant warfare abilities.²⁰² Similarly, the mounting of a weathervane with violent animal depictions to a stem may have enabled or aided warriors in that ship to shapeshift right before or during the battle. Wild animals as *fylgja* was available to leading men of Norse society and was associated with male characteristics and high status.²⁰³ Warriors identifying with predatorial animals through shapeshifting effectively turned into predators and turned the enemy into prey.²⁰⁴

Pagan thought on predation continued to a degree with the introduction of Christianity. Shapeshifting was banned by the Church, but evidence suggest the beliefs and practices continued well after the conversion. For instance, Bishop Burchard of Worms’s 11th century penitential banned the belief in and practice of transforming oneself into animals to a

²⁰⁰ Hedeager, "Dyr Og Andre Mennesker - Mennesker Og Andre Dyr: Dyreornamentikkens Transcendentale Realitet," 235; Price, *The Viking Way: Magic and Mind in Late Iron Age Scandinavia*, 30-31.

²⁰¹ *The Viking Way: Magic and Mind in Late Iron Age Scandinavia*, 30.

²⁰² Hedeager, "Dyr Og Andre Mennesker - Mennesker Og Andre Dyr: Dyreornamentikkens Transcendentale Realitet," 236-39.

²⁰³ Kristina Jennbert, "Djuren I Nordisk Forkristen Ritual Och Myt," in *Plats Och Praxis: Studier Av Nordisk Förkristen Ritual. Vägar Till Midgård*, ed. Catharina Raudvere, et al. (Lund: Nordic Academic Press, 2002), 118.

²⁰⁴ Price, *The Viking Way: Magic and Mind in Late Iron Age Scandinavia*, 317. Hedeager, "Dyr Og Andre Mennesker - Mennesker Og Andre Dyr: Dyreornamentikkens Transcendentale Realitet," 234-35. Strong *hugr* by shapeshifting is linked with the highest god; Odin, the warrior and sorcerer god. This made him an important link of martial culture to sorcery. Pluskowski, "Harnessing the Hunger", in Andrén, Jennbert, and Raudvere, *Old Norse Religion in Long-Term Perspectives Origins, Changes, and Interactions an International Conference in Lund, Sweden, June 3-7, 2004*, 8, 120-22.

congregation which had been formally Christian for over 500 years. This confirms the long-standing belief in shapeshifting in Germanic culture.²⁰⁵ Due to the late conversion, as seen in chapter 1, pagan-rooted beliefs and practices are generally thought to have remained longer in Scandinavia than elsewhere and left comparatively many traces here.²⁰⁶

Thus, predatorial animal ornamentation, shapeshifting, and the human warriors of the ship crew were intertwining elements making up a functional apotropaic framework. The ritual mounting of vanes before a battle may in this way signal the timing for shapeshifting and enabled the apotropaic protection of animal depictions. The artefact, animals, and humans are of interchanging, overlapping natures, and all three agents with a potential for transformation.

The Tingelstad Battle

Unlike the animal battles on the Heggen, Källunge, and Söderala, the Tingelstad depicts a scene from the bible. A man at the centre tears open a lion's mouth and pulls out a small lamb. This is the scene of David from the following bible verses:

*But David said to Saul, 'Your servant used to keep sheep for his father. And when there came a lion, and a bear, and took a lamb from the flock, I went after him and struck him and delivered it out of his mouth. And if he arose against me, I caught him by his beard and struck him and killed him.'*²⁰⁷

David later defeated Goliath. His rescue of men from evil prefigured Christ's ultimate saving: the lamb symbolises the Christian congregation Christ saved from the lion, representing evil.²⁰⁸ But the scene may have been confused with that of King Samson, who also killed a lion:

*Samson went down to Timnah together with his father and mother. As they approached the vineyards of Timnah, suddenly a young lion came roaring toward him. The Spirit of the Lord came powerfully upon him so that he tore the lion apart with his bare hands as he might have torn a young goat. But he told neither his father nor his mother what he had done.*²⁰⁹

²⁰⁵ Richard Kieckhefer, *Magic in the Middle Ages*, Cambridge Medieval Textbooks (Cambridge: Cambridge University Press, 1989), 46. Richard C. Hoffmann, *An Environmental History of Medieval Europe* (Cambridge: Cambridge University Press, 2014), 93.

²⁰⁶ Kieckhefer, *Magic in the Middle Ages*, 47.

²⁰⁷ 1. Sam 17, 34-35

²⁰⁸ Stige, "Tingelstadfløyen: Skipsfløy På Land," 99.

²⁰⁹ Judges 14:5-7.

The lamb does not feature in this story. But Samson's attribute is his two hair locks, depicted on the Tingelstad. The lion killers may have been confused or deliberately merged.²¹⁰ In any case, the message is clear: good men are aided by God to triumph over bestiality. David/Samson is the obvious victor in formal terms too: he is positioned above, perhaps onto, the large lion. The scene may have been didactic for those few people who could see it. But as seen, the vane was mounted so that most people could not discern the motif, neither in the ship nor church. The Tingelstad incorporated Christian elements into the older form of weathervanes, and it was perceived as a power and force on its own. By depicting the biblical triumph of Good over Evil, this power, ultimately deriving from the Godhead, becomes present in and "fuels" the artefact.

The introduction of Christianity brought a shift in the relationship between animals and humans. Previously, as seen, the animals were given elevated status for their vitality, violence, and skills in battle. In Christianity, animals were associated either positively or negatively morally, and could be controlled by demons.²¹¹ Dragons, snakes, and lions could represent evil. On the Christian vane from Tingelstad, then, the sculpted top dragon represented and averted evil on the principle of similarity, seen above; just like the engraved lion defeated by David.

The apotropaic transformation of animal ornamentation would occur, as seen, regardless of the physical location – but dependent on the socio-cultural values and beliefs of the audience. The Tingelstad, however, make clear that its powers are distinctly Christian, and deriving from the Godhead, both when located in the ship stems and in the church spires alike.

Protecting Churches

All the early medieval weathervanes were thus believed capable of averting evil. As seen, any edifice could be protected; ownership changed unproblematically. Because of their seeming independent efficacy, then, the vanes may have been apotropaic in the church spires too.

Officially, as seen, the Church banned magic. But belief in and practices of magic in various forms were socially deep-seated in early medieval Scandinavia and did not cease with the introduction of Christianity.²¹² However, an exception may have been protective magic. This

²¹⁰ Bugge, "Bronsefløien Fra Tingelstad Kirke," 21; Stige, "Tingelstadfløyen: Skipsfløy På Land," 99.

²¹¹ Eunice Dauterman Maguire and Henry Maguire, *Other Icons: Art and Power in Byzantine Secular Culture* (Princeton: Princeton University Press, 2007), 90.

²¹² Price, *The Viking Way: Magic and Mind in Late Iron Age Scandinavia*, 324-25.

was largely allowed through the symbol of the cross whose protective power derived from God. But there was only a fine line between pagan apotropaic magic and Christian miracles and relics. This ambiguous attitude of the early church towards apotropaic magic meant that protective images were frequently employed by Christians. An example is the pagan convention of wearing protective amulets. Medieval amulets were designed unaffected by the religious change, or they mixed pagan magic elements and spells with liturgical narratives and crosses, engaging actively both traditions.²¹³ Ancient artefacts were considered especially potent for apotropaic protection in the Islamic and Byzantine worlds, by referring to distant pasts, and appropriated and attached to exteriors.²¹⁴ Apotropaic images adorned churches, especially at weaker points like doors, arches, and pillars, that is, thresholds, to prohibit invisible evil forces from entering.²¹⁵ Magic objects in church contexts should not be considered folkloric. They were continuations of pre-Christian magic since magic permeated all of society and was practiced by religious and secular powers and the lower classes.²¹⁶

It is perhaps at such a crossroads that the vane from Tingelstad was situated. It mixed new, distinctly Christian ideas with the traditional forms and functions of weathervanes, with roots back to the pre-Christian miniature vanes and beyond. Furthermore, this religious climate allowed the older ship vanes from Heggen, Källunge, and Söderala – without any explicit Christian references – to be mounted in the church spires. Their potential for exercising apotropaic protection of the sacred buildings may have been of primary importance.

Interpretatio Christiana?

Although the three oldest weathervanes, from Heggen, Källunge, and Söderala, had no explicit Christian iconography, they may have been re-interpreted as Christian symbols when mounted in the church spires, if not before. Below, it is suggested some ways in which the animal battle motifs may have been interpreted as Christian, in order for the vanes' apotropaic powers to be conceived as deriving from the Christian Godhead, like the amuletic crosses.

²¹³ Nils Hallvard Korsvoll, "Official Teaching and Popular Practice Are Church Opinions on Magic Reflected in the Surviving Amulets from the Early Middle Ages?," (Berlin, Boston: De Gruyter, 2018), 150-52, 60.

²¹⁴ Finbarr Barry Flood, "Image against Nature: Spolia as Apotropaia in Byzantium and the Dār Al-Islām," *The medieval history journal* 9, no. 1 (2006): see for instance 145, 56.

²¹⁵ Maguire and Maguire, *Other Icons: Art and Power in Byzantine Secular Culture*, 69-71; Donceel-Voûte, "The (in)Visible Evil in Sacred Space: Codes, Keys and Clues to Reading Its Image," 37-38.

²¹⁶ Nordanskog, "Misconceptions Concerning Paganism and Folklore in Medieval Art: The Roglosa Example." Korsvoll, "Official Teaching and Popular Practice Are Church Opinions on Magic Reflected in the Surviving Amulets from the Early Middle Ages?," 153.

The dragon-serpent, the most frequent motif of the vanes, could represent evil and thus avert evil on the similarity principle seen above, but it could also have an apotropaic potential by its relation to Christ. Winged dragons were Christian hybrids of birds, (the wings refer to the caladrius, which could heal the sick) and the serpent (the body of a serpent refers to the serpents sent by God biting the Israelites. Later, God ordered Moses to “make a serpent of bronze and erect it as a standard, so that anyone who had been bitten could look at it and recover”).²¹⁷ This way, the image of the “Brazen Serpent” became apotropaic). The dragon, half bird half serpent thus combined these two animals’ divine, healing powers. A titulus to an image of a dragon on the cross explains its link to Christ: “Just as the brazen serpent slays all serpents / So Christ, raised on the cross, slays His enemies”.²¹⁸ The serpent-dragon *is* Christ who will defeat evil. Christ is human and divine in nature, just like the dual nature of the dragon related to realms of earth and heaven.²¹⁹ The dragon, and indeed other beasts like eagles and lions, according to Christian writers, are thus both “blameworthy and praiseworthy”: reminiscent of both the Devil and of Christ. The lion, eagle, and dragons had particularly elevated statuses as the kings of the earth, air, or both. Their depictions could summon the powers of the Godhead to ultimately avert evil forces. Such an *interpretatio christiana* may be relevant for the vanes’ animals too.

On the Tingelstad, it was David’s triumph over the lion which ensured that it was God’s power which made the vane apotropaic. There is no clear triumph on the three earlier weathervanes. The motif of a serpent battling an eagle of the B side of the Heggen can perhaps be compared, for example, to Christian images of the eagle as Christ shielding innocent men from evil (the serpent), according to St. Jerome; or be interpreted after St. Ambrose, who claimed that the serpent-killing eagle is like Christ incarnate destroying the devil.²²⁰ The other animal battle motifs may similarly have had counterparts in Christian texts, beliefs, and concepts. In that case, the ornaments imbued a Christian force to the animal battles, like on the Tingelstad. In themselves, however, the ornaments on the Heggen, Källunge, or Söderala had no explicit Christian references. Such an *interpretatio christiana* may have justified the mounting of these older vanes to the church authorities. But such interpretations of each detailed design may not have been necessary. In a cultural climate where pagan and Christian elements mixed and entangled, the apotropaic potential of the vane likely continued unproblematically. Indeed, the

²¹⁷ Book of Numbers 21:7-8. Herbert L Kessler, "Christ the Magic Dragon," *Gesta* 48, no. 2 (2009): 122.

