6 IRON-AGE BUILDING PRACTICE IN ØSTLANDET

In this chapter I shall present and analyse the material evidence used in this study, and show what it can reveal about Iron-age building practice in Østlandet. In the first part of this chapter I introduce the distribution of the evidence, spatially and chronologically (Ch. 6.1) and then look for regional and local practices (Ch. 6.2). Following that, I investigate changes over time in the various regions, and so also any changes that may have appeared simultaneously (Ch. 6.3).

The objective of this chapter is to examine how the building technique varies in time and space. The patterns discernible within building practice, together with the more general settlement pattern (Ch. 7), will form the basis for my perception of the reflexive relationship between technology and society and so for the discussion of the principal research question (Ch. 9).

INTRODUCTION TO THE DISTRIBUTION OF THE MATERIAL IN TIME AND SPACE

Altogether, 311 buildings or parts of buildings that with more or less probability are from the Iron Age have been investigated, distributed across 107 sites (Tab. 6.1). Because more than 95% of these buildings were uncovered by machine area-stripping of cultivated land, it is on the whole only those elements cut down below the depth of ploughing that have been found: particularly roof-bearing posts.

The buildings evidence can broadly be divided into three categories on the basis of the construction (Ch. 1.1). The 225 probable or possible three-aisled buildings, characterized by two rows of internal earth-fast posts, have been found in all periods and all areas, and are, as noted, the predominant type of residential house in Østlandet in the period in question. All but one of the 11 two-aisled buildings characterized by a single internal row of earth-fast posts are of the Early Iron Age, and these are restricted to Østfold and Akershus. It is not clear whether these were residential houses or not. The only possible one-aisled building was found in Akershus and is of the Viking Period. There are also 29 excavated probable or possible four-post structures which probably served for storage. Only 15 of these are more precisely dated to a period, all but one of which are of the Early Iron Age, the exception being from the Merovingian Period. Most of them have been found in Akershus, Vestfold and Østfold, while one has been found in Buskerud and one in Telemark. A group of 45 buildings do not fit with any of the building-types noted, either because they were constructed in some other style or because the nature of the structure is unidentifiable. These buildings cannot play a major part in the analyses of building practice over the Iron Age but they are included in the discussion of the phasing of the three-aisled building (Ch. 6.3.1).

The 246 buildings that can be more precisely dated to period are not evenly distributed either chronologically or spatially (for a detailed overview of the distribution of the buildings in time and space, and of buildings of uncertain date or

Table 6.1 *The number of buildings from Østlandet grouped by fylke and date.*

Period	Total	Akershus	Buskerud	Hedmark	Oppland	Oslo	Østfold	Telemark	Vestfold
pRIA	77	12	1	2	1	2	46	3	10
RIA	63	22	3	6	8		16	1	7
RIA/MigP	41	14	1		2		7	3	14
MigP	36	12		6	2		7		9
MerP	18	5		4	2		3		4
VP	6	2			1		1		2
VP/MA	5	1	1	1	2				
IA	64	28	1	4	1		13	5	12
IA?	1							1	
Total	311	96	7	23	19	2	93	13	58

uncertain construction, see Appendix 1). By far the majority of the buildings have been found in Akershus, Østfold and Vestfold, and many fewer in Hedmark, Oppland, Oslo, Buskerud and Telemark (Tab. 6.1). There are 77 buildings or parts of buildings dated to the pre-Roman Iron Age, and it is worthy of note that fully 46 of those are from Østfold. From the Roman Iron Age 63 buildings have been found, 22 of which are from Akershus. From the Roman Iron Age/Migration Period phase there are 41 buildings, amongst which Akershus and Vestfold are each represented by 14. There are 36 buildings dated to the Migration Period or the transition between the Migration and Merovingian Periods, relatively evenly distributed amongst the administrative provinces except in that Hedmark is quite well represented with 6 buildings. There are 18 buildings of the Merovingian Period, and Hedmark is well represented again with 4 of these. There are only 11 buildings of the Viking Period or the Viking Period/Early Medieval Period, and three of those are from Oppland, a province in which not many buildings have otherwise been found. The remaining buildings cannot be dated more narrowly but are most probably of the Iron Age.

REGIONAL AND LOCAL BUILDING PRACTICES

The summary introduction of the evidence shows that there may be some variance in building practice and settlement pattern chronologically and spatially even if some of the variation in the evidence is due only to source-related circumstances (Ch. 4.2). In the work ahead, I shall lay great weight upon the identification of local and regional variations in building practice, and Chapter 5 has shown how I shall use simple statistical methods, GIS and qualitative analyses to achieve this end. I shall firstly assess whether the differentiation proposed by Herschend (2009) between southern and mid-Scandinavian building practices can be identified in a detailed review of the buildings from Østlandet. Following that I shall look for other possible features in building practice that are of regional or even more local distributions. Finally I shall explore the building practice in the individual zones. Throughout this chapter, the securely identified and more precisely dated three-aisled buildings are at the heart of the quantitative studies while the two-aisled buildings, the uncertainly classified buildings and the four-post structures are included primarily in more qualitative analyses.

Southern and mid-Scandinavian entrance-types in Østlandet

As has been noted, Frands Herschend found two different building-styles in the Roman Iron Age and Migration Period, in Denmark, parts of southern Sweden, and in the south of Norway. He inferred that the outer Oslofjord area, now Østfold and Vestfold, built according to the southern Scandinavian tradition while Hedmark and Buskerud built according to the mid-Scandinavian style (Herschend 2009:13–15, n.11, fig. 1A–C). He emphasized, however, that the evidence was slender, and was being added to. My intention here is to examine whether Herschend's distinction between southern and central Scandinavian building practices is reproducible when the building evidence from Østlandet is considered as a whole. While Herschend considered buildings of the Roman Iron Age and Migration Period, I am examining the Iron Age as a whole. The most obvious difference between the two building models is the position of the entrances (Fig. 6.1). In the model southern Scandinavian house, the entrance chamber is located around the middle of the building, dependent upon the relative sizes of the byre and the residential area. From one gable end towards the other, the sequence of zones is residential-entrance-byre. The model mid-Scandinavian house, by contrast, has two entrances, one in the byre section and one in the residential end (Fig. 6.1). These entrance spaces are located at opposite ends of the building. The byre and the residential sections are contiguous, with no entrance chamber between them.

