Sheep and goats in Norse paganism

by

Kristina Jennbert

Abstract:

Sheep and goats are some of the most important animals in prehistoric Scandinavia. The habitus of the animals was used and transformed into cultural categories. Owing to their important and long-term utility they were ritualised during the pre-Christian periods. The role of these animals and the attitudes towards them in and beyond Norse paganism is discussed with habitus perspectives applied to the animals themselves and to the field of modern research.

Introduction

Sheep and goats were very important animals during prehistory, as they are today in many parts of the world. Along with cattle and pigs, sheep and goats were the most significant domestic animals ever since the Neolithic in Scandinavia. Yet, sheep and goats, or "sheepgoats", as a consequence of the dominant classification in research, are very often categorised as utility animals. They are more rarely interpreted as symbols or metaphors in mentality or cosmology. Sheep and goats appear in the archaeological material culture and in Old Norse texts, but in different ways. They become visible and invisible in our interpretations of Norse paganism, hidden between a strong utility and a kind of unspoken symbolic meaning.

My study of animals, or rather my study of the relations between humans and animals, is a part of the larger project Ways to Midgard: Norse paganism in long-term perspectives. This is a multidisciplinary project at the University of Lund, Sweden, involving archaeology, medieval archaeology and history of religion. As one of the archaeologists in the project I am working with a long-term study of ritual practice in Norse paganism, and how rituals could relate to Norse mythology. Domestic animals, wild animals, exotic animals and imaginary animals play a part in my study. The animals are my clues, and I involve animals from farmyards, grave finds, votive finds and pictorial representations from the Neolithic to the Iron Age, as it were, animals as material culture in archaeological contexts. Also of great importance, of course, is the Old Norse literature, the Eddic poems and the Icelandic sagas, written down much later,

in medieval times. The perception of Norse paganism and the use of animals today are other important aspects of my study and my understanding and practice of the interpretative archaeological framework.

Habitus

However, my principal concern in this paper is to present some ideas about the role of sheep and goats in Norse paganism.* I would like to suggest that the dissimilarity between the representation of sheep and goats in the archaeological record and that in the written sources could be due to various social and ritual customs within paganism, and attitudes to paganism within Christianity. However, the interpretations of their role in pre-Christian societies and attitudes towards them in Norse paganism depend on our specific *habitus* in modern research in the fields of archaeology, osteology, and history of religion.

A habitus perspective on the role of sheep and goats could be fruitful for an understanding of their significance in pre-Christian Scandinavia. I use Pierre Bourdieu's term *habitus* as a tool in order to grasp collective actions that integrate past experiences and perceptions. Habitus at the same time creates and is created by the way people classify and act in their world.¹ Somewhat simplified, one could say that togetherness is reproduced by groups of people integrating past and present. In the same manner it could be said that research traditions in our academic disciplines form our special habitus. We also have our classification and understanding of scholarship. The perspectives of habitus in the past and in Norse paganism, as well as in modernday scholarship, are fundamental for the kind of understanding and knowledge we have in whatever research is being carried on.

What is left behind in our days is coloured not only by the historical practice in the past but also by our own abilities to understand, as the academic disciplines also present coloured ideas of the past. We have our special

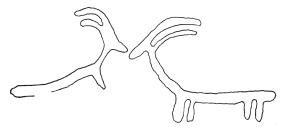


Fig. 1. Goats in the rock-carving at Himmelstadlund, Östergötland, in Eastern Central Sweden (Nordén 1925, 50).

habitus in research and in presentation. In other words, different analytical perspectives and sources provoke ideas about the ways in which groups of people in the past used animals, and the interpretations of them today. This could be part of the reason why sheep/goats are mostly interpreted in terms of utility in archaeology, goats are placed with ritual practices in the study of Old Norse mythology and the history of religion, and sheep became a natural and theological symbol in Christianity.

Archaeological contexts

Sheep and goats are present in different ways in archaeological contexts. Some examples in Scandinavian prehistory show preserved bones of sheep and goats and an iconography of goats. My examples will briefly illustrate the representation of sheep and goat in archaeological contexts.