²¹⁸ Abbot Suger, *De administratione*, 34; trans. E. Panofsky, *Abbot Suger on the Church of St.-Denis and Its Art Treasures*, 2nd ed. (Princeton, 1979), 76-77: "Sicut serpentes serpens necat aeneus omnes, Sic exaltatus hostes necat in cruce Christus." In *ibid.*, 123.

²¹⁹ *Ibid.*, 121-24.

²²⁰ Maguire and Maguire, *Other Icons: Art and Power in Byzantine Secular Culture*, 60-63.

perceptual link between the vanes and the churches they were in, may itself have signalled that the apotropaic powers of these artefacts ultimately derived from the Christian Godhead.

Animal Heads in Ship Stems and Church Gables

To strengthen the argument that the vanes were in fact experienced as forceful apotropaic presences, the four vanes may be compared to the similar convention of attaching animal heads to ship stems and church roof gables in medieval Scandinavia. According to the sagas, sculpted animal heads could be mounted and dismounted from the stems of Viking ships. The sagas describe them as gold, loose objects, and so frightening to the “land spirits” that they must be removed before approaching land. This is accepted as evidence for their apotropaic function.²²¹ Most often, the animal head was a dragon’s, and the ship called *Dreki*, but also *Ormr* and other animal names. Not all ships named this way had animal heads, however.²²² In any case, the animal head on the stem would be a neck, its eyes looking out danger, and a spiral attached to the back-stem as the ship-as-animal’s tail. Literature also likens the ship’s parts poetically to the animal’s anatomy: they could have mane, mouths, and broken backs from rough weather. Falk has argued that one stem could have several heads, and that one head could adorn each stem.²²³ The Bryggen image depicts the golden animal heads in stems alongside stems with early medieval weathervanes. It seems the statuses and functions of these artefacts overlapped.

Animals, and again, often dragon heads were placed on gables of stave church roofs, or on the roofs of church reliquaries, like St Thomas’ reliquary; on precious caskets, like the Cammin and Bamberg caskets; or other precious objects, like the sledges of the Oseberg find. Indeed, the Limoges reliquary had dragon heads attached to it in the gables when it arrived in Trönö, Sweden, in the 13th century.²²⁴ Placed on the exteriors of sacred churches or containers of holy relics, the animal heads averted evil forces in the ways described above.

Unlike the animal heads, whose function seems to have been mainly apotropaic, the weather-vanes, when attached to the church spires, could indicate the wind’s directions as functional

²²¹ *Landnamabok, Hauksbók* chapter 268. In Sven Kalmring and Lena Holmquist, “The Gleaming Mane of the Serpent’: The Birka Dragonhead from Black Earth Harbour,” *Antiquity* 92, no. 363 (2018): 749. Niklas Eriksson, “Figureheads and Symbolism between the Medieval and the Modern: The Ship Griffin or Gribshunden, One of the Last Sea Serpents?,” *Mariner’s mirror* 106, no. 3 (2020).

²²² Judith Jesch, *Ships and Men in the Late Viking Age: The Vocabulary of Runic Inscriptions and Skaldic Verse* (Woodbridge: Boydell Press, 2001), 127-28.

²²³ Falk, *Fornnordisk Sjöfart*, 52-53.

²²⁴ Martin Blindheim, *The Romanesque Dragon Doorways of the Norwegian Stave Churches: Traditions and Influences* (Roma: Bretschneider, 1965), 262.

veðrviti (except, as seen, the Heggen on a sloping spire). It seems this meteorological aspect was continually associated with the object type in addition to the apotropaic. The next chapter investigates this instrumentality, which separate the weathervanes from other apotropaic objects, like the animal heads described above attached to ship stems and church roofs.

Concluding Remarks: Magic Potential

The church's appropriation of the vanes may express a tolerance or ambivalent attitude to magic practices with pre-Christian roots, especially of apotropaia. Important to the vanes' protective potential was its generated bright, awe-inspiring spectacle: "light is a powerful *apotropaion*".²²⁵ In the ship stems, the protection was regulated by the ritual mounting of the gilded vane in the open air, the golden flashes capable of striking both visible and invisible enemies from a distance. In the spires, the vanes were permanently on display, moving by the wind, and thus, constantly, permanently expressing or manifesting the apotropaic potential for protection. The beautiful appearance of the metalwork, its varied and shiny appearance without human interference made the vanes potent.²²⁶ The golden light was bound to the reflexivity of the surface material which also displayed the wealth and power by which the artefact could send off evil forces. This made up a powerful dissuasion believed to be inherent in the weathervanes.

The metal of gold not only communicated the richness' power to enforce, but also specifically related to warrior elites; as warriors were rich in gold, by heritage, gifts, or robbery.²²⁷ Furthermore, this may have been characteristic for metalwork production generally. The knowledge of metalworking smiths was believed to come from Mímir's well, the source of all wisdom and knowledge, and related to Odinn, the god of wisdom, magic, and smithing. The smiths were believed to transfer their supernatural powers to the metalwork they made.²²⁸ On a more general level, Old Norse *kunst*, artworks, were conceived of as objects whose value related to knowledge, insight, and sorcery, and thus in themselves embodying a potential for magic.²²⁹

²²⁵ Donceel-Voûte, "The (in)Visible Evil in Sacred Space: Codes, Keys and Clues to Reading Its Image," 21.

²²⁶ Chadwick, "Doorways, Ditches and Dead Dogs: Excavating and Recording Material Manifestations of Practical Magic Amongst Later Prehistoric and Romano-British Communities," 40.

²²⁷ Lundborg, "Bound Animal Bodies," 42-43.

²²⁸ Hed Jakobsson, "Spår Av En Maktideologi: Städer, Tomter, Hantverk Och Djuornamentik," 286-88; Ekberg, "På Resa Till En Annan Värld: Vikingatida Miniaturflöjlar," 4; Duncan W. Wright, "Crafters of Kingship: Smiths, Elite Power, and Gender in Early Medieval Europe," *Medieval archaeology* 63, no. 2 (2019).

²²⁹ Kristoffersen, "Half Beast-Half Man: Hybrid Figures in Animal Art," 262.

By mounting golden, ornamented weathervanes to ship stems, the depicted animal battles unleashed the animals' violent, bestial, predatory energy and power into the environment. This enormous force enabled the warriors to shapeshift, and the vanes to protect against evil. The transformation relied on a unity of animal-human relationships, with blurry, changing, and dynamic boundaries between them and the inert material artefact. The Tingelstad's representation of the triumph over evil ultimately underlined its God-originating protective powers. In the church spire, the potential for apotropaic protection probably continued, functioning like the dragon heads and other animals on the exterior of churches to ward off evil.

6. THE WIND AND THE VANES

Wind and weather structured life in medieval Scandinavia. Favourable winds invigorated health and economy by leading sea journeys to success and securing the harvest. On the other hand, unfavourable winds could cause chaos, disaster, and death. In a cosmic sense, wind ensured communication between the microcosm on earth and the macrocosm in heaven. The wind was also perceived as breath or spirit; the animating force of live organisms.²³⁰ In the Norse world, the importance of wind and weather is shown in the wind and weather-related gods, magicians, charms and amulets, and later, the weather-influencing Christian saints and the Godhead.

This chapter looks at consequences of the fact that early medieval vanes did *not* indicate the wind in the ship stems but did so in the church spires except, as seen, the Heggen. It postulates Stige's claim that the name, *veðrviti*, classify the objects by their link to previous, functional wind-indicators.²³¹ As such, they were closely associated with the wind and weather regardless of the actual, instrumental function. This association must have been visual in character too; the memory of other fabric wind-indicators relating them to the solid, gilded counterparts.

The point of departure is the church's reuse and appropriation of the ship vanes, that is, in an early Christian context. It is argued that church authorities were aware of the vanes' previous significance. Implied here is a challenge to a previous argument, that the vanes' original meanings had to be forgotten before the church allowed them to be mounted in the spires, and/or involving a pragmatic use of the now-inoperative but beautiful artefacts.²³² I believe this argument underestimates both the vanes' value beyond the economic and stylistic, and the centrality of cultural memory and tradition to medieval society.

²³⁰ Barbara Baert, *Interruptions and Transitions: Essays on the Senses in Medieval and Early Modern Visual Culture*, vol. 14, Art and Material Culture in Medieval and Renaissance Europe (Leiden, Boston: Brill, 2019), 221-24.

²³¹ Stige, "Tingelstadfløyen: Skipsfløy På Land," 106-08.

²³² Most influentially argued by Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 182-83; Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 108.

Theory and Methodology

Weather is conceived of here as a cultural and historical phenomenon in an approach influenced by P. E. Dutton. Everyday weather experience shapes daily labour, economy, health, but also worldviews.²³³ As subjective and relative responses to the lived environment, weather reports, for instance, are “a treasure trove of human thinking about what it meant to live in particular worlds at particular times”.²³⁴ The Norse sagas contains numerous weather comments, some of which are explored below. Weather as experienced by humans is separate from climate, which is ahistorical and exists without humans as the physical nature of earth and atmosphere. Climate is the total sum of a period’s weather patterns and is thus of less interest for the present aims.²³⁵

The first part of the chapter looks at a wide network of very similar objects by juxtaposing the Scandinavian vanes with their European counterparts.²³⁶ The European connection makes it interesting to explore meteorological treatises on the physical and cosmic explanations of the wind and weather to establish the significance of the phenomena. Like other agricultural societies, the Norse relied on the weather for living, peace, and prosperity, and may have explained phenomena in related ways. The second part of the chapter looks at connections between Norse pre-Christian and Christian beliefs in, and practices of, supernatural weather control, both by magic and by the divine. By relocating to church spires, the vanes were incorporated into Christian image systems. The third part of the chapter looks at the implications of this appropriation by suggesting specific ways in which medieval people may have understood the weathervanes as powerful, sacred objects when located in the church spires.

²³³ Paul Edward Dutton, "Observations on Early Medieval Weather in General, Bloody Rain in Particular," in *The Long Morning of Medieval Europe: New Directions in Early Medieval Studies*, ed. Jennifer R. Davis and Michael McCormick (Aldershot: Ashgate, 2008), 167-68.

²³⁴ *Ibid.*, 169.

²³⁵ Bernadine McCreesh, in Glauser, Hermann, and Mitchell, *Handbook of Pre-Modern Nordic Memory Studies: Interdisciplinary Approaches*. 550.

²³⁶ Lindgrén and Neumann, "Viking Weather-Vane Practices in Medieval France."; Stige, "Tingelstadfløyen: Skipsfløy På Land."; Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk." and others have similarly placed the Scandinavian vanes into the larger context of European weathervanes and weathercocks.

Classical and Medieval Weathervanes and Weathercocks

The convention of attaching golden wind-indicators to the spires of buildings was apparently a widespread and flexible custom not restricted to types of buildings or institutions. A Norse source tells of Eymundr Hringsson who killed king Borislav in c. 500, whose tent had a stick with a *veðrviti* at the top.²³⁷ Then there is Sigurd Jorsalfare who gave his ships and a golden head to the emperor of Rome, although it was likely more similar to the animal heads seen in chapter 5.²³⁸ In fact, weathervanes and weathercocks adorned many buildings in classical and medieval western Europe, but the small group has not been extensively researched.

