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## Funnel-shaped reindeer trapping systems in Hedmark – Saami or Norse?\*

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### Abstract

The ethnic relationship of trapping systems for wild reindeer located in Hedmark in the south-eastern part of Norway is analysed and discussed. The so-called funnel-shaped reindeer trapping systems were in use in the Iron Age and the Middle Ages, and even into post-medieval times. Reindeer hunting served as an economic base, as is apparent from time and effort used to build and maintain the systems, to execute the hunt itself, and to subsequently process and distribute the products of the hunt. The systems are designed for mass-hunting, for catching large herds of reindeer within a limited time frame. While they are considered to be of Saami origin in northern Norway, their origins in the south are more debatable. The reason for the diversity in opinion could be the complex or ‘mixed’ cultural history in the mountains of southern Norway. Traces of Saami presence are few, while the Norse material culture is more visible. At the same time, the trapping systems are in areas where there was a Saami existence over a long period of time. The similarities of the systems in the different regions make it pertinent to investigate the cultural relationships of the trapping systems in southern Norway.

Keywords: Reindeer hunting, trapping systems, mountains, Saami, Norse, ethnicity

### 1.1 Introduction

Funnel-shaped trapping systems for reindeer (*Rangifer tarandus tarandus*) are a specific type of cultural heritage monument in the mountains in Hedmark County\*\*, where three such systems are known and referred to as the ‘Hedmark systems’. These systems were in use in the Iron Age and the Middle Ages, and probably also into post-medieval times. They are in the northern mountain areas, in today’s municipalities of Alvdal, Rendalen, and Engerdal.

In the Iron Age and the medieval period, reindeer hunting served as an economic base for communities. This is apparent from the time and effort used to build and maintain the systems, the hunt itself, and the processing and the distribution of the products of the hunt. The systems were made for mass-hunting where it was possible to catch large herds of wild reindeer within a limited time frame. The systems consist of converging fences, which led the reindeer into an enclosed area for trapping and killing. Many people must have participated in the various operations, but to which cultures did those people belong?

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\*\*From 2020 the former administrative counties Hedmark and Oppland are part of the new administrative unit Innlandet county.

Based on the varied finds and their contexts, several questions can be asked about the cultural origins and use of the systems. The main question is whether the funnel-shaped reindeer trapping systems in Hedmark can be linked to a Saami or a Norse population. Another question is, whether the two cultural groups collaborated in the hunting activities. The three identified systems are located within areas with a long-established Saami presence but at the same time, permanent Norse settlements developed from at least the Iron Age. Even though these trapping systems have been known in southern Norway for a long time, the question of their cultural origin has rarely been discussed, although similar systems are considered to be of Saami origin in the northern part of Norway.

The issue will be explored by discussing the construction of the Hedmark systems, their scope, location, and date, and an attempt is made to connect the systems to nearby finds and contexts. Furthermore, historical documents referring to contacts between Saami and Norse groups will be discussed. Through this analysis, we will seek to provide a better understanding of the question of cultural origins and use of the extensive hunting of wild reindeer in past societies of the southern mountains.

## 1.2 Funnel-shaped reindeer trapping systems

Funnel-shaped reindeer trapping systems are known throughout the circumpolar area, from Alaska, Canada, Greenland, Northern Finland, northern Siberia, and in northern Scandinavia (E. Barth 1977: 46; A. Fossum 1996; Hansen and Olsen 2004; Hole 2013). Generally, the systems consist of converging drive fences leading to large enclosures. Reindeer were moved along the fences towards the enclosures, where they were captured and killed. The size and type of the systems varies depending on topography and the purpose and extent of the hunt as well as the migration routes and movements of the reindeer. The systems are designed for catching large herds within a short period of time, hence the term ‘mass-hunting’.

In southern Norway several funnel-shaped trapping systems have been identified, especially in the mountains of Jotunheimen, Reinheimen, Snøhetta, Dovrefjell, and Rondane in Oppland County, located west of Hedmark (overviews in Jordhøy et al. 2012, Jordhøy 2013; Hole 2013). The zoologist Edvard K. Barth (1913–1996) and Sonja Barth (1923–2016) were pioneers in mapping several of these systems, whose construction and sizes vary.

On the Varanger peninsula in Finnmark, furthest north in Norway, several funnel-shaped reindeer trapping systems are recognised. Through archaeological surveys and written sources, they date from the Middle Ages to the 17th century, and the systems are associated with a coastal Saami population that carried out hunting activities in the autumn. The systems are also related to the extensive trading of reindeer products beyond the region. Moreover, systems with long, converging fences, named *vuopman* by the Saami, are in some contexts, related to the establishment of domestic reindeer husbandry during the 16–17th centuries. In this connection, intentional slaughtering of wild reindeer was carried out as to prevent them mixing with domestic ones (Leem 1767; Tornæus 1772 [1672]; Fellman 1903/06; Vorren 1998: 205; E. Barth 1977: 45–48).

The surviving systems comprise rows of raised or laid stones, or boulders. Postholes are common, indicating the use of wooden stakes in addition to stone in the systems’ constructions. In written sources, the use of trapping systems with rows of wooden stakes is described where pieces of cloth were attached to the top of the stakes, and their movement kept the reindeer inside the trap (Tornæus 1772 [1672], after Barth 1977: 45). The enclosures were usually designed in a way that they were invisible to the reindeer on their way through the fences, and evidence of hunting-blinds and meat stores is often located close to the systems.

