

# Animals on Display

## Animal Motifs, Human-Animal Relations and Social Semiotics in the Bronze Age Rock Carvings from Enköping and Norrköping, Sweden

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### Abstract

Animals make up one of the most common motif groups in south Scandinavian Bronze Age rock art, with depictions of pigs and horses, as well as wild animals like red deer and wild boar, occurring in almost all rock art areas. Despite their ubiquity, their treatment in previous research has been inadequate. In this article, the display of animals in the rock art tradition is mapped out and discussed from a perspective based in human-animal relations and social semiotics. The animal figures are analyzed in terms of species, sex, human practice and regional articulations, as well as in relation to the wider archaeological record. The results reveal that animal motifs probably had a dual role during the Bronze Age, showing both the biological reality and the social and symbolic values that were connected to animals. In addition, the animals depicted in rock art also worked as carriers of semiotic resources, which manifested human social and societal ideas and ideals.

*Keywords: Bronze Age, petroglyphs, social spheres, communication, visual studies, content analysis, semiotic resource, pictorial convention, masculinity, anthropocentrism*

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## Introduction

The Bronze Age rock art in southern Scandinavia is remarkably rich, featuring boats, human and animal figures, weapons, foot soles and other more abstract patterns and shapes, and has therefore proved a fruitful source material over many decades of study (surveyed in Goldhahn 2006). However, there are many elements that are not depicted which are known from other sources to have been central in Bronze Age society, notably ceramics, houses and graves (Wessman in prep.). Why were some motif categories chosen above others to be carved into exposed rock faces in the landscape of the time? Clearly, those that were depicted were significant in some way and are therefore all the more relevant to study in this context. Animals form one such category. The investigation that follows therefore takes animal motifs as its focus, reaching beyond previous work in its selection of motifs, attributes and exploration of context (cf. Malmer 1981; Hauptman Wahlgren 2002).

In recent years, interest in relationships between humans and animals has increased within many fields of research, including archaeology, following a shift in theoretical debate in the wider humanities towards non-human agents (Helms 2004; Barad 2007; Oma 2007; Haraway 2008; Jennbert 2011; Russel 2012; Grünberg 2013; Hamilakis & Overton 2013; Fahlander 2014; Sykes 2014; Armstrong Oma 2017). South Scandinavian rock art is a rare example where human-animal relations are fixed in something as stable as stone. The kinds of relationships that are shown can be considered, which leads us to one of the most complex and significant issues in the study of rock art: *representation*. Ever since the south Scandinavian rock art was connected to the Bronze Age (Hildebrand 1869), it has been used as evidence and testimony for social, ritual and religious concepts and practices in Scandinavian Bronze Age society (e.g. Ljunge 2015:14). Whether or not rock art actually represents a reality of the Scandinavian Bronze Age, and what its meaning(s) might be, has been explored by many scholars in recent years (Goldhahn 2004; Ling 2008; Ling & Cornell 2010; Ljunge 2015; Bergerbrant & Wessman 2018; Fahlander 2018). Ljunge (2015) argues that research has been excessively obsessed with the depictions at the expense of looking at their materiality and the concepts behind the images. Fahlander (2018:2) raises the possibility that seeing rock art as ‘just’ representations risks reducing it to passive images where the actual materiality of the pictures is diminished. As Ljunge (2015) and Fahlander (2018) both argue, the materiality of the rock art is most certainly a key to understanding it.

However, one aspect of the images as representation is difficult to ignore: the *limited* figurative repertoire that characterizes the south Scandinavian rock art (Malmer 1981). Even though the range of motifs is rich and varied,



Figure 1. Map of the areas of study. Map: Anna Wessman.

there is a stringency in what was depicted, and how. The selection of motifs and style within and between the rock art areas indicates that there was some kind of pictorial convention which was known over large regions and/or within certain groups at this time; the choice of motifs was not random, but must have involved a careful selection process. Based on this, I argue that it is clear that the depictions themselves are relevant, and that a close

analysis of specific motifs is a useful way forward. What details are highlighted, and what is left out? Recent discussions within visual studies have emphasized the usefulness of detailed and quantified studies (Bell 2001; Manovich et al. 2017). Based on this background, a content-analysis study from a social-semiotic perspective has been implemented in this paper.

The images analyzed in this article comprise animal motifs from two main rock art areas in southern Scandinavia: Enköping in Uppland and Norrköping in Östergötland, Sweden (figure 1). Both areas are located in landscapes that were directly or indirectly connected to the Baltic Sea during the Bronze Age (Hauptman Wahlgren 2002; Ling 2013; Fahlander 2018). There is a general chronological consistency between the rock art in the two areas, with the majority of the material dated to the Early Bronze Age, and more specifically to periods II–III, 1500–1100 BC (Wessman 2010; Ling 2013; Nilsson 2017). The two areas are therefore readily comparable, and some further examples from other Scandinavian areas will also be brought in for wider perspectives and contrast.

The overall aim of this article is to explore how human-animal relations are displayed in Bronze Age rock art. The study is based on a social-semiotic perspective deployed through a detailed and dynamic analysis of the animal depictions appearing on the rocks in the areas included in the study. The study has been implemented through a quantified content analysis in which the animal motifs are discussed in terms of semiotic resources, human-animal relations, gender, regional articulations and social spheres.

