

# UBAS

University of Bergen Archaeological Series



**Nordic Middle Ages – Artefacts, Landscapes and Society.**  
**Essays in Honour of Ingvild Øye on her 70th Birthday**

Irene Baug, Janicke Larsen and Sigrid Samset Mygland (Eds.)



UNIVERSITY OF BERGEN

**8**  
2015

UBAS – University of Bergen Archaeological Series 8

Copyright: Authors, 2015

University of Bergen,  
Faculty of Humanities,  
Department of Archaeology, History, Cultural Studies and Religion  
P.O. Box 7800  
NO-5020 Bergen  
NORWAY

ISBN: 978-82-90273-89-2 UBAS 8  
UBAS: ISSN 089-6058

**Editors of this book**

Irene Baug, Janicke Larsen and Sigrid Samset Mygland

**Editors of the series UBAS**

Nils Anfinset  
Knut Andreas Bergsvik  
Søren Diinhoff  
Alf Tore Hommedal

**Layout**

Christian Bakke, Communication division, University of Bergen  
Cover: Arkikon, [www.arkikon.no](http://www.arkikon.no)

**Print**

07 Media as  
Peter Møllers vei 8  
Postboks 178 Økern  
0509 Oslo

Paper: 130 g Galerie Art Silk H  
Typography: Adobe Garamond Pro and Myriad Pro



## Upland Living. The Scandinavian Shielings and their European Sisters

‘In the shielings, often high up on the border between forest and mountains, the grass grew lushly, and in the autumns the forest grazing was eked out with an abundance of edible mushrooms, circumstances making it necessary to herd the cattle in the autumn and fetch them for the evening milking.

Many old women from Jämtland and Härjedalen can still testify that the shieling summer, in spite of all the hard labour, was a kind of holiday in its time, when she could, at least within certain limits, decide her working pace and dispose of her time – milking, herding, making butter and cheese and scrubbing the milk vessels were tasks that had to be performed anyway’ (Nyberg 1990, 14).

In this article, the Scandinavian traditions of using shielings will be presented with emphasis on archaeological and palaeobotanical data from investigated examples, in relation to the ‘model shieling’ pictured by ethnographic research. Ethnographers considered shielings as cultural expressions, based on functional needs, of northern Scandinavia. However, there are numerous examples of similar sites and land use both in Europe and globally. Very often, there appears to be flexibility and fluctuation concerning permanent settlement and seasonal use. Here, a selection of investigations from different parts of Europe will be used to discuss similarities and differences between Scandinavian shielings and their European sisters with an emphasis on medieval and early modern times.

### The ethnographic shieling

Shielings, *fåbod* or *säter*, were long-lived phenomena in northern and central Scandinavia. In areas where agricultural land was scarce and conditions were rough, cattle were brought out to the outland to graze during the summer, and winter fodder was collected for the long stabling season. Due to the distance from the mother farmstead/hamlet/village to the forest grazing, shielings were built with houses, stables, barns etc. for the herders and the cattle (Fig. 1). The female herders and the cattle stayed at the shielings during the summer, herding the cattle in the forests during the day and making dairy products after returning to the shielings in the evenings.

Shielings were in use in Scandinavia well into the middle of the twentieth century; in fact, there are still a few active shielings, but they were considered old-fashioned and relicts from a preindustrial agrarian system in the early twentieth century. These characteristics made the shielings interesting in the eyes of the scholars, especially ethnologists, at the time (e.g.

Erixon 1918; 1956; Frödin 1925; Hougen 1947). These early scholars expended substantial effort trying to sort shielings into different systems and geographical traditions. In Sweden, the shieling standard was set by the shielings in the province of Dalarna, and other ways of organizing a shieling were more or less treated as deviations.