Byre and residential sections are rarely identified in the material from Østlandet, and my division into southern and mid-Scandinavian building styles has to be based upon the position of the entrances. Entrances or entrance chambers have been identified as one or the other category in 77 cases, while 17 buildings either have both types of entrance or are difficult to assign to either of the two styles (Tab. 6.2; Fig. 6.2). In some cases posts have been assumed to be door posts; at other times a short distance between roof-bearing posts has been assumed to represent an entrance chamber. In scarce cases entrances have been identified following micromorphological analyses which have revealed areas of wear caused by repeated crossing.

The entrances of Herschend's southern Scandinavian buildings are positioned around the middle of the long sides and are labelled on Figure 6.1 as S1 on the western side and S2 on the eastern side. The mid-Scandinavian entrances are labelled

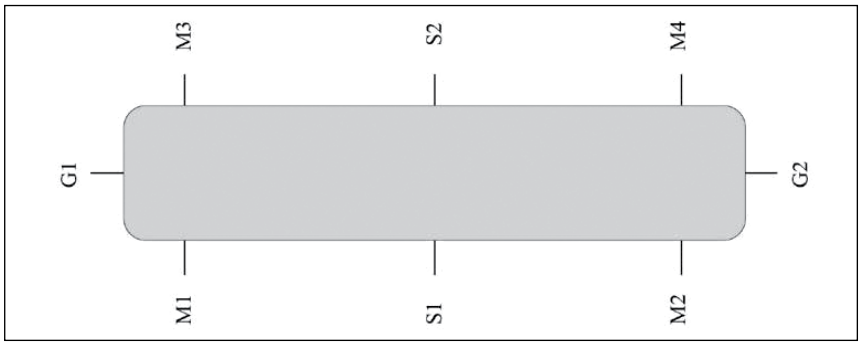

Figure 6.1 *The position of southern Scandinavian (S1 and S2) and mid-Scandinavian (M1, M2, M3 and M4) entrances. Entrances in the gable ends have also been found (G1 and G2). M1 is located in the north-western corner of the building. Drawn by Elise Naumann.*

Table 6.2 *The number of buildings with identified entrances per fylke. All buildings, irrespective of date and identification score.*

Fylke	Central Scandinavian	Southern Scandinavian	Hybrid buildings	Other	Entrance at gable end
Hedmark	7		2	1	
Oppland	6	1	1	1	
Akershus	6	8	1	1	1(?)
Østfold	15	16	3	2	3
Vestfold	10	6	1	1	
Telemark	1			2	
Buskerud	1				
Oslo			1		
Total	**46**	**31**	**9**	**8**	**3**

Table 6.3 *The number of buildings with southern Scandinavian entrances, grouped by period and by fylke. All buildings, irrespective of date and identification score.*

Period	Total	Akershus	Østfold	Vestfold	Buskerud	Herdmark	Oppland	Telemark
pRIA	14	1	12	1				
RIA-MigP	4	1	1	1			1	
RIA	5	4	1					
MigP	4	2		2				
MerP	2		1	1				
VP	1			1				
IA	1		1					
Total	**31**	**8**	**16**	**6**			**1**	

Table 6.4 *The number of buildings with mid-Scandinavian entrances, by period and by fylke. All buildings, irrespective of date and identification score.*

Period	Total	Akershus	Østfold	Vestfold	Buskerud	Hedmark	Oppland	Telemark
pRIA	8	1	7					
RIA	13	2	4	1	1	2	3	
RIA-MigP	6	1	1	3			1	
MigP	12	2	2	4		2	2	
MerP	4			1		3		
VP	1		1					
IA	2			1				1
Total	**46**	**6**	**15**	**10**	**1**	**7**	**6**	**1**

M1 and M2 on the western side and M3 and M4 on the eastern. Extremely few buildings are oriented perfectly E–W, and the entrances are consequently classified from the north, along the western side of the building and then from the north along the eastern side. Finally, the rarer gable-entrances G1 and G2 are noted. Because of the widely and consistently low identification scores, buildings with at least one M-entrance and no S-entrance are counted as mid-Scandinavian while buildings with at least one S-entrance and no M-entrances are counted as southern Scandinavian (Fig. 6.2). Thus buildings of Eriksen's (2019:fig. 4.3) types 2, 6 and 11 can be described as southern Scandinavian while types 1, 4, 5, 7, 8, 9, 10 and 12 are mid-Scandinavian. Nine buildings have both southern and mid-Scandinavian entrances, such as, for example, Eriksen's types 13–15, as a result of which these fit poorly with Herschend's categories. I treat these as hybrid buildings. Eight buildings had entrances positioned in such a way that it is difficult to judge what category they belong to.

The 77 buildings that can be assigned to a category divide into 31 buildings with southern Scandinavian entrances and 46 with mid-Scandinavian (Tab. 6.2). The geographical distribution pattern immediately seems to support Herschend's judgment that the dividing line between mid- and southern Scandinavian building styles ran north of the Oslofjord (Fig. 6.3). In Hedmark, Oppland, Buskerud and Telemark, consequently, 13 of the buildings have mid-Scandinavian entrances and only one in Oppland has a southern Scandinavian entrance. In Akershus, Vestfold and Østfold the 61 buildings with classified entrances divide quite equally between the two styles. The relationship between the building-types does not appear to change with time (Tabs. 6.3 and 6.4). In southern Østlandet both building-types occur throughout the Iron Age even though in the pre-Roman Iron Age the mid-Scandinavian type can be identified only in Østfold (with the possible exception of a poorly identified building in Akershus that might be of the pre-Roman Iron Age). In northern Østlandet no entrances of the pre-Roman Iron Age have been identified but the mid-Scandinavian type occurs in all of the subsequent periods of the Iron Age. As noted, there are also some buildings which at first glance do not appear to fit into Herschend's categories (Tab. 6.2). Nine buildings have both mid- and southern Scandinavian entrances: there are two such hybrids in Hedmark and three in Østfold, but either one or none in the remaining *fylker*. Hybrid buildings of this kind also occur in what would be expected to be the southern and mid-Scandinavian zones beyond the study area (Ramqvist 1983; Carlie and Artursson 2005:59; Diinhoff 2009a:37; Eriksen 2019: fig. 4.3). Furthermore, three buildings from Østfold and one from Akershus have an entrance in the gable end (Tab. 6.2; Ch. 6.2.3).