## Human-animal relations and social semiotics

Animals have always had a special place in the human world and the nature of relationships between humans and animals have varied through history with multi-faceted meanings (Russell 2012:1). Growing interest in human-animal relations in archaeology is related to a wider academic and general discussion in which this topic has been highlighted, partly through post-humanism perspectives (Barad 2007; Haraway 2008; Jennbert 2011; Russel 2012; Hamilakis & Overton 2013; Sykes 2014; Armstrong Oma 2017). This shift in focus has been called the ‘animal turn’ (Hamilakis & Overton 2013:111). Such discussions view human-animal relations in different ways, as both coequal and unequal. A critique of traditionally anthropocentric perspectives within this field has questioned ways of looking at humans as superior to animals (Boyd 2017). From a non-anthropocentric perspective, human-animal relations are seen as more equivalent, and humans are seen as one species amongst others. From that point of view, there is no difference between human and animal agency (Armstrong Oma 2017:35).

These ideas are valuable in placing humans as part of the ecological natural system of this world. However, they also challenge the special skills of being a human, and it has been argued that this perspective risks undermining certain social occurrences, as for example gender (Russel 2012:3; see also Crist 1999 and McCaughey 2007), a highly present theme. With that in mind, it is argued here that, at least when working with rock art, an anthropocentric way of seeing the human-animal relations is the only reasonable perspective. As Russel puts it, 'I self-consciously engage in anthropocentrism in that, as an anthropologist, my interest in animals lies in using them to understand people' (Russel 2012:5). Rock art is made by humans; motifs are selected in a human social context; and the animals depicted therefore show, first and foremost, the human perspective of their relations to animals and to each other. This does not mean that the animals did not affect human social behaviour in any way, but rather that the display of this interplay through the rock art should be seen as a reflection of the human as a social being.

Social semiotics (Kress & van Leeuwen 2002; Jewitt & Oyama 2004; van Leeuwen 2005; Kress 2010; Wagner 2015) is therefore a useful theoretical interpretive tool. Social semiotics focuses on images (or other types of media) as symbolic communication from which meaning can be renegotiated, emphasized and/or subdued in relation to specific social situations (Jewitt & Oyama 2004:134; Kress 2010:35; Wagner 2015:195). An important concept is the *semiotic resource*. A semiotic resource is used to emphasize certain characteristics in specific social situations (Jewitt & Oyama 2004:134) and to put them on 'display' (see Callier 2014:585). For example, it can include body language, bodily attributes or physical accessories or things. These resources tell the receiver something about the ideas and ideals that were put forward in the particular social context where the image was made (Jewitt & Oyama 2004:135), which means that such studies must be implemented using a contextual method. Kress (2010:14) writes, '[c]ultural resources, being meaningful, are semiotic resources. It is "the social" which generates "the cultural" and, in that, "the semiotic".' From this perspective, a semiotic resource can only exist in relation to surrounding cultural and social contexts. One example is a picture/photograph of a person smoking a cigarette. The cigarette, as a semiotic resource, most probably triggers associations that are different today from those in the 1950s and 1960s. Thus, the picture represents both the practical scene of someone smoking a cigarette *and* values and social aspects associated with that practice at a certain time, which can only be understood when it is put in context. This is also a clear example of ways in which images can be ambiguous and can represent both physical things and abstract values at the same time.

Semiotic resources are not fixed but dynamic and changeable; resources are accentuated or tuned down depending on the social context (Kress & van Leeuwen 2002:345, 366). Thus, from a social semiotic perspective, ways of depicting animals are interpreted as indicators of which aspects of the animal world were important in the specific social context of making rock art. In extension, this can give us a glimpse into the way Bronze Age people perceived, and interacted with, the animals in their surroundings. However, this perspective is more about studying how the image is used as a social medium than interpreting the meaning of the image itself (Jewitt & Oyama 2004). This does not mean that the motif which is depicted in the rock art is not relevant in and of itself, but rather the opposite: details in the depictions provide information about social conditions and relations. Therefore, the social semiotic perspective not only interacts well with, but also requires, the anthropocentric perspective presented above.

In order to access semiotic resources in images which have no historical or written context there is a need to identify patterns and structures within the figurative repertoire. One possible method for this is to conduct a quantified content analysis (see Bell 2001). This means that the selected group of images are analyzed in their entirety in relation to relevant variables and values (Bell 2001:17–18). From this, details in the images can be put forward and discussed further in terms of semiotic resources and social contexts.

## Method: Earlier work and introduction to content-analysis

The most common approach to studying animals depicted in rock carvings in southern Scandinavia is by counting them in the area of study and then drawing general conclusions about the category (see e.g. Burenhult 1973; Kjellén & Hyenstrand 1977; Malmer 1981; Bertilsson 1987; Hauptman Wahlgren 2002; Ljunge 2015). Malmer (1981), for example, discussed animal motifs in his chorological study. Unlike many researchers working with several regions, he was trying to process the Scandinavian rock art with a holistic approach. He interpreted animal motifs through their attributes rather than by dividing them according to species (Malmer 1981:87). He argued that categorizing animals into different species is too subjective, while identifying attributes, such as the number of legs, the presence of antlers and/or ears, and so on, is a more objective method. However, alongside this supposedly objective method, he also defined some specific species or groups, for example birds, snakes and aquatic animals (Malmer 1981:88).