**Figure 1.** *The Backasättern shieling. (Photo: Eva Svensson).*

The age of the shieling system was of great interest. That the system went far back in time was a natural conclusion from the relic perspective. But how far back in time remained an open question. An influential hypothesis was presented by the Norwegian historian Jørn Sandnes (1989; 1991, 219-220). According to Sandnes, shielings were secondary to the regular farmsteads, and it was the need for winter fodder and haymaking in the outland that was the genesis of shielings. Sometime in the twelfth and thirteenth centuries, cattle were brought to graze close to the meadows, but this land use ceased during the late medieval agrarian crisis. 'Real', or ethnographic, shielings, in the historically known sense, were not, according to Sandnes, established until the sixteenth and seventeenth centuries.

The ethnographic shieling was confined to the central and northern parts of Scandinavia, the land north of the shieling border or the *Limes Norrlandicus*, crossing Scandinavia somewhat north of Oslo and the big lakes in central Sweden. This border was considered significant for several social, natural and cultural phenomena. The *Limes Norrlandicus* was depicted as the northern border for nobility, oaks and wagons, and the southern limit for sour milk and sledges. Also, it was presumed that land north of the *Limes Norrlandicus* was the home of freeholders in a fairly egalitarian society (Nyman 1953 with references; Berg 1983).

## **Expansive shielings**

The ethnographic shieling, appearing static in time and space, should be problematized. According to different data from shieling studies, there were periods of geographical fluctuations and changes in use of shielings within the system of relation farm – shieling (Karlsson et al. 2010). Shielings could be used periodically for, and sometimes transformed into, permanent living (Myrdal & Söderberg 1991; Svensson 1998; Emanuelsson et al. 2003). There are also several examples of the opposite, that deserted farmsteads were turned into shielings, not least during the late medieval agrarian crisis (Antonson 2004; Hansson et al. 2005).

Especially the sixteenth and seventeenth centuries appear to have been dynamic periods of shieling expansion, far south of the Limes Norrlandicus, due to increased cattle breeding, not least to support the growing Swedish mining districts and their need for food and ropes. According to Janken Myrdal and Johan Söderberg (1991), there was a kind of regional labour division, whereby regions in western Sweden promoted breeding of cattle as a commodity, whereas regions in other parts specialized in cereal cultivation. Thus, shielings also acted in a commodity or market economy, and not only in the rural self-subsistence economy as was often presumed for the ethnographic shieling. So, what constituted a shieling was under development and change through time. Or perhaps there should be a more nuanced way of using the expression shieling.

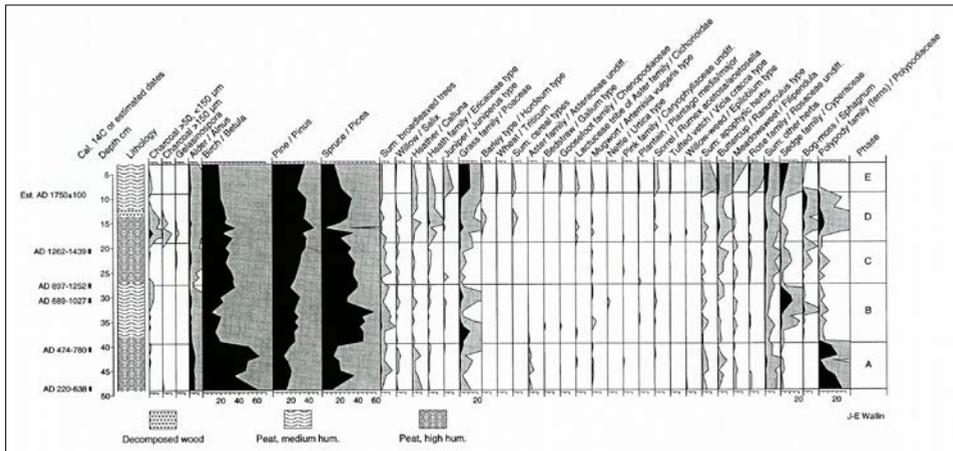
Based on different names of locations in the outland where cattle grazed and hay was made, that is, the major land use on shielings, a kind of evolutionary typology has been suggested. Starting with special places in the outland where cattle were kept for periods (Sv: stöl), via an ‘institutionalization’ of the site, now being regularly visited, with the construction of a building and the introduction of dairy production (Sv: säl), to the historically known shieling with cattle breeding, haymaking and dairy production (Sv: säter) (Cabouret 1989). The results from archaeology and palaeobotany offer reasons to reconsider shielings as a developing feature, although in a more complex manner than presumed by this typology.

