

UBAS Nordisk
Universitetet i Bergen Arkeologiske Skrifter



Fra funn til samfunn
Jernalderstudier tilegnet Bergljot Solberg
på 70-årsdagen

Knut Andreas Bergsvik og Asbjørn Engevik jr. (red.)



UNIVERSITETET I BERGEN

1

UBAS – Universitetet i Bergen Arkeologiske Skrifter. Nordisk 1

Copyright: Forfatterne.

Arkeologisk institutt, Universitetet i Bergen
Postboks 7800
5020 Bergen
Norge
www.hf.uib.no/arkeologisk

ISBN: 82-90273-78-9

ISSN: 1503-9811

Redaktører for denne boken

Knut Andreas Bergsvik
Asbjørn Engevik jr.

Redaksjon for serien UBAS

Terje Østigård
Lars Forsberg
Janicke Zehetner

Layout

Christian Bakke og Jan Kåre Wilhelmsen, Formidlingsavdelingen,
Universitetet i Bergen
Foto av Bergljot Solberg: Magnus Vabø, Formidlingsavdelingen, UiB
Forside/omslag: Arkikon, www.arkikon.no

Trykk

PDC Tangen
Papir: Galerie Art Silk 130 g.
Fonter: Adobe Garamond og Myriad



Iron Age house remains from mountain areas in inner Sogn, Western Norway

This paper deals with the results of the archaeological investigations of Iron Age houses in the mountain areas of the inner Sogn district, which were carried out during the 1980's as part of the Nyset-Steggje project. I will present the houses, the artifacts and the results of the botanical and osteological analyses. I will also discuss what kinds of activities these houses represent; whether they have been hunting stations, accommodations for travelers, or summer farms. The main goal is to investigate the importance of summer grazing in the Iron Age farming system.

Investigation area

The investigated area is situated in the innermost part of the Sognefjord, about 200 km inland from the coast (Fig. 1). The general topography is characterized by a narrow strip of land close to the fjord. In the deep fjords, there are steep slopes up to the mountain plateaus, which are situated at about 1000 m above sea level. The highest peaks rise up to about 1800 m above sea level. The shortest passage between the territories of western and eastern Norway is found in this mountain region. The present-day farms are situated close to the fjords or in the main valleys.

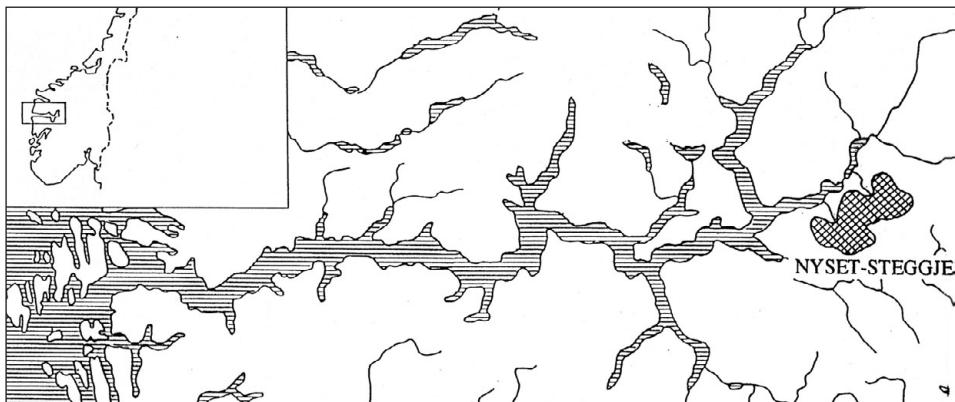


Figure 1. The Nyset-Steggje investigation area in the innermost part of the Sognefjord



Figure 2. Vikadalen, a valley situated about 900-1000 m above sea level.



Figure 3. Fossdalen, a valley situated about 900-1000 m above sea level.

As a result of a hydroelectric dam and power plant construction project in the mountain region 950-1300 m above sea level in Årdal council, archaeological investigations were carried out in three different mountain valleys: Vikadalen, Berdalen and Fossdalen (Figs. 2 and 3). The area is situated approximately a 4-hour walk from the nearest farm. In order to produce comparative data, neighboring mountain regions were also tested as a part of an independent research project.

Research history and main goals

From the nineteenth century and later one discussed whether the traces of Iron Age remains in the mountains represented a population which were culturally different from the people living in the lowland farming districts (e.g. Christie 1842, Munch 1852, Olafsen 1909, Negaard 1911, Shetelig 1922, Brøgger 1925). Investigations at Hardangervidda during the end of the 1930's, however, found no significant differences with regard to «cultural affiliation» (Bøe 1942). Bøe therefore concluded that the mountain areas had been used by farmers from the lower regions. Before the 1960's, it was generally assumed that the mountain areas mainly had been utilized for hunting during the Iron Age. The most important reason was that the data from the highlands mostly could be related to hunting activities. Besides, only a few house foundations from the Iron Age were known. During the 1960's, this view changed somewhat as a result of the systematic surveys and investigations of several iron extraction sites in the mountains of southern Norway (Martens 1972, Johansen 1973). Still, as late as the 1980's, the knowledge of mountain utilization in the Iron Age was largely based on graves, stray finds and iron extraction sites. Very few habitation sites were known compared to the large number of sites from the Stone Age and Bronze Age.

The Iron Age research in the Nyset-Steggje project aimed at investigating whether the area had been exploited for grazing purposes in prehistoric times. From the cultivated area by the Årdalsfjord and adjacent valleys, we had archive information of quite a number of burial mounds from 15 farms. Although few of these graves had been professionally investigated, most of them could be dated to the late Iron Age. Before the project started, however, only remains of log or stone cabins (*sæter*) from the last two centuries had been found in the mountain valleys. These were generally related to use of mountain pastures in the summer season, in order to economize sparse fodder in the farm district by the fjord. The historical sources supported this; according to the Land register from 1723, 692 out of 774 farms in the inner Sogn region had summer farms (Reinton 1961:544). In this period, the summer farm system can therefore be seen as a crucial part of the overall, decentralised farming system.

Still, even older historical sources mention summer pasturing. The Greek geographer Pytheas, who lived in the 4th century BC, provide us with a secondary and disputed historical source describing conditions in Thule (by many supposed to be the west coast of Norway), saying that people in Thule drove their cattle up for mountain pasture in the spring time, and stayed there the whole summer (Hougen 1947:14).