I shall now investigate whether anything other than the entrance-types distinguishes the buildings of the southern and mid-Scandinavian styles. Since I am studying the length of the buildings amongst other variables and a possible change over time, I shall now restrict this analysis to 69 well-identified and -dated buildings with southern or mid-Scandinavian entrances (Tab. 6.5).[6] The distribution of the well-dated and -identified buildings is rather more skewed than that of all buildings with entrances as 40 are mid-Scandinavian in style and 29 southern Scandinavian. In Akershus and Østfold the mid-Scandinavian buildings are regularly longer than the southern Scandinavian ones, as is also the case with the one southern Scandinavian building in Oppland. In Vestfold, the situation is reversed. Although the evidence from Vestfold is sparse (Tab. 6.5), this difference seems to me to show that the concept of the southern Scandinavian building-type was different in Vestfold than it was in Akershus and Østfold. The mid-Scandinavian buildings are also shorter in Østfold than in any other province. These phenomena

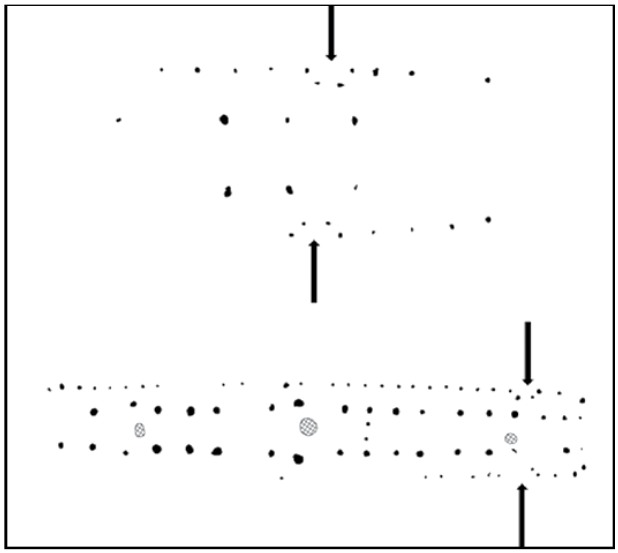

Figure 6.2 *Examples of southern Scandinavian (upper) and mid-Scandinavian (lower) building practice. Drawn by Jan Kristian Hellan.*

6 I exclude seven buildings that are not well-identified or securely dated to a specific period, and Skøyen *hus* 1 because the classification of the entrance is extremely unreliable.

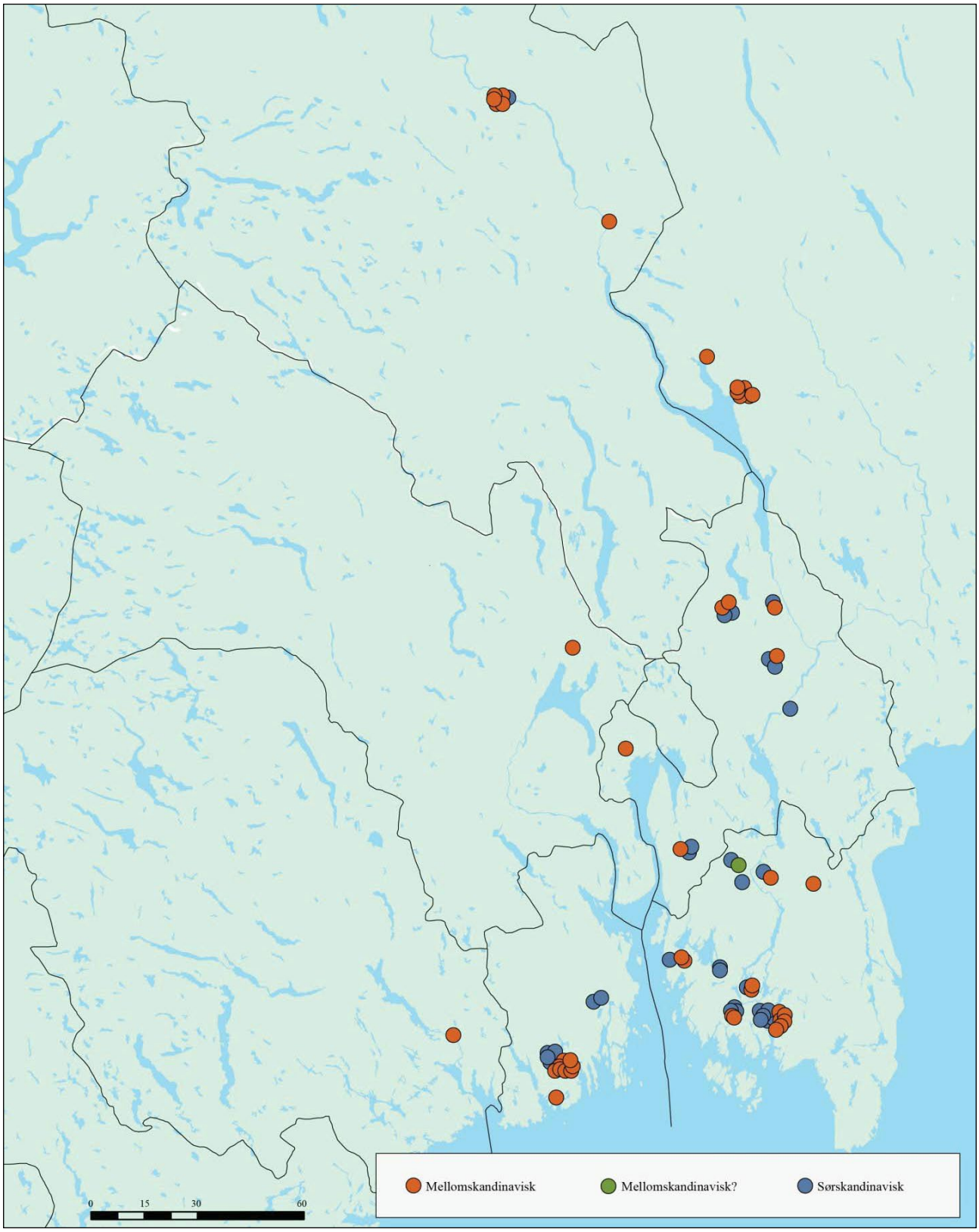

Figure 6.3 *The geographical distribution of buildings with southern and mid-Scandinavian entrances. Drawn by Elise Naumann.*

indicate the existence of a regional building practice in Vestfold, something I return to in Chapter 6.2.6.