## **Enter archaeology and palaeobotany**

During the last three decades, there have been a number of archaeological and palaeobotanical investigations of shieling sites in Sweden and Norway (e.g. Magnus 1986; Kvamme 1988; Emanuelsson et al. 2000; Øye 2002; Emanuelsson et al. 2003; Skrede 2005; Amundsen 2007; Risbøl et al. 2011). Some investigations have been research projects, some have been rescue projects. They have all contributed to changing the history of shielings, and have challenged the ethnographic shieling.

Palaeobotany, and to some extent archaeology, has pushed back the establishment of shielings, or at least shieling land use, in time. Palaeobotanical and archaeological investigations in western Norway have provided indications of shieling-like land use and what appear to have been hearths or cooking pits on shieling sites dating back to Bronze Age and early Iron Age (Magnus 1986; Kvamme 1998; see also Skrede 2005). This early use of the shielings appears to correspond to the permanent establishment of farmsteads in the rural areas historically associated with the shielings. During the late Iron Age and early Middle Ages, land use and buildings of the same character as on historically known shielings were established at the shieling sites.

Investigations in Värmland and in Härjedalen in western Sweden come up with somewhat later dates for establishment. From the late early Iron Age to late Iron Age, grazing and sometimes also haymaking appear on a couple of shieling sites (Fig. 2; Emanuelsson et al. 2000; Emanuelsson et al. 2003; Svensson 1998, and sources therein). In these cases too, there was a strong connection between the establishment of shielings and the development of the associated agrarian mother farmsteads or hamlets. In the Viking Age and the Middle Ages, buildings were erected and full-scale shieling land use, that is, forest grazing and haymaking, but sometimes also a little cereal cultivation, can be demonstrated.



**Figure 2.** Pollen analysis, Backasättern shieling. (After Emanuelsson et al. 2003, fig. 43).



A common feature on shielings appears to be the very thin cultural layers with few or no artefacts in the buildings, also the dwelling houses, from early periods (e.g. Emanuelsson et al. 2000, 127-128; Emanuelsson et al. 2003; Amundsen 2007). With the arrival of porcelain and ceramics in modern times, the number of finds increases. At farmsteads connected with shielings, the artefact assemblage and the cultural layers are usually richer (e.g. Andersson & Svensson 2002; Emanuelsson et al. 2003; Amundsen 2007). The thin, artefact-poor cultural layers at the early shieling sites are probably the result of fairly few items being brought to the shielings, when most of the daily life took place outdoors and there may also have been a habit of tidying (Fig. 3).

**Figure 3.** Excavations at Deset Östseter shieling. (Photo: Susanne Pettersson, courtesy of Susanne Pettersson).

In the Late Middle Ages, that is, during the late medieval agrarian crisis, and early modern times, intensified land use is manifest on the investigated shielings in western Sweden, especially in the pollen diagrams (Svensson 1998 with references; Emanuelsson et al. 2000; Emanuelsson et al. 2003). Also in Norway, otherwise pictured as comparatively strongly affected by the late medieval agrarian crisis (Gissel et al. 1981), there was a growth in the use, and even establishment, of shielings (Øye 2002; Amundsen 2007, Risbøl et al. 2011).

Haymaking in the outland, often on mires, and outland cereal cultivation also increased, whereas other outland production mainly aimed at the market, such as bloomery iron production and hunting, diminished. Microeconomies, probably to a large extent dependent on the market and on goods that could be acquired through the market, would entail a need both to become more self-sufficient and to find new markets. The increase in shielings, outland haymaking and cereal cultivation appears to be a way to meet demands both from the local rural economies and from the market in the shape of the expanding Swedish mining districts with a constant need for cattle, as has been put forward by the economic historians Janken Myrdal and Johan Söderberg (Myrdal & Söderberg 1991; Svensson 1998; Emanuelsson et al. 2003).