About 1070 AD, Adam Bremensis described Norway as cold and mountainous. Like the Arabs, people had their cattle on pastures far out in the wilderness (Adam av Bremen 1993:210). In Iceland, which was populated from Norway in the 9th century, *setr* are known from more than 20 Sagas (Reinton 1946:230). According to the earliest documented Norwegian law, *Gulatingssloven*, summer farming was common during the 11th century (Robberstad 1937:103). In *Olav den helliges saga* and in *Sverres saga*, *setr* are mentioned several times in both the 10th and 11th centuries (Johnson 1911:367; Indrebø 1920:191). These brief examples from the historical sources indicate that summer farms, *setr*, were well established during the 11th Century. But they also indicate that transhumance has gone even further back, perhaps to the early Iron Age.

An important question in the project, therefore, was how far back in time we could trace the system of summer pasturing. Another question was whether the mountain valleys had been used on a year-round basis during the Iron Age. Zoologists and botanists were involved from the very start to produce information on the vegetation history.

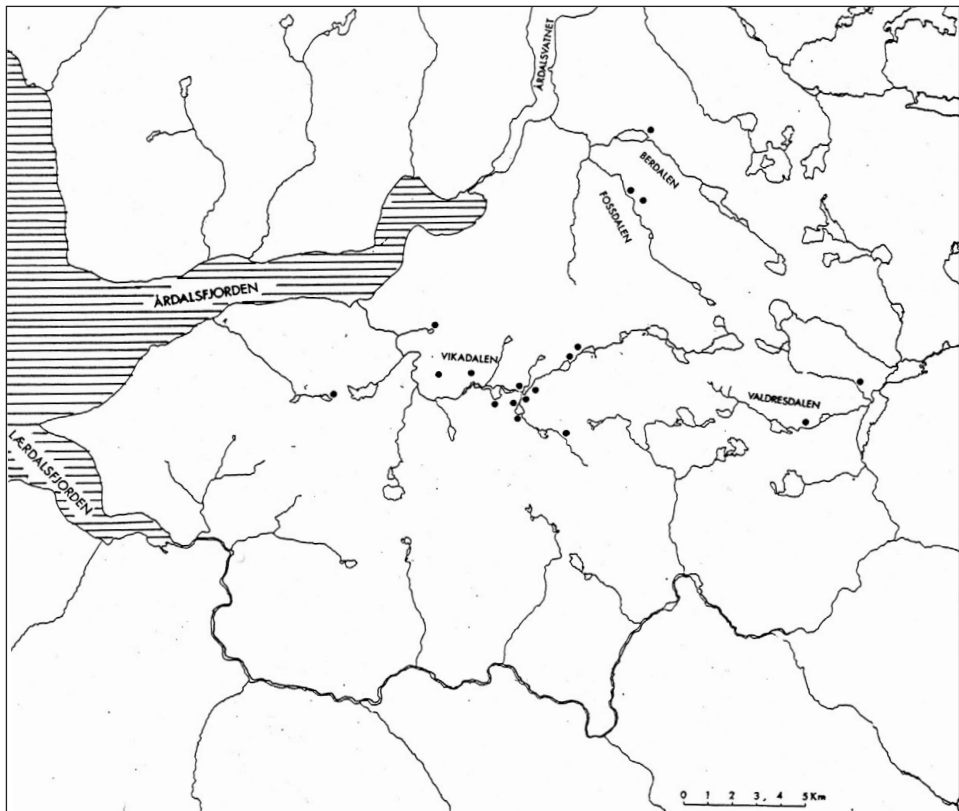


Figure 4. The location of the sites with Iron Age house remains from the Nysset-Steggje investigation

The houses

The investigations were carried out in an area in which no archaeological research had been done before. The surveys located 16 sites with a total of 33 Iron Age buildings, 24 of which were excavated (Fig. 4). In most cases, the buildings were in groups of 2-4 houses in the same area, sometimes there was only one building (Figs. 5, 6 and 7). They were located in the lower alpine zone, in fairly level areas above or at the border of the local timberline. Sometimes they were partly dug into the sloping terrain, and they were usually completely covered by heavy vegetation. In addition to the Iron Age houses, 120 other sites were located and partly investigated. The dating of these sites spanned from 8000 to 500 BP (Bjørge 1986, Bjørge et al. 1992).

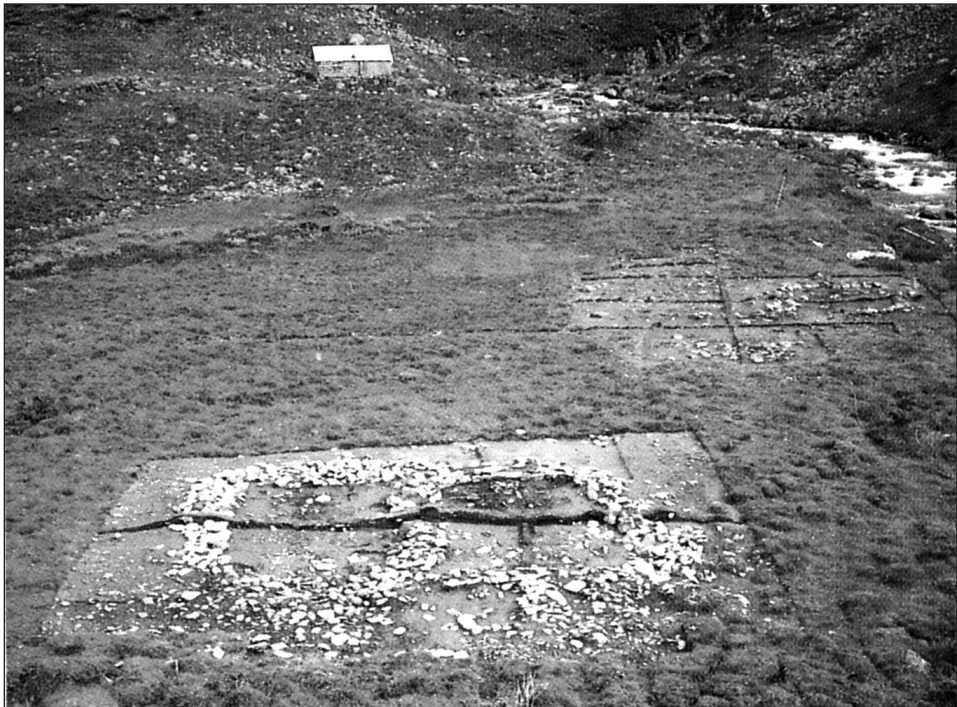


Figure 5. A double house in Vikadalen. House site 34A/C in front and 34B behind.