There are no real differences between mid- and southern Scandinavian buildings in terms of wall trenches, wall posts or separate gable posts even though wall posts can be seen to occur rather more frequently in southern Scandinavian buildings (Tab. 6.6). This may in part at least be due to the fact that no walls have been identified in Hedmark, where only mid-Scandinavian buildings are found. At the

Table 6.5 *The mean length of buildings with southern and mid-Scandinavian entrances dated to a particular period and with identification scores of 2 or more. The number of buildings in brackets.*

Fylke	Central Scandinavian	Southern Scandinavian
Hedmark	27 m (6)	–
Oppland	24 m (6)	14 (1)
Akershus	28 m (6)	15 (8)
Østfold	21 m (14)	17 (15)
Vestfold	24 m (7)	28 (5)
Telemark	–	–
Buskerud	45 m (1)	–
Oslo	–	–
Total	**25 m (40)**	**18 m (29)**

same time, separate gable posts are more common in southern Scandinavian buildings in Akershus than in mid-Scandinavian ones; the opposite is the case in Vestfold, however. Altogether, around the same proportion of southern and mid-Scandinavian buildings have separate gable posts. Wall trenches occur more often in mid-Scandinavian buildings than in southern Scandinavian ones in Østfold, but otherwise it is difficult to discern any pattern (Tab. 6.6).

At a detailed level, I would stress the chronological distribution of buildings with three entrances of the mid-Scandinavian type, which are represented by a total of eight examples (one entrance at one end and paired opposite entrances at the other end of the building, corresponding to Eriksen 2019: fig. 4.3 types 8 and 9; Tab. 6.7). In Eriksen's study of buildings of the Late Iron Age (2015:fig. 4.26) these entrance-types are absent in the period AD 550–650 and it was therefore reasonable to infer that they were introduced first some way into the Merovingian Period. However, as I find such entrance-types already in the Early Iron Age — although not from the early Merovingian Period — the absence of evidence from that phase looks rather like a lacuna.

Altogether, my analysis of buildings with entrances of Herschend's southern and mid-Scandinavian types has thus demonstrated a division between the northern part of Østlandet (Oppland and Hedmark) where all of the entrances — with one uncertain exception — are of the mid-Scandinavian type and the southern part of Østlandet (Østfold, Vestfold and Akershus) where the two entrance-types were in use side-by-side. The evidence from Buskerud and Telemark is at present too slight for the patterns there to be treated as meaningful. I have also indicated that there are certain divisions within these two areas. The length-ratios between southern and mid-Scandinavian buildings, for instance, are different in Vestfold than they are in Akershus and Østfold, while Østfold also stands apart in that its mid-Scandinavian buildings usually have wall trenches. In what follows, I shall explore whether other features might corroborate these regional distinctions and reinforce the perception of more local building styles.

Table 6.6 *The distribution of the securely identified wall posts, wall trenches and separate gable posts in well-identifed and well-dated southern and mid-Scandinavian buildings in Akershus, Østfold, Oppland and Hedmark.*

	Central Scandinavian				Southern Scandinavian			
	Wall trench	Wall post	Separate gable post	Number of buildings	Wall trench	Wall post	Separate gable post	Number of buildings
Akershus	2		1	6	–	3	5	8
Østfold	6	7	2	14	2	8	1	15
Vestfold	2	3	4	7	3	2	2	5
Oppland	2	3	2	6	–	–	1	1
Hedmark	–	–	3	6	–	–	–	–
Buskerud	–	1	–	1	–	–	–	–
Total	**12**	**14**	**12**	**40**	**5**	**13**	**9**	**29**

Table 6.7 *Buildings with entrance-types of Eriksen's types 8 and 9.*

Building number	Building name	Dating	Fylke	Gable	Entrances	Entrance Eriksen	Length	Entrance_ Beck
95	Solberg nordre (Lok. 28), hus 1	pRIA	Østfold	Separate gable posts	M1M3M4	Type 8 9	30,5	Type 8 9
189	Valum hus III	MigP	Hedmark	Separate gable posts	M1M2M3	Type 8 9	37,9	Type 8 9
182	Åker hus I	MerP/VP	Hedmark	Separate gable posts	M1M2M3	Type 8 9	31,7	Type 8 9
213	Lille Børke hus 3	RIA	Hedmark	_	M1M3M4	Type 8 9	23,0	Type 8 9
192	Vidarshov A	RIA	Hedmark	Separate gable posts?	M1M2M3	Type 8 9	11,6	Type 8 9
323	Brandrud I hus 1	RIA/MigP	Oppland	Separate gable posts	M1M2(M4?)	Type 8 9	26,7	Type 8 9
149	Vister_R3_Hus1 (E18 Eidsberg)	RIA/MigP	Østfold	Separate gable posts	M1M2M4	Type 8 9	35,6	Type 8 9
104	Vøien, Hus 2	RIA/MigP	Akershus	Separate gable posts?	M2M3M4	Type 8 9	44,4	Type 8 9

The alignment of the three-aisled buildings

I shall now examine whether the alignment of the building might reinforce a distinction between northern and southern Østlandet. Not all of the more precisely datable and well-identified three-aisled buildings have the same alignment (Figs. 6.5 and 6.4; Tabs. 6.9–6.10). In Østfold, Vestfold, Akershus and Buskerud the majority of the buildings are aligned virtually N–S while in Oppland and Hedmark the majority are oriented more or less E–W. We thus have two regions with their own distinctive alignments and these nearly coincide with the two regions with, respectively, mid-Scandinavian entrances and a mixture of mid- and southern Scandinavian entrances. In both regions there are buildings which diverge from the predominant direction of alignment. The buildings in Buskerud differ in that they are mostly N–S while the only case with identified entrances is of the mid-Scandinavian type. Should future excavations produce just one building with southern Scandinavian entrances, which I consider entirely possible, Buskerud would then fit in with the southern region where both styles of entrances were in use. Alternatively, Buskerud could have its own local building style involving buildings with mid-Scandinavian entrances but mostly aligned N–S.