## **Shielings – in between ethnographic tradition and dynamic land use**

Different source material, methods, chronological perspectives and geographical investigation areas have produced different kinds of shielings, and interpretations of what a shieling is. Stig Welinder has pointed out that archaeology and palaeobotany have produced a new way of perceiving shielings as fluid and flexible, interacting with other rural and outland activities (Welinder 2002, 23; Karlsson et al. 2010).

With the fluid and flexible archaeological and palaeobotanical shieling, another problem has materialized; can we tell the difference between a shieling and a farmstead? If there could be cereal cultivation and periods of permanent settlement at sites later known as shielings, were they really shielings? Or were they farmsteads? Or should the sites be presumed as some kind of 'pre-shieling' sites or maybe something else? According to the agrarian historian Jesper Larsson, the fluid and flexible shieling is unsuitable for historical analyses and should be excluded by definition. Therefore, a return to the ethnographic shieling, as a part of an early modern technocomplex, is necessary in order to have a rigid shieling concept (Larsson 2009).

Excluding the fluid and flexible archaeological and palaeobotanical shieling from the definition does not make the sites and the documented land use history go away, or become less of a historical reality. There are a number of sites, known to have been shielings in early modern times, possessing a history of older land use of a 'shieling-like' character. In reality, the contrasting viewpoints, here represented by Welinder (2002) and Larsson (2009), proceed from different perceptions of Scandinavia north of the Limes Norrlandicus and outlands: either as a unique state reflecting specific natural and socio-cultural conditions, or as a process constructed and constantly restructured in relation to social, cultural and natural conditions and changes, and also in relation to the surrounding world.

The ethnographic perception of Scandinavia north of the Limes Norrlandicus as culturally specific and different from the rest of Scandinavia and Europe is probably best explained as

an exotification by advocates of an urban centrist discourse. Parallel to the emergence of the ethnographic stories of the exotic and old-fashioned life in northern Scandinavia, there were bourgeois movements, belonging to the same style of thought, to bring (pure and righteous) traditional lifestyles, nature and heritage to the undisciplined growing working class in order to educate the workers into becoming good citizens (e.g. Ödman et al. 1982).

Recognizing the fluid and flexible archaeological and palaeobotanical shieling can be perceived as an empowerment of the past. In today's urban-dominated society, rural landscapes, and not least the sparsely populated areas north of the Limes Norrlandicus, are often perceived as passive and both socially and geographically marginal. In contrast, the flexible and changing land use of the shieling sites shows that there were different strategies at work in the outlands, and it opens for many histories of active rural landscapes and people. Thus, there is reason to agree with Welinder when he stated concerning shielings that 'some concepts are more fruitful to discuss than to define' (conversation with Stig Welinder, 2009). Especially when looking out from Scandinavia.

## **Outland/upland archaeology – a new trend in European rural medieval archaeology**

During the last few decades, rural medieval archaeology is increasingly coming out from the shadow of the hegemony of written documents, and from under the prestige dominance of research on urban, castle and ecclesiastical environments and institutions. In several European countries, rural medieval archaeology has emerged as a mature field with appropriate theoretical and methodological approaches (e.g. Bentz 2008). A growing understanding of the complexity of rural life, and archaeological approaches to unveil many different rural landscapes and activities can be followed across Europe in the volumes of published papers from the *Ruralia* conferences from 1995 onwards (*Ruralia*).

The appropriation of so-called marginal landscapes is an important indicator of the maturity and independence of rural medieval archaeology. Archaeology in outlying lands or uplands often requires more fieldwork to collect adequate empirical material, as alternative data, like written documents, are often scarce. The fieldwork is quite often of a demanding and time-consuming nature as the terrain is often rough and distances long. The research of necessity has a more archaeological profile than other fields in medieval archaeology due to the sources available. In many countries, however, ethnography has provided important starting points, and palaeobotany has kept archaeology company out in the outlands and uplands.