The Iron Age houses differed in size with an inner floor covering 15-30 m². Inside, they measured 3-4 x 6-10 m and the 1-2 m wide walls were built of soil, turf, and stones. In some cases, the excavations uncovered traces of a wooden panel on the inside of the walls. The entrances were always in one of the short ends and the hearths were situated along the mid axis, in the inner part of the room. Many of the houses also had cooking pits close to the doorway. Outside the doors, pits, as well as culture layers were often found. These layers contained artifacts indicating outdoor activity. Post holes showed that roofs were supported by pairs of posts (Norw. *grindbygg*).



Figure 7. House 122A/B/C in Fossdalen.

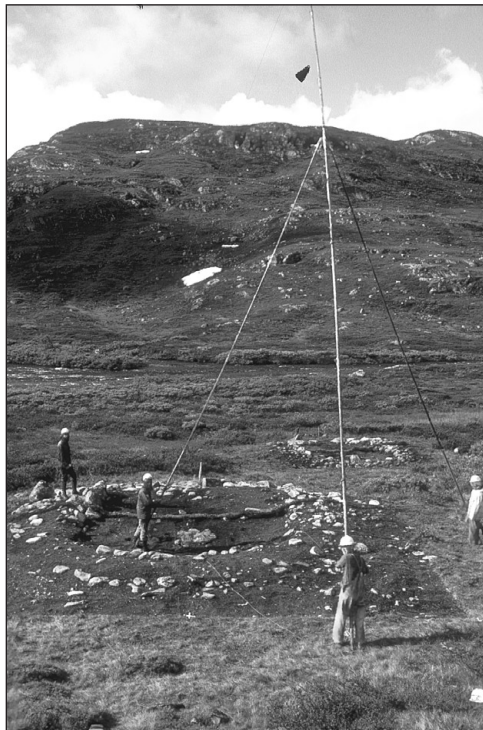


Figure 6. House 100A in Vikadalen.

Birch bark was interpreted as remnants of roofing material. The houses were much smaller than the «longhouses» known from the coastal area in Southern Norway. The only lowland parallel to the mountain houses is found at (the site) Ytre Moa in Årdal, Inner Sogn, which is one of the few investigated farms from the Viking Period in Norway (Bakka 1971).

The artifacts

The culture layers from the internal part of the excavated houses were wet-sieved. This resulted in a large number of small artefacts which contributed essentially to the total number of finds. Many of the metal objects were fragmented due to poor conditions of preservation. Shards of bucket shaped pottery were found in seven of the houses from the Late Roman and the



Figure 8. Shard of bucket-shaped pottery from excavations at site 122 in Fossdalen. (B 14122). Scale: 1:0,7.



Figure 9. Beads and amber from house 34A/C in Vikadalen (B 14034). Scale: 2:1.



Figure 10. Beads from house 34B in Vikadalen (B 14035). Scale: 2:1.



Figure 11. Beads from house 122B in Fossdalen (B 14022). Scale: 2:1.

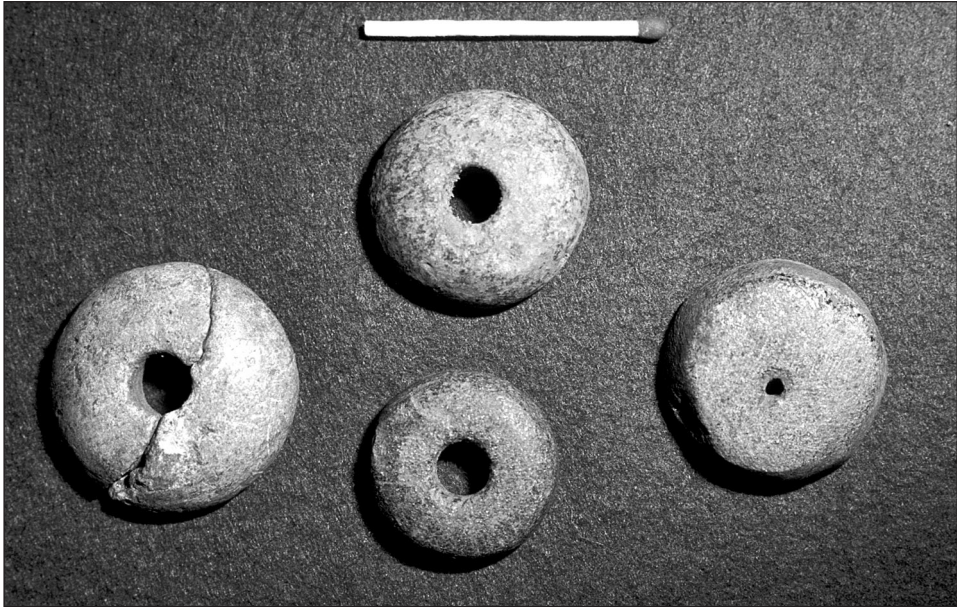


Figure 12. Spinning whorls from house 34A/C in Vikadalen (B 14034). Scale: 1:1,2.

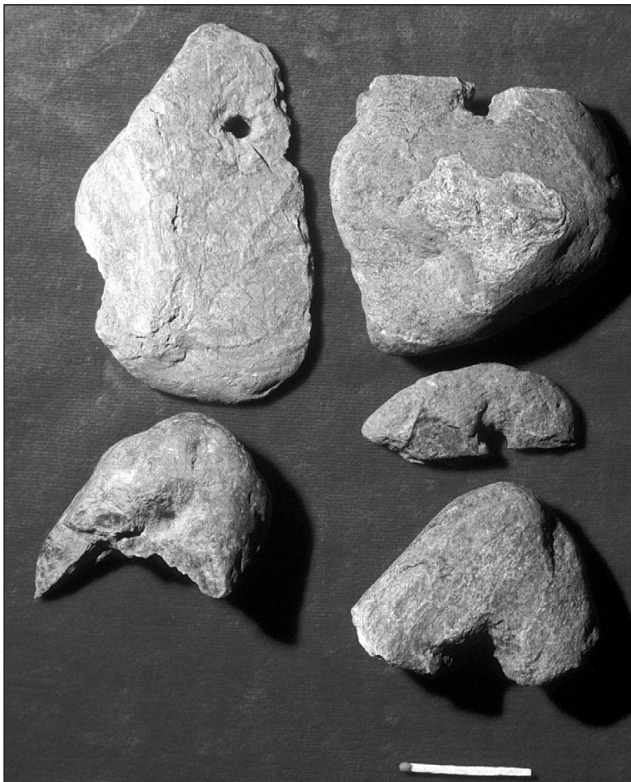


Figure 13.
Loom weights from house 34A/C in
Vikadalen (B 14034). Scale: 1:2,7.