Ever since the Neolithic, sheep and goats have been present in Scandinavia. One of the earliest datings from Danish settlements is a tooth (sheep/goat) calibrated age 3980–3810 BC.² The dating and the findings indicate the use of sheep/goat in the earliest phase of the Neolithic. In the Middle Neolithic there are bones preserved at settlements. Bones of sheep dominate.³ Several goats, as well as sheep, are found in wetlands,⁴ and sheep at special places like the Alvastra pile dwelling in Östergötland, Sweden.⁵

At Bronze Age settlements in Denmark sheep and goats are more frequent than during the Middle Neolithic.⁶ At the Apalle site in Eastern Central Sweden bones of sheep/goat dominate among the domestic livestock, and they occurred all over the settlement, both scattered in occupation layers and in special contexts.⁷ In the Early Bronze Age at Apalle, fragments of animal skulls and jawbones of sheep/goat, as well as cattle, pig and horse, surrounded middens of fire-cracked stones in the bottom part. During the same period jawbones of sheep/goat were distributed around the entrance to a house.⁸ In special offerings like the Budsene sacrifice at Møn in Denmark, fragments of unburned skeletons of sheep, dog, pig, horse and oxen were placed together with beautiful bronzes in a large tree trunk.⁹

Among animals used in mortuary practices during the Bronze Age, fragments of sheep/goat predominate. The use of goat especially is exemplified in the burial of a small child in the Early Bronze Age. The child was laid in the coffin on a dark goatskin. ¹⁰ A much more widespread custom was to wrap the dead in a cowhide. Dur-

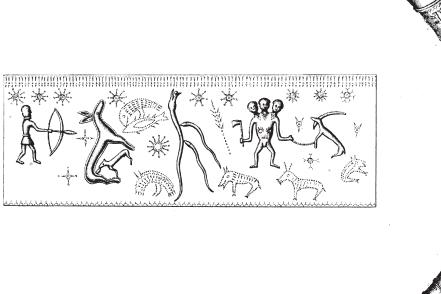
ing the Roman Iron Age fragmented animals integrated in mortuary practices are more numerous. Around 300 AD whole bodies of animals, among them sheep/goat, were placed in graves, a standard practice in the boat burials of the Vendel period and in cremations in the Viking Age. Sheep/goats are used as commonly as other domestic and wild animals in a variety of combinations in both cremations and skeletal burials during the Iron Age. Sheep/goat, along with cattle and pig, are the most important animals in the livestock during the Iron Age. 12

The pictorial representations of sheep and goat are very striking. The sheep is absent in pre-Christian iconography, quite unlike the situation in the Mediterranean region. Very few pictorial representations of goatsoccur in the Scandinavian record. A few goats are found in Bronze Age rock carvings on the west coast and in the eastern central part of Sweden (Fig. 1). A goat is reproduced on one of golden horns, dated to the Roman period, from Gallehus in southern Jutland in Denmark. The horns were stolen and melted down, but not before they had been drawn. Without attempting a detailed interpretation of the iconography, it may be said that the goat is placed near a three-headed person (Fig. 2). 13 Problems in the interpretation of motifs are manifold, especially if they could be mythological representations. Among the motifs on the gold bracteates dated to the Migration period, a four-legged animal has been interpreted as a horse, and in some instances as a goat, referring to either Odin or Thor.¹⁴ A look at the animals, however, shows that they are often constructed of elements from all kinds of animals. The attributes are assembled from reality and fantasy, and that is surely one of the main points. The distinction between human and animals, and between the animals and their characteristics, is ambiguous (Fig. 3).