With the growing interest in rural life, rural archaeology and outlying and upland landscapes of medieval times in Europe, sites displaying similarities to Scandinavian shielings, although under a great variety of names, have also entered the research agenda of rural medieval archaeology. In order to look out for comparisons to the Scandinavian shielings, the Cantabrian Mountains in Spain, the French Pyrenees, the Swiss Alps and the uplands in Northern Ireland will be searched.

## The Cantabrian Mountains in Spain

In northern Spain, there were several ethnographically known systems of transhumance, that is seasonal movement of people with their livestock between fixed summer and winter pastures, and grazing in the mountains in historical times (Álvarez et al. in press). The most shieling-like, *Brañas*, built sites that were used for summer grazing in the mountains, were in use at least from the thirteenth century and onwards (Fig. 4). There was also *Vaquieros d'alzada*, a socially marginalized group of people specializing in transhumance, moving between two farms with their herds. A third system, known from medieval times, was long-distance transhumance where herders brought large flocks of sheep and goats from the centre and south of the Iberian Peninsula to the Cantabrian Mountains.

Of the three systems, *brañas*, being part of a local rural system, is of greatest interest here. Most of the *brañas* were used communally by a village or a parish, and at the *brañas*, the cattle were free to graze without any privately owned, fenced fields, although some of them were equipped with fenced-in meadows. At the *brañas*, there were small circular or square buildings for lodging the male shepherds, and dairy facilities for making cheese and butter.

*Brañas* are known from medieval times, but appear to have a long history. Archaeological investigations at *brañas* sites have so far come up with artefacts and datings from Neolithic times and the Bronze Age, when the mountains were taken into use for grazing. *Brañas* sites were used continuously into medieval times, also in periods of societal and settlement changes. In medieval times, the economic importance of cattle was accentuated, leading to an increase in the number of *brañas* and intensified use, causing a much stronger deforestation impact than before.



**Figure 4.** A *brañas*. (Photo: Margarita Fernández Mier, courtesy of Margarita Fernández Mier).

### **The French Pyrenees**

The French Pyrenees have also been used for transhumance and grazing into modern times (Rendu et al. 2009). As in the Spanish example, transhumance can be traced back to the Neolithic and the Bronze Age. From medieval times, two different systems are discernible. First, a more extensive system with mobile herds in areas of common grazing. Second, a more intensive system with more controlled and delineated pastures with built areas with male shepherd's huts, where dairying was also practised. However, this system, as well as the lightly built huts, was quite movable. Also, there were combinations between the two systems.

There was an intensified use of the grazing areas in medieval times, and also increased competition between different kinds of superimposed land uses such as woodland management, grazing and cereal cultivation. From the thirteenth century, there was a socio-ecological closing process through which the number of households with access to mountain pastures was restricted according to a hierarchical social system. But some flexibility was built into the process, as younger sons not inheriting the regular family farm were entrusted with *bordes* or *cortals*, that is, farms in the mountain pasture areas, where a family could settle. Thus, permanent settlements and transhumance facilities shared the resources in the mountains.

### **The Swiss Alps**

There have been a number of investigations carried out in the Swiss Alps, revealing a variety of sites and uses from medieval times (Meyer et al. 1998). Initially, until AD 1200, permanent settlements and seasonally used sites were constructed in the same manner. Small wooden houses, often with built-in rocks, or adjusted natural caves, were used for human habitation. There were pens for the cattle, and various dairy facilities. Also, the subsistence was the same; herding of sheep and goats and some hunting.

During the fourteenth century, there was an increased interest in and use of upland areas that had previously been perceived as marginal. At the permanent settlements, the houses were made bigger, and byres for the cattle were erected. This process was further accentuated in the sixteenth century when cattle breeding and cheese production, aimed for sale to northern Italy, increased. Often, the settlements were also moved to allow bigger houses to be built, with more rooms and more specialized dairy facilities.