Figure 14. Spookeshave from house 122 Fossdalen (B 14122). Scale: 1:1,3.

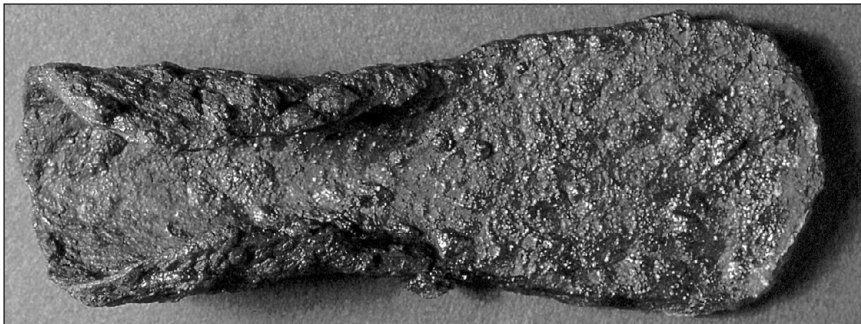


Figure 15. Celt from house 122A in Fossdalen (B 14122). Scale: 1:1,7.

Migration period, (Fig. 8). Hunting equipment, such as projectile points, were found in only one house dated to the Migration period, but they were present in eight houses from later periods.

Generally, the amount of artifacts was larger in the late Iron Age compared to the early Iron Age. 83 glass beads and a few amber beads were found in 13 houses, most frequently from the Viking Period (Figs. 9, 10, and 11). Altogether 40 spinning whorls



Figure 16.
*Fishhook, 9cm long from site 122 in Fossdalen, and a modern fish hook for halibut. (B 14123).
Scale: 1:1,1.*

of soapstone were found in 13 houses, and 45 loom weights were found in 6 houses, most frequently from the Late Iron Age (Figs. 12 and 13). In addition, implements such as a spookeshave, knives, whetstones, a file, a celt, an awl, a big fish hook for halibut, keys, a fragment of goldsetting with jet, and a belt end fitting of bronze were found (Figs. 14, 15, and 16). Small fragments of slag and an unworked amber lump, together with flakes of amber, indicate manufacturing of iron equipment and beads (Fig. 9).

In terms of information value, the organic material is of particular importance. This was mainly found in the hearths. Approximately 34.000 pieces of charred bones were found. Unfortunately, less than 1% could be identified to species. Bones of bear, reindeer, and ptarmigan indicate hunting. Bones of sheep/goat, cattle and pig, seal, cod, coalfish, eel and herring indicate a complex economy and close relation to the district by the fjord. The most frequent animal bones were sheep/goat and surprisingly pig (Lie 1992). Charred hazelnut shells and barley grains were also found.

The pollen analyses indicated that the area had been utilized for pastoral activities already during the late Neolithic. However, the area was more intensively grazed during the period dealt with here. Pollen of cereal also indicates cereal cultivation. So far, the site in Vikadalen, 975 m above sea level, is the highest situated cultivated field found in a prehistoric context in Norway (Kvamme et al.1992:62).

Datings

The investigated house remains are all radiocarbon-dated. As shown in Fig. 17, the oldest houses are dated to the transition between early and late Roman Age. The number of dated houses is highest in the late Iron Age. Some of the houses have dates indicating use over a long period of time. For example, at one site in Berdalen, artifacts and C14-determinations indicate activities during the early and late Iron Age as well as during the Mideval period. The artifacts do in some cases give a more precise indication of date, but most often they only provide general typological determinations. In most cases, the typologically dated artifacts corresponded well with the radiocarbon determinations. Some of the houses had a complicated stratigraphy involving problems in identifying the different phases of occupation.

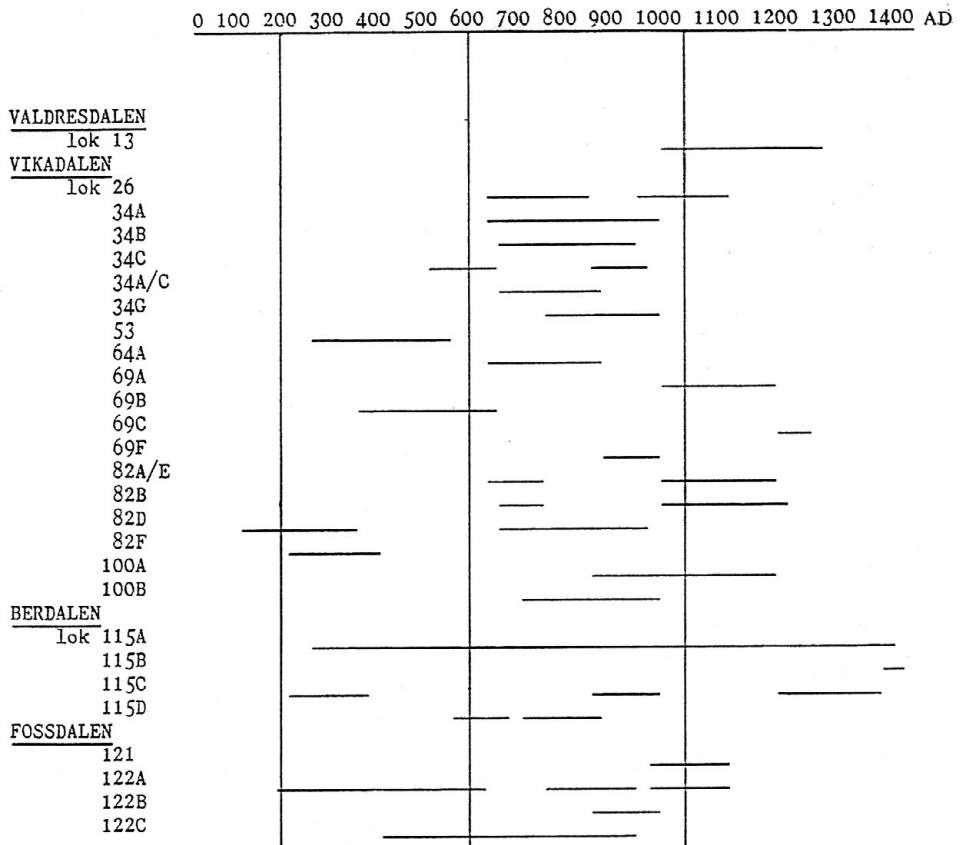


Figure 17. 87 Radiocarbon determinations from 24 house remains in the Nyset-Steggje area. (calibrated P&S, n=87).