The Norse texts

In Norse mythology goats had a great value. Named goats are found in the poems, but sheep do not appear at all. At Odin's Valhalla the well-known goat Heidrun eats leaves, and clear mead flows from her udder into the beakers of the warriors. ¹⁵ Thor's goats Tanngrisnir and Tanngnostr draw Thor's chariot according also to Snorri. ¹⁶ A short mythological tale on Thor's journey to Utgard-Loki tells us of the incident when Thor and Loki visited a farmer's family:

During the evening Thor took his goats and slaughtered them both. After this they were skinned and put in a pot. When it was cooked Thor sat down with his companion. Thor invited the peasant and his wife and their children to share the meal with him. The farmer's son was called Thialfi, his daughter Roskva. Then Thor placed the goatskins on the other side of the fire and instructed the peasant and his household to throw the bones on the goatskins. Thialfi, the peasant's son, took hold of the goat's ham-bone and split it open with his knife and broke it to get at the marrow. Thor stayed the



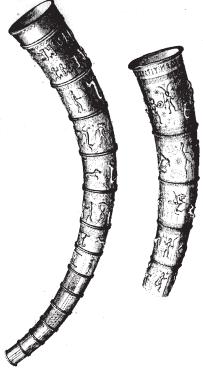


Fig. 2. The representation of a goat on one of the golden horns from Gallehus (Thomsen 1857, XIII and XIV).

night there, and in the small hours before dawn he got up and dressed, took the hammer Miollnir and raised it and blessed the goatskins. Then the goats got up and one of them was lame in the hind leg. Thor noticed this and declared that the peasant or one of his people must have treated the goat's bones with in proper care. He realized that the ham-bone was broken. There is no need to make a long tale about it, everyone can imagine how terrified the peasant must have been when he saw Thor making his brows sink down over his eyes; as for what could be seen of the eyes themselves, he thought he would collapse at the very sight. Thor clenched his hands on the shaft of the hammer so that the knuckles went white, and the peasant did as one might expect, and his household, they cried out fervently, begged for grace, and offered to atone with all their possessions. And when he saw their terror then his wrath left him and he calmed down and accepted from them in settlement their children Thialfi and Roskva, and they then became Thor's bondservants and they attended him ever since.17

Thor's goats were important on his journeys in the sky (*Fig. 4*). The goats were used for drink and food in sacrificial rites. Such sacrificial meals are documented in other mythologies outside Norse mythology, too. Moreover, other kinds of animals could be involved in such sacrificial meals, as for example the boar Saehrimnir in Norse mythology. After the slaughter of the sacrificial animal it is resurrected in a never-ending story. Sheep are of no importance at all in Norse mythology. They have no names, and are hardly even mentioned. On one occasion, in Snorri's Gylfaginning, sheep serve more as props to illustrate Heimdal's very good hearing, as he can hear "the grass growing in the field and the wool on the sheep". 19

The stories in the texts, I believe, are in very sharp contrast to what can be understood from the archaeological contexts where sheep and goat are ingredients. Both sheep and goats are found in bone deposits; and as far as I can see, only goats is found in pictorial representations.

Sheep and goats

Herds of sheep and goats were valuable sources of subsistence during Scandinavian prehistory. Work with animal husbandry goes on in annual cycles. Milk, meat, wool and the whole bodies can be used for all kinds of purposes. In short, the animals had a great value for the struggle for survival in the utilisation of the available resources of the landscape.²⁰ Herding is of course also a central theme in the Icelandic sagas. For instance, in Egil's Saga 29 we are told that Skallagrim's herd increased so much that the animals had to spend a longer time up in the mountains in the summer and that they could winter in the mountain valleys. He also started a sheep-breeding farm near the mountains.²¹ Of course, herding may have changed over the millennia. Such aspects as the ratio of sheep to goats, the age structure of the flock, and the sex ratio among breeding adults could be helpful for understanding herding.²² Yet even if we do not know enough about these variables to understand every aspect of prehistoric herding, or to know which age and sex of animals were significant in livestock herding and ritual practice, it is important to note the different characteristics explicitly ascribed to sheep and

Sheep and goat use different kinds of land and the animals have quite different abilities. They are kept for economic reasons and probably they appeal to humans

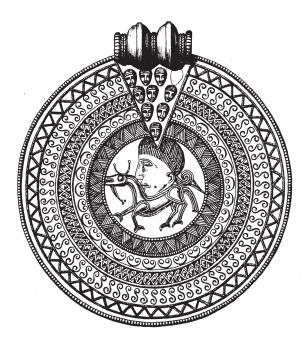


Fig. 3. Gold bracteate with an image of ambiguous quadrupeds, Ravlunda, Ravlunda sn, Scania, Sweden (Thomsen 1857, Table VIII, no .144)

in special ways. Sheep are grass-eaters whereas goats prefer brushwood. In terms of individuality the goat can be sagacious, as the animal can learn to do several things related to the herd. A goat could also be a kind of leader among a herd of sheep, as it is calmer and thus acts as stabiliser in the herd. Sheep are sheep, and that is perhaps sheepish to mention. In a way sheep and goats also have their special *habitus*.