Similarly, Hauptman Wahlgren (2002) discussed the problem of dividing the depictions into different species, and also chose to refrain from attempt-

ing this. She argued that the determination of species is a complicated process and not successful in all cases (Hauptman Wahlgren 2002:55–56, 70–71). First, as Malmer (1981) stated before, she argues that a large number of figures would fall into the category of *indeterminable*. She also (Hauptman Wahlgren 2002:70) points out that some figures with slight modifications could appear to be different species. For example, a deer looks remarkably like a mallard if both antlers and legs are missing. Her point in this case is that not all animal figures are depicted in detail and that this ambiguity may be deliberate, with a deeper meaning. On the one hand, this is a relevant point, not least since she connects the ambiguity to the likely symbolic relationship between animals and ships, mainly represented *pars pro toto* by their bows. On the other hand, all of these arguments ignore the fact that there are several examples of figures which are depicted with such precision that there is no doubt as to which species they represent. Deer are clearly depicted with both antlers and legs in many cases (figure 2 & 3). There is no point in being specific with details if you do not wish to show or state something specific, nor would the identifiable animals follow the distinct categories that they actually do make up in the different rock art areas. Thus, although it is indeed hard in many cases to identify exactly which species is depicted, there are other cases where a determination is possible based on clear and recurring criteria, and it would be negligent to overlook the accuracy in detail that may be discerned in many of these motifs. The main point here is that the different species and their associations and actions are important where an effort has been made to depict them.

However, it should be pointed out that the classification of species in this study has only been undertaken in clear cases (see table 1 for criteria

Table 1. Criteria for determination of species.

Species	Criteria for determination
Pig/wild boar	Low legged, rough body, snout
Cow	Four legged, square-shaped
Bird	Two legged with beak or other significant attributes
Goat/sheep	Characteristic horns, four legged
Bull	Characteristic shaped horn, head and/or body
Horse	Tail, characteristic body, soft shapes
Dog/wolf/fox	Low legged, tail, characteristic head
Deer	Four legged, characteristic antlers
Elk	Four legged, characteristic antlers
Bear	Round characteristic shape or clear footprints
Snake	Wavy line
Uncertain	



Figure 2. Deer depicted on the Ekenberg panel in Norrköping (Östra Eneby 23). Photo: Peter Skoglund. Image property: SHFA. Published with permission.

for determination) where significant attributes are present. Some animals, such as horse, roe deer and sheep, are difficult to distinguish from each other (Hauptman Wahlgren 2002:71) and may therefore be present to a larger extent than is counted in this study.

The animal-related motifs in the two areas of investigation have been mapped, quantified and analyzed using a quantified content analysis method (Bell 2001; Kapidzic & Herring 2015; Kerkhoven et al. 2016). First, a corpus of all known rock art sites with animal depictions was compiled based on the National Heritage Site register (FMIS, Fornsök). Then, all sites with animal motifs from the two selected areas were collected in separate databases. The data were compared and verified through documentation and earlier studies. For the Norrköping area, the publications of Nordén (1925) and Burenhult (1973) provided the main sources for comparison, verified and expanded upon in the work of Hauptman Wahlgren (2002), Ljunge (2015) and the BOTARK reports (Broström & Ihrestam





Figure 3. Deer on the run. Note the subtle details demonstrating similarities with the depiction in figure 2. Photo: Coroiu Octavian. Published by permission of Mostphotos Bildbyrå.

2007, 2013a, 2013b, 2013c, 2013d, 2014, 2016, 2017). The analysis of the Enköping material is based mainly on photo documentation compiled by Kjellén (SHFA), though additional documentation by Kjellén (1976) and Coles & Gräslund (2000) has also been drawn upon. In both case study areas, photographic documentation from the author's own fieldwork in the regions and material in SHFA have been used. There are difficulties in using diverse kinds of documentation when studying rock art; different methods provide varying results and are not always comparable (Bertilsson 2018). Therefore, several different forms of documentation are included for each area to produce the most accurate picture possible.

Panels including animal motifs which were regarded as 'uncertain' have been systematically omitted from the databases for both areas in order to streamline the results. In some cases, panels with several sub-numbers have been merged into one (Östra Eneby 1 & 23, Boglösa 131). This data collection has then been processed in terms of different *variables* (species and

general morphological appearance) and *values* (such as the presence of a phallus and participation in human practices), which is part of the content analysis method. From this, attributes and patterns emerge that enable a discussion of semiotic resources and possible social contexts.

## The animals depicted in rock art: Variables, values and patterns

Through the synthesis in this study, a total of 520 animal motifs appear in the Norrköping area and 192 in Enköping (see appendix). In Norrköping, animals are the second most common motif after the ship (Hauptman Wahlgren 2002), and in Enköping they are the third most common, after ships and footprints (Wessman 2010). It should be pointed out that the majority of the animal-motifs are unspecified in terms of species (65.1% in Enköping, 82.5% in Norrköping). This means that the examples discussed here make up a very small part of the total material. A general overview of the distribution of species depicted in the survey areas can be seen in table 2 and 3.

Species which are depicted in both areas are generally terrestrial mammals. Birds are rarely depicted, although there are exceptions such as at Boglösa 131 in Enköping, where six crane-like figures appear together in a group. Despite the fact that these panels, like most rock art areas in southern Scandinavia, are situated close to water (see Ekholm 1921; Kjellén & Hyenstrand 1977:20; Nordenborg Myhre 2004:49; Ling 2008:2–3), fish and other marine species are absent. The animal motifs often occur in groups, and in general are most frequent on panels with a greater number of other motifs (see table 4). In both Enköping and Norrköping there is a clear connection between panels with a large number of animal figures and human figures (see Wessman 2010:42).