Test investigations of neighboring valleys

In order to test whether the results from Nyset-Steggje reflect the ordinary Iron Age utilization of the mountain plateaus or whether it was a «special case», ten mountain valleys in the same altitude in the nearby regions were surveyed. The results of these tests were positive. As many as 60 more houses were recorded (Fig. 18). As part of this project, 49 houses were tested and dated (Fig. 19). Artifacts like spinning whorls and beads corresponded with the finds from Nyset-Steggje. In addition to the surveys, pollen investigations were also carried out in order to get information on the general vegetation history of the region. The pollen diagrams show an incipient alteration from the Stone Age period related to increasing frequencies of herbs and sedge. During the Bronze Age and particularly the later part of the Iron Age this tendency is strengthened.

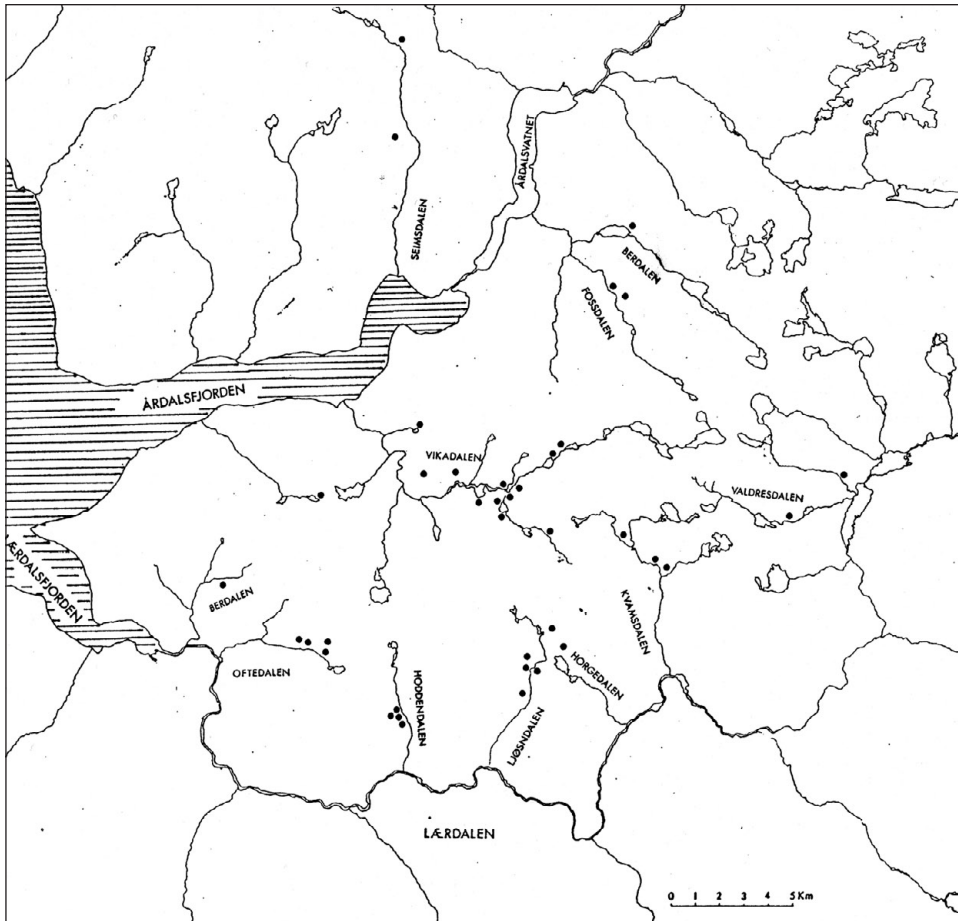


Figure 18. Location of sites with Iron Age house remains from Nyset-Steggje and the test areas.