Habitus perspectives

Our frame of references influences us in our interpretative work. One fundamental aspect in research is the problem of classification. One might be led to believe that sheep and goats are the same kind of animal if one looks at lists of fauna. In fact, the morphological distinctions between bones from sheep and goat are problematic, and the separation of sheep and goat bones has been discussed on the basis of measurements of the metapodials²³ and studies of the mandibles and mandibular teeth.²⁴ However, the methodological problems have in fact petrified interpretations of the roles of the animals, as the species in most publications are treated as one category. Sheep and goat are in fact quite different kinds of animals. But the rule in archaeology has been to treat them as one category, a "sheepgoat" phenomenon. The problems of this kind of cultural classification in archaeology are of course a problem of a philosophical nature. The consequence is often a one-sided interpretation by archaeologists of the role of the animals, solely in terms of utility. The manifold archaeological contexts with sheep and goats indicate that an understanding of the role of sheep and goats must be between utility and symbolic meaning. A separation of "sheepgoats" into sheep and goats is also very relevant.



Fig. 4. Thor and his goats, together with Loki, Thialfi and Roskva, (transl. *Brate* 2001, 77).

Another field of interest is the correspondence between material culture and written texts. ²⁵ The contradiction between sheep and goats in material culture versus texts is obvious. Animals, and especially sheep and goats, have not been "great hits" either in archaeology or history of religion; an exception to the rule is archaeologist working with textile production and handicraft. ²⁶ Academic fields with a *habitus* perspective highlight connections and problems in interpretation between bone material, archaeological material culture and written texts. One-sided accounts, whether looking at the archaeological circumstances or focusing on the mythological texts, give us no further insight into customs and ritual practice.

To continue, why are goats so significant in the mythology and visible in pictorial representations? Why are sheep so frequent in the archaeological contexts yet not represented in images, not mentioned and not named in Norse mythology?

It seems that sheep and goat could represent different social categories. Perhaps we see a gender pattern of female and male domestic domains, but there is no clear-cut division between male and female symbolic use of the animals in the archaeological contexts. In the first hand it seems as if the goat is a kind animal assigned to the male sphere, for example the use of buck in the *fylgja* traditions, indicating the inner qualities of its owner.²⁷ On the Stentoften stone in Blekinge, southern Sweden, a new interpretation of the runes gives perspective on sacrificial customs: "With nine bucks, with nine stallions HapuwolfR gave good growth." The number nine and the masculine gender of the sacrificial animals have a direct parallel to the Uppsala sacrifice reported by Adam of Bremen.²⁸

Eirik the Red's Saga tells how, before performing her ritual, a seiðr woman had a special meal. She was served

a gruel of goat's milk and then a stew of hearts from a variety of animals.²⁹ The unbalanced representation of the two species might also show how historical practices were formulated in the thirteenth century. A long-lasting ritual practice of using sheep in sacrifices disappeared as the rituals were not relevant things to record. When the rituals ceased to be performed, they were forgotten, and perhaps some pagan rituals were believed to be dangerous in the Christian community.³⁰ The pagan symbolic meaning of sheep was perhaps forgotten in the thirteenth century when the *Eddic* poems were written down. Instead the goat represents a sacrificial animal in Norse mythology. Perhaps the goat in fact had male connotations. Male perspectives have been ascribed significance in Norse mythology.³¹