### 1.3 The Hedmark systems

The three Hedmark systems were visited by the authors in the summer of 2013 along with knowledgeable local people (Amundsen and Os 2015). Based on previous descriptions, the three systems are quite different and are located above the tree line in the high mountains: Gravskaret in Alvdal Vestfjell, Vesle Sølenskarret in Rendalen, and Storhøa – Buhøgda in the southern part of Engerdal (Figure 1.1).

The north-westernmost of the three systems is in Alvdal. Due to its location just east of Rondane, it should be seen in conjunction with similar systems further west, for example with those on the Oppland side of the mountain massif (map in E. Barth 1977: 10). The system in Rendalen is located within the mountains of Sølen and the Engerdal-system is located to the south-east. Today, there is a Saami population in Engerdal that keeps reindeer herds that is part of the *Svahken Sijte*, the southernmost Saami settlement area in Norway. A *sijte* (SaaS) is a group of two or more families, often related, but with a common reindeer herd that is managed collectively, and with a fixed migration pattern between different seasonal pastures.

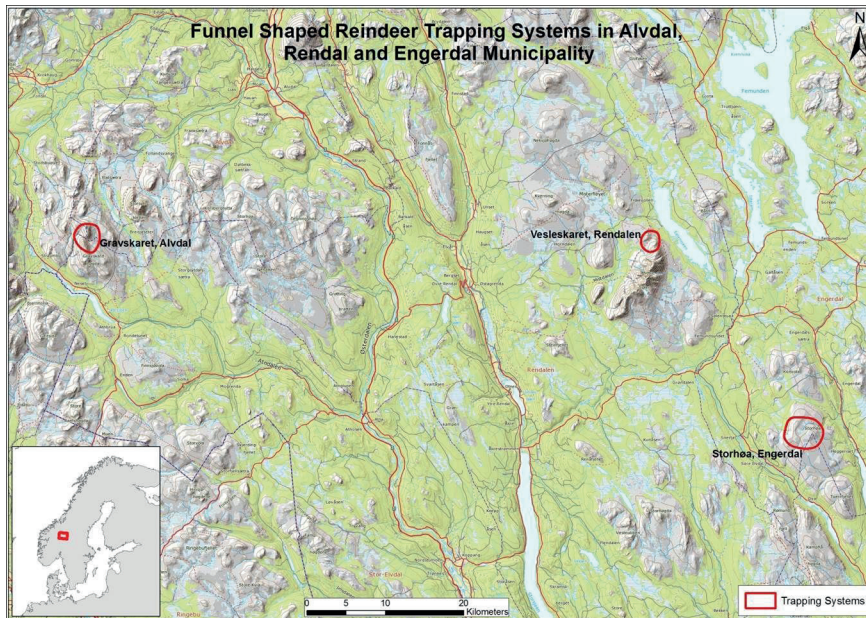


Figure 1.1: The three funnel shaped reindeer trapping systems in Northern Hedmark. (Map: NIKU 2013.)

The archaeological sites and artefacts that could be connected to the systems are described and discussed below. For the most part, there are long distances between the hunting systems in the mountains and the settlements with known find spots in the valleys. However, these landscapes must be seen in context, as they were in common use during prehistoric times and in the Middle Ages. In the small and narrow valleys in Northern Hedmark, people depended on hunting wild animals in the forests and mountains, at least until modern times. Agriculture in these situations yielded fewer returns.

### 1.4 Gravskaret, Alvdal Vestfjell

The trapping system in Alvdal Vestfjell has previously been discussed (Eggset 1970; E. Barth 1977: 65–71; Nyeggen 2005; Hole and Sørungård 2013). The system is located just east of Rondane, at the top of the mountain named Gravskaret (c. 1480 m above sea level). In Hedmark and other areas,



place names that contain 'grav' are often found in areas with trapping systems, both for Scandinavian elk (*Alces alces alces*) and for reindeer (No.: *grav* –to dig, or something that is dug - like a pit).

The system in Gravskaret is relatively small, but complex (Figures 1.2 and 1.3). At the top of the hill, two small pitfalls approximately 12 m apart are located that were made to catch one reindeer at



Figure 1.2: The large enclosure in Gravskaret. The two small pits are located close by, one of them is seen in the foreground. (Photo: NIKU 2013.)