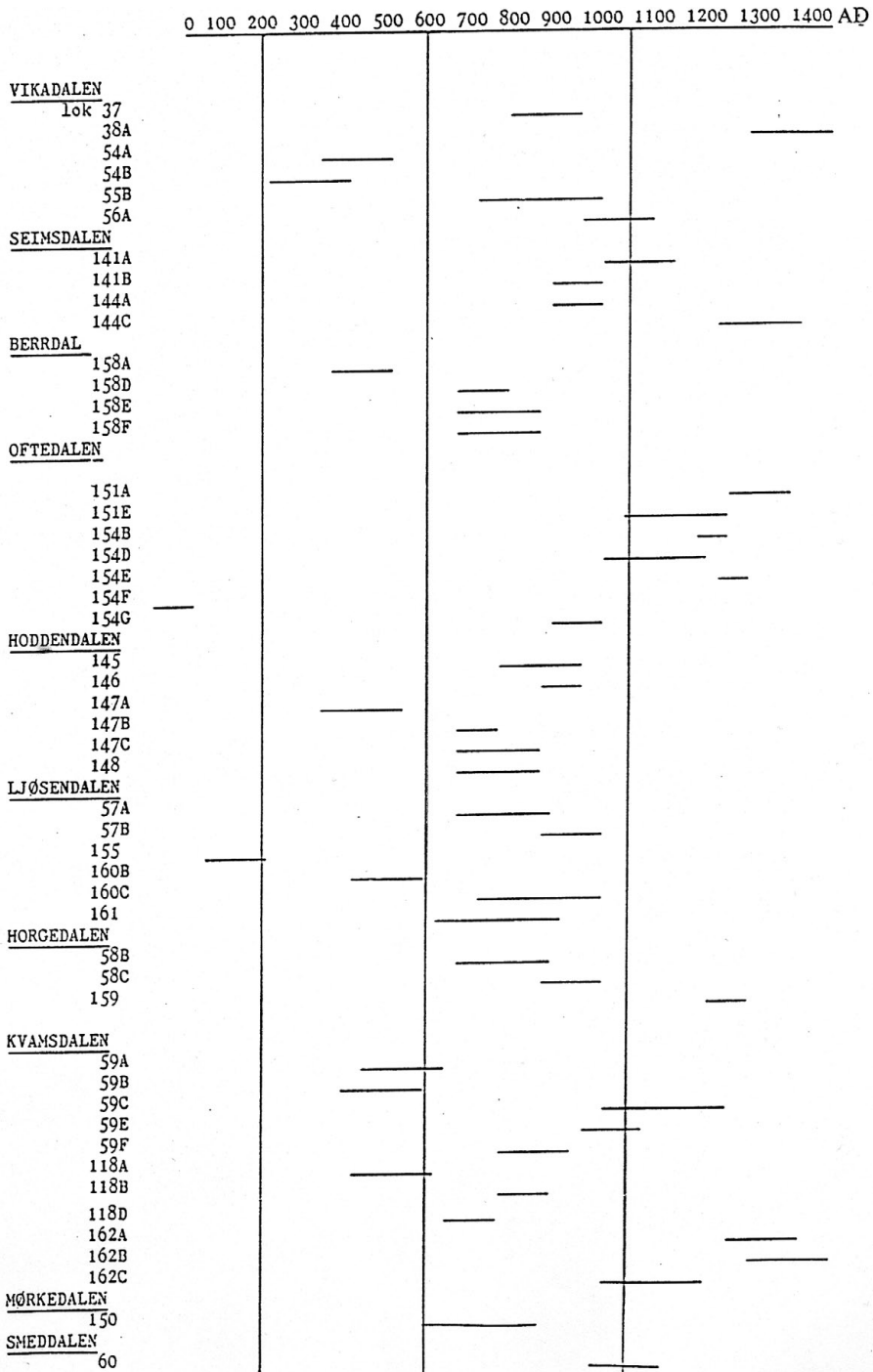


Figure 19. Test areas. Radiocarbon determinations from 49 house remains in the nearby areas of Nyset-Steggje. (calibrated P&S, n=53).

The density and character of the 60 houses indicates, together with the pollen investigations, that the remainder of the alpine zone was utilized in a similar fashion as Vikadalen, Berdalen and Fossdalen. Taken together, the archaeological and botanical material thus indicates that the houses were used by farmers as part of a systematic utilization of the mountain pastures. Finds and radiocarbon dates from Nyset-Steggje and the test areas indicate an intensive exploitation at the end of the late Roman Period, with a maximum number of houses in the Viking period.

Discussion

What activities do the alpine houses represent? Were they hunting stations, summer farms, ordinary farms or mountain inns? One possibility might be that the houses provided overnight accommodation for people crossing between East and West



Figure 20.
*Pitfall for reindeer in the
Vikadalen mountain area.*

Norway on the mountain pass between Sogn and Valdres. This interpretation is, however, weakened by the high number of houses, which do not fit a theory of mountain inns, and the fact that the test surveys located these types of houses significantly off the important East-West route. Projectile points and bones of game like ptarmigan, reindeer, bear and possibly wolf clearly demonstrate that hunting was important. More than 50 pitfalls in these mountains (Fig. 20), probably from the medieval period, also demonstrate that hunting was a significant element in the economy. Still, other types of data show that hunting was not the only activity. First of all, the sizes of the houses seem to be unnecessarily large for a crew of hunters. Secondly, several of the artifacts found in the houses, such as spinning whorls and beads, indicate the presence of women. Apparently, they did more than preparing meat and hides. Finally, the faunal remains of domesticated animals show that pasturing was practiced close to the houses.

These results are intriguing, because they indicate that the varied utilization of the mountain plateaus, which was practiced until recently in these parts of Norway, go back a long time. Today, there seems to be a causal relation between the sizes of a farms and the need for pasture areas in the mountains, because the availability of pastures are restricted in the fjord district closer to the farms. The decisive problem for farmers in these districts has always been the amount of winter fodder that could be collected. Due to climatic conditions, the livestock could graze for only 135 days per year at a maximum (from June to October). This implies that the farmers had to collect winter fodder and keep the cattle inside for more than seven months. The farms had relatively small infield areas, and the fodder had to be collected in the outfield, partly by leaf cutting. In this respect it was important to keep the livestock away from the outfields close by, in order to save the winter fodder from being consumed during the summer. This problem could be solved by organizing a summer farm system in the mountains far away from the farms, where the grazing areas are larger and of better quality compared to the lower regions.

The geographical distribution of the houses in the investigation area indicate that there was a growing need for grazing areas in the lower regions throughout the Iron Age. A solution to this problem was to exploit the large grazing potential in the mountains. The increasing number of grave finds and stray finds from the early to the late Iron Age in the farming areas in the fjord region, do in fact correspond to the increasing number of houses in the mountain region. It is almost a rule that farms in the main valleys or by the fjords that have late Iron Age finds, also have evidence of summer pasturing in the nearby mountain regions.

The archaeological as well as the botanical investigations in the test-areas clearly support the summer farm hypothesis. In all of the investigated minor mountain valleys, houses with radiocarbon dates from the Late Roman to the Viking period were recorded. Altogether we now have close to 100 houses in this area indicating that summer pasturing in the mountains was an integrated part of the overall farming