The most common discernible animal species in both areas is the pig (35 in Norrköping, 27 in Enköping). These could represent both tame pigs and wild boars (see below). Deer are only found in Norrköping, where there are 13 cases. In this study, only examples with clear antlers have been classified as deer, which means that there could be several more ambiguous examples. Dog/wolf/fox is another animal motif that occurs with some frequency. These types are particularly clear in Enköping (12 cases), and there are most likely several more examples in the material, but (like the deer) they are difficult to categorize. Domesticated species including horses, cow/bulls and sheep are present (see table 2 and 3), with the horse in particular being relatively common but challenging to categorize since they often lack specific attributes. Snakes appear as a category in this analysis but are

Table 2. Depicted species in the Norrköping area.

Species Norrköping	Quantity (single motifs)	Quantity (single motifs) in %
Pig/wild boar	36	6.9
Cow	4	0.8
Bird	1	0.2
Goat/sheep	5	1.0
Bull	3	0.6
Horse	15	2.8
Dog/wolf/fox	9	1.7
Deer	13	2.5
Elk	1	0.2
Bear	1	0.2
Snake	3	0.6
Uncertain	429	82.5
<b>Total</b>	<b>520</b>	<b>100</b>

Table 3. Depicted species in the Enköping area.

Species Enköping	Quantity (single motifs)	Quantity (single motifs) in %
Pig/wild boar	27	14.1
Cow	1	0.5
Bird	6	3.1
Goat/sheep	3	1.6
Bull	5	2.6
Horse	7	3.6
Dog/wolf/fox	12	6.3
Deer	0	0.0
Elk	0	0.0
Bear	0	0.0
Snake	6	3.1
Uncertain	125	65.1
<b>Total:</b>	<b>192</b>	<b>100</b>

highly uncertain since they are usually represented by rather abstract and potentially ambiguous lines.

Both domesticated and wild animals are displayed. The wild boar is the clearest example of an untamed animal depicted in the studied areas (see Wessman 2010; Skoglund 2018), although the division of pigs and wild boars in the rock art is open to doubt (see Nordén 1925:53–54). Domestic pigs were introduced to southern Scandinavia during the early Neolithic

Table 4. The relation between animal motifs and other motifs on panels with large numbers of animal figures.

Panels with high amount of animal motifs	Number of animal motifs	Other motifs on the same panel
Boglösa 131:1	68	Ship (219), Human (22), Foot (9), Circle (3), Wagon (1), Indeterminable (14), Cupmark (113)
Boglösa 160:1	28	Ship (20), Human (4), Foot (1), Circle (1), Indeterminable (10), Cupmark (15)
Boglösa 94:1	22	Ship (40), Human (32), Foot (2), Cupmark (2)
Borg 11:1	40	Ship (7), Cupmark (17)
Borg 7:1	35	Ship (33), Human (4), Foot (3), Weapon (1), Circle (7), Indeterminable (24), Cupmark (139)
Östra Eneby 1:1	283	Ship (675), Human (61), Foot (108), Weapon (59), Circle (69), Other (34), Indeterminable (268), Cupmark (283), Oblong (1)
Östra Eneby 31:1	25	Ship (31), Human (3), Foot (4), Weapon (4), Other (1), Cupmark (7), Oblong (2)
Östra Eneby 23:1	49	Ship (113), Human (73), Foot (4), Weapon (31), Circle (24), Other (1), Indeterminable (35), Cupmark (28), Line (10)

(Amaya 2008:396–397) and were thus part of the Bronze Age economy. However, wild boar was also well-established in southern Scandinavia during the Bronze Age (Magnell 2005; Skoglund 2018). The main morphological differences between wild boar and domesticated pigs are the tusks, the sloping spine and the impression of a more nose-heavy animal in the boar (Nationalencyklopedin 1 n.d.). These characteristics particularly apply to the males, with the testicles of wild boars also more prominent than those of the pig (Svenska Jägareförbundet n.d.). From this, it can be seen that the morphology of a majority of the pig/boar motifs indicates that at least some examples illustrate wild boars rather than domesticated pigs (figure 4 and 5). They are often depicted in groups, which is typical for wild boars, and strengthens the interpretation (Nationalencyklopedin 1 n.d.). In some cases they are displayed in hunting scenes (figure 5). The wild boar provides clues about possible seasonal use and/or behaviour connected to seasonal hunting (Magnell 2005:76). There is also an interesting example in the Himmelstalund panel in Norrköping (Östra Eneby 1:1) where possible bear tracks are depicted.

In contrast to the north Scandinavian rock art tradition (Sjöstrand 2011), the elk motif is rare in these areas, represented in only one or possibly two uncertain cases (cf. Östra Eneby 1 & Östra Eneby 31). However, as already mentioned, there are several clear examples of deer depicted in Norrköping. These motifs are most likely to represent the red deer, which was widespread

in the southern parts of Scandinavia at the time (Solheim et al. 2004:8–9). The strongest arguments for this interpretation are the antlers, which are characteristic of the red deer. The antlers of roe deer look different morphologically, and fallow deer were first introduced to Scandinavia in historical times (Nationalencyklopedin 2 n.d.). One broad observation is that wild animals seem to be depicted in more detail than domesticated ones (compare figure 2 and 3), and this is a striking aspect of the motifs.

Moving from discussion of species towards the question of sex, it is well known that the phallus symbol is one common attribute on human motifs in the rock art material (Horn 2017), but less attention has been paid to the fact that the phallus is also present on the animal figures. There is only one clear example of an animal with a phallus in Enköping (Boglösa 131:1, undefined species possibly roe deer), but in Norrköping there are 24 ex-



Figure 4. A pig or wild boar depicted in the Hemsta area in Enköping (Boglösa 131). Photo: Einar Kjellén. Published by permission of Mostphotos Bildbyrå.