The first known European weathervane is usually thought to be the 1st century BC *Tower of Winds* in Athens,²³⁹ later replicated in Rome. Varro and Vitruvius described it as an octagonal marble tower, with a relief sculpture of a wind personification on each of the eight sides. A weathervane shaped as a triton, the sea god, pointed to the relief displaying the direction of the wind. Dunstan Lowe suggested another weathervane as the earliest; the 3rd century BC *Pharos* of Alexandria.²⁴⁰ This octagonal tower had bronze wind personifications blowing trumpets; and on top a weathervane in bronze of Zeus, the weather god, probably pointing his sceptre to the dominating wind. A third classical weathervane was on the 8th century *Anemodoulion* in Constantinople. This tower had four bronze personifications of the four seasons in relief.²⁴¹ The weathervane at the top, turning with the wind, would thus point to one of the four season reliefs, thus linking the four seasons with the four cardinal winds. The anthropomorphic weathervanes visualised the belief in the deity's influence on nature, and indeed the cosmic order, since the towers were "astrometeorological assemblies" with armillary spheres, sun dials, and astronomical clocks for measuring several cosmic elements in addition to the wind.²⁴²

²³⁷ **Fornmanna sögur 5:** "Konúngs tjaldit var harðlæa dýrligt ok vel gert; þar voru fjórar stúkur af, ok staung mikil upp or, ok knappr á or gulli ok veðrviti með". As cited in chapter 3.

²³⁸ **Fornmanna Sögur 7:** «Eptir þetta bjóst Sigurðr konúngur til heimferðar. Hann gaf keiðeranum öll skip sín, ok voru höfuð gullbúin á því skipi, er konúngur hafði stýrt. (Pau höfuð voru sett upp á Petrs-kirkju». In *Fornmanna Soegur: Eptir Goemlum Handritum*, vol. 7 (Kaupmannahoefn: Det Kongelige Nordiske Oldskriftselskab, 1832), 98.

²³⁹ Parallely, the Chinese text *Huai Nan Tzu* from 139 BC described a "wind-observing fan" bird-shaped. Weathervanes may have been invented at approximately the same time in Greece and China. See Joseph Needham and Ling Wang, *Science and Civilisation in China: Mathematics and the Sciences of the Heavens and the Earth*, vol. 3 (Cambridge: Cambridge University Press, 1959), 477-78.

²⁴⁰ Dunstan Lowe, "Twisting in the Wind: Monumental Weathervanes in Classical Antiquity," *CAJ* 62 (2016): 153-56.

²⁴¹ The four relief images depicted songbirds, shepherding, fishing, and apple-picking, standing for the four seasons, according to *ibid.*, 162.

²⁴² *Ibid.*, 160-64.

In the late 10th century Arab world, a bronze lancer on Baghdad's Golden Gate Palace was said to turn towards enemies, suggesting it was believed to be apotropaic. It was later destroyed by lightning. Vanes adorned other Arab medieval palace domes too, in the 10-11th centuries.²⁴³

Weathercocks decorated the roofs of Christian Europe. The cathedral of Brescia, North Italy, had a "gallus aenus" (a bronze or copper cock) in 820; and a gilded cock adorned St. Gall monastery, Switzerland, in the late 10th century;²⁴⁴ in 965, the golden cock of the abbey of St.-Pierre de Châlons, France, was struck by lightning three times; and the English Winchester Cathedral had a "gallus aureus ornatu, grandis et intuito", according to Wulfstand in 993.²⁴⁵ There was also a golden cock on the Norman cathedral of Coutonces, which was struck by lightning in 1091; and another texts situated a "gallum aeneum" on top of the Lateran in Rome at least in the period 1099—1118.²⁴⁶ Further, the Bayeux Tapestry, c. 1070, depicts the Westminster Abby having a weathercock attached to the choir roof with a stick.²⁴⁷

The weathervanes and weathercocks just described were of bronze or copper, sometimes gilded.²⁴⁸ They adorned sacred and secular, urban and rural places. They have in common the brilliant spectacles they created in elevated, public locations in the land- and cityscapes; and importantly, they indicated the wind. The attachment of the four early medieval vanes in church spires thus coincided with this wider European tradition. Apart from aesthetic reasons, then, why were metal wind-indicators suitable to elevate the status of these prestigious buildings?

Meteorology

*What happens in the sky, in the air, on earth and on the sea is due to the wind. And to put it briefly, our inquiries deal with matters which also concern the life and well-being of plants and animals.*²⁴⁹

²⁴³ Ibid., 147 and footnote 3.

²⁴⁴ Ibid., footnote 3; Lindgrén and Neumann, "Viking Weather-Vane Practices in Medieval France," 200.

²⁴⁵ "Viking Weather-Vane Practices in Medieval France," 201-02.

²⁴⁶ Ibid., 200.

²⁴⁷ Stige, "Tingelstadfløyen: Skipsfløy På Land," 109.

²⁴⁸ It is striking that all textual entrances of weathervanes state their materiality. Most state a materiality of *aes* meaning copper or bronze, whose boundary was blurry. Only some of the cocks were gilded. On *aes*, see Weinryb, *The Bronze Object in the Middle Ages*, for example 5.

²⁴⁹ Theophrastus (c. 300), *On Winds* 1. In Barbara Obrist, "Wind Diagrams and Medieval Cosmology," *Speculum* 72, no. 1 (1997): 38.

Wind and weather phenomena were understood in the Middle Ages as occurrences in the natural world with physical explanations. To Christians, God had created all of nature and could always intervene through it, as will be explained below. But in an everyday sense, the weather and seasons mattered to people as physical events in predictable cycles. The wind received more attention from medieval scholars than other weather phenomena due to its capriciousness, and consequent reluctance to general explanation.²⁵⁰ The wind moved in violent and mild ways, perceptible to vision only indirectly by making things move. The wind had a special status in meteorology as enigmatic, powerful, capable of disruption and stabilising.²⁵¹ The following looks at the Scandinavian conditions as part of the pan-European agrarian societies, which all depended on the weather and regular seasonal cycle. Scandinavians must have thought of the winds as central to these processes – like they did elsewhere in Europe.

The wind was conceived of as “moved or agitated air” in the early Middle Ages: a state, flow, or movement of air.²⁵² As air, then, the wind constituted the middle of four elements of the cosmos, filling the space between the lower, central earth and the upper element of fire in the heavens. It was the transformation of the four elements which held the cosmos together. The elements transformed into each other, explained by the opposite of hot, cold, dry, and humid, and thus produced a season, according to the sun’s position.²⁵³ An element consisted of two of these opposites: fire, for instance, consisted of hot and dry and related to the summer season.

The cosmic force of the wind was perceptible on earth by the cardinal winds, each identified with the direction they came from in the sky. The main cardinal winds were the north, *septentrio*, cold and dry; south, *Auster* or *Notus*, hot and moist; east, *Subsolanus* or *Apeliotes* hot and dry; and the west, *Zephyrus* or *Favonius*, cold and moist.²⁵⁴ Importantly, each wind caused specific weather phenomena, although with regional differences. The 8th century Bede, for example, claimed that the north wind brings cold and clouds. East winds cause thunder. South winds are hot, moist, brings lightning, great storms, and earthquakes. West winds are the most pleasant, bringing flowers, mild temperatures, dispelling winter (but a west-south-west wind brings storms, thunder, and lightning).²⁵⁵ Numerous other accounts give variations of

²⁵⁰ Ibid., 37; Baert, *Interruptions and Transitions: Essays on the Senses in Medieval and Early Modern Visual Culture*, 14; Richard Jones, *The Medieval Natural World* (New York: Routledge, 2013).

²⁵¹ Obrist, "Wind Diagrams and Medieval Cosmology," 36-37.

²⁵² Ibid., 35.

²⁵³ Ibid.

²⁵⁴ Jones, *The Medieval Natural World*, 45.

²⁵⁵ Anne Lawrence-Mathers, *Medieval Meteorology: Forecasting the Weather from Aristotle to the Almanac* (Cambridge: Cambridge University Press, 2020), 27-28.

Bede's.²⁵⁶ Pliny the Elder suggested that different winds initiated their own season when the sun reached the 8th degree of a relevant zodiac sign.²⁵⁷ Winds were also, after Aristotle, considered the true cause and essence of most weather phenomena: earthquakes, thunder, lightning, fire wind, and thunderbolts.²⁵⁸ The numerous wind diagrams clearly display how it is the winds which dominate the elements and the seasonal cycle, and not vice versa.²⁵⁹

The winds ensured that the right elements reached a certain place at a certain time. In general terms, the wind brought or prevented change as moving, regulating natural forces and weather phenomena. Capable of bringing atmospherical events to the observable nature, the winds could bring messages from the heavens to the earth. The mediating role of the wind between macrocosm and microcosm thus implied the potential for communication between heavenly beings and humans. As invisible forces permeating the universe, causing change, and ensuring cosmic stability, the winds were closely related to the immaterial divine powers.²⁶⁰

Norse Conditions

The North Atlantic regions underwent a climatically warm period c. 950-1100 which was succeeded by one of increased weather variation. This minimised the weather predictability,²⁶¹ and from the 14th century, when most of the Norse sagas were written, temperatures declined gradually.²⁶² This was experienced indirectly; mainly by more unstable weather during sailing, and less regular seasonal change which produced more variable crops. The high latitudes of Scandinavia required more intricate and detailed knowledge of regional weather phenomena than for instance Mediterranean regions with less differentiated seasons. The medieval treatises above claimed that the winds initiated the seasons and upheld the seasonal cycle. The wind affected all aspects of agricultural society of Scandinavia, which would be essential to peace and prosperity. Therefore, the wind had mainly practical significance at these latitudes.²⁶³

²⁵⁶ Classical Greece and Italy, see Eugene McCartney, S., "Greek and Roman Weather Lore of Winds," *The Classical weekly* 24, no. 2 (1930): 12-15.

²⁵⁷ Lawrence-Mathers, *Medieval Meteorology: Forecasting the Weather from Aristotle to the Almanac*, 7. On Pliny, Chapters 76–77; *ibid.*, pp. 394–403.

²⁵⁸ *Ibid.*, 11.

²⁵⁹ Obrist, "Wind Diagrams and Medieval Cosmology," 73.

²⁶⁰ *Ibid.*, 72-73, 76.

²⁶¹ Hoffmann, *An Environmental History of Medieval Europe*, 337.

²⁶² Paul S. Langeslag, *Seasons in the Literatures of the Medieval North*, (NBN International, 2015). Ebook. 14-16.

²⁶³ Obrist, "Wind Diagrams and Medieval Cosmology," 41.

Sea Fare

Wind and weather conditioned sea fare, perhaps the most important aspect of Norse society.²⁶⁴ Norse and medieval Scandinavian literature are scattered with variations of *at biða byrjar*, the act of waiting for favourable winds at sea, or being stranded at harbour waiting for the right wind to depart.²⁶⁵ Delay caused loss of health and money to stranded ships, and devastation was fatal if the wind changed during sailing. It could lead a ship back to its point of departure or cause it to stand still mid-sea.²⁶⁶ Since rowing was only for short distances, the dependence on the wind was immense. The absence of navigational tools, except the *solarstein* and perhaps the polarization of daylight,²⁶⁷ required the sailors to skilfully measure and utilise the wind.

The functional weathervane was a crucial for successful Viking journeys at sea as the only dependable tool for wind indication. It was a prerequisite for the famously extensive Viking sea journeys. As seen in chapter 3, the ships efficiently used wind-indicators of thin metal or fabric, none of which survives today. The ship crew would constantly watch the functioning weathervanes for a shift in the wind which enabled the journey.²⁶⁸ As the only tool for stable visualisation of the capricious wind, concentration and attention was focussed on these objects, and decisions and strategies were made according to their indications.