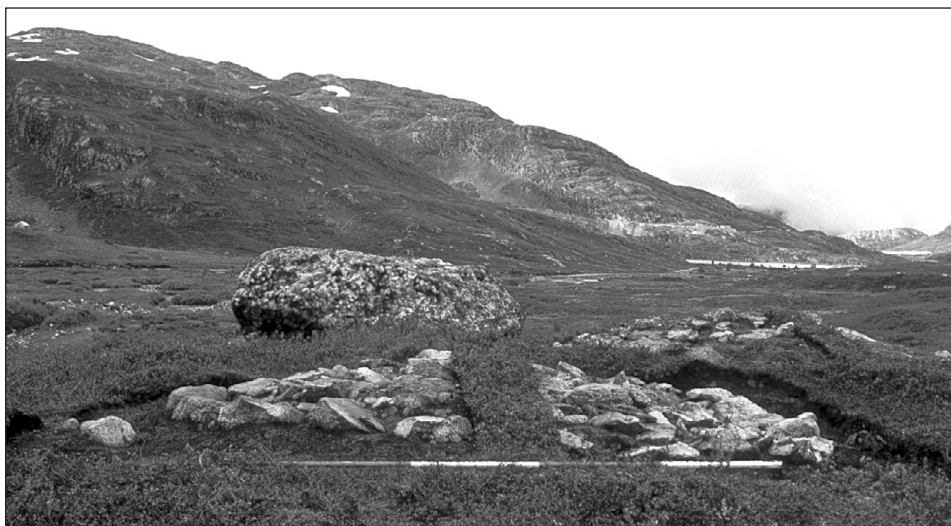


Figure 21. *Burial mound close to house 53 in Vikadalen.*

system. If this interpretation is correct, one would expect that this phenomenon was part of a general trend throughout the entire Sognefjord region. Investigations from the last two decades carried out in mountain districts in Leikanger, Aurland and Luster (all in the inner part of the Sognefjord) support such a theory (Magnus 1983, Indrelid 1988, 1990, and Randers 1992, Skrede 2002). In these districts the earliest houses are dated to the third century AD, and they are most frequent during the late Iron Age.

The primary function of the summer farms probably was to protect the areas close to the farm so that winter fodder could be collected. The wide mountain areas provided good conditions in which the livestock could gain weight. At the same time, the houses could serve as stations for hunting, fishing, collecting berries and textile pigments. The data also indicate that in addition to the ordinary activities associated with the livestock, there was also time for spinning, weaving and iron working. Dairy farming may have been less important; summer farms as part of an intensive milk farming system may be related to a later and much more developed market economy. The imported objects that were found, such as amber and beads, demonstrate a sound economic basis and need for long distance- and luxury goods in areas we today would classify as marginal mountain regions.

Still, even if the majority of the houses probably were results of summer farming, some sites do not fit into the picture and may have been permanent farms. One indication of permanent occupation is the amount of work that has been invested in the houses: The Iron Age buildings are larger than summer farms from later periods. Another indication of year-round occupation is that burial mounds have been identified close to two of the houses dated to Late Roman/migration period (Fig. 21). Graves and

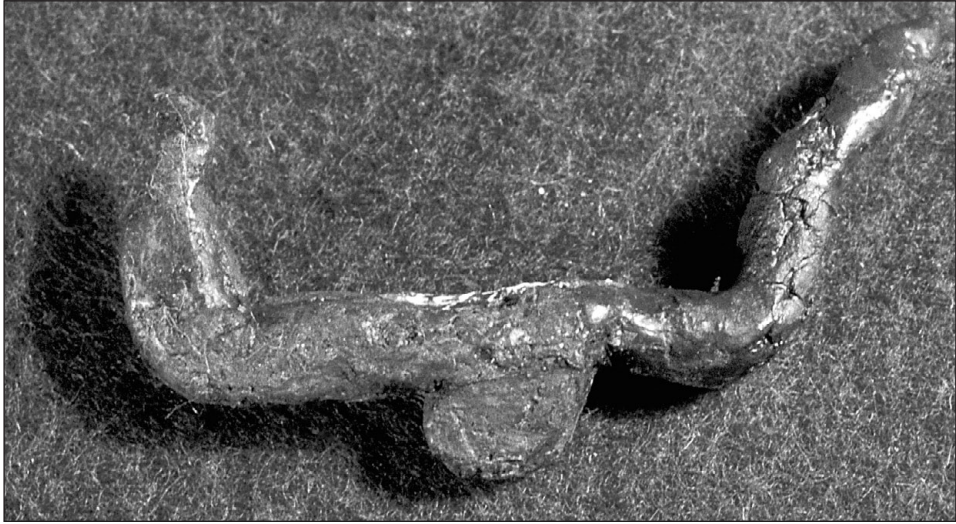


Figure 22. Frostnail for horse found in house 122A in Fossdalen (B 14122). Scale: 1:0,6.

houses are traditionally looked upon as a setting of permanent habitation, in other words, *a farm*. A third indication is the general similarity between some of the sites in Nyset-Steggje and the lowland farms. When comparing, for instance, house 34 in Vikadalen and house 122 in Fossdalen with the well known lowland Viking age farm Ytre Moa, Årdal (Bakka 1971), there are many similarities in terms of architecture as well as artifacts and organic material. On these three sites the houses are almost the same size and there are burials as well. Loom weights, spinning whorls, beads, jewels, iron tools were found in the houses. A frost nail (for a horse) found in Fossdalen indicates at least one visit during the winter (Fig. 22). An identical frost nail was found at Ytre Moa. If the Fossdalen location, situated 925 m above sea level, had been situated by the fjord, no one would have questioned that it was a permanent farm. Ytre Moa has some more graves, but just as at the mountain sites, cowsheds as well as barns are missing.

A relevant question is whether it was possible to live permanently in these mountain regions, close to 1000 m above sea level. One might, for example, assume that the lack of firewood would have been a considerable problem in the higher altitudes. Nevertheless, historical sources from the eighteenth century document permanent occupation on the mountain route between Hallingdal and Sogn. These farms, were situated at higher altitudes than Nyset-Steggje, and had cattle as well as cereal production (Reinton 1975:688). This demonstrates that year-round occupation in the alpine zone is possible.

It is difficult to explain why permanent farms would be established in marginal areas such as Vikadalen and Fossdalen. Some relevant factors may be specialization, changes

in economic structures, population pressure and division of farms into smaller units or as part of a redistributive system (e.g. Odner 1972).

Every single house that was excavated produced flakes of flint and quartzite and in some cases bifacial projectile points. These artifacts were found at the top of the floor layer and in the walls. The lithic artifacts were probably brought to the house by accident, along with turf and soil taken as building materials from the near by area. They represent late Bronze Age settlements, thus indicating in general terms that the location of sites did not change from the late Bronze Age to the Viking period. Interestingly, the palynological investigations at Nyset-Steggje indicate that the area was utilized by grazing animals as early as the Bronze Age (Kvamme et al. 1992). Thus, the data indicate that stock-herding in the mountains of Sogn started very early, probably as early as the late Neolithic period (Prescott 1995).