Figure 5. The hunting scene on the Himmelstalund panel, Norrköping (Östra Eneby 1). Photo: Anna Wessman.

amples. Some boars are equipped with testicles, both in Norrköping (five, Östra Eneby 1) and Enköping (two, Boglösa 131). Thus, the act of manifesting or not manifesting the male genitals seems to have been an active choice. There are other ways of displaying an animal's biological sex: for example, in some cases red deer are depicted with antlers. The number of (masculine) sexed animals in Norrköping therefore rises to 42. Another, perhaps more speculative, depiction of sexual affiliation in animal motifs is seen in the formations of pigs/boars which appear in both Enköping and Norrköping. If we assume that most of these motifs are wild boars, the fact that they often appear in groups is of importance since it is the sows and piglets that are found in herds, while the male boars are alone (Truvé 2004:10). This could mean that a majority of the wild boars depicted are females or youths. This may be strengthened by examples of singly-placed wild boar motifs which are clearly equipped with a phallus and in some cases also testicles (see figure 4).

In addition, animals are engaged in different kinds of activities on the rocks. One of the most famous human-animal practices depicted is the ploughing scene (Ling 2008:3). These compositions usually consist of one or two animals in front of a plough controlled by a human figure. These motifs are often brought up and singled out as illustrations, but are actually rather rare. No examples are present in the areas included in the

study, but one case can be found a few kilometres west of the Enköping area (Munktorp 128:1). In Bohuslän these scenes are more frequent; for instance, there are about 20 examples of ploughing scenes in the parish of Tanum (Ling 2008). A related feature is animals connected to vehicles and/or reins, mainly wagons, but sometimes also ships (figure 6). The number of animals connected to some kind of vehicle or reins is eight in Enköping and seven in Norrköping. Horseback riding also occurs in the rock art, and these motifs have often been connected to the latest phase of rock art production (Skoglund 2013:687). They are present in Bohuslän and Østfold, and on the Järrestad panel in Scania (Skoglund 2013), for example, but not in Enköping and Norrköping, which corresponds with the general dating of the rock art in these areas.

Hunting scenes form another type of relationship between humans and animals. These kinds of compositions are represented in both Norrköping and Enköping, even though they are rather rare (three in Norrköping and one in Enköping). These scenes show a single animal being hunted by one or several men, in one case accompanied by dogs (Östra Eneby 1:1, figure 5). The weapons used include both spears and bows. This correlates with his-



Figure 6. Two horses, attached to a wagon. The Hemsta panel, Enköping (Boglösa 131). Photo: Anna Wessman.

torical statements regarding boar-hunting techniques (Skoglund 2018:113). There are also some examples in the rock art that may show scenes of shepherds looking after a herd of animals. One of those possible examples is found at the Himmelstalund panel in Norrköping (Östra Eneby 1). Armstrong Oma (2017:2) has recently discussed a potential example of a herding scene depicted in Valhaug, Rogaland, Norway. However, since there is no possibility of determining the type of species depicted in these scenes, it could alternatively be a portrayal of hunting, even though weapons are not present.

Finally, there is one other activity which involves humans and animals, and which is more controversial, namely bestiality. There are no clear examples of bestiality in Enköping and only one possible scene in Norrköping, on the Himmelstalund panel, but the theme is far more common in Bohuslän and Østfold (Ling 2008:179). This, in many modern eyes, is a perverse and abusive act, transforming the animal into a sexual partner. This act could have been part of a ritual or social tradition, or may just illustrate an act of pleasure. Either way, one significant detail in the rock art motifs is that these scenes focus on male penetration and domination.

In addition to this discussion about the depicted animals and the social and societal implications that follow, it is relevant to look into the archaeological record as it relates to animals in the regions being analyzed. Most material is found in Late Bronze Age contexts, which is later than much of the rock art in these areas. Here it serves as a basis for discussion. Pettersson (2006), for example, provides a considerable resource in analyzing animal bones from 17 archaeological sites with different functions from the Late Bronze Age to the Early Iron Age in Östergötland. This analysis demonstrates that the most common species found are either cattle or sheep/goat, followed by pigs and horses. For example, one may consider the distribution of bones at the settlement site of Pryssgård, close to the area with the most dense rock art in Norrköping, where the following proportions of animal bones are found: cattle 56%, goat/sheep 28% and pig 16% (Pettersson 2006:40–41). Similar patterns are found in several Bronze Age settlements in Uppland, for example at Ryssgårdet (Eriksson & Östling 2005; Hjærtner-Holder et al. 2008), Apalle (Ullén 1996, 2003) and Skämsta (Frölund et al. 2002). At Ryssgårdet the most common species is sheep/goat followed by cattle, pigs, horse and dog. At Apalle the distribution is goat/sheep 45%, cattle 40% and pig 15% (Pettersson 2006:41). Ryssgårdet is particularly relevant as the main period of usage there was from 1400 BC to 900 BC (Sörman 2018:81), which broadly follows the dating of the rock art in Enköping. Thus, hunting and fishing seem to have been peripheral activities at all of these sites, or at least there is only minimal evidence for them. Birds are the rarest category (Amaya 2008:404).