On the other hand, the word for sheep suggests further perspectives on the role of sheep in the pagan world. The Gothic word sáubs is interpreted as 'sacrifice'. A parallel in Old Norse is the word sauðr, which means sheep. The verb seuðan is a general term for 'to seethe, boil' suggesting the preparation of the animal for a ritual meal.³² The meaning of the word for sheep strengthens the idea that the sheep was a sacrificial animal, as it was in archaeological contexts for perhaps thousands of year. In Christianity the sheep was preserved as the symbolic sacrificial lamb. The pagan sheep was transformed into a Christian symbol, and continued to be a special animal. Could it be that sheep belonged to a kind of popular culture in pre-Christian Nordic societies, connected to the ancestors in terms of utility? Perhaps the symbolic sacrificial lamb was one many bridges allowing people to face and accept Christianity? The goat had quite a different habitus and was ascribed other attributes, and the animal was – like the horse – demonised in Christianity. In popular legends and Scandinavian popular belief, recorded after Christianisation, goats are connected with the devil, as they were the animals of the Norse god Thor.³³ Goats are also related to sexuality, with their heated buckish behaviour. In contrast, sheep play a very passive role in popular legends34 and serve quite different purposes in the Christian religion.

I think that the archaeological sources versus the written sources can be interpreted in terms of different social and ritual customs in the pre-Christian North. The animals were used in ritual practices and in ideological manifestations. Their presence and surely their different significance could express gender relations, and they certainly express relations between classes, between farmers and rulers.

Sheep and goats in Norse paganism

My intention is to focus on the structure and mentality of ritual and mythology. My interpretation could be understood through a perspective of *habitus* applied to the people of the North and to modern research in archaeology, physical anthropology and history of religion and especially research on Norse paganism. I believe that the two perspectives are necessary for understanding the

kind of knowledge we have about paganism and early Christianity in Scandinavia. The *habitus* perspective helps to split up our understanding of pre-Christian ritual practices and Norse mythology into different domains, both among people long ago and among researchers today.

The role of sheep and goats and the attitudes towards them in pre-Christian Scandinavia and afterwards seems to have been trapped in different perspectives depending on circumstances. Sheep and goats appear in different ways in the archaeological record and in the written sources. Both sheep and goat had strong ritual connotations in Norse paganism. However, only goat is mentioned in Norse mythology, and the goat became a strong mythological animal. I would suggest that the dissimilarity represents a difference in social and ritual customs in the pagan religion; a different habitus in Norse paganism. The animals' differing habitus was used and transformed into cultural categories. Owing to their important and long-term utility, they were also ritualised during pre-Christian periods, and I am sure that the symbolic meaning was transformed as time passed. Sheep and goats were later used as metaphors for the good and the bad respectively. The pagan sheep and the pagan goat were transformed into the sacrificial lamb and the devil, with roots in their pagan social and ideological domains.

There is a clear distinction between the nature of the species, and they appear in different ways in archaeological and written sources. They are both visible and invisible. Norse paganism should not be understood as one homogeneous archaic religion with a common origin, as is common today when Norse paganism is used, either in connection with New Age movements or right-wing extremists. The outcome of my study of sheep and goats speaks for an intricate use of symbols, transformed by social and cultural factors over thousands of years.

Kristina Jennbert
Department of Archaeology and Ancient History
University of Lund
Sandgatan 1
SE-223 50 Lund
Sweden
kristina.jennbert@ark.lu.se

^{*} Many thanks to Ola Magnell and Elisabeth Iregren (Historical Osteology), Eva Andersson (Archaeology) and Anders Andrén (Medieval Archaeology), Department of Archaeology and Ancient History, University of Lund, for valuable information and discussions. English revised by Alan Crozier.

¹ Bourdieu 1999, 82f.

² AAR-4031, Østerberg Friborg 1999, 124.

³ for example at Bundsø on the island of Als in Denmark, Mathiassen 1939, 143f.

⁴ for example Lyngby, Zealand in Denmark, Aaris-Sørensen 1988, 214.

⁵ Browall 1986, 171f.

⁶ Nyegaard 1996, 151f.

⁷ Ullen 1996, 174.