### **North Irish booley huts**

In Ireland, *booley huts* were used in a seasonally based transhumance system, as an important part of an agrarian system (Fig 5; Gardiner 2008; 2012). In the investigated area of the Mourne Mountains, transhumance came to an end c. AD 1800, but its onset is unknown as excavations have provided little material for dating. However, there are different types of house remains to be found in the area. An earlier oval type appears to have been replaced by a square one around AD 1700. The new type of house corresponds to the downturn in transhumance during the eighteenth century.

From ethnographic material and written documents, the area appears to have been free to use, without private claims of specific pastures. This freedom attracted poor people to use the pastures, at least in early modern times. The booley huts appear to have played a role as a safety valve for people with an insecure livelihood in society.



**Figure 5.** Booley hut. (Photo: Mark Gardiner, courtesy of Mark Gardiner).

## **Upland living – shielings or something else?**

The comparisons described above have revealed the existence of both variation and conformity in transhumance and grazing systems. The existence of parallel grazing and transhumance regimes demonstrates the elaborate systems of upland land use and practice staged in the Cantabrian Mountains, the Pyrenees and the Alps. The upland grazing system in Ireland, as indicated by the booley huts, appears to have been less complex. Also the Scandinavian shieling system, although flexible and fluid, is more straightforward as there were not competing grazing systems.

If compared, using the Scandinavian shieling as reference, there are some interesting similarities and differences to discuss, such as the relationship to permanent settlement, seasonality, character of land use, households and workforce, buildings, herding and dairy work.

Nearly all transhumance sites were connected to a permanent rural settlement somewhere else. In all the areas, there were local systems where the mother farm and shieling were closely connected. But there were also examples of long-distance grazing regimes, as in Spain and Ireland. There were cases of flexibility between permanent settlement and seasonal use, and expansion of permanent settlement in grazing areas in France and Switzerland. Here, the outlands or uplands served as resources for settlement expansion, when suitable land became scarce in the villages.

In Spain, France and partly also in Switzerland, transhumance, both herding and dairy work, was a task for male herders on a more or less professional basis. In Ireland, the use of booley huts appears to have been a family business, at least among poor people. This is a sharp contrast with the Scandinavian tradition of women at the shieling. Here, an interesting cultural difference is at play. In Scandinavia, milking was a stigmatized task for men to perform. If caught doing dairy work a man's reputation could be ruined (Löfgren 1982). But in the French Pyrenees, men were considered to have better hands for milking (discussion with Christine Rendu, 2007).

The outlands or uplands were, in most cases, not only used for grazing but also for other, sometimes competing land uses. In the areas investigated here, there are examples of cereal cultivation, hunting and forestry. Production of goods for sale such as cheese, also for distant markets, occurred in some of the investigated outlands or uplands. There seem to have been different strategies, both in time and space, concerning production for a market, self-subsistence land use and a safety valve function. However, the manifold use of a broader variety of outland resources characterizing many Scandinavian outland areas (e.g. Svensson 1998) was not present or at least not reported. However, this may to some extent be a question of research tradition, and that other kinds of land use and production, e.g. iron production, are studied in other contexts by other scholars (e.g. Tauber 2007).

So, were *booley huts*, *brañas* and the other sites shielings? Or were the Scandinavian shielings *brañas*? This is of course an academic, or rhetorical question, clarifying the need to move away from the names and narrow definitions in order to gain new knowledge and insights. It is clear from the comparison above that the sites investigated here share several features. Not least, they were strategic ways of solving similar problems, namely a need to extend grazing, and to some extent also other agrarian activities, beyond the village and infield resources. Future studies targeting uses of outlying or upland areas could clearly benefit from broader outlooks and cross-national and cross-regional comparisons.