Agriculture and the Seasons

The Norse population lived largely on land cultivation and animal husbandry, often in combination: animals fed on the crops and the crops were ploughed and manured by the animals. This demanded intricate and detailed knowledge of the solar year to farmers, and to fishermen and hunters alike, due to the migratory patterns of cod and prey.²⁶⁹ The large contrast between the seasons in Scandinavia made the crops fragile and dependent on regularity for predictability and the yearly distribution of labour.²⁷⁰ Changes to the seasonal cycles threatened the already fragile crops. Because of the economic dependence on agriculture, seasonal irregularities could be fatal. Therefore, the agricultural societies were ordered by a “soft

²⁶⁴ Langeslag, *Seasons in the Literatures of the Medieval North*. 24-25.

²⁶⁵ For a list of these phrases, see Richard Perkins, *Thor the Wind-Raiser and the Eyrarland Image*, Text Series (London: Viking Society for Northern Research, University College London, 2001), 9.

²⁶⁶ *Ibid.*, 5-7.

²⁶⁷ A fragment of a sundial has been found on Greenland. For Viking navigational tools, see Guy Ropars, Vasudevan Lakshminarayanan, and Albert Le Floch, "The Sunstone and Polarised Skylight: Ancient Viking Navigational Tools?," *Contemporary physics* 55, no. 4 (2014): 302-04.

²⁶⁸ Perkins, *Thor the Wind-Raiser and the Eyrarland Image*, 8-9.

²⁶⁹ Langeslag, *Seasons in the Literatures of the Medieval North*. 18.

²⁷⁰ Jones, *The Medieval Natural World*, 46.

determinism”, and the weather became an integral part of everyday life.²⁷¹ Scandinavians operated with two seasons: winter and summer. Conceiving the year of 12 months, they assigned the six months with shortest days to winter, and the six with longer days to summer. Based on the *experience* of the year, cold and dark weather was separated from the hot and light - the extremities of the scale.²⁷²

Supernatural Weather

Weather Magic

Success in sea fare and agriculture depended on understanding and predicting the weather, and so these aerial phenomena were intricately bound to power. People wanted to influence the weather and control it. Observing that weather events occurred independently of human behaviour, people came to believe they sometimes had supernatural causes.²⁷³

Pagans believed that unusual weather events could be caused by magic and used as weapons against enemies. Several terms denoted weather events invoked by magic, like *galdrahríð*, “magic storm”, and *gerningaveðr* or *gerningahríð*, “storm raised by witchcraft”.²⁷⁴ Sagas such as *Laxdæla saga* tell of witches raising storms against enemies. In *Torsteins saga Vikingssonar*, a witch shakes a “weather-bag”, *veðrbelgr*, which produced cold and wind. *Olafs saga Tryggvasonar* tells of Rauðr, a skilled magician, who used magic for favourable winds during sailing. Other means to increase the wind included whistling; a “wind amulet” consisting of a thread with three knots;²⁷⁵ and runes, like the 11th century runic charm from Sigtuna, Sweden, which were believed to bring mist and sunshine.²⁷⁶

As seen in chapter 1, magic affected all aspects of pre-Christian society. Weather magic was extensive in Scandinavia compared to regions less affected by unpredictable weather,²⁷⁷ and is demonstrated by the substantial continuation into early Christianity. As seen, magic was banned

²⁷¹ Langeslag, *Seasons in the Literatures of the Medieval North*. 17-19, 25; Hoffmann, *An Environmental History of Medieval Europe*, 157-59.

²⁷² Langeslag, *Seasons in the Literatures of the Medieval North*. 3, 8, 12.

²⁷³ Perkins, *Thor the Wind-Raiser and the Eyrarland Image*, 10.

²⁷⁴ Mitchell, *Witchcraft and Magic in the Nordic Middle Ages*, 65.

²⁷⁵ Perkins, *Thor the Wind-Raiser and the Eyrarland Image*, 11-13.

²⁷⁶ Mitchell, *Witchcraft and Magic in the Nordic Middle Ages*, 65. Kieckhefer, *Magic in the Middle Ages*, 48.

²⁷⁷ Mitchell, "Magic and Religion," 645-46; Perkins, *Thor the Wind-Raiser and the Eyrarland Image*, 12.

by the Church, but the need to reassert the prohibition suggest that most people continued to believe in and practice magic. For instance, the previously mentioned 11th century penitential of Burchard of Worms rejected magicians' powers to affect the weather for an audience formally Christian for over 500 years.²⁷⁸ The penitential by bishop Agobard in Lyon from 820 had to reassert that God controlled the weather, since his congregation accused others of sailing air ships and stealing harvests. Sorcerers, *tempestarii*, were believed to arouse hail and thunderstorms. According to Agobard, Christian saints and prophets did not independently influence the weather, as the *tempestarii* claimed to do; they had beseeched God first.²⁷⁹ Similarly, the medieval Icelandic law, *Grágás*, punished the "lesser" forms of magic, witchcraft, spells less hard than more serious magic leading to the killing of humans and cattle. From this, it seems that magic was verbal, teachable, and professional also in Christianity.²⁸⁰

Divine Weather

In Christianity, God created all nature and ultimately controlled its forces.²⁸¹ Residing in the sky, the Creator could always intervene through weather events, and thus become manifest in perceptible and observable ways.²⁸² Since all extraordinary weather thus potentially contained the Godhead's disembodied essence, observation of the sky and the atmosphere did not only lead to prediction of the coming weather – but potentially to knowledge of God's will and plan. This added a spiritual power to the understanding and prediction of aerial phenomena.

The belief that divine powers acted through the weather on earth may not originate in Christianity, however, as several pagan gods were thought to control and influence the weather and the wind. Most importantly, sacrifice to Thor gained favourable winds at sea. Thor also ruled thunder, lightning, rain, fine weather, crops, and wind.²⁸³ Odinn influenced the weather,

²⁷⁸ Kieckhefer, *Magic in the Middle Ages*, 46. Hoffmann, *An Environmental History of Medieval Europe*, 93.

²⁷⁹ Kieckhefer, *Magic in the Middle Ages*, 46; Erika Loic, "Dominus Tonans: The Voice and Light of Christianity's Tempestuous God in Late Antiquity and the Middle Ages," *Word & image* 35, no. 4 (2019): 406.

²⁸⁰ *Grágás* 22, the *Konungsbók* version. In Mitchell, "Magic and Religion," 644-45.

²⁸¹ Rom. 1:20: "for the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and godhead"; Job 38:22–9; Exod. 8 and 10, and 9:13–35. Dutton, "Observations on Early Medieval Weather in General, Bloody Rain in Particular," 175-76.

²⁸² Lawrence-Mathers, *Medieval Meteorology: Forecasting the Weather from Aristotle to the Almanac*, 3-6, 11-12. See for example Matthew 16: 1-3: "The Pharisees and Sadducees came to Jesus and tested him by asking him to show them a sign from heaven. He replied, "When evening comes, you say, 'It will be fair weather, for the sky is red,' and in the morning, 'Today it will be stormy, for the sky is red and overcast.' You know how to interpret the appearance of the sky, but you cannot interpret the signs of the times".

²⁸³ Adam of Bremen attributed these to Thor. See Perkins, *Thor the Wind-Raiser and the Eyrarland Image*, 20-26.

among other things, demonstrated by one of his names, *Viðrir*, related to *veðr*, weather.²⁸⁴ The god Aegir or Hler was the sea god, Ran the sea goddess; both affecting the weather at sea. Like the sea itself, they were both destructive and blessing: enabling travel and food, but capable of destroying life. Aegir's sea hall for dead sailors was a counterpart to Odinn's *Valhalla*.²⁸⁵

To Christians, several saints could influence the weather and the wind. Praying to the Icelandic bishop saint Þorlákr (1133-1193) calmed the winds, seas, waves, and storms, just like Saint Elmo (died c. 303), the saint of sailors.²⁸⁶ Others include St Óláfr (995-1030) and St Eric (1112-1160), and non-Scandinavian saints like St Peter or St Katherine of Alexandria.²⁸⁷

Above all, the Christian Godhead and Virgin Mary controlled the weather. As such, the wind became instrumental for communication from God to people. Several stories in the Norse sagas describe how the praying to God for favourable winds at sea is more successful than the praying to the pagan gods because God's power is superior. For instance, in *Hallfreðar saga*, Hallfreðr prays to pagan gods for winds allowing him to escape St Óláfr Tryggvason in Trondheim. But no such wind arrives, and Hallfreðr is forced to sail to Norway where he is baptised and converted.²⁸⁸ God thus gave favourable winds which ultimately led the pagans to convert. Another interesting example is found in the biography of St Ansgar, where the Swedish convert Herigar miraculously protects against storms to demonstrate the powers of his new religion.²⁸⁹ This shows that magic was a tool for Christian missionaries in a kind of "metalanguage" in pagan and Christian encounters, and not just remnants of an old, fading practice.

Other narratives feature God aiding people in emergencies after they vow to donate to the church. For instance, in the 12th century *Jóns saga Helga*, Jón vows to build a church if the weather improves which it, of course, does.²⁹⁰ In *Orkneyinga saga*, the vow to not oppose translation of Jarl Magnús' holy relics gave favourable winds.²⁹¹ These stories place the wind

²⁸⁴ *Ibid.*, 16. Frey may also have been connected to the wind and sea, see *ibid.*, 17-18.

²⁸⁵ Astrid E. J. Ogilvie and Gísli Pálsson, "Mood, Magic, and Metaphor: Allusions to Weather and Climate in the Sagas of Icelanders," in *Weather, Climate, Culture*, ed. Sarah Strauss and Ben Orlove (Oxford: Berg, 2003), 261.

²⁸⁶ Mitchell, *Witchcraft and Magic in the Nordic Middle Ages*, 66.

²⁸⁷ Perkins, *Thor the Wind-Raiser and the Eyrarland Image*, 15.

²⁸⁸ *Ibid.*, 14.

²⁸⁹ *Vita Anskarii*, chapters 17–19. In Mitchell, "Magic and Religion," 645.

²⁹⁰ *Jóns saga Helga*, chapter 13. In McCreesh, "Climate and Weather", in Glauser, Hermann, and Mitchell, *Handbook of Pre-Modern Nordic Memory Studies: Interdisciplinary Approaches*. 550.

²⁹¹ *Orkneyinga saga*, chapter 57. In Perkins, *Thor the Wind-Raiser and the Eyrarland Image*, 14. Similar stories are found in *Íslendinga saga*, chapter 196; *Guðmundar saga dýra*, chapter 14; *Þórðar saga kakala*, chapter 25. See Bernadine McCreesh, "Climate and Weather", in Glauser, Hermann, and Mitchell, *Handbook of Pre-Modern Nordic Memory Studies: Interdisciplinary Approaches*. 549.

and weather within the control of pagan and Christian divinity. The sagas' Christian bias always lead the Godhead to triumph, whose control over the weather is the most powerful.

Votive gifts

Interestingly, a very similar story of church donation for weather improvement is associated with the early medieval vane from Söderala:

Legend tells that when Ålsjön was connected to the sea and was sailable, a Viking ship ended up in emergency during a storm, close by Siggesta. The ship owner, who had heard about Vite Krist [the Christian Godhead], promised to give his weathervane, on the ship's mast top, to the nearest church if his crew and himself were rescued. This is how the weathervane ended up in the ownership of the church of Söderala.²⁹²

The legend tells that the vane ended up the church because the threat of the storm led the ship owner to vow to donate the vane, thus one of the most valuable artefacts, if rescued. This proves the belief that vows of church donation changed God's mind to give favourable weather. Significantly, it suggests that weathervanes could be votive gifts in thanksgiving to God. The legend is unique and poor as proof for how the Söderala vane ended up in the church. But its survival until recent times seems to advise not to disregard it. Indeed, churches acquired votive images in Scandinavia and elsewhere.²⁹³ It is possible that the other vanes ended up in churches in similar ways. A legend claims that the vane from Tingelstad was given to this church by Queen Margrethe I of Kalmar.²⁹⁴ Although this is unlikely, it presents the thinking that vanes could be gifts, and that they had sacred and elevated statuses throughout. The possibility that the weathervanes ended up in the churches as votive gifts is very different from the most often cited theory claiming that the relocation was a reflexive consequence of Magnus Lagabøte's law, as seen in chapter 3.