- 8 Ullén 1994, 254f.
 9 Nordman 1920.
- ¹⁰ Guldhøi, southern Jutland, Denmark, Boye 1896, 77.
- ¹¹ Sigvallius 1994, Iregren 1997, Steen and Vretemark 1988.
- ¹² Wigh 2001.
- Axboe 1997.Gaimster 1998, 25.
- ¹⁵ Snorri Sturluson Edda, Gylfaginning 38 in Faulkes 2002, 33.
 ¹⁶ Snorri Sturluson Edda, Gylfaginnung 20-21 in Faulkes 2002,
- 22.
- ¹⁷ Snorri Sturluson Edda, Gylfaginnung 43-44 in Faulkes 2002, 37-38.
- ¹⁸ von Hofsten 1957, 19.
- ¹⁹ Gylfaginning 27 in Faulkes 2002.
- ²⁰ Adalsteinsson 1991.
- ²¹ Egil's Saga in translation of Pálsson & Edwards 1976.

- ²² Redding 1983.
- ²³ Rowley-Conwy 1998.
- ²⁴ Payne 1985, Halstead and Collins 2002.
- 25 Andrén 1998.
- ²⁶ Discussion with Eva Andersson, Department of Archaeology and Ancient History, University of Lund.
- ²⁷ Mundal 1974, Raudvere 2002, 98.
- ²⁸ Santesson 1989.
- ²⁹ Raudvere 2002, 124.
- ³⁰ Clunies Ross 2002.
- 31 Clunies Ross 1994.
- 32 Green 1998, 23.
- ³³ Bernström 1960, 292.
- ³⁴ Wigström 1900.
- ³⁵ Raudvere, Andrén and Jennbert 2001.

Abbreviations

JAS Journal of Archaeological Science

Bibliography

Aaris-Sørensen 1988 K. Aaris-Sørensen, Danmarks forhistoriske dyreverden, København 1988.

Adalsteinsson 1991 S. Adalsteinsson, 'Importance of sheep in early Icelandic agriculture', *Acta Achaeologica* 61, 1991, 285-

291.

Andrén 1998 A. Andrén, Between artifacts and texts. Historical archaeology in global perspective, New York 1998.

Axboe 1997 M. Axboe, 'Gallehus', Reallexikon der Germanische Altertumskunde 10, 1997, 330-336

Bernström 1960 J. Bernström, 'Get', Kulturhistoriskt lexikon för nordisk Medeltid V, Malmö 1960, 289-293.

Bourdieu 1999 P. Bourdieu, *Outline of a theory of practice*, Cambridge 1999 (14th printing).

Boye 1896 V. Boye, *Fund af egekister fra bronzealderen i Danmark*, Kjøbenhavn 1896.

Brate 2001 Eddan, De nordiska guda- och hjältesagorna, Transl. Erik Brate (1872), Uddevalla 2001.

Browall 1978 H. Browall, Alvastra pålbyggnad. Social och ekonomisk bas (Theses and Papers in North-European

Archaeology 15), Stockholm 1978.

Clunies Ross 1994 M. Clunies Ross, *Prolonged Echoes. Old Norse myths in medieval Northern Society*, Odense 1994.

Clunies Ross 2002 M. Clunies Ross, 'Närvaron och frånvaron av ritual i norröna medeltida texter', in *Plats och praxis*-

studier av nordisk förkristen ritual (Vägar till Midgård 2), eds. K. Jennbert, A. Andrén & C. Raudvere,

Lund 2002, 13-30.

Faulkes 2002 Snorri Sturluson Edda, Transl. Anthony Faulkes, London and Melbourne 2002.

Gaimster 1998 M. Gaimster, Vendel period bracteates on Gotland. On the significance of Germanic art (Acta

Archaeologica Lundensia 8:27), Lund 1998.

Green 1998 D. H. Green, Language and history in the early Germanic world, Cambridge 1998.

Halstead & Collins 2002 P. Halstead & P. Collins, 'Sorting the Sheep from the Goats: Morphological Distinctions between the

Mandibles and Mandibular Teeth of Adult Ovis and Capra', Journal of Archaeological Science 29, 2002,

545-553.