## References

- Álvarez, D. G. Fernández Mier, M. & López Gómez, P. In press. An archaeological approach to the *brañas*: Summer farms in the pastures of the Cantabrian Mountains (Northern Spain) In Collis, J. & Nicolis, F. (Eds.) *Malga, Buron, Alm, Shieling, Seter, Salaš, Orry and Cayolar: Seasonal exploitation of Uplands from prehistory to the modern day*. J. R. Collis Publications, Sheffield.
- Amundsen, T. (Ed.) 2007. *Elgfangst og bosetning i Gräffellområdet*. Varia 64. Bind II. Oslo.
- Andersson, S. & Svensson, E. (Eds.) 2002. *Skramle – the true story of a deserted medieval farmstead*. Stockholm, Almqvist & Wiksell.
- Antonson, H. 2004. *Landskap och ödesbölen: Jämtland före, under och efter den medeltida agrarkrisen*. Meddelande / Kulturgeografiska institutionen, Stockholms universitet 129. Stockholm, Stockholm University.
- Bentz, E. 2008. *I stadens skugga. Den medeltida landsbygden som arkeologiskt forskningsfält*. Lund studies in historical archaeology 8. Lund, Lund University.
- Berg, G. 1983. Limes Norrlandicus and the formation of ethnological theory: A contribution to discussion. *Ethnologia Scandinavica* 1983, 7-14.
- Cabouret, M. 1989. Esquisse d'une chronologie des étapes de la formation de la vie pastorale en Norvège. (*Norsk Historisk tidsskrift* 1:1989, 28-37).
- Emanuelsson, M., Bergquist, U., Segerström, U., Svensson, E. & von Stedingk, H. 2000. Shieling or Something Else? Iron Age and Medieval Forest Settlement and Land Use at Gammelvallen in Ängersjö, Central Sweden. *Lund Archaeological Review* 6, 123-138.