In southern Østlandet (Østfold, Vestfold and Akershus) there are 99 buildings aligned N–S and 26 oriented E–W. There seems, as a result, to be a degree of correspondence between alignment and length in the two regions (Tabs. 6.8–6.9). Buildings of divergent alignment are shorter than others and measure 7–18 m in length, with four exceptions. The longest buildings with divergent alignments are distinct from the other E–W buildings in other respects too. The longest building, Borgen *hus* 1 (27.5 m) is on an alignment of 47 degrees, just two degrees outside what would be counted a N–S alignment. Two other buildings with untypical alignments, Dikeveien *hus* 2 and Glemmen *hus* 2, are both dated to the transition between the Bronze Age and the pre-Roman Iron Age and may be of the former period. This could mean, then, that the standardization of alignments began in the Iron Age. If that is the case, an even clearer picture of the Iron-age buildings oriented E–W being shorter than the others emerges. Two further buildings in Akershus with divergent alignments that are more than 18 m long may disturb this picture somewhat, but these examples have identification scores of 1 and may be the product of several structures interpreted in the field as a single building. In other words, it is predominantly and possibly exclusively short buildings that can be aligned differently from the majority. In northern Østlandet (Oppland and Hedmark) five buildings out of 26 have a divergent, N–S alignment. These too appear to stand apart from the majority which are oriented E–W. The data overall are sparse, but in the periods in which buildings of both alignments are found it is those which lie N–S which are the shortest (Tabs. 6.8–6.9). The mean length of the E–W buildings is 23 m while that of their N–S counterparts is 13 m. Four of the N–S buildings are in the range of 5–18 m in length while the fifth is 23.5 m long.

The relationship between length and alignment is thus able to reinforce the identification of two regional building-styles within Østlandet, with a clear division between northern and southern zones. The buildings in northern Østlandet are primarily oriented E–W and only have mid-Scandinavian entrances. The buildings in southern Østlandet are mostly aligned N–S and have both southern and mid-Scandinavian entrances. Around 80 per cent of the well-identified and well-dated three-aisled buildings thus conform to the normative alignment. In both regions around 20 per cent of the buildings diverge in alignment

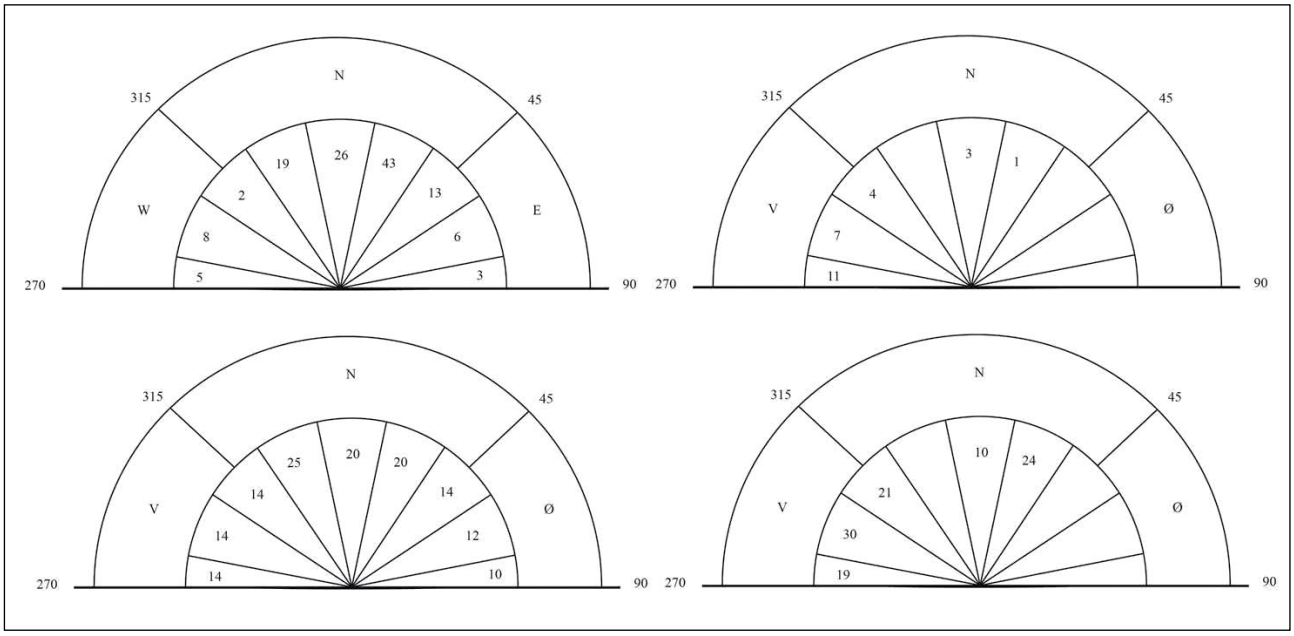

Figure 6.4a–d *The length and alignment of the more precisely dated three-aisled buildings with identification scores of 2 or more in northern and southern Østlandet. From upper left to lower right: buildings in Vestfold, Akershus, Østfold, Buskerud and Telemark grouped by finer grades of alignment; buildings in Oppland and Hedmark grouped by finer grades of alignment; mean lengths in Østfold, Vestfold, Akershus, Buskerud and Telemark grouped by finer grades of alignment; mean lengths in Oppland and Hedmark grouped by finer grades of alignment. Drawn by Elise Naumann.*

from the majority, and these structures are shorter on average. The mean length of the buildings with divergent alignments is approximately the same in both regions while the buildings with standard alignments are rather longer in northern Østlandet than in the remainder of the study area.