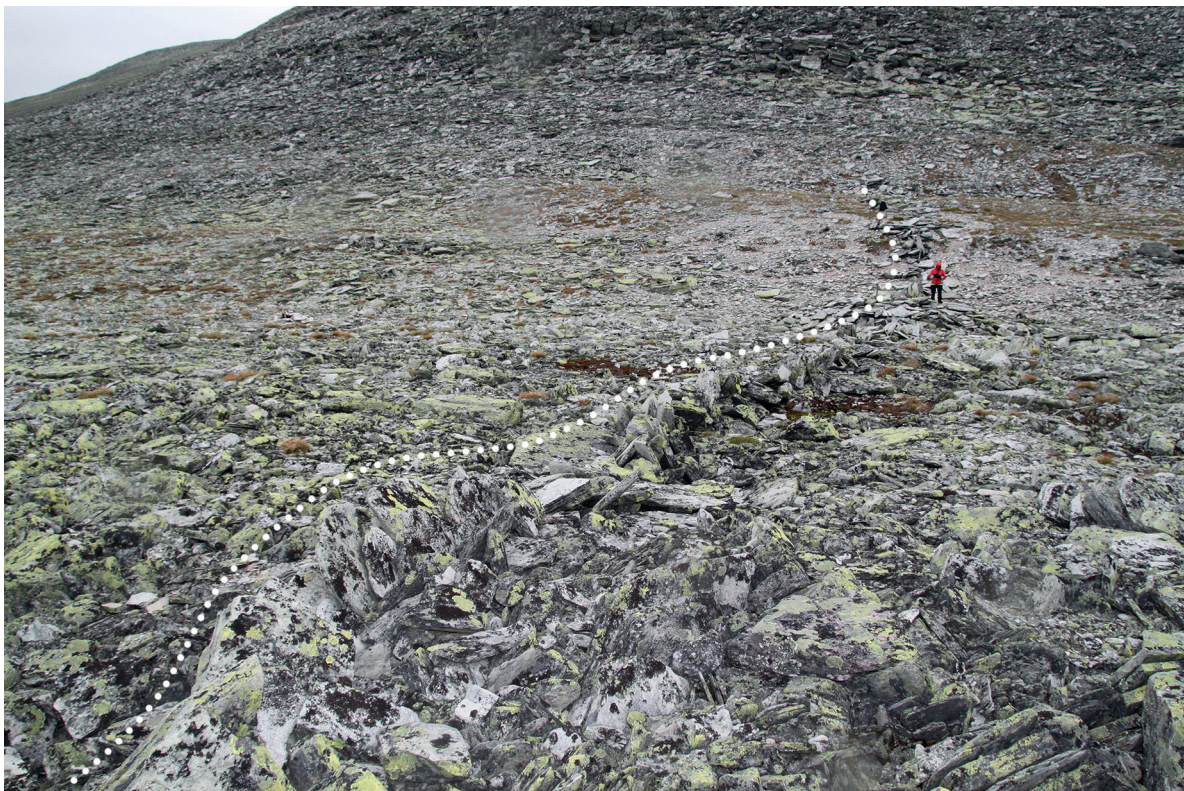


Figure 1.3: Part of the longest fence in the funnel shaped reindeer trapping system at Gravskaret, blocking the mountain pass. (Photo: NIKU 2013.)



a time. In 1975, Barth had a sample from the bottom layer of one pitfall radiocarbon dated, resulting in a late Viking Age date of about AD 960 (E. Barth 1977: 67–68). It must be stated that Barth's sampling methodology of this material for radiocarbon dating would not conform to today's more rigorous requirements, and therefore the date must be considered uncertain.

An approximately 70 m long fence built of laid stones extends from the area of the two pitfalls towards the southeast. A corresponding fence is located across the two pitfalls as well as across the upper part of a large enclosure that measures 11 by 2 m internally. The guiding fences blocked the pass between the mountains and led the reindeer towards the enclosure. Three hunting-blinds are positioned on the slope but further down the terrain (map and sketch in E. Barth 1977: 66). In addition, the archaeologist Runar Hole has mapped another fence that went from the enclosure toward the east-southeast, with two more hunting-blinds (map in Hole 2013: 42–43).

Apart from the hunting-blinds, no other archaeological sites are known in the immediate vicinity of the system in Gravskaret. Located further to the northeast and east, the lakes Breisjøene and Holmsjøen have evidence of settlements from the Stone Age and cooking pits from the early Iron Age (Fretheim 2002). Large rows of pitfalls made for reindeer are noted along the lakes as well as burial mounds, house sites, etc. (Nyeggen 2005). Some of these sites may be related to the use of the funnel-shaped reindeer system at Gravskaret, but further survey and radiocarbon dates are needed to verify this.

No material of definite Saami character can be directly connected to the system in Gravskaret. A type of ski that was in use in large part of the Saami area, and dated to the early Merovingian period was found in a marsh named Kvebergmyra (Sørensen 1982: 65; Zachrisson 1997: 215–216; Bergstøl 2008: 73). A burial located at Røskåsen with culturally mixed finds, was dated within the Merovingian Period / Viking Age, and included iron scrapers of a Saami type (the type R 416, Rygh 1885, see also Gjerde, this volume), along with several Norse artefacts (Zachrisson 1997: 204–205; Bergstøl 2008: 74–75). In addition, two arrowheads of an eastern type, but probably from the Viking Age are found at the places named Finnshø and Gjeitryggen in the neighbouring municipality of Folldal (Bergstøl 2008: 69, 202, 314).

## 1.5 Vesle Sølenskaret, Rendalen

The funnel-shaped reindeer system in Rendalen municipality is located within the mountain massif of Sølensfjellene (i.e. 'the mountains of Sølen'), more precisely in Vesle Sølenskaret about 1050 m above sea level, located between the mountains Veslesølen and Nordre Sølen (Barth and Barth 1986b).

Like in Gravskaret in Alvdal, the system is relatively small. It is constructed of two long fences, both over 200 m long, which converged on an enclosure at the edge of a natural depression hidden from the entering reindeer. The fences consist of rows of upright stones, small cairns, and postholes for wooden stakes. Parallel, smaller, and more diffuse fences, with raised and overturned stones as well as postholes, ran alongside the system, indicating rebuilding and reuse (Figure 1.4).

Apart from this distinctive system, several other extensive hunting systems are known, both in the mountains of Sølen and in the surrounding forests and mountains, with pitfalls made for both elk and reindeer (Holseng 2004; Mathiesen 2005a, 2005b; Bergstøl 2008: 100–102; Spångberg 2014). From Sølenskaret there are views down to the lakes named Sølensjøene, with documented sites from the Stone Age. At lake Vesle Sølensjøen there is a burial ground that dates from the Iron Age, through the Migration and the Merovingian periods, and possibly also into the Viking Age. Although the burials contained mainly Norse objects, there were some Saami artefacts as well: one Z-shaped scraper of iron dated to the Merovingian period and two iron scrapers related to the type R 416 (Skjølsvold 1980, 1981; Bergstøl 2008: 93–94).