Iregren 1997 E. Iregren, 'Why animal bones in human graves – an attempt to interpret animals present in Iron Age

cremations in Sweden', in Cremation Studies in Archaeology, eds. E. Smits, E. Iregren & A. G. Drusini,

Amsterdam, 1997, 9-32.

Mathiassen 1939 Th. Mathiassen, 'Bundsø. En yngre stenåldersboplats paa Als', Aarbøger for Nordisk Oldkyndighed 1939,

1-198.

Mundal 1974 E. Mundal. Fylgjamotiva i norrøn litteratur, Oslo 1974.

Nordén 1925 A. Nordén, Östergötlands bronsålder, Linköping 1925.

Nordman 1920 C. A. Nordman, 'Offerbrunnen från Budsene', *Aarbøger for Nordisk Oldkyndighed* 1920, 63-87.

Nyegaard 1996 G. Nyegaard, *Faunalevn fra bronzealder. En zooarkæologisk undersøgelse af sydskandinaviske*

bopladsfund, Unpubliched Theses, University of Copenhagen 1996.

Pálsson & Edvards 1976 Egil's Saga, Transl. H. Pálsson & P. Edvards, Hammondsworth 1976.

Payne 1985 S. Payne, 'Morphological distinctions between the mandibular teeth of young sheep, Ovis, and goats,

Capra', JAS 12, 1985, 139-147.

Raudvere 2002 C. Raudvere, 'Trolldómr in early medieval Scandinavia', in *The Middle Age*, K. Jolly, C. Raudvere & E.

Peters, (Witchcraft and Magic in europe), eds. B. Ankarloo & S. Clark, Pennylvania 2002, 13-163.

Raudvere, Andrén & Jennbert 2001 C. Raudvere, A. Andrén & K. Jennbert, Myter om det nordiska. Mellan romantik och politik, (Vägar till

Midgård 1), Lund 2001.

Redding 1984 R. Redding, 'Theoretical determinants of a herder's decisions: modeling variation in the sheep/goat ratio',

in Animals and Archaeology 3, (BAR International Series 202), eds. J. Clutton-Brock & C. Grigson,

1984, 223-241.

Rowley-Conwy 1998 P. Rowley-Conwy, 'Improved Separation of Neolithic Metapodials of Sheep (Ovis) and Goats (Capra)

from Arene Candide Cave, Liguria, Italy', JAS 25, 1998, 251-258.

Santesson 1989 L. Santesson, 'En nytolkning av inledningsraderna på Stentoftenstenen', Fornvännen 1989, 221-229.

Sigvallius 1994 B. Sigvallius, Funeral Pyres. Iron Age Cremations in North Spånga (Theses and Papers in Osteology 1),

Stockholm 1994.

Steen & Vretemark 1988 S. Sten & M. Vretemark, 'Storgravsprojektet – osteologiska analyser av yngre järnålderns benrika

brandgravar, Fornvännen 1988, 145-156.

Thomsen 1857 C. J. Thomsen, Atlas for Nordisk Oldkyndighed, København 1857.

Ullén 1994 I. Ullén, 'The power of case studies, Interpretation of a late Bronze-Age settlement in central Sweden'

Journal of European Archaeology 2.2, 1994, 249-359.

Ullén 1996 I. Ullén, 'Food ethics, domestication and togetherness. A close-up study of the relation of horse and dog

to man in the Bronze Age settlement of Apalle', Current Swedish Archaeology 4, 1996, 171-184.

Wigh 2001 B. Wigh, Animal Husbandry in the Viking Age Town of Birka and its Hinterland, Excavations in the Black

Earth 1990-95, Stockholm 2001.

Wigström 1900 E. Wigström, 'Djurlifvet I folkets tro och sägner', Svenska Fornminnesföreningens tidskrift 1900, 158-

188.

Von Hofsten 1957 N. von Hofsten, Eddadikternas djur och växter, (Skrifter utgivna av Kungl. Gustav Adolfs Akademien

30), Uppsala 1957.

Østerberg Friborg 1999 M. N. Østerborg Friborg, En palæoøkologisk undersøgelse af bopladsen Lollikhuse baseret på

patteedyrknogler, Specialeafhandling, Institute of Geology, University of Copenhagen, 1999.