To this point, I have been considering a *broad* grouping by alignment, in just two categories, broadly E–W or broadly N–S. If we look at finer grades of alignment, divided into nine categories (Ch. 5.4.1), the picture becomes more nuanced (Tab. 6.10; Fig. 6.4). In Hedmark and Oppland, most of the buildings are aligned to the west, west-north-west or north-west. Those buildings aligned to the west-north-west are clearly the longest, with a mean value of 30 m. What wrecks the impression given by the broader alignments, however, is that the single building aligned to the north-north-east is a full 24 m long and thus produces the second highest mean value. The three buildings whose finer grade of alignment is to the north, however, are only 10 m long on average, which does support the impression given by the broad categories of alignment. The 11 buildings aligned to the west, moreover, have the next shortest mean length at 19 m. The buildings from Akershus, Østfold and Vestfold also produce a more nuanced picture if one considers the finer grades of alignment. Quite definitely, most of the buildings are aligned to the north-north-east, north and north-north-west, and there are only two aligned to the north-west. The buildings aligned to the north-north-west are 25 m long on average while those aligned to the north and

Table 6.8 *Mean lengths of buildings aligned N–S and E–W grouped by fylke. Three-aisled, well-identified and closely dated buildings.*

	Mean	Akershus	Østfold	Vestfold	Hedmark	Oppland	Buskerud	Oslo	Telemark
N–S	20	19	20	23	12	13	30	14	5
E–W	18	15	13	13	25	21			

Table 6.9 *The broad alignment and mean length in metres of buildings dated to specific periods and with identification scores of 2 or more.*

	Northern Østland		Southern Østland	
	Length	Number	Length	Number
E–W	23 m	21	14 m	26
N–S	13 m	5	20 m	99

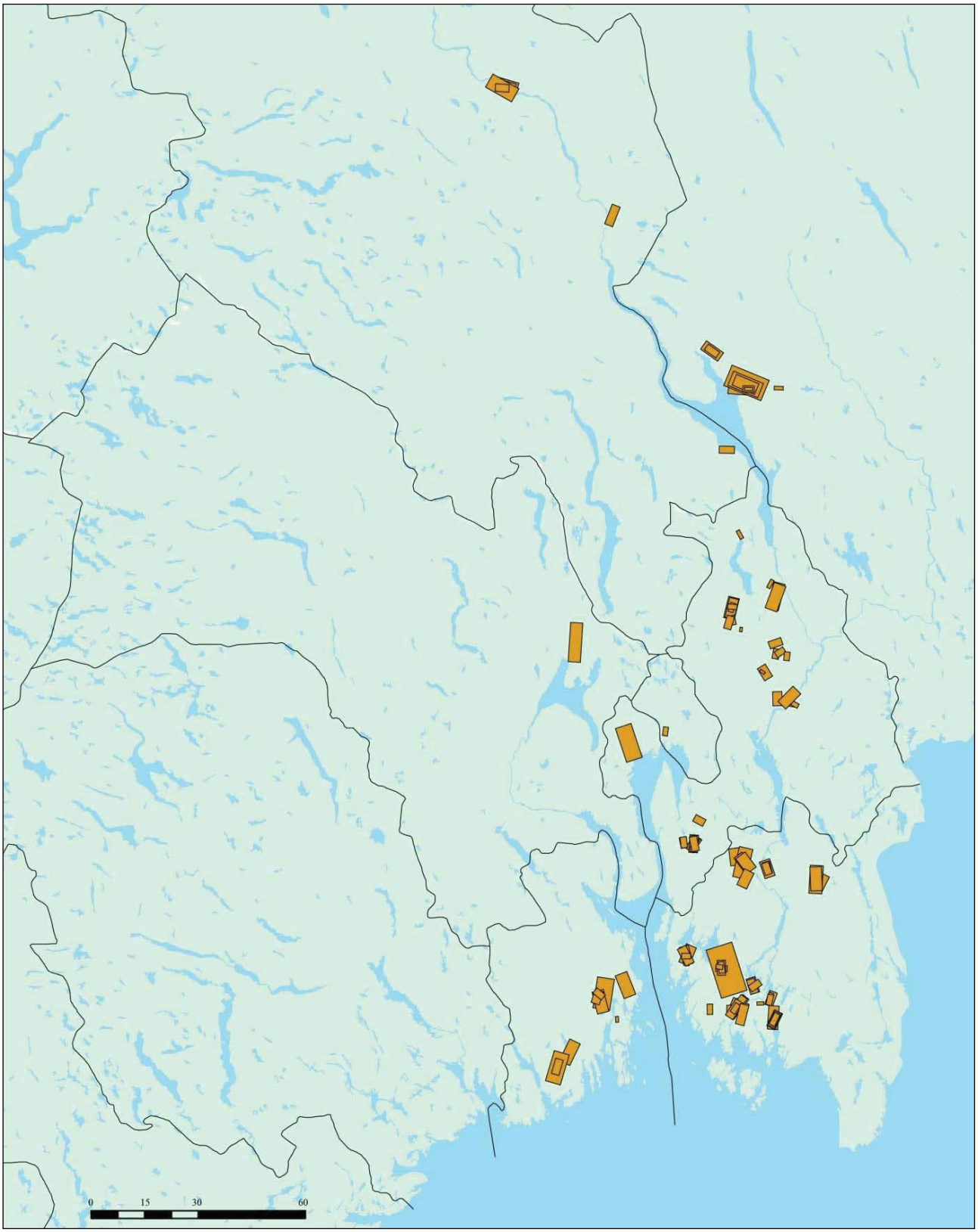

Figure 6.5 *Map of Østlandet with alignments and lengths of well-identified and closely dated three-aisled buildings. Drawn by Elise Naumann.*

the north-north-east are the next longest at a mean of 20 m. The shortest buildings are only 7 m long on average and are aligned to the north-west.

It is thus harder to reproduce the apparently clear pattern generated by the broad categories of alignment with a finer gradation of alignment. Nevertheless a certain pattern does emerge. The alignment defined to

Table 6.10 *Finer grades of alignment and mean lengths of three-aisled buildings dated to a specific period and with an identification score of 2 or more from northern (Hedmark and Oppland) and southern (Østfold, Vestfold and Akershus) Østlandet respectively.*

Alignment	**Number of Buildings**		**Mean length**	
	Northern	Southern	Northern	Southern
N	3	26	10 m	20 m
NNV		19		25 m
NNØ	1	43	24 m	20 m
NV	4	2	21 m	14 m
VNV	7	8	30 m	14 m
V	11	5	19 m	14 m
NØ		13		14 m
ØNØ		6		12 m
Ø		3		10 m
Total	**26**	**125**		

a finer degree that coincides with the greatest mean length is not the most common alignment, but the second most common in northern Østlandet and the third most common in southern Østlandet. In northern Østlandet there are eight buildings aligned closer to the north than the group with the longest mean length and 11 aligned closer to the east. In southern Østlandet there are 14 buildings aligned closer to the east than the group with the longest mean length and 93 closer to the north and west. In this way, the pattern that was so clear when the buildings were analysed in terms of broad alignment can indeed be reproduced by analysis in terms of finer grades of alignment, but the pattern becomes more nuanced. It appears that the principal alignment in northern Østlandet is west-north-west or west and that in southern Østlandet is north-north-west or north-north-east, depending upon whether one attaches more weight to the alignment of the majority of the buildings or to the alignment of the buildings with the higher mean length. In what follows, I shall assess, then, whether we can distinguish landscapes with their own building styles within these two regions, or indeed perhaps cutting across those regions. For the most part I focus on the three-aisled buildings but I shall also briefly consider the two-aisled buildings and four-post structures.

Other regional features of the three-aisled building

In assessing possible further regional or local distinctive features of three-aisled buildings, I shall primarily look more closely at the 157 such buildings that are relatively narrowly dated to period and have identification scores of 2 or more. Details such as wall structure, hearths, and the ratio between length and width will lie at the foundation of this assessment.

I shall begin with a study of the separate gable posts. In Østfold these have been found in seven of the 54 well-identified and well-dated buildings of the pre-Roman Iron Age, Roman Iron Age and the Roman Iron Age/Migration Period but not in the four well-identified and -dated structures of the Late Iron Age. None of the 22 buildings (eight well-identified and well-dated three-aisled buildings) of the pre-Roman Iron Age in Akershus and Vestfold had separate gable posts but these are, conversely, found in the Roman Iron Age, Roman Iron Age/Migration Period and Migration Period in both provinces, and also in the Merovingian Period in Vestfold. In Oppland separate gable posts remained in use in the Migration Period/Merovingian Period transitional period, and in Hedmark as late as the transition from the Merovingian Period to the Viking Period. It may therefore be considered that separate gable posts were an older feature in the south than to the north.

A distinctive feature for Hedmark is the complete absence of identified hearths in three-aisled buildings. This is very probably because the hearths have been removed by plough action or other taphonomic factors, not because the buildings had no hearths. Nor have wall trenches or wall posts been securely identified in Hedmark, although one partially excavated three-aisled building of the Migration Period at Åker may have a surviving wall trench (Pilø 2005:99–100). It is entirely likely that the buildings had both hearths and walls, but no traces have been preserved. The large number of cooking pits from Hedmark, some of them close to the buildings (Pilø 2005), may indicate that the absence of hearths is not solely due to deeper ploughing in Hedmark than elsewhere, even if

Table 6.11 *Under- and over-balanced, well-identified and closely dated, three-aisled buildings by fylke.*

	Number of buildings	Number of buildings with balance	Balanced	Overbalanced	Underbalanced
Akershus	38	16		6	10
Buskerud	4	3		1	2
Hedmark	13	0			
Oppland	13	7		3	4
Oslo	1	1			1
Østfold	65	39		12	27
Telemark	1	0			
Vestfold	22	12	1	3	8
	157	**78**	**1**	**25**	**52**

cooking pits are often dug more deeply than hearths. It is, however, probable that the hearths were only shallowly sunk, lay flat on the ground or were raised, and have been ploughed away as a result. The walls cannot have been sunk deeply into the ground either. In the other provinces there are also a number of buildings with no surviving traces of hearths or walls; what is unique for Hedmark is that no traces of that kind have been preserved.

Altogether, 78 well-dated three-aisled buildings with identification scores of 2 or more have both wall lines and internal roof-bearing post-holes preserved to the extent that it is possible to calculate the balance of the building (Ch. 5.4.1). In most of the administrative provinces about two-thirds of the buildings are under-balanced while in Oppland there are almost equal numbers of over- and under-balanced buildings (Tab. 6.11). This feature too, then, points to a differentiation between southern and northern Østlandet.

Østfold stands apart in respect of other features besides the separate gable posts. Several buildings of the pre-Roman Iron Age have a type of wall or wall trench that has not been observed in other parts of the area of study (Fig. 6.6). These walls or trenches appear only partly to have been aligned along the length of the buildings and are longer than the building itself (Dikeveien hus 1, 4, 5; Nøkleby hus 1). These may have been walls that extended into windbreaks or fences, or possibly droveways. The walls/fences with the buildings at Dikeveien 5 were identified

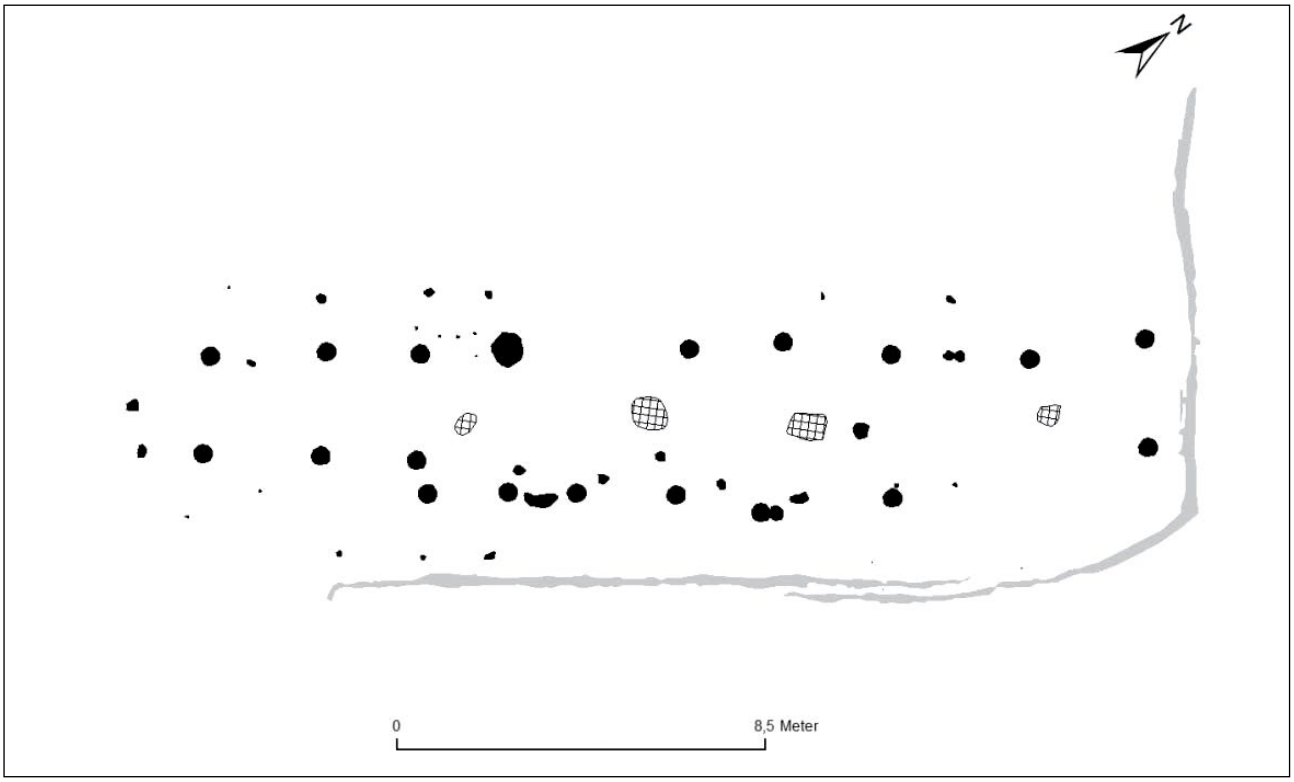

Figure 6.6 *Dikeveien hus 1, an example of a building with 'unusual' walls. Drawn by Jan Kristian Hellan.*

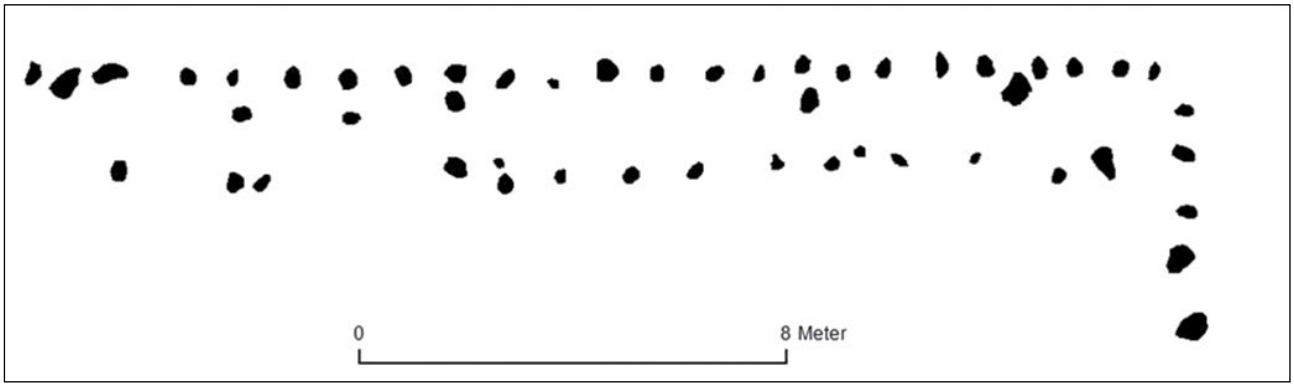

Figure 6.7 *A pent-roofed building from Østfold. Drawn by Jan Kristian Hellan.*

by wall posts and so are not drip-trenches or drains. The distance between these three sites is less than 2 km, and irrespective of whether these cut features are interpreted as walls or fences, they express a local technical choice. Such choices may in turn reflect some sort of local community or perhaps a distinctive building practice at a district level. Østfold also stands distinct from the other provinces in that there are three buildings with entrances in the gable end (Nøkleby building 1, Glemmen building 2 and Askim parsonage building 1). It is possible, too, that there was an entrance in the gable end in the poorly identified and weakly dated Nannestad building 3 from Akershus. All of these buildings are of the pre-Roman Iron Age. The only identified building with a pent roof is also from Østfold (Fig. 6.7).

My survey reveals, then, that three-aisled buildings in northern Østlandet were predominantly oriented E–W, have solely mid-Scandinavian entrances, and on average are longer than the buildings in southern Østlandet, where the buildings were aligned N–S and have both mid- and southern Scandinavian entrances. There are also aspects of building style which show quite local building practices. When the evidence is grouped by period and by province, however, each group appears relatively small, and the patterns must therefore be treated circumspectly for now. I shall examine, therefore, whether features of two-aisled buildings and four-post structures are also able to support the pattern that has appeared so far (Ch. 6.2.4, 6.2.5).

Two-aisled buildings

Five two-aisled buildings have been found in Akershus and six in Østfold; there are none anywhere else in the study area (Fig. 6.8; Tab. 6.12). Two-aisled buildings are often dated to the earliest phase of the Bronze Age or the transition between the Neolithic and the Bronze Age (Børsheim 2004).

Table 6.12 *All two-aisled buildings.*

Period	Total	Akershus	Østfold
pRIA	5	1	4
IA	2	2	
RIA	2	1	1
RIA/MigP	1		1
VP	1	1	
Total	11	5	6

There are several points, however, which indicate that the interpretation and dating of the two-aisled buildings I discuss in this study is correct. Several of the buildings stood alone with few other cut features near them. This makes their identification during fieldwork more straightforward and reduces the risk of dating evidence being redeposited, which in turn makes the dating more secure. In five of the cases, post-holes from wall posts have been recorded as well as the post-holes left by the row of posts along the centre of the building. I therefore regard the interpretation and dating of these buildings to the Iron Age as relatively certain (see, e.g., Vikshåland and Sandvik 2007 for a thorough presentation of interpretation and dating). The distribution of the two-aisled buildings thus corroborates the proposition that there was distinct building practice in Akershus and Østfold. In length, the buildings range from 5 m to 18 m and both the longest and the shortest of the group were found in Akershus. None of the buildings has a surviving hearth. Five have preserved evidence of wall posts, and four of those were found in Østfold. In width, the buildings range from c. 4 m to c. 8 m. All of the two-aisled buildings are aligned N–S. The majority of these buildings in Østfold are of the pre-Roman Iron Age and none there is any later than the transition from the Roman Iron Age to the Migration Period. There are only three dated buildings in Akershus, one of the pre-Roman Iron Age, one of the Roman Iron