Figure 1.4: Mapping of the funnel shaped reindeer trapping system in Vesle Sølensskaret. (Photo: Per O. Mathiesen, Rendalen 2013.)

In Rendalen valley, several varied objects of Saami origin were found. Although there is some geographical distance from the hunting systems in the mountains, a likely cultural-historical connection is possible. At the farm of Unset, a remarkable silver hoard from the Viking Age was found consisting of two buckles and a large necklace (Bergstøl 2008: 97, 103–104). Silver hoards of this type are known in northern Norway, often located in border areas between Norse and Saami settlements (Zachrisson 1984; Hansen and Olsen 2004; Spangen 2010). Moreover, at the farm Fonnås in Elvål there are several additional finds, the most famous object is a Norse relief brooch, the so-called ‘Fonnås-spenna’, dated to the Migration period. Among other objects of Norse character from the Viking Age is an arrowhead of the so-called ‘Wegraeus’ type B’ (Wegraeus 1971). These arrowheads occur in Saami sacrificial finds and were found in a burial context at the Saami settlement of Vivallen in Härjedalen in Sweden (Zachrisson 1997: 68–69; Bergstøl 2008: 97). Moreover, at Elvål a Finnish-Ugric bronze jewellery piece, shaped like an animal figure, was found together with a long bronze chain. This type of jewellery is often associated with Saami religious practices and to settlement sites (Gjerde 2010, 2016).

Further south in the valley, a shaman drum hammer has been found at Nordset Farm on the east side of the Rena River. Archaeological investigations have documented that the hammer was deposited in a midden, or a mound, filled with fire-cracked stones along with other objects. The hammer has been radiocarbon-dated to AD 1160–1260, the Early Middle Ages. On the one side of the hammer, there is an incised Norse motif, the so called ‘Ringeriks-style’ from late Viking Age – early medieval period. On the other side there is an interlace pattern with parallels to later Saami ornaments (Gjessing 1945; Fuglesang 1980; Pareli 1991; Zachrisson 1997; Bergstøl 2008). The decoration on the hammer is interpreted as mixing Norse and Saami elements, and reflecting contacts and networks in the Middle Ages (Hansen and Olsen 2004: 105–109, Bergstøl 2008: 98–99, see also Gjerde in this volume).

On the other side of the Rena River, a monumental burial mound is located nearby today’s church at Bergset, where there previously had been several large grave mounds. This area was an important place in the valley in the Iron Age and it became a church site in the Middle Ages. In this obviously Norse context, it is interesting that a medieval drum hammer was found, which is a typical object of

Saami religious practice. These powerful symbols have elements of both Norse and Saami cultures demonstrating the continuity of cult and religious practices, and we may infer that Bergset was a place of some importance.

The funnel-shaped reindeer trapping system in Engerdal is complex, extensive, and stretches between the hills of Storhøa (highest point 1139 m above sea level) and Buhøgda (highest point 1128 m), which surround a valley named Tuvflået. Moreover, the system extends south towards a peak named Simlehøgda, suggesting the presence of reindeer (No.: *simle* – the female reindeer). The mountain area is located north-west of Heggeriset and Lake Engeren in the south-western part of the municipality.

This huge system consists of multiple fences, several kilometres long. The fences are made of upright stones, small cairns, and possible postholes, and several hunting-blinds and meat stores are connected to the system (Figure 1.5). No enclosures have been found, but it is possible that the fences would have terminated in enclosures built with wooden stakes. The system was previously mapped by E. Barth and S. Barth, who also found a possible burial mound in the valley of Tuvflået (Barth and Barth 1981: 268). Mapping of additional elements of the system by the archaeologist Kjetil Skare of Hedmark County in recent years, as well as the authors' own observations in 2013, shows a more extensive and complex construction than that surveyed by Barth (Skare, pers. comm. 2019).



Figure 1.5: Part of the funnel shaped reindeer trapping system at Storhøa – Buhøgda, Engerdal. The raised stones are visible remains of one of the many fences. (Photo: NIKU 2013.)

In the Lerådalen valley, north of the large trapping system, there is a row of pitfalls that appears to have been used for both elk and reindeer (Barth and Barth 1986a; Bergstøl 2008: 115). At the peak named Røskalhøgda, about a mile northeast of Storhøa – Buhøgda, an arrowhead of Wegraeus' type B was found. This is a type that, as mentioned above, is found in Saami contexts (Zachrisson 1997: 68–69, 212–213; Bergstøl 2008: 115, 202).



Further north, a Viking Age male burial is located by Lake Fjellgutusjøen. The burial contained a sword, axe, arrow, knife, a penannular brooch, and a whetstone. The items are of Norse types, with one exception. The penannular brooch is of an eastern style and is known from Saami contexts, from both burials and hoards, such as in the Vivalden cemetery in Härjedalen (Zachrisson 1997: 61–65; Bergstøl 2008: 115). Combinations of both Norse and Saami elements are a characteristic feature of burials in the outfields in both Norway and Sweden (Gollwitzer 1997; Bergstøl 1997, 2008). None of these finds can be directly linked to the trapping system at Storhøa – Buhøgda, but the material indicates Saami presence elsewhere in Engerdal.