²⁹² Swedish legend of unknown origins. My translation of the version from *Söderala Förr Och Nu: En 800-Årig Hälsingesockens Historia*, (Söderhamn: A. Bodlund, 1958), 49. Note that the version was written when vanes were believed to have been in the masts of ships after Salin's argument (see chapter 3).

²⁹³ An example is the votive crowns and numerous votive paintings. Further, many devotional images inscribed on walls of Scandinavian churches, see Matthew Champion, "The Medium Is the Message: Votive Devotional Imagery and Gift Giving Amongst the Commonality in the Late Medieval Parish," *Peregrinations* 3, no. 4 (2012).

²⁹⁴ Bugge, "Bronsefløien Fra Tingelstad Kirke," 17.

The Wind and the Vanes

When attached to the vertical church spires, turning with the wind, the four early medieval weathervanes made perceptible the invisible, capricious force of the wind, thus acquiring economic, cosmic, and spiritual significance. The link to the church, and the closest point to heaven, made the wind-indicators expressive of the Godhead's ultimate control over nature. The gilded weathervanes became Christian symbols upon their display in the church spires.

Tempestuous Theophanies

As seen, the sagas show that belief in supernatural weather control largely continued in Christianity. The *ways* in which supernatural powers manifested themselves to human perception through the weather also, at least in part, continued. The pagan Thor had a tempestuous temperament. He was *like* the weather phenomena he controlled and acted *through* them. A parallel is the Greco-Roman Jupiter. Atmospheric events were particularly potent for divine mediation as they were literally and essentially close to heaven where gods resided, as seen. Further, the storm's destructive potential communicated the enormous powers of the immaterial gods on earth. The Christian Godhead had a similar temperament. God became manifest though and present in tempests.²⁹⁵ Stormy weather was thus extensions of divine power, perceptible to humans as natural, aerial phenomena affecting their environments.

When the weathervanes were attached to the tops of church spires they created golden spectacles, constantly moving, changing, as described in chapter 4. These spectacles may have triggered associations to God's manifestation on earth through tempests, when experienced in the sky towards the heavens. Erika Loic argued that the epithet of God *tonans*, and God's tempestuous temperament was connected to the *sound* of thunder, manifesting God's voice, and of *sight* of lightning, visualising God; and as such demonstrating God's continued presence and supremacy.²⁹⁶ The weathervanes may have created similar multi-sensory theophanies by their link to stormy aerial phenomena. In addition to thunder and lightning, brought up by Loic, I add the wind as the third phenomenon for experiencing God's tempestuous theophany.

²⁹⁵ Loic, "Dominus Tonans: The Voice and Light of Christianity's Tempestuous God in Late Antiquity and the Middle Ages," 403.

²⁹⁶ *Ibid.*

Thunder

Loic argued that God's *tonans* related to the thundering voice, the *vox domini*, either raging or mild. According to the Bible, God's apparition, and indeed some prophets and saints', was to some people indistinguishable to thunder.²⁹⁷ The phenomenon was experienced only aurally, as sudden, loud, intense sounds reaching far and overwhelming the ears. As such, it was believed to be capable of carrying God's thundering speech from the sky above.

Generally, all tones, sounds and singing were related to the manifestation of God's "thundering" voice, even low birds' songs.²⁹⁸ As seen, the early medieval vanes produced a continuous, characteristic sound by the metal objects hanging from strings on the underside. This may have been *associated* with the *vox domini*, although far from sounding like actual thunder.

Lightning

More importantly so, the gilded vanes may have related to the stormy weather phenomenon of lightning. Thunder and lightning were two aspects related to the apparition of God for humans to hear or see, respectively; thunder enlightened those experiencing it by the spiritual ears, and lightning did so by appeal to the spiritual eyes.²⁹⁹ Cassiodorus found lightnings both physical and spiritual, capable of revealing divine knowledge:

*The lightnings which enlightened are the divine precepts shining with the light of truth, which with their wholesome illumination put to flight men's darkness throughout the whole world.*³⁰⁰

Lightning is visible as radiance or bright lights. Like thunder, it arrives suddenly from the sky and overwhelm the human sensorium by its intensity. Further, it caused material destruction like weapons or arrows. Christ appeared in the form of lightning after the Resurrection and was compared to Apollo due to his bright radiance and his lineage, as the son of Jupiter.³⁰¹

As seen in chapter 4, the gilded weathervanes appeared the most spectacularly in stormy, darkened sky, when the small amount of light would be brilliantly magnified in the golden

²⁹⁷ John 12:28–29. "Father, glorify your name! Then a voice came from heaven, 'I have glorified it, and will glorify it again'. The crowd that was there and heard it said it had thundered; others said an angel had spoken to him". See also 2 Sam. 22:14; Job 37:4–5, 40:4; Ps. 17:14, 28:3; Eccles. 46:20. Saints and prophets who sounded like thunder; see Florus of Lyon (d. 860). About the prophet Amos, whose words are thunder: "What good man cannot see and grieve that the voice of the prophet thunders upon us in the words of God?". For similar thunder-like entries in Christian poetry and literature, see *ibid.*, 404, 07.

²⁹⁸ *Ibid.*, 406.

²⁹⁹ *Ibid.*, 405-06, 13-14.

³⁰⁰ Cassiodorus, *Explanations of the Psalms*. In *ibid.*, 413.

³⁰¹ Matt. 28:3. "His appearance was like lightning, and his clothes were white as snow." *Ibid.*, 405.

surface. In turbulent weather, the vanes would also turn swiftly around the spire, shooting lightning-like flashes which overwhelmed the eyes at certain angles, even at large distances. This may have been associated with lightning. Evidence for the belief in the supernatural presence may be found in the European evidence, seen above, where several of the weathercocks and -vanes were literally struck by lightning. Lightning was also linked to the “enlightening” of God’s message, and people who converted by being struck by lightning.³⁰²

Wind

As seen above, the most important way the Godhead was present in nature was perhaps by the wind, another stormy weather phenomenon. God’s life-giving breath became manifest through the voice *and* the wind from the nostrils. God’s breath, voice, or indeed wind, is expressed in the Hebrew word *rûah*. This word, however, was later translated to “spirit” with Hellenistic influences, causing the normative “Holy Spirit”, but the Hebrew word is more specific than this.³⁰³ Long-standing discussion have argued that because God’s most potent manifestations in the bible was through the wind, “Holy Spirit” should be replaced with the more correct “Holy Wind”. The bible tells of the wind enabling dry land and grass to grow: “The grass withers, the flower fades, when the breath of the Lord blows upon it; surely the people is grass”.³⁰⁴ The wind could bring judgement; it divided the sea for Moses, and made the Hebrews flee Egypt. It is capable of saviour and of destruction as the instrument of God’s will on earth.

The wind or breath of God hovered above the waters, stilled it, before the world’s physical properties were established in Creation. It became the ultimate expression of God’s power and authority, making Creation possible as a force or energy which “directs all things to their ends”.³⁰⁵ This connects the spiritual conceptions of the wind with the physical or meteorological seen above: the wind warranted the transformation of elements into each other, effecting transformation at appropriate times, and transporting them to appropriate places on earth. The wind, as a cosmic force and aspect of the Trinity, guarantees the cohesion of the universe.

The movement of the weathervanes on the church spires by the changing wind made this most unpredictable, important, invisible force of nature visible, and thus interpretable by humans.

³⁰² Ibid.

³⁰³ Robert Luyster, "Wind and Water: Cosmogonic Symbolism in the Old Testament," *Zeitschrift für die alttestamentliche wissenschaft* 93, no. 1 (1981): 1-5.

³⁰⁴ Is 40:7.

³⁰⁵ Luyster, "Wind and Water: Cosmogonic Symbolism in the Old Testament," 9-10.

The wind indication was the most effectful when strong, conflicting winds caused the vanes to move rapidly. Visualisation of the wind directions may have been believed, to some extent, to predict the coming weather and change of seasons, thus having an economic significance. More importantly, it seems, the wind's relation to God's breath, Holy Spirit/Wind, created order from chaos and as fundamental for creative acts on earth, and at the same time, their destruction. By placing the gilded weathervanes in the most sacred, highest point of the house of God, they may have acquired such a religious signification, in other words, they would make visible aspects of the disembodied essence of the Godhead: God's extensions in aerial phenomena. By indicating the wind, creating lightning-like flashes, and producing a *vox domini* sound, the weathervanes made aspects of the enigmatic message and nature of the Godhead sensorially perceptible.

A prerequisite for the theophanic potential was the gilded vanes' brilliant spectacles, on open-air display, which pointed beyond itself to a deeper Christian meaning. Christian visual arts aimed at dazzling their spectators by precious materiality and ornamentation – aiming to *exceed* the beauty of earthly nature, not to imitate it.³⁰⁶ Gold was particularly suitable as the earthly counterpart to heaven's splendour, from which God's light radiates. The earthly material thus points towards that which resides in the sky in conjunction with it. Gold was rare and enigmatically powerful: it does not corrode, it resists fire, and symbolises nobility, purity, and wisdom. Thus, it appropriately represents the otherworld in Christian art.³⁰⁷ The weathervane's golden spectacles experienced in the church spire, the place literally and essentially closest to God, made the golden artefacts make visible some of the splendour of heaven. In this way, the early medieval vanes became Christian symbols for the believer to encounter Divinity.

Protection

Thus, the vanes in the church spires became Christian symbols: they made experiential God's disembodied essence and demonstrated God's weather control. Below, it will be seen that the vanes may have mediated God's presence itself, which made them powerfully protective.

Chapter 5 described apotropaic protection based on the principle of *similus de similibus*. It involved that contact between a phenomenon and its likeness transferred characteristics from

³⁰⁶ Loic, "Dominus Tonans: The Voice and Light of Christianity's Tempestuous God in Late Antiquity and the Middle Ages," 413-14.

³⁰⁷ Spike Laas Bucklow, *The Alchemy of Paint: Art, Science and Secrets from the Middle Ages* (London: Marion Boyars Publishers, 2009), 300, 23. See for example Lamentations 4:1, Job 23:10.

the one to the other, and made the image able to protect against its prototype.³⁰⁸ As seen, the vanes were experienced like thunder, lightning, and wind, resembling God's tempestuous theophanies. Further, when attached to the highest point in the landscape, the vanes may have been understood as literally, physically in contact with these weather phenomena. The wind made the vane turn; the underside's metal device emitting "thundering" sounds; and golden lightnings flashing before the eyes of the perceivers. During storms, thunder itself descends towards earth and the vane, and lightning would strike. These phenomena, the extensions of Divinity, would thus be in contact with the golden artefacts. The unfolding spectacles of the vanes, then, would be continuous re-creations of the performances of these weather phenomena for human perception, also when the storm was over.

In this way, by likeness and physical contact, the two criteria for *similus de simibilus*, the vanes summoned the powers of the Trinity and thus averted evil apotropaically. More specifically, the vanes averted destructive, unfavourable weather. The churches of Heggen, Källunge, Söderala, and Tingelstad were in landscapes where people lived off the land, close to the seas or fjords for trading, travelling, and fishing. The vanes may have had particular significance to these agricultural societies and believed to aid and protect them.