- Emanuelsson, M., Johansson, A., Nilsson, S., Pettersson, S. & Svensson, E. 2003. *Settlement, shieling and landscape: The local history of a forest hamlet*. Almqvist & Wiksell International, Stockholm
- Erixon, S. 1918. *Bebyggelseundersökningar: Öfersikt. Periodiska bebyggelser. Fäbodväsen*. Nordiska museet, Stockholm.
- Erixon, S. 1956. Betesvandringar och flyttssystem. *Folkliv* 1955-56, 39-55.
- Frödin, J. 1925. *Siljansområdets fäbodbygd*. Gleerups, Lund.
- Gardiner, M. 2008. A preliminary list of booley huts in the Mourne Mountains, County Down. *Ulster Journal of Archaeology*, vol. 67, 142-152.
- Gardiner, M. 2012. Time regained: Booley huts and seasonal settlement in the Mourne Mountains, County Down, Ireland. In Turner, S. & Silvester, B. (Eds.) *Life in medieval landscapes. People and places in the Middle Ages: Papers in memory of H.S.A. Fox*, 106-124. Windgather Press, Oxford.
- Gissel, S., Jutikkala, E., Österberg, E., Sandnes, J. & Teitsson, B. 1981. *Desertion and land colonization in the Nordic countries c. 1300–1600: Comparative report from the Scandinavian research project on deserted farms and villages*. Stockholm.
- Hansson, A., Olsson, C., Storå, J., Welinder, S. & Zetterström, Å. 2005. *Agrariker och gårdar i Jämtland*. Jamtli, Östersund.
- Hougen, B. 1947. *Fra seter til gård: studier i norsk bosetningshistorie*. Norsk arkeologisk selskap, Oslo.
- Karlsson, H. Emanuelsson, M. & Segerström, U. 2010. The history of a farm-shieling system in the central Swedish forest region. *Vegetation History and Archaeobotany* 19, 103-119.
- Kvamme, M. 1988. Pollen analytical studies of mountain summer-farming in western Norway. In Birks, H. H., Birks, H. J. B., Kaland, P. E. & Moe, D. (Eds.) *The cultural landscape: past, present, and future*, 349-365. Cambridge University Press, Cambridge.
- Larsson, J. 2009. *Fäbodväsendet 1550–1920: Ett centralt element i Nordsveriges jordbrukssystem*. Jamtli, Östersund.
- Löfgren, O. 1982. Kvinnfolksgöra – om arbetsdelning i bondesamhället. *Kvinnovetenskaplig tidskrift* 1982, nr. 3, 6-14.
- Magnus, B. 1986. Iron Age exploitation of high mountain resources in Sogn. *Norwegian Archaeological Review*, vol. 19, no. 1, 44-50.
- Meyer, W., Auf der Maur, F., Bellwald, W., Bitterli-Waldvogel, T., Morel, P., Obrecht, J., Boscardin, M.-L., Bellwald, I., Kalbermatten, H. & Keller, C. 1998. *“Heidenhüttli”: 25 Jahre archäologische Wüstungsforschung im schweizerischen Alpenraum*, Schweizerischer Burgenverein, Basel.
- Myrdal, J. & Söderberg, J. 1991. *Kontinuitetens dynamik: Agrar ekonomi i 1500-talets Sverige*. Almqvist & Wiksell International, Stockholm.
- Nyberg, D. 1990. *Vittran i fäbodland*. Carlssons, Stockholm.
- Nyman, A. 1953. Den svenska fäbodväsendets sydgräns. *Folkliv* 1952-53, 90-96.
- Ödman, E., Bucht, E. & Nordström, M. 1982. *Vildmarken och välfärden: Om naturskyddslagstiftningens tillkomst*. Liber Förlag, Stockholm.
- Rendu, C., Bille, E., Conesa, M., Calastrenc, C., Campmajo, P. & Crabol, D. 2009. Margins and centres in the shaping of the Pyrenean slopes: Medieval dynamics within the long term perspective. In Klápšte, J. & Sommer, P. (Eds.) *Ruralia VII: Medieval rural settlement in marginal landscapes*, 235-351. Brepols, Turnhout.
- Risbøl, O., Stene, K. & Sætren, A. (Eds.) 2011. *Kultur och natur i Grimsdalen landskapsvernområde. Slutrapport fra DYLAN-prosjektet*. NIKU Tema 38. [niku.no/filestore/Publikasjoner/NIKUTema38.pdf](http://niku.no/filestore/Publikasjoner/NIKUTema38.pdf) (24 April 2012)
- Ruralia*, [ruralia.cz/index.html](http://ruralia.cz/index.html) (17 October 2013)
- Sandnes J. 1989. Ljåen og krøttermulen: Om opphav og alder til det norske seterbruket. (*Norsk Historisk tidskrift* 3/1989, 351-357.
- Sandnes J. 1991. Utmarksdrift og ressursutnyttelse i Norge i eldre tid. In Ilsøe, H. & Jørgensen, B. (Eds.) *Plov og pen: Festskrift til Svend Gissel 4. januari 1991*, 213-221. Det kongelige Bibliotek, København.
- Skrede, M. 2005. Shielings and landscape in western Norway. Research traditions and recent trends. In Holm, I., Innselset, S. & Øye, I. (Eds.) *‘Utmark’: The outfield as industry and ideology in the iron age and the middle ages*, 31-41. UBAS, International 1. Bergen.
- Svensson, E. 1998. *Människor i utmark*. Almqvist & Wiksell International, Stockholm.

- Tauber, J. 2007. Das Eisengewerbe im Schweizerischen Jura: Ergebnisse der neueren Forschung. In Klápšte, J. & Sommer, P. (Eds.) *Ruralia VII: Medieval rural settlement in marginal landscapes*, 235-351. Brepols, Turnhout.
- Welinder, S. 2002. Fäbodrar i Jämtland. In *Fjellet som ressurs: Föredrag hållna vid de 23:e jemtsk-tröndske historiedagarna den 24–26 augusti 2001 i Ålem, Sør-Trøndelag*, 23-27. Landsarkivet, Östersund.
- Øye, I. (Ed.) 2002. *Vestlandsgården – fire arkeologiske undersøkelser. Havrå – Grinde – Lee – Ormelid*. Arkeologisk institutt, Universitetet i Bergen & Bergen Museum, Bergen.

**Personal communications**

- Christine Rendu, French National Centre for Scientific Research  
Stig Welinder, Professor emeritus of archaeology, Mid Sweden University.