## 1.6 Summary of the Hedmark systems

As described above, the three Hedmark systems differ in type and character. The constructions in Alvdal and Rendalen are both located in the high mountains, while the system in Engerdal is built on gentle heights that surround a wide valley in open terrain. Furthermore, the Engerdal system diverges from the other two by its sheer extent, as the systems in Rendalen and Alvdal are much smaller and less complex. At the same time, there are differences in the construction between those two systems too. The system in Alvdal is mainly constructed with solid fences of laid stones leading toward the enclosure. The system in Rendalen contains rows of raised stones in addition to postholes, indicating that a wooden construction was part of the fences. In this respect, the system in Rendalen has the greatest similarity to the Engerdal system, where rows of raised stones and probable postholes are the characteristic features. Another difference between the systems in Alvdal and Rendalen is that in Alvdal the enclosure is located on a ridge with the fences extending upslope in the terrain, while in Rendalen the fences lead downhill towards the lower lying enclosure. In both cases, there are steep climbs before the constrictions of the fences. The fences in Engerdal are, like the other two systems, facing up and over the hills, and the narrowest parts were out of sight of the reindeer. Unlike the systems in Engerdal and Alvdal, no hunting-blinds are known close to the Rendalen system.

## 1.7 The difficult question of dating

In Hedmark, many pitfall trapping systems located in the forests and in the transition zones between forests and mountains, and up to the high mountains, were in use during the Iron Age and into the Middle Ages. However, some systems also date back to the Neolithic and the Bronze Age (Gustafson 2007). There are two main types: pitfalls for elk in the forests and pitfalls for reindeer in the mountains. Mostly, the pitfalls were organized in large systems blocking choke points where herds of animals migrated and represent traces of well-organized hunting activities (Bergstøl 1997, 2008; Holseng 2004; Mathiesen 2005a, 2005b; T. Amundsen 2007; Spångberg 2014).

Compared to the systems described above, there have been few archaeological surveys of funnel-shaped reindeer trapping systems in Hedmark, and their dating time frames are generally problematic. It is assumed that the systems were probably in use during the Iron Age and the Middle Ages, and perhaps even into post-medieval times. The features of the three Hedmark systems indicate several periods of use, which is demonstrated in their construction, where different elements can run parallel to each other and partly overlap. Much effort was put into constructing and maintaining the systems, but their reuse and their long periods of use make it difficult to determine their exact dating. It is also possible that the hunting techniques used with the trapping system developed farther back in time.



Archaeological surveys and dating of funnel-shaped reindeer trapping systems have been carried out in the neighbouring county of Oppland, producing Viking Age and medieval results. These are partly based on radiocarbon dates from the systems as well as from nearby house sites, and heaps of bones and antlers (E. Barth 1977, 1996; Mikkelsen 1994; A. Fossum 1996: 51–57, 123; Hole 2013; Jordhøy 2013; Solli 2018a, 2018b). In recent years, melting glaciers in Oppland have allowed large-scale archaeological investigations with the recovery of spectacular artefacts from earlier reindeer hunting (Pilø et al. 2018), but this topic is not discussed further here.

From the three Hedmark systems, only one single radiocarbon date has been produced, and this is from the construction in Alvdal, dated to the late Viking Age. As mentioned above, this date must be considered somewhat uncertain, because of the methodology of collection used at that time. However, the system is clearly a result of at least two different units or contexts; the two single pitfalls, and the funnel-shaped system with its enclosure and fences. According to E. Barth (1977) and Hole (2013), the funnel-shaped system is the oldest, while the single pitfalls were constructed later. Moreover, Barth argues that the funnel-shaped system and the hunting-blinds are most probably several thousand years old. Furthermore, he claims that stone from the funnel-shaped system was reused to build the one single pitfall (E. Barth 1977: 70–71). Hole divided the funnel-shaped reindeer trapping systems into three phases and the system in Alvdal belongs to the oldest category based on its construction, with a small enclosure and its location in narrow terrain (Hole 2013: 42–43, 78–79). In the authors' opinion, it is not obvious that the funnel-shaped system is the oldest and the single pitfalls youngest, and it is equally likely to be the reverse (Amundsen and Os 2015).

No dating has been carried out within the systems in Rendalen and Engerdal, but according to Barth and Barth (1981: 269), the structure and function of the Engerdal system seems to be very old, perhaps several thousand years. However, there is no major argument for such a dating, and it stands unchallenged until there is an opportunity for future research.

## 1.8 Saami or Norse reindeer hunting in the Iron Ages and the Middle Ages

The geographical distinction between pitfalls for elk in the forests and pitfalls for reindeer in the mountains has been discussed in relation to Saami and Norse hunters in both northern and southern Norwegian research. The pitfalls for reindeer were regarded as constructions made by a Saami population, while those for elk were defined as Norse (A. Fossum 1996: 16, 31, with references). This is no longer accurate or appropriate. Recent research into prehistoric hunting, as well into ethnicity, and the often difficult and ambiguous question of ethnic attribution in relation to past material cultures, has made us realise that the conditions and relationships are much more complex than previously thought.

Regarding the funnel-shaped reindeer trapping systems, differences in the interpretation of ethnicity between a northern and a southern research tradition was pointed out early by the ethnographer Ørnulv Vorren (1916–2007):

*Whereas in the north, for example, one feels that one is working with a clearly and unequivocally Lapp culture-element; when one goes south one is automatically confronted with the question as to whether this is a manifestation of Scandinavian or Lapp culture (Vorren 1965: 535–536).*

This reflection by Vorren is interesting, but the issue has not been further addressed in recent years. It is still common today to ascribe those systems located in northern Norway to a Saami population, but the cultural or ethnic affiliation of this kind of hunting technique is little questioned in the

research of the archaeology of southern Norway. Saami groups in the eastern and southern parts of Norway are mentioned in the early medieval Christian laws, such as the Eidsivating and Borgarting Laws (Hansen and Olsen 2004; Bergstøl 2008: 147). Although hunting and trapping are generally regulated by medieval laws, funnel-shaped reindeer trapping systems are not specifically mentioned (Solli 2018a: 19–21).