There are other medieval artefacts which were believed to avert destructive weather by means of apotropaia. Medieval bronze bells are a prominent example, whose apotropaia is confirmed by contemporary inscriptions. The bells' resemblance to the gilded early medieval vanes may thus strengthen the argument of the latter's apotropaic functions. The bronze bells made loud, ringing sounds which were believed to summon the thunder in the sky, the *vox domini*. This led the evil forces on earth to be battled by the storms of heaven, which the bells echoed.³⁰⁹ A 13th century bell from Saccourvielle, for instance, is inscribed: "the voice of the Lord resounds, which drives away the storm."³¹⁰ By blessing and baptising bells in ritual, bells were activated to ward off the "crashing of hail, the violence of whirlwinds, the assault of tempests, and [...] the hostile thunder", like Christ warded off evil. The bells averted evil and natural forces like thunder, lightning, and hailstorms, according to the texts. The blessing of bells was later banned by the church: Charlemagne prohibited the practice in 789 due to the resemblance to pagan

³⁰⁸ Weinryb, *The Bronze Object in the Middle Ages*, 123-24.

³⁰⁹ *Ibid.*, 135-36; Loic, "Dominus Tonans: The Voice and Light of Christianity's Tempestuous God in Late Antiquity and the Middle Ages."

³¹⁰ "Dominus Tonans: The Voice and Light of Christianity's Tempestuous God in Late Antiquity and the Middle Ages," 406.

superstition.³¹¹ This indicates the widespread belief in the bells' effects on the weather and the harvest. Although banned because it denied God's ultimate weather control, the apotropaic bells were for a time part of the church's repertoire. Thus, the apotropaic functions were acknowledged by the early Christian public and, as the blessings of the bells attest to, by the early church itself. The church also allowed and even encouraged the mounting of crosses in fields, considered to powerfully protect against ice, floods, and "aery powers".³¹² Additional evidence for the apotropaic potential of the vanes in the church spire includes the inherent magic in metalwork, as seen in chapter 5, and the above-mentioned Arab weathervane lancer, which medieval texts confirm was believed to turn to avert enemies.

Tintinnabula?

It has been pointed out that even low sounds were associated with thunder and the *vox domini*. Further, no certain evidence exists for the specific designs of the sound-producing device on the curved underside of the early medieval vanes. According to the Bryggen image, there were small strings with small, round objects attached, and the damage at the bottom of the holes suggest that their material must have been much heavier than textile.

I suggest these small objects from the undersides may have been *tintinnabula*. These were small golden bells which could be worn on garments, as attested to in the Hebrew Bible where priests and dignitaries wore them at the bottom of tunics for their apotropaic abilities. Every time the wearer moved, the bells emitted the sound of the *vox domini*, summoning God and averting evil, like the larger brazen bells. These were also worn by popes.³¹³ Importantly, an 11th century manuscript image depicts a triangular banner held by a rider. The banner is golden, with a straight, not curved underside, and perhaps made of fabric and not solid metal – but from it hangs small strings with golden bells in a manner very reminiscent of the Bryggen image.³¹⁴

³¹¹ Ibid.

³¹² Valerie I. J. Flint, *The Rise of Magic in Early Medieval Europe* (Princeton, NJ: Princeton University Press, 1991), 188-89.

³¹³ Weinryb, *The Bronze Object in the Middle Ages*, 137-38.

³¹⁴ See Table III, ill. 15, in the Appendix. Illustration from Beatus of Liébana, commentary on the Apocalypse, fol. 223. And in *ibid.*, 138-39.

Magic and Religious Spolia

Reusing the vanes from Heggen, Källunge, Söderala, and Tingelstad in the church spires made them *spoliac*. Spolia are objects removed from their original context and used in another. It is characteristic to remember and associate the old context of the spolia a while after the appropriation, and the references to the past time and place enrich the object's efficacy.³¹⁵

There is evidence that the previous location of the vanes was remembered after the relocation: two candelabra from Urnes and Dale and several images of vanes in ship stems attest to this.³¹⁶

The legend of the vane from Söderala also implies that its previous ship location was not forgotten once entering the church; on the contrary, the vane's power increased by knowledge of its past. If the vanes were believed to have apotropaic powers when attached to the ship stems, as proposed in chapter 5, this past significance was likely known by the church. By recognising a vane as having previously protected against evil in the ships, its "biography" (or simply the connotations to the object type), would enhance the potency for apotropaia in the new location. Indeed, the church may have considered the vanes, now without its original context, empty structures potent with power. The choice to mount them in the spires may thus exploit the perceived inherent power and imbued with additional new Christian meanings.

Following this, the vanes in the church spires may express a kind of triumphalism, which often accompanies spolia. The original context becomes inferior to the new context the artefact is appropriated into.³¹⁷ Placing high-status ship vanes in church spires, bound the vane's powers to the omnipotence of the Christian Godhead, as seen. The re-location may thus demonstrate God's ultimate power of the vane's believed capacities and magical properties, commemorating the triumph of God also in the object's past. The Söderala vane in the spire, may have been remembered as the object of the vow leading God to rescue the threatened ship in the legend. As such, it may have implicated the insufficiency of the pagan gods to improve the winds, as the saga texts above attest to. Knowledge of the vanes' past uses made them powerful, and perhaps providing evidence for their efficacy and power.

In the church spires, the vanes likely averted unfavourable wind and weather, perhaps also protecting against disease of crops, animals, and humans. As seen in chapter 5, the vanes were

³¹⁵ Loic, "Dominus Tonans: The Voice and Light of Christianity's Tempestuous God in Late Antiquity and the Middle Ages," 404.

³¹⁶ See Table 3 in the appendix.

³¹⁷ Loic, "Dominus Tonans: The Voice and Light of Christianity's Tempestuous God in Late Antiquity and the Middle Ages."

capable of averting evil in situations of naval battles. The Tingelstad's biblical motif added a new, Christian element to assert the Godhead as the source of this efficacy. Would it be possible that the ship-stem vanes also protected against bad weather due to the association with other, functional wind-indicating *veðrviti*? This seems difficult to prove. Nevertheless, the four early medieval artefacts clearly were valued as efficacious objects with a magical potential both in the ships and the churches, and it is possible that the practical aim of the vane could change.

By the appropriation in the church spires, then, the vanes gained both religious and magical significance, or rather, the religious and magical aspects blurred together without distinctions. They could avert evil, and this power ultimately derived from God. Other objects similarly functioned partly for magic and partly for votive purposes, suggested by their inscriptions.³¹⁸ It seems the early church not only allowed this, but judged it important and beneficial. Only a fine line separated magic from miracles, as seen throughout this thesis.³¹⁹ The appropriation also meant the vanes coincided with the European weathervanes and weathercocks as status symbols related to the divine, magic, and the meteorological in the spires of important buildings.

The vanes' votive aspect may also be demonstrated through the many, previously mentioned, images of vanes in ship stems carved into church walls. Such "graffiti" were not illegal scribbles but visible votive images, or "prayers made solid". They were carved either before events or sailings in the hope for God's protection, or after the safe return as a thanksgiving.³²⁰ Among the Scandinavian evidence is a prayer for a ship crew inscribed above a ship carving. The vanes clearly had a prominent, persistent position in people's memory after the conversion, and likely a votive function. The numerous miniature vanes, too, which were likely protective amulets, demonstrate a supernatural potential believed to be within the object type.

³¹⁸ Mindy MacLeod and Bernard Mees, *Runic Amulets and Magic Objects* (Woodbridge: Boydell, 2006), 163.

³¹⁹ Korsvoll, "Official Teaching and Popular Practice Are Church Opinions on Magic Reflected in the Surviving Amulets from the Early Middle Ages?," 150.

³²⁰ Christer Westerdahl, "Medieval Carved Ship Images Found in Nordic Churches: The Poor Man's Votive Ships?," *The International journal of nautical archaeology* 42, no. 2 (2013): 344; Champion, "The Medium Is the Message: Votive Devotional Imagery and Gift Giving Amongst the Commonality in the Late Medieval Parish," 107-10.

Conclusion

It is possible to detect a potential for apotropaic magic in the four early medieval weathervanes, both when they were placed in the ship stems and in the church spires. The potential was conditioned by the brilliant, golden, vibrant, animated experiences *in situ*. The vanes were designed as beautiful and wonderful as possible in order to be separable from ordinary, mundane objects. The spectacles captured the attention of the perceiver's wandering, easily bored, and always moving mind, and evoked emotions of wonder and awe, to ultimately trigger powerful mnemonic associations.³²¹ Thus, the construction, materiality, and ornamentation of each weathervane was based in wide-spanning, long-standing tradition. Their frequent appearance in images and literature throughout the Middle Ages also indicate that they persisted in cultural memory. Cultural memory was the dynamic storehouse where memories adapted to the needs of the present. The plastic memory, that is, the *phantasmata* of sensory perception imprinted on the mind, like a seal in wax, engaged actively with other obtained memories.³²²

The material, visual forms of weathervanes could likewise change to fit the requirements of the present, while preserving a close relation and association with its predecessors. In other words, the convention of making and displaying efficacious weathervanes could be strategically and knowingly manipulated to serve different practical purposes according to the specific situation and its requirements. Attached to ship stems, the vanes were probably believed to aid and protect in battle, largely due to the animal ornamentation. Mounted in the church spires, their past efficacy was exploited, and associated with wind and weather. In the spires, the vanes expressed the Godhead's control over nature and protected against destructive weather and evil forces apotropaically. The continuing belief in the magic potential of the vanes thus met the continuing demand for magic protection, a demand which transgressed questions of religion, at least for a time. It seems that physical, immediate circumstances; the particular edifice and ways of displaying the weathervanes, were central for the ways in which they were understood.

The potential for apotropaic protection was one of the principal reasons for the elevated status and exceptional treatment and display of the gilded weathervanes in the Middle Ages. There were likely other reasons too, and it is difficult to positively determine specific magic principles where little direct context is left. Previous research looked for representative values of the orna-

³²¹ Mary J. Carruthers, *The Craft of Thought: Meditation, Rhetoric, and the Making of Images, 400-1200*, vol. 34, Cambridge Studies in Medieval Literature (Cambridge: Cambridge University Press, 1998), 117-20.

³²² Hermann, "Concepts of Memory and Approaches to the Past in Medieval Icelandic Literature," 294-97.

ments and the vanes as such and began to look at the absence of wind-indicating functions. I believe the element of magic belongs to this discussion, as it has been disclosed in this thesis as one central reason for the construction and practices of the early medieval weathervanes.

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APPENDIX TABLE 1: Weathervanes from Medieval Scandinavia

- Illustration 1. Miniature weathervane from Birka, Sweden. © SMH 2011. Photo: Christer Åhlin. Inv. No. 268647.
Illustration 2. Miniature weathervane from Saltvik, Åland. © From Ekberg, Veronica. "På Resa Till En Annan Värld", 22.
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APPENDIX TABLE II: Related Finds

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Illustration 2. Candelabrum from Dale stave church, Norway. © From Blindheim, Martin. *De Yngre Middelalderske Skipsfløyer I Norge*, 57.

Illustration 3. Wooden fragment from Bryggen, Bergen. © Asbjørn E. Herteig. From Hougen, Bjørn. "Den Havdjerve.", 12.

Illustration 4. Graffiti image from Urnes stave church, Norway. © From Blindheim, Martin. «De Gyldne Skipsfløyer Fra Sen Vikingetid», 97.

Illustration 5. Graffiti image from Borgund stave church, Norway. © From Blindheim, Martin. «De Gyldne Skipsfløyer Fra Sen Vikingetid», 97.

Illustration 6. Graffiti image from Kaupanger stave church, Norway. © From Blindheim, Martin. «De Gyldne Skipsfløyer Fra Sen Vikingetid», 98.

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Illustration 9. Grave stone over Ailean nan Sop in St. Oran's churchyard, Scotland, no. 1. © From Bugge, Anders. "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church", 180.

Illustration 10. Grave stone over Ailean nan Sop in St. Oran's churchyard, Scotland, no. 2. © From Bugge, Anders. "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland.", 181.

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Illustration 12. Graffito from Inckmarnock, Scotland. © Christensen 1988. From cCormick, Finbar, and Ole Kastholm. "A Viking Ship Graffito from Kilclief, County Down, Ireland.", 87.