Conclusions

The main goal of this paper was to investigate how far back in time we could trace the system of summer pasturing in western Norway. The data used in the analysis was generated during the Nyset-Steggje project, which was a cross-disciplinary excavation project carried out in the Årdal mountains in inner Sogn. During this project, a number of Iron Age houses were recorded and excavated. My main conclusion is that the majority of the houses were summer farms dating back to the second half of the Roman period. This is more than 500 years earlier than previously documented. The result implies that the presence of summer farms was an important element in the agrarian economy in these regions, where farms and summer farms made up a complex whole. In addition to the summer occupations, some of the houses are interpreted as permanent farms.

Summary

The paper deals with Iron Age houses in the mountain areas in Nyset-Steggje, in the inner Sogn district in western Norway. Archaeological investigations were mainly carried out in three different mountain valleys. Altogether 33 Iron Age houses were located, 24 of which were excavated. They were all situated in the lower alpine zone between 950-1300 m above sea level, in fairly level areas above the local timberline. The houses differed in size, and the excavations produced artifacts that indicated hunting and fishing as well as spinning and other domestic activities. The faunal and botanical data indicated a complex economy consisting of hunting and fishing as well as stock-keeping. The cross-disciplinary investigations showed that the area was more intensively used during the late Iron Age compared to the early Iron Age. The sites were also used during the Middle Ages. In order to test the validity of these results in a regional perspective, 10 mountain valleys in the same altitude in the nearby districts were surveyed and 60 additional houses were recorded. This indicated that the sites at Nyset-Steggje were part of a regional system of exploitation of the highlands. These results are in accordance with the information on summer pasturing provided by

early written sources. Some of the excavated houses in the area are probably the result of permanent occupation. However, the majority of the houses were summer farms. The oldest of these farms date back to the second half of the Roman period, which is more than 500 years earlier than previously documented. The current agrarian economy, in which farms and summer farms make up a complex whole, has deep traditions in western Norway.

References

- Adam av Bremen, 1993. *Beretningen om Hamburg stift, erkebiskopens bedrifter og øyrikene i Norden*. (Translated by Danielsen, B.T. & Frihagen, A.K). Oslo.
- Bakka, E. 1971: Ytre Moa – ein øydegard frå vikingtida. In: Ve, S. (ed.) *Bygdebok for Årdal. Band I*, p. 149-178. Bergen.
- Bjørgo, T. 1986. Mountain Archaeology. *Norwegian Archaeological Review* 19(2):122-127.
- Bjørgo, T., Kristoffersen S. & Prescott C. 1992. *Arkeologiske undersøkelser i Nysset- Steggjevassdragene 1981-87*. Arkeologiske rapporter 16. Bergen.
- Brøgger, A.W. 1925. *Det norske folk i Oldtiden*. Institutt for sammenlignende Kulturforskning Serie A. No 6a. Oslo.
- Bøe, J. 1942. *Til høgfjellets forhistorie*. Bergen museums skrifter Nr. 21. Bergen.
- Christie, W.F.K. 1842. Spoer af finske eller lappiske Folks Ophold i Oldtiden paa Høifjeldene i Bergens Stift. *Urda* 2:408-409.
- Hougen, B. 1947. *Fra seter til gård*. Oslo.
- Indrebø, G. 1920. *Sverris Saga*. Kristiania.
- Indrelid, S. 1988. Jernalderfunn i Flåmsfjella, In: Indrelid, S., Kaland, S. & Solberg, S. (eds.): *Festskrift til Anders Hagen*. Arkeologiske skrifter Historisk Museum. No. 4, p. 106-119. Bergen.
- Indrelid, S. 1990. Om bruken av fjellet i gamal tid. *Arkeo* 1990(1):4-8.
- Johansen, A.B 1973. Iron production as a factor in the settlement history. *Norwegian Archaeological Review* 6(2):84-101.
- Johnson, F. 1911. *Óláfs saga ins helga: fra Heimskringla*. København.
- Kvamme, M., Berge, J. & Kaland, P.E. 1992. *Vegetasjonshistoriske undersøkelser i Nysset- Steggjevassdragene*. Arkeologiske rapporter 17. Bergen.
- Lie, R. 1992. Osteologisk materiale. I: Bjørgo, T., Kristoffersen, S. & Prescott, C. (ed.) *Arkeologiske undersøkelser i Nysset-Steggjevassdragene*. Arkeologiske rapporter 16, p. 320-327. Bergen.
- Magnus, B. 1983: Seterdrift i Vest- Norge i jernalder? En foreløpig rapport om en undersøkelse. I: Olafson, G. (ed.) *Hus gård och Bebyggelse*, p. 93-103. Reykjavik.
- Martens, I. 1972. Møsstrand i Telemark. *Viking* XXXVI:83-114.
- Munch, P.A. 1852. *Det norske Folks Historie*. Christiania.
- Negaard, H. 1911. Hardangerviddens ældste befolkning. *Bergen museums årbok* 1911. Nr. 4: 1-69.
- Odner, K. 1972. Ethno-historic and ecological settings for economic and social models of an Iron Age society: Valdalen, Norway. I: Clarke, D.L. (ed.) *Models in Archaeology*, p. 623-651. London.
- Olafsen, O. 1909. Fra Hardangerviddens fortid. *Historisk tidsskrift*, fjerde række, femte bind: 101-120.
- Prescott, C. 1995. *From Stone Age to Iron Age*. BAR international series 603. Oxford.
- Randers, K. 1992. *Breheimundersøkelsene 1982-84. II: Stølsområdene*. Arkeologiske rapporter 15. Bergen.
- Reinton, L. 1946. Sæterbruk på Island i Norrøn tid og seinare. I: Bergsgård, A. (ed.) *Festskrift til Arne Bergsgård*, p. 230-240. Trondheim.
- Reinton, L. 1961. *Sæterbruken i Norge III*, Institutt for sammenlignende Kulturforskning. Serie B XLVIII. Oslo.
- Reinton, L. & Reinton, S. 1975. *Folk og fortid i Hol V*. Oslo.
- Robberstad, K. 1937. *Gulatingslovi* (Umsett frå gamalnorsk). Oslo.
- Shetelig, H. 1922. *Primitive tider*. Bergen.
- Skrede, M. 2002: Utmark og gard. Nærstudie av tuftområdet i Friksdalen i Leikanger, Sogn og Fjordane. Unpublished cand. philol. thesis in archaeology, University of Bergen.