In Northern Hedmark, some written sources make explicit reference to Saami settlement from the 17th century onwards (Bergsland 1992; Fjellheim 1999; Gjermundsen et al. 2011), (see below). In Engerdal and Røros there is a Saami population today, where several families are occupied with reindeer husbandry as their livelihood.

Saami prehistory as a separate field of study was established in the 1980s, with the University of Tromsø leading the research (e.g. Kleppe 1977; Odner 1983; Olsen 1984, 1985, 1991; Schanche and Olsen 1985). Traditionally, the relationship between Saami and Norse cultures is emphasised more in the archaeology and history of northern Norway compared with the similar studies in southern Norway (Hesjedal 2001, 2004; Hansen and Olsen 2004), with some exceptions (Fredriksen 1983, overview in Zachrisson 1997: 9–20). In recent years, research has been conducted based on such cultural questions in the inland areas, such as Hedmark and Oppland (e.g. Bergstøl 2004, 2008; Bergstøl and Reitan 2008; H. Amundsen 2011, 2017a, 2017b; Byggstøyl 2012). In the Swedish northern landscapes and inland areas, the cultural historical situation is comparable, and related studies have been carried out (e.g. Mulk 1994; Zachrisson 1997, 2012; Bolin 1999; Price 2002; Forsberg 2005; B. Fossum 2006; Hagström 2010).

In both Oppland and Hedmark, there is evidence of early Saami presence in several places. Dwellings are of importance. In 2006, a Saami site dated to the late Merovingian Period and the Viking Age was uncovered by Lake Aursjøen, Lesja, in the northern part of Gudbrandsdalen (Bergstøl and Reitan 2008). Previously, three house sites from the late Middle Ages were investigated in the valley of Innerdalen, Kvikne, in the north-western part of Hedmark (Gustafson 1988). These dwellings were similar to a particular type of Saami houses (No.: *stallotuft*) in northern Norway (Bergstøl 2008: 224–225). The settlements at Aursjøen and Innerdalen illustrate the existence of Saami societies with a hunting economy in the region in those early periods. Further remains of Saami houses (No.: *gamme*) are found in other places as well (Bergstøl 2008; Hildre 2012).

In his publications, Edvard K. Barth (1977, 1996) focussed on the construction of the funnel-shaped reindeer trapping systems, hunting techniques, dating, and partly on settlement history. He pointed out the comparison between the systems in the mountains of Rondane and the Saami's *vuopman* system, due to similarities in the converging fences. He also stated that the dating of the southern Norwegian systems was considerably older (E. Barth 1977: 48, see also A. Fossum 1996: 64–67), but without further evidence, as mentioned above.

In the 1980s, the archaeologist Egil Mikkelsen (1994) examined a large funnel-shaped reindeer trapping system at *Einsethø*, with nearby house sites at the place named Tøftom in the valley of Grimsdalen, located within the mountain massif of Dovre in Oppland. The trapping system is dated between AD 1000–1300, i.e. to the late Viking Age and the Middle Ages. Mikkelsen discussed whether the system could be linked to Saami hunting specialists in the service of the King. His reasoning for this is the resemblance of this system to similar ones in Finnmark in northern Norway as well as the story in *Heimskringla*, the saga of the Norwegian Kings, written in the 1220s, about King Harald Hårfagre and his meeting with the Saami King Svåse and his daughter Snøfrid at the royal farm named Tofte in Dovre. In the saga the Norwegian King and the Saami woman marry. Mikkelsen's main conclusion is that the farmers from the village operated the trapping system as part of their seasonal outland exploitation. Further, he argues that the distribution and the surplus of the hunt were controlled by the King's authority (Mikkelsen 1994, see also Bergstøl 2008: 218; Bergstøl and Reitan 2008: 21; Stene 2011; Hole 2013: 85–87).



Mikkelsen (1994) related the funnel-shaped trapping systems to an early market economy, to political and power groupings with chiefs and kings, and later to the church. Many reindeer were slaughtered at that time in those systems, far beyond local needs. Reindeer products were distributed from the mountains to markets and cities in Norway and generally in Scandinavia, as the demand for leather, bones, probably also dried meat, and antlers (used in the production of combs and knives) was high (Christensen 1986). Objects of antlers from archaeological excavations in medieval cities are evidence of this form of network and commerce.

In the northern part of Hedmark, Bergset and neighbouring places in Rendalen, like Unset and Elvål, stand out because of the symbolic objects and cultural monuments of both Norse and Saami character described above. Bergset is a modern form of the ancient name Birkisetr, *birk-* being a term for trading and early towns from the Viking Age and onwards. The place later developed into a site of jurisdiction, and a church was built here in the medieval period. The pilgrimage road towards the cathedral of Nidaros in Trondheim also went through Birkisetr. Given the extensive hunting of reindeer in the surrounding mountains, it is likely that hunting products were traded at Birkisetr, from where goods were transported to larger markets and cities (Bergstøl 2008: 216). Worth noting is also the place Koppang in the neighbouring municipality of Stor-Elvdal, where there was another church site and marketplace in the Middle Ages, and it is possible that there was interaction and exchange between the two centres.