Illustration 13. Graffito from Hedal stave church, Norway. © From Blindheim. *De Yngre Middelalderske Skipsfløyer I Norge*», 57.

Illustration 14. Image stone from Tingstäde, Gotland, Sweden. © From Bugge, Anders. "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland.", 175.

Illustration 15. Beatus of Liébana, commentary on the Apocalypse (The "Silos Apocalypse"), British Library Add MS 11695. © From Weinryb, *The Bronze Object in the Middle Ages*, 139.

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Illustration 2. The early medieval weathervane from Heggen, Norway, c. 1000. Side B: eagle and snake. In the current exhibition at Museum of Cultural History, Oslo.

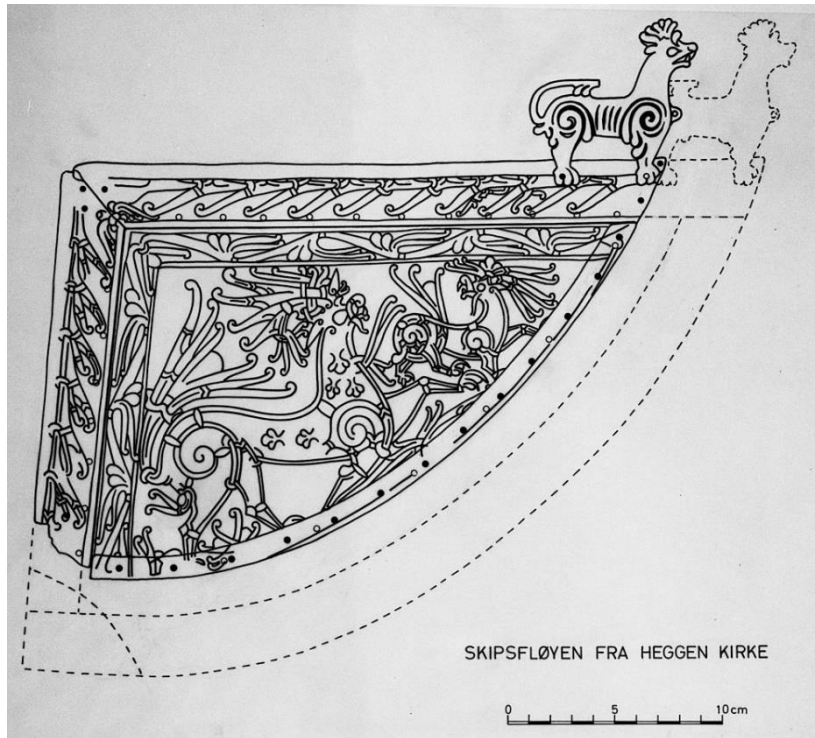


Illustration 3. The weathervane from Heggen, Norway, dated c. 1000. Reconstruction by Martin Blindheim, 1982.



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Illustration 6. The early medieval weathervane from Söderala, Sweden, c. 1030-1050.



Illustration 7. The weathervane from Tinglestad, Norway, c. 1110-1160. At the current exhibition at Museum of Cultural History, Oslo.

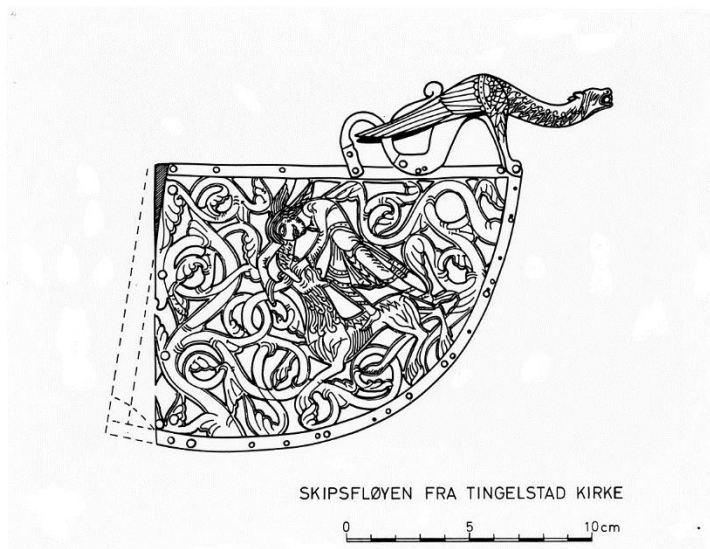



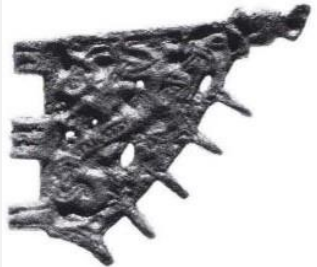


Illustration 8. The weathervane from Tinglestad, Norway, c. 1110-1160. Reconstruction by Martin Blindheim, 1982.



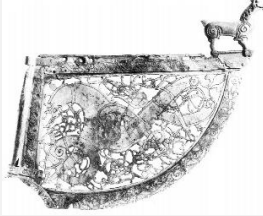
TABLES

TABLE 1. WEATHERVANES FROM MEDIEVAL SCANDINAVIA

Table 1 displays data for objects that have been classified as a weathervane in previous literature. The noted measurements are from the present dimensions of the objects. Where modifications and changes have been identified it is stated in the endnotes.

	FINDING PLACE	SHAPE	C. DATE	SIZE ⁱ	UPPER CORNER ^o ii	MATERIAL	TECHNIQUE	MOTIF AND STYLE	ATTACHMENT	IMAGE
1.	Birka, Sweden	Trapezium	800	45 x 35 x 85 mm.	90	Bronze	<i>Opus interrasile</i>	“Gripping animal” Borre style Jellinge style ⁱⁱⁱ	2 loops at short side. Top loop damaged.	
2.	Saltvik, Åland, Finland	Trapezium	800	37,5 x 52 mm. ^{iv}	90	Bronze	<i>Opus interrasile</i>	“Gripping animal” Borre style Jellinge style	2 loops at short side.	
3.	Menzlin, Germany	Trapezium	800	38 x 50 mm. ^v	90	Bronze	<i>Opus interrasile</i>	“Gripping animal” Borre style	2 loops at short side. Bottom loop damaged.	
4.	Bandlundevisken, Sweden	Triangle, convex hypotenuse	800-900	43 x 54 mm 26 g. ^{vi}	96-97	Bronze	<i>Opus interrasile</i>	Unclear. “Gripping animal”?	3 loops at short side. Loops lacking pierced holes.	

5.	Lövö, Sweden	Triangle, convex hypotenuse	900	37 x 48 mm 19,9 g. ^{vii}	100	Bronze	<i>Opus interrasile</i>	Unclear. "Gripping animal"?	3 loops at short side. Rod intact but broken at the bottom.	
6.	Novosjolkt, Russia	Triangle, convex hypotenuse	900	UNK	UNK	Bronze	UNK		2 loops at short side. Rod intact but broken at the bottom. ^{viii}	
7.	Dala-Floda, Sweden. No. 1.	Fragmentary. Waving long side.	900	32 x 23 x 17 mm. ^{ix}	-	Bronze	Unclear	Unclear. 3 pierced holes.	UNK	
8.	Dala-Floda, Sweden. No. 2.	Fragmentary	900	29 x 28 x 32 mm. ^x	-	Bronze	Unclear	Ornamentation: 7 concentric circles vertically, ended with hole.	2 loops at short side.	
9.	Grimsta, Sweden	Trapezium, almost square	1050-1100	c. 15 x 15 cm. ^{xi} 0,5 mm thick	-	Bronze, gilt	<i>Opus punctile</i>	<i>Side A.</i> Large horse and rider with sword and bird. <i>Side B.</i> Large horse. Man and raven beneath.	2 loops at short side. One loop lost.	

10.	Heggen, Norway	Triangular plate with convex hypotenuse. Cast animal on the pointed edge.	1000 ^{xii}	28 x 19 cm. 3 mm thick. 0,84 kg. ^{xiii}	97	Vane: 90% copper, Gilt Cast animal: brass alloy. Gilt. ^{xiv}	<i>Opus punctile</i>	<i>Side A.</i> A large and a small springing lion. <i>Side B.</i> Bird in battle with serpent. Ringerike style	UNK. 3-4 holes in upper corner, ^{xv} 3 in the bottom corner. ^{xvi}	
11.	Källunge, Sweden	Triangular plate with convex hypotenuse. Cast animal on the pointed edge.	1000 ^{xvii}	35,5 x 23,3 cm 2 mm thick	97-98	Vane + cast animal: 90-95% copper Gilt	<i>Opus punctile</i>	<i>Side A.</i> Lion in battle with serpent. <i>Side B.</i> Two large and five small serpents in battle. Mammen-Ringerike. ^{xviii}	UNK.	
12.	Söderala, Sweden	Triangular plate with convex hypotenuse. Cast animal on the pointed edge.	1030-1050 ^{xix}	34,5 x 25 cm, 1 mm thick. 1,5 kg.	97-98	95 % copper Gilt Cast animal: brass alloy	<i>Opus interrasile</i>	Large dragon battling small dragon and serpent.	Cylindrical tube, 2 hinges at the short edge. ^{xx}	

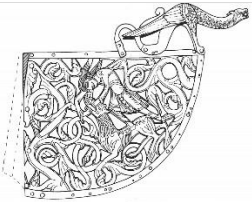


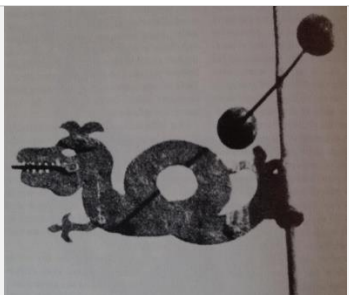
13.	Tingelstad, Norway	Triangular plate with convex hypotenuse. Cast animal on the pointed edge.	1110-1160 ^{xxi}	28,3 x 21,5 cm, 1,5-3 mm thick. 2,15 kg.	92-93	Vane + cast animal: 97% copper, gilt	<i>Opus interrasile</i>	David rescuing a lamb from a wolf (Bible, 1. Sam 17, 34-35). Romanesque acanthus. Ottonian motif choices. ^{xxii}	3 loops at the short side.	
14.	Høyjord, Norway	Triangular plate with a convex hypotenuse, edge extended at with a dragon's head.	1250-1300	45,6 x 44,6 cm, 2 mm thick 2,6 kg.	94	95% copper, 1-5% aluminium. ^{xxiii} Gilded	<i>Opus interrasile</i>	Springing lion	Cylindrical hinge at the short side, broad hinges.	
15.	Norderhov, Norway	Plate with convex hypotenuse, extended with dragon's head.	1250-1350. 1275-1300 ^{xxiv}	43,8 x 51 cm, 1-2 mm thick 2,9 kg.	92	Copper, traces of gilding	<i>Opus interrasile</i>	Possibly St. Hallvard. Plates of ornament now lost.	2 loops at vertical edge.	
16.	Tovdal, Norway	Serpent, long body in a loop	1250-1300	UNK	-	UNK	-	-	Cylindrical tube and hinges at the end of the tail.	