## Discussion: Communicative images and animals on display

Seeing rock art as a communicative/symbolic medium has a long tradition (Nordbladh 1980; Ling 2008; Goldhahn 2002; Fredell 2003; Fredell et al. 2010). There is, however, one aspect of visual communication which should be emphasized further: the dynamic nature of symbolism. As Jewitt and Oyama observe, ‘[...] symbolic relations are not real relations, and it is precisely this which makes point of view a semiotic resource. It can “lie”’ (Jewitt & Oyama 2004:135). The same authors also observe that a semiotic resource is not a given representation of a social reality, but rather a twisted and angled reflection. Thus, a semiotic resource is raised in particular social contexts and can be left out in others (Kress 2010:8). It is also changeable, both in time and space (Kress 2010:8). One image can consequently mean different things at the same time. An animal can show both the biological reality of the time and the symbolic meaning/power of the animal. In relation to this, there are a number of variables to take into account when discussing the animals depicted on south Scandinavian rock art. First, like the rest of the figurative rock art, there is a conscious awareness in what was chosen to depict and what was left out. The selection of species and how these are presented are intentional, and follow similar patterns in various areas, even if the content in detail differs. This shows that there was some kind of consensus regarding both the figurative repertoire, and what that should communicate within the social sphere in which the making of rock art belonged. One part of that communication was to show possible relations between humans and animals: socially, symbolically and economically. In the following, I will discuss this communication in terms of social semiotics and what that implies about the social context of the time.

The evidence for a strong relationship between humans and animals, such as horses, sheep and cattle, during the Nordic Bronze Age is present through artefacts all over south Scandinavia. Animals were depicted on bronze items (Kaul 2004) and on rock art across the whole region (Malmer 1981; Burenhult 1973; Wrigglesworth 2011; Horn 2018), and their bones are found both in settlements (Peterson 2006) and graves (Röst 2016). Animals have been central in discussions regarding economy and prestige (Kristiansen & Larsson 2005) as well as in terms of cosmology, religion and symbolic value (Larsson 1997; Kaul 1998; Kristiansen & Larsson 2005; Fredell 2010; Ling & Rowlands 2015). Moreover, Kristiansen & Larsson (2005) argue, using the theories of Helms (2004), an anthropologist, that the animals, ancestors and distant others were of great importance in Bronze Age cosmology and religion, and this is exemplified in the rock art material. Relations between human and horses have been another theme

(Varberg 2009, 2013; Armstrong Oma 2013b; Goldhahn 2016). A key figure in Scandinavian discussions of human-animal relations is Armstrong Oma, who makes them the focus of her analysis in both her thesis and in several articles (Oma 2007; Armstrong Oma 2010, 2012, 2013a, 2017). She shows that studies of animals within Scandinavian Bronze Age research take either broad perspectives, mainly religion and cosmology, or else emphasize more specific, local and science-based standpoints (Oma 2007:27). Despite this intensity of debate, features remain which could be processed and pursued further. One of those is the relationship between humans and wild animals, which has been overlooked in favour of connections with domesticated and tamed animals.

Traditionally, the south Scandinavian rock art has been associated with farming and other 'cultural' activities (Almgren 1927; Ling 2008; Nilsson 2017), while the northern tradition has been connected to hunting and 'nature' (Lødøen 2017). This is probably the reason why the animal motifs are more frequently analyzed in the northern rock art material than in the southern (Gjerde 2010; Sjöstrand 2011; Fuglestedt 2018). From this traditional perspective, one would assume that the southern repertoire of animals would emphasize domesticated animals, i.e. those in the service of humans. As stated above, many of the depicted animals are difficult to divide into species. The anonymous images might be either domesticated animals, such as horses, cows and sheep, or wild species such as roe deer, red deer (hind) and foxes. Amongst the identifiable domesticated animals depicted are horses, cows and bulls, pigs and probably sheep/goats and dogs. The identifiable wild animals are depicted with great precision and detail, and there is no doubt as to what they represent (wild boars, red deer and in some cases birds). In these motifs, the carvers have chosen to add details, values, which allow the receiver to recognize these creatures unambiguously. Sykes (2014:51) writes '[i]n essence, human responses to wild animals reflect individual, social and cultural attitudes to the natural world; they map how humans perceive their place in the cosmological order'. Thus, to so clearly carve the wild animals into the stone shows that the relationship between humans and wild animals was significant. To transfer the wild and inaccessible animal into something reachable was therefore most probably an important process.

Vretemark (2013) discusses the role of wild mammals and hunting during the Late Bronze Age in Middle Sweden by examining the evidence from 'King Björn's mound' in Håga, Uppland and adjacent settlements. She concludes that the main purpose of hunting in Bronze Age Sweden was probably to access special parts of the animal such as antlers, furs and claws to create objects with a certain social or religious meaning (Vretemark 2013:213). Further, she argues that hunting most likely had an especially significant

social role, closely connected to rituals and religion, during the Bronze Age (Vretemark 2013:213). This is consistent with the archaeological record, where it appears that the practice of hunting wild animals mainly belonged to peripheral domains with closer connections to cult-houses and outland activity places (see Sörman 2018:63, 204) rather than to settlement contexts. A division of these social spheres becomes visible. This is especially interesting in relation to the location of the rock art in peripheral, coastal areas. It should, however, be noted that these social spheres were undoubtedly intertwined in various ways. For example, it can be a question of temporary use of outland-sites in connection with seasonally based hunting (Magnell 2005:76; Gjerde 2010). The exception may be the pig, which seems to be represented in both of these wild/domestic domains. There are examples of excavated sites with an extraordinary amount of pig-bones, such as Vistad in Östergötland, where it was determined that not less than 30% of the bone material was from pigs (Larsson 1993; Larsson & Hulthén 2004).