The historian Sverre Fjellheim (2005, 2012) indicates that the funnel-shaped reindeer trapping systems with enclosures have clear parallels with the enclosures in Saami reindeer husbandry. He argues for continuity between these constructions and economies. Specifically, Fjellheim pointed to a large funnel-shaped reindeer trapping system at the place named Verket in Lesja, northern Gudbrandsdalen in Oppland (see also Einbu 2005: 51–57; Solli 2018a, 2018b). According to Fjellheim (2005: 25–29; 2012: 12–13) it is likely that the Saami operated those systems in southern Norway in the Viking Age and the Middle Ages, as they were settled in the region at this time.

In discussing the archaeology of southern Norway, the archaeologist Jostein Bergstøl (2008) questions whether hunting of large animals in Northern Hedmark is linked to a Saami population, along with, or in parallel to hunting activities of the Norse. He points out that in general the ethnic situation is complex, because the different hunting systems were in use for a long period of time (Bergstøl 2008: 152–156). The funnel-shaped reindeer trapping system, with the use of enclosures and long fences, represents an important distinction from the hunt using pitfalls. Moreover, the change makes it far easier to establish a herd of domestic reindeer, i.e. regarding the process of transition from hunting of wild reindeer to later domestic herding (Bergstøl 2008: 213–215 with references, see also Fjellheim 2005: 22 and Bergstøl, this volume).

In his master's degree concerning the funnel-shaped reindeer trapping systems in Gudbrandsdalen, Hole (2013) raises the question of Saami operations in the region. He suggests that the Saami may be responsible for some of the smaller systems in the region, but he points out the large differences between them and the systems in Finnmark. According to Hole, this may be due to the geographical distances as well as the differences between Saami culture of the south and that in the north. He also refers to archaeological sites of Norse character in close association with some of the trapping systems, such as house sites (Hole 2013: 71–72, see also discussion of the ethnic affiliation of the trapping systems in Oppland in Hildre 2012: 13–18).

## 1.9 Saami and Norse in the post-medieval period

Written sources, images and narratives verify Saami presence in the post-medieval period in northern Hedmark. The documents describe conflicts with nearby Norse settlements in relation to resources and other issues. In daily life, it was probably a more peaceful coexistence, while conflicts were noted in the documentary record. Moreover, the material traces of Saami in the landscape are numerous, such as house remains, hearths, and pits for the preservation of meat and milk, etc.

Three documents describe the cultural situation in northern Hedmark. The first written source mentioning the Saami is dated to 1643 and documents the complaint by the people at Tynset, on behalf of the whole valley of Østerdalen, about Saami groups in the mountains and forests killing and destroying everything they come across, like elk, reindeer, beaver, and birds (Bergsland 1992, appendix 2; Fjellheim 1999: 18–19).

Another document from 1663 refers to the Saami Nils Mortensen from Tynset, who accused 15 farmers in the area for false accusation. The farmers blamed the Saami for illegal hunting in their forests throughout the year. In order to chase the Saami away, the farmers stole 100 reindeer, but the Saami brought them back at night (for a more comprehensive retelling of the story, see Bergsland 1992: 54; Fjellheim 1999: 38–40).

In the third document, also from 1663, the bailiff (No.: *fogd*) sued two farmers from the place Vingelen for theft from the Saami. The case was postponed in order to get the names of the other people involved, a total of twelve farmers. In their defence, the farmers accused the Saami of hunting in the forests. In one case, the farmers found a group of Saami at Buhø (Buhøgda by Lake Femunden), where they had 30 sleighs loaded with reindeer meat and three skins of elk and were on their way to trade with some charcoal burners who sold charcoal in the mining town of Røros. Moreover, the Saami were found by Lake Siksjøen, where they had dwellings and storage rooms (No.: *stabbur*). In connection with this event, it emerged that the Saami Torkil Mortensen had built a place in the mountain of Hommelfell, but that he did not live there. On this occasion, a large Saami settlement area (*sijte*) in Østerdalen is mentioned, with five families who owned a herd of 600 domestic reindeer (Fjellheim 1999: 39–41).

The hunting activities of the Saami in areas that were regarded as land belonging to farmers are a common theme in these documents. One reason for the conflicts could have been the changes in Saami settlement patterns at the time. Previously, their nomadic way of life led to them hunting over large areas and at different times of the year. The transition to reindeer husbandry resulted in increasing settlement with the hunting activities of both Saami and farmers largely taking place in the same areas, resulting in pressure on the resources near the settlements.

Of importance in this context, is the fact that one of the documents from 1663 indicates that slaughtering of wild reindeer occurred in connection with the transition to domestic reindeer husbandry. An intentional reduction of the wild reindeer population would most likely have led to systematic hunting operations over large areas. In this respect, the report of the Saami with 30 sleighs loaded with reindeer meat is interesting. According to Fjellheim, the overall loading capacity of the sleighs were approx. 90 reindeer carcasses. Furthermore, carrying meat on sledges indicates that hunting of wild reindeer had taken place, otherwise it would have been more practical to herd domestic reindeer to their destination (Fjellheim 1999: 42–46). Furthermore, 90 wild reindeer is a significant number, and it is likely that funnel-shaped trapping systems were used for the hunting of such large numbers of animals. Written documents from Finnmark refer to large-scale hunting of wild reindeer until the 18th century, which also had an economic impact with trading of the reindeer products, referred to above.