TABLE 2. RELATED FINDS






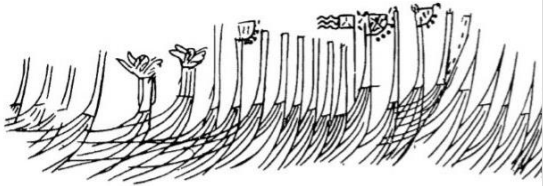


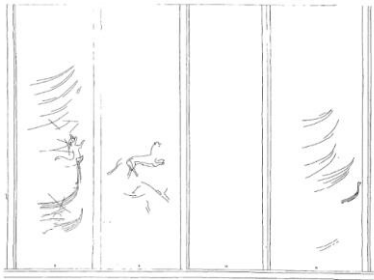
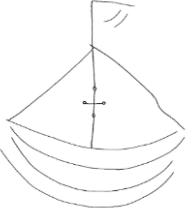

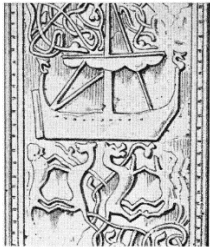



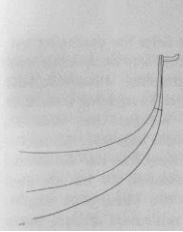
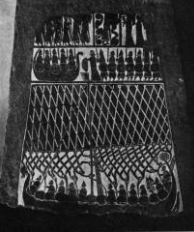

	PLACE FOUND	TYPE OF OBJECT	C. DATE	SIZE	MATERIAL	IMAGE	INFO
1.	Winchester, England	Rectangular, ornamented plate	1000-1050	28 x 4,4 cm. 0,2 cm thick	Bronze, gilt		Ornaments engraved in <i>tremoulier</i> . Ornamental motifs in the Ringerike style. ^{xxv} Two double scrolls whose spirals meet in the middle. One scroll is vegetal, with ribbon-animal intertwined on the lower loop. The other scroll is the body of a ribbon-animal with head in profile. A parallel snake with head seen from above. Functions: a) as fittings around edges of a large vane; ^{xxvi} b) as a vane as such, ^{xxvii} or c) fittings on a casket. ^{xxviii} Similar to vanes in style, technique, and material.
2.	Lolland, Denmark. Today: Copenhagen	Animal figurine of a horse	1000	c. 10 x 10 cm	90% copper, 1-5% iron, zinc, silver, tin. ^{xxix} Gilt.		Possibly placed on top of weathervane like the Heggen, Källunge, Söderala or Tingelstad vanes. It has the same size, decorative details, and ways to attach the feet to the top of the metal vane as these vanes' top animals. ^{xxx}
3.	Skvyra, Ukraine	Animal figurine, probably a bird	UNK	67 mm high 67,68 g. ^{xxxi}	UNK		Possibly placed on top of weathervane, as seen on Heggen, Källunge, Söderala or Tingelstad vanes. Found in 2015. It is one half of an animal figurine for a large vane, as other top animals are made of two halves.

TABLE 3. SELECTED IMAGES OF WEATHERVANES

	FINDING PLACE	TYPE OF OBJECT	C. DATE	SIZE	MATERIAL	IMAGE	INFO
1.	Urnes stave church, Norway	Candelabrum with one vane in each stem	1100-1200. ^{xxxii}	UNK	Iron		One vane in each of the stems, both pointing in the same direction. The vane has an animal head pointing up. The candelabrum was probably made to sit on a side altar in front of a sacred sculpture.
2.	Dale stave church, Norway (today Hist.Mus Bergen)	Candelabrum with one vane in each stem	1200-1300. ^{xxxiii}	UNK	Iron		Almost identical to the Urnes stave church candelabrum. The two vanes are decorated with a half moon, and an animal head on the tip.
3.	Bryggen, Bergen	Wooden fragment with graffiti drawings of ships with multiple vanes	1200-1250	25 cm long	Wood, carvings by knife		Wooden fragment with drawing found in Bergen 1955. Inscription of runes read: "Her farer den havdjerne". On the one side is 4 images of ships. On the other side (pictured here) is 45 stems, three of which have triangular vanes with metal objects from the underside. Two stems have animal heads. Possibly carved for time-passing or amusement of the maker. ^{xxxiv}

4.	Urnes stave church, Sogn, Norway	Graffiti	c. 1160-1250. ^{xxxv}	-	-		<p>At least two fore-stems of ships are depicted with large, triangular weathervanes, like the early medieval vanes. One of them has decorations on the rounded underside.</p>
5.	Borgund stave church, Sogn, Norway	Graffito	c. 1160-1250	-	-		<p>A ship's stem with a weathervane which may correspond to the early medieval type. With what looks like strings hanging from the underside.</p>
6.	Kaupanger stave church, Norway	Graffit	c. 1160-1250	-	-		<p>Several ship stems are depicted, some of which have weathervanes.</p>
7.	Reinli stave church, Norway	Graffito	c. 1160-1250	-	-		<p>The vane seems to be attached to the top of the ship's mast, turning sideways.</p>

8.	Ala church, Gotland, Sweden	Graffito	UNK	-	-		Ship graffiti in the chalk walls of Ala church. <i>Flaug</i> in the mast with <i>flaugarskjegg</i> , strips of textile, hanging from it.
9.	Grave stone over Ailean nan Sop in St. Oran's churchyard, Scotland. No. 1.	Tomb stone image.	Late medieval. xxxvi	-	-		Vanes on the stern and stem of the ship. This is probably an equivalent of the discovered Tovdal vane from the high middle ages.
10.	As above. No. 2.	Tomb stone image.	As above.	-	-		Square vanes in stern and stem. Vanes facing opposite directions, indicating they were not indicating the wind.
11.	Heggen church, Buskerud.	UNK	UNK	-	-	 <p><i>Heggen kirke Buskerud.</i></p>	One vane at the top of the spire. One vane on the side transept roof, hung on a sloping spire. The latter is decorated and with an object attached to the outer tip. This may be a vane of the <i>vedrviti</i> type.

12.	Inchmarnock monastery, Scotland	Graffito image	Uncertain	-	-		Graffito image of a ship with weathervanes in each of the stems. Probably depicting a Scandinavian vessel. ^{xxxvii}
13.	Hedal stavkirke, Valdres, Norway	Graffito	c. 1200. xxxviii	-	-		Depicting a ship's stem with a weathervane turning outwards.
14.	Tingstäde, Gotland, Sweden	Image stone	-	-	-		Depiction of a ship with a weathervane in the top of the mast. The vane looks very similar to the miniature weathervanes found in Birka, Saltvik and Menzlin (above).
15.	From Beatus of Liébana, commentary on the Apocalypse (The "Silos Apocalypse"), British Library Add MS 11695.	Manuscript image, fol. 223.	-	-	-		This folio page shows a mounted rider holding a lance with a triangular banner or pennant. It is gilded, and from the straight hypotenuse is small bells, <i>tintinnabula</i> , for apotropaic protection. ^{xxxix} The same bells are attached to the horse's saddle.

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- ⁱ Some data of measurement differ from one study to another. Where two authors have differing measurements, I have chosen the most recent, modern-day information which have deployed modern equipment and otherwise provides reliable data.
- ⁱⁱ Data for the angle/degree of the inner upper corner of each vane measured and collected by me. This was necessary because of a confusion of Blindheim, whose measurements of the upper corner degree of the Heggen, Källunge, Söderala and Tingelstad vanes were incorrect. The measurements stated in the table are based on photographs.
- ⁱⁱⁱ Fuglesang, "Some Aspects of the Ringerike Style: A Phase of 11th Century Scandinavian Art," 45.
- ^{iv} Ekberg, "På Resa Till En Annan Värld: Vikingatida Miniaturflöjlar."
- ^v Vlasaty, "Skandinávské Sponys Korouhvickou," <https://sagy.vikingove.cz/skandinavske-spony-s-korouhvickou/>. [1.6.2021].
- ^{vi} Bengt Brandt, "Bandlundeviken: En Vikingatida Handelsplats På Gotland" (Stockholm University, 1986), 38. No. 989.
- ^{vii} Ekberg, "På Resa Till En Annan Värld: Vikingatida Miniaturflöjlar," 19.
- ^{viii} Vlasaty, "Skandinávské Sponys Korouhvickou".
- ^{ix} Yvonne Frykberg, "Syrholen I Dala-Floda Socken" (Stockholm University, 1977), 3, 25.
- ^x Ibid.
- ^{xi} Mikael Johansson, "Vikingatida Bronsflöjel," <https://stadsmuseet.stockholm.se/utforska/samlingar/foremal/manadens-foremal/manadens-foremal/april-2014-vikingatida-bronsflojel/>. [1.6.2021].
- ^{xii} See for example Brøgger, "Bronsefløien Fra Heggen Kirke," 16; Sonja Wigren, "Tre Förgyllda Flöjlar" (University of Stockholm, 1971), 7.
- ^{xiii} Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 99, 104.
- ^{xiv} A chemical analysis was carried through in 1981 by Blindheim, Evabeth Astrup and goldsmith Oscar Sørensen. The following details of metal components of the Heggen, Källunge, Söderala and Tingelstad vanes, and their top animals, are referring to this analysis, published by Blindheim in n *ibid.*, 104.
- ^{xv} *Ibid.*, 99; Brøgger, "Bronsefløien Fra Heggen Kirke," 4.
- ^{xvi} "Bronsefløien Fra Heggen Kirke," 4.
- ^{xvii} Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 164-65. Salin dated it between 1000 and 1050 in Salin, "Förgylld Flöjel Från Söderala Kyrka."
- ^{xviii} Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 85.
- ^{xix} Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 164-65.
- ^{xx} Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 96.
- ^{xxi} Stige, "Tingelstadfløyen: Skipsfløy På Land," 98-100. This is the most recent dating of the Tingelstad, and also the most precise and convincing argumentation. Stige compares the motif and style to figures on the Lund cathedral, Sweden. Blindheim suggested previously a similar dating (c.1100 or slightly later).
- ^{xxii} Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 103.
- ^{xxiii} *De Yngre Middelalderske Skipsfløyer I Norge*, 50.
- ^{xxiv} Kielland, *Norsk Guldsmedkunst I Middelalderen*, 78.
- ^{xxv} Fuglesang, "Some Aspects of the Ringerike Style: A Phase of 11th Century Scandinavian Art," 47-48, 170-71.
- ^{xxvi} Brøgger, "Bronsefløien Fra Heggen Kirke," 7-9.
- ^{xxvii} Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 166, 69, 81.
- ^{xxviii} Birthe Kjølbye-Biddle, "The Winchester 'Weather-Vane' Reconsidered," *Hikuin* 10 (1984): 312.
- ^{xxix} Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 104.
- ^{xxx} Chr. A. Jensen, "En Gylden Vindfløihest Fra Den Ældste Middelalder," 53-55.
- ^{xxxi} Björn Gustafsson, "A Looted Viking Period Ship's Vane Terminal from Ukraine," *Fornvännen* 112, no. 2 (2017): 118-21. Fedir Androshchuk, "Where the Wind Is Blowing? A Scandinavian Vane and the Illegal Plundering of Ukraine's Cultural Heritage," <https://m.day.kyiv.ua/en/article/society/where-wind-blowing>.
- ^{xxxii} Margrethe Stang, "Lüksus I Luster," <https://fortidsminneforeningen.no/aktuelt/urnes-stavkirke-i-middelalderen/>. [1.6.2021].
- ^{xxxiii} Blindheim, *De Yngre Middelalderske Skipsfløyer I Norge*, 57.

^{xxxiv} Hougen, "Den Havdjerve."

^{xxxv} Blindheim dates the graffiti from stave churches of Urnes, Borgund, Kaupanger and Reinli similarly, in Blindheim, "De Gyldne Skipsfløyer Fra Sen Vikingetid: Bruk Og Teknikk," 96.

^{xxxvi} According to Bugge, "The Golden Vanes of Viking Ships: A Discussion of a Recent Find at Källunge Church, Gotland," 179.

^{xxxvii} Finbar McCormick and Ole Kastholm, "A Viking Ship Graffito from Kilclief, County Down, Ireland," *The International journal of nautical archaeology* 46, no. 1 (2017): 86-87.

^{xxxviii} Blindheim, *De Yngre Middelalderske Skipsfløyer I Norge*, 57.

^{xxxviii} Weinryb, *The Bronze Object in the Middle Ages*, 138-39.