Both wild and domesticated animals are displayed in the rock art medium, which means that both of these spheres were important to show. The greater detail in which the wild animals are often depicted may be a question of the actual morphology of the animal, but from a social-semiotic perspective it would be seen as stemming from semiotic resources that were, most probably, meaningful. Among all the anonymous four-legged mammals, a conscious choice was made to highlight some wild specimens, and this is no coincidence. The multi-dimensional function of the semiotic resource gives it the capacity to communicate social contexts through a visual medium (Kress 2010). A semiotic resource can therefore potentially be used in one social context to communicate with another social context. For example, giving an animal a semiotic resource indicating sex (a phallus, testicles, tusks or antlers) can show the actual sex of the animal, but it can also, and most probably does in some way, show gender roles in the contemporary human sphere. Sex, gender and the representation of bodies on humans has been discussed, albeit to a limited extent, regarding the south Scandinavian rock art (Yates 1993; Bengtsson 1999; Mandt 2001; Bevan 2006; Goldhahn & Fuglestad 2012; Horn 2013, 2017; Bergerbrant & Wessman 2018). That animals were also given certain body attributes, and in some cases a sex, is often forgotten or ignored in research. It is relevant to think about what is not illustrated in terms of sex on the animals depicted. There are no obvious examples of udders or teats depicted on the animals in Enköping and Norrköping. These are both attributes that would be perfectly possible to show, yet they were not selected to be a part of the figurative repertoire. Thus, female animals are not clearly depicted, which follows the pattern of how sexual and gender attributes were portrayed on humans depicted in the rock art (Yates 1993; Horn 2017; Bergerbrant & Wessman

2018). Giving the animal a bodily attribute connected to sex is a clear example of a semiotic resource: the animal is provided with a variable that makes it more than just ‘an animal’. It is now a male or a female animal. Most of the attributes are connected to males, but other features, such as depicting the animals in herds, can be seen as semiotic resources that reveal more information about the social context in which the images were made.

Hunting is traditionally connected to masculinity and warriorhood, a link which comes across strongly in the material record from the Bronze Age (see Skoglund 2018). One example is a hunting scene at Himmelstalund (Östra Eneby 1), including a male boar, two humans and two dogs (figure 5). The boar is equipped with a phallus and possibly also testicles. In relation to the human figures, he is also noticeably large. Thus, aside from the fact that the boar in this case has clear masculine attributes, it apparently shows humans involved in the ‘masculine’ act of hunting boar. The size and power of the boar reinforces these ideals. However, it should be pointed out that the humans in this arrangement are not depicted with phalluses, which is especially important in a constellation that was obviously made to be perceived as one scene. The added masculine attributes are focused on the animal rather than the humans. The hunters could therefore equally be women involved in this dangerous activity. One possibility is that the activity of hunting and the courage to face the boar is the central meaning, and that the sex of the humans is insignificant.

The sexed animals embody the gender ideals that were relevant to show in that specific setting at that specific time. The choice to show male attributes, and not female ones, is therefore a strong statement and gives us information about social conditions and conceptions in parts of the southern Scandinavian Bronze Age. These elements are used as a semiotic resource to accentuate certain aspects of an individual, or in some cases a whole group. However, in that matter it is also important to keep in mind that the absolute majority of the depicted animals and humans are sexless (see Nordenborg Myhre 2004:48). Emphasizing masculinity could instead be a way to distinguish individuals from the crowd, giving them certain characteristics. The masculine animals, not least when interacting with human depictions, can by extension then be seen as a semiotic resource in themselves, working as a reinforcement of human ideas. Whether the masculine attributes should be seen as *ideals* or not is a question that requires further investigation and discussion, but it is not self-evident that the deviation from the generally sexless depictions – the masculine attributes – represents a desirable norm. The point here is that the animal is given certain semiotic resources, but can also work as a semiotic resource in itself.

Another act which links to masculinity and domination even more clearly is that of bestiality. This act is the actual penetration of an animal

showing power relations between humans and animals, and possibly the virility and masculinity of the person performing the action. However, bestiality has traditionally been regarded as deviant and shameful (see Liliequist 1992; Sjödin Lindenskoug 2011), which puts this act in another light. Possible human superiority in relation to animals is also displayed in other types of practices involving both humans and animals. Humans hunt the animals, and they use them as draught animals and for horseback riding (see above). Parts of the animals are incorporated in the ships (Ling 2008), or tamed into human shapes and functions. There are also exceptions from this unequal relationship between humans and animals, as for example in those cases where dogs are involved in the hunting scenes (see above). In these cases, the dog possibly becomes more of a companion to the human than a subordinate. This evokes another question which goes against the perspective of human superiority towards animals, and that is human *dependency* on animals. While controlling the animals, a person is also in a position of dependence (see Armstrong Oma 2017). None of the abovementioned activities would be possible to implement without cooperating with the animal sphere.

As stated above, there is variation between Norrköping and Enköping in the depiction of deer. They are absent in Enköping and common in Norrköping. Deer also occur with some frequency in Bohuslän (Fredell 2010), which has been interpreted as a sign of connections with southern Europe, for instance to Galicia in Spain, where depictions of deer are also present on rock art (Fredell 2010). Above all, it implies similarities between Norrköping and Bohuslän regarding this motif. A reason for the difference could possibly be explained by the fact that red deer did not live in the area of Enköping at the time. Another, more likely, explanation could be that red deer had some kind of symbolic value in both Bohuslän and Norrköping, and that this significance was not as prevalent in Enköping. The practice of depicting pigs and/or wild boars seems to be regionally varied as well. While this motif is not common in all rock art areas (Wessman 2010), it is the most prominent motif in both Enköping and Norrköping. Bulls are a common feature in Bohuslän and Østfold (Ling & Rowlands 2015), but occur only sporadically in Enköping and Norrköping. Birds are present in slightly higher numbers in Enköping than in Norrköping, and are definitely more common in Bohuslän and Østfold (Ling 2008) than in both Enköping and Norrköping. The hunting scenes are more detailed in Norrköping than in Enköping, and also occur more often. Furthermore, the conventions for showing sex and gender in animal figures differ between these two areas, mainly in the sense that animals equipped with phalluses and/or testicles are more numerous in Norrköping than in Enköping. One important similarity between the two areas is that the animal is one of the most common motifs.

The animal is the second most common figure on the largest panels in both areas (Boglösa 131 and Östra Eneby 1), which in my view is important.

The regional permutations in depicting animal-motifs could seem like simple facts. Obviously, there is always a possibility that the differences in style are due to chronological gaps, but that would seem an unsatisfactory explanation here, since the general symbolic code follows the same patterns in all areas. Semiotic resources are constantly renegotiated in relation to the social context in which they are created (Kress 2010:14). Social conventions and practices in these areas influence the making of rock art in different ways and the pictures communicate a distorted and selected image of these contexts. Thus, the choice of species, styles and attributes was most likely a conscious one. This is especially relevant in relation to earlier research where species like horses, birds and fish had been put forward as significant for Bronze Age society and religion (Kaul 2004). These species, especially the birds and fish, are not highlighted in the rock art material to the extent that one might expect. Instead, other species such as the wild boar, pig, different types of deer and the dog/wolf/fox should be incorporated in discussions regarding the social and symbolic significance of animals in the south Scandinavian Bronze Age.

## Conclusions: Social semiotic implications and human-animal relations

A major question remains as to why some animals were depicted in greater detail than others, and why some species are totally left out. What is common to all rock art areas with animal motifs is that the focus lies on four-legged, terrestrial species known to the people who made the carvings. This pictorial convention within the rock art tradition is also seen in other motif categories and shows, once more, that the rock art was created within a tradition that emphasized certain parts of society and disregarded others. As noted above, birds are rare and marine creatures such as fish and seals are totally absent in both of these areas. Further, there are also practices involving animals which could have been depicted but are not. One of those is fishing, which should have been an everyday occurrence, at least to some extent. Similarly, there are no examples of slaughter or the cooking of animals. In general, you could say that the practices depicted on rock art that involve animals are concentrate on movement and travel, or on food production in a wider sense. The exception is the act of bestiality, which in this context stands out from the other examples.

In extension, this implies that rock art belonged to a social sphere that centred on non-domestic activities, such as hunting, herding and travel,

while the settlements belonged to a social sphere where the focus was on more domestic and fixed practices. However, these implications could also be deceptive. As mentioned, the semiotic resources can *lie*. They accentuate social features as ideals that may have had little or nothing to do with reality. Instead, they work as social amplifiers, creating and emphasizing semiotic variables. This means that all of the features discussed above probably reflect the real world of the intertwined relationships between humans and animals, but in a twisted and highly selective way. Thus, it is also important to keep in mind that the relations exposed in rock art are dictated and chosen by humans. Therefore, in this article, putting animals on display through the medium of rock art is interpreted as a sign of strong human-animal relations, but from an anthropocentric perspective. Consequently, the act of depicting an animal on a rock is most probably a symbolic action in itself, which likely shows that the animal played an important role in the social sphere where the rock art was created.

All this, however, only communicates part of a larger context, and future work should add new pieces to the puzzle. Regarding the animal motifs in particular, studies of their contexts, relations and aesthetics, for example in terms of perspective and scale, might contribute to crystallizing further social semiotic aspects in the material. Regional and empirical studies of the south Scandinavian rock art in general provide a key to further knowledge and a better understanding of the phenomenon and, in extension, of Bronze Age society.

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## Appendix

### List of incorporated panels with animal figures Enköping

Boglösa 55:2	Boglösa 312:1
Boglösa 73:1	Boglösa 393:1
Boglösa 94:1	Boglösa 577:2
Boglösa 95:1	Bred 104:1
Boglösa 96:1	Härnevi 52:1
Boglösa 123:1	Villberga 69:1
Boglösa 124:1	Vårfrukyrka 176:1
Boglösa 125:1	Vårfrukyrka 180:1
Boglösa 131:1	Vårfrukyrka 181:1
Boglösa 138:1	Vårfrukyrka 182:1
Boglösa 141:1	Vårfrukyrka 186:1
Boglösa 160:1	Vårfrukyrka 190:1
Boglösa 283:1	Vårfrukyrka 240:1
Boglösa 305:1	Vårfrukyrka 275:1

### List of incorporated panels with animal figures Norrköping

Borg 7:1	Östra Eneby 1:1
Borg 11:1	Östra Eneby 8:1
Borg 14:1	Östra Eneby 15:1
Borg 19:1	Östra Eneby 17:1
Borg 24:1	Östra Eneby 18:1
Borg 27:1	Östra Eneby 23:1
Borg 40:1	Östra Eneby 24:1
Borg 41:1	Östra Eneby 27:1
Borg 51:1	Östra Eneby 31:1
Borg 52:1	Östra Eneby 33:3
Borg 53:1	Östra Eneby 40:1
Borg 54:1	Östra Eneby 50:4
Borg 58:1	Östra Eneby 84:1
Borg 60:1	Östra Eneby 84:2
Borg 61:1	Östra Eneby 154:1