The documentary sources indicate that Saami groups were well-established in some areas and were carrying out domestic reindeer husbandry. At the same time, the hunting of wild animals continued. According to Fjellheim (2012), the transition from an economy of hunting to the domestic reindeer husbandry was a process that took place over a long period of time, and in various ways in different areas. Moreover, this development offered greater opportunities for trading. In particular, the establishment of the copper mining industry at the nearby town Røros (in operation between 1644 and 1977) had an enormous impact on the Saami and led to the establishment of trade in reindeer products (Fjellheim 2012: 21–33).

## 1.10 The difficult question of ethnicity

Ethnicity should be understood as an expression of processes that develop as result of the meeting between different cultures (F. Barth 1969). In the field of archaeology, it is understood that the relationship between past material cultures and ethnicity is complex and often unpredictable, because material culture is used and understood in different ways by different peoples (H. Amundsen 2017a: 179–181 with references). In this respect, the archaeological sites and artefacts in northern Hedmark reflect both similarities and differences between Norse and Saami cultures, and indicate meeting points as well as borders, and changes in relations over time. There is also possibly several mixed or hybrid forms between the two groups (Bergstøl 2004). The funnel-shaped reindeer trapping systems are a part of this diverse and the long history, or histories, of the area.

In 2015, the authors published a paper on the three trapping systems in Hedmark in the Norwegian journal *Heimen*, which included a discussion of the question of the ethnic relationship of this type of reindeer hunting (Amundsen and Os 2015). A year later, the Swedish historian Olof Holm published a critical comment on the paper in the same journal (Holm 2016a). He later elaborated his comments, where he emphasised his source-critical objections (Holm 2016b). This discussion is an example of the usual dispute in studies of the Saami past, including theories and methodologies, sources and source criticism.

Holm's (2016a) general opinion is that it is difficult to draw conclusions from sparse archaeological material. Moreover, he commented on the artefacts that we defined as Saami or possibly Saami, with an eastern origin, etc. He also questioned our references to the research on the topic. According to Holm, everyday tools, like weapons and brooches, are difficult to interpret as ethnic markers. He considers house sites and artefacts belonging to the religious realm as more certain ethnic markers, like the dwelling at Lake Aursjøen and the medieval drum hammer from Rendalen.

Indeed, Holm raised interesting and relevant questions to our study, but we were critical of his approach, and had the opportunity to make a reply in the same journal (Amundsen and Os 2016). We do not agree with Holm in his assertion that 'everyday' tools are difficult (by definition) to interpret as ethnic markers. In our opinion, tools like points, spears, scrapers, and jewellery such as brooches and necklaces, are as important as, for example, house sites and religious items. Artefacts may be closely related to, and sometimes even exclusive to, groups of people. This may include items connected to the group's own craft traditions as well as objects related to the group's way of life. To put it simply, agricultural equipment is not found in hunter groups, nor is there usually a widespread use of hunting weaponry in agricultural communities. Moreover, 'everyday' material might be from contexts of cultural significance, like burials and hoards.

The fact that a few Saami objects have been found in northern Hedmark and that their dating extends over a long period of time cannot be used as an argument for the lack of Saami settlement in the area. In this study we have emphasised the possible relationship between the trapping systems

and both Saami and Norse material in the surrounding areas. We have chosen to highlight the Saami artefacts, or possible Saami artefacts, presented above, and at the same time we have referred to the documented Norse history of the area. It has not been possible to study and discuss the artefacts in more depth here, as our focus has been the trapping systems.

## 1.11 Summary

The funnel-shaped reindeer trapping systems vary in size and type, and this variation is highlighted by the three different systems in Hedmark. Adaptation to the local terrain and the actual movements of the reindeer are contributing factors to those differences. The hunting methods employed were functional and efficient, and at the same time complex. Much planning and organisation, collaboration and transfer of knowledge were necessary to run the systems.

It is most likely that the Hedmark systems were in use during the Iron Age and the Middle Ages, and probably into the post-medieval period as well. At what times within these periods the trapping systems were used, and to what extent, is difficult to answer due to lack of dating and closer archaeological and documentary investigation. This includes other contexts that may be linked to the hunting activities, like house sites and pits with waste from slaughtering. It is most likely that the systems were in use for several periods, and at times they may have been abandoned.

Many finds such as burial mounds, fossilised agricultural fields, and artefacts that are connected to trapping systems in the wider Hedmark region, indicate established Norse communities during the Iron Age and the Middle Ages. At the same time, a varied Saami culture is known from both settlements and artefacts. In Rendalen especially, Saami discoveries are numerous, with the drum hammer from the early Middle Age being the most spectacular. Saami as a separate ethnic group are referred to in written documents from northern Hedmark in the 17th century, in relation to conflicts about the hunting grounds and in relation to transporting and trading of reindeer products.

Another argument that has been proposed for a Saami connection to the funnel-shaped trapping systems is that the construction is the same as the fenced systems in the later domestic reindeer industry. In order to prevent the loss of domestic reindeer, intentional slaughtering of the herds of wild reindeer may have been carried out in this southern region, as in the north in Finnmark. There is a distinct possibility that the funnel-shaped systems were used for this kind of activity.

It is important to explore and develop the issues concerning cultural identity in studies of past hunting communities in Norway. In future investigations of the funnel-shaped reindeer trapping systems in the southern mountain regions, not only are dating and recording important to undertake, but also questions of identity must be asked. The relationship of Saami and Norse cultures should be further discussed, and the question of to what extent the two groups may have interacted in the hunting activities should be addressed. It will also be interesting to study the similarities and differences between the design and organisation of the trapping systems between southern and northern Norway. In this kind of studies, the development of a consistent terminology will be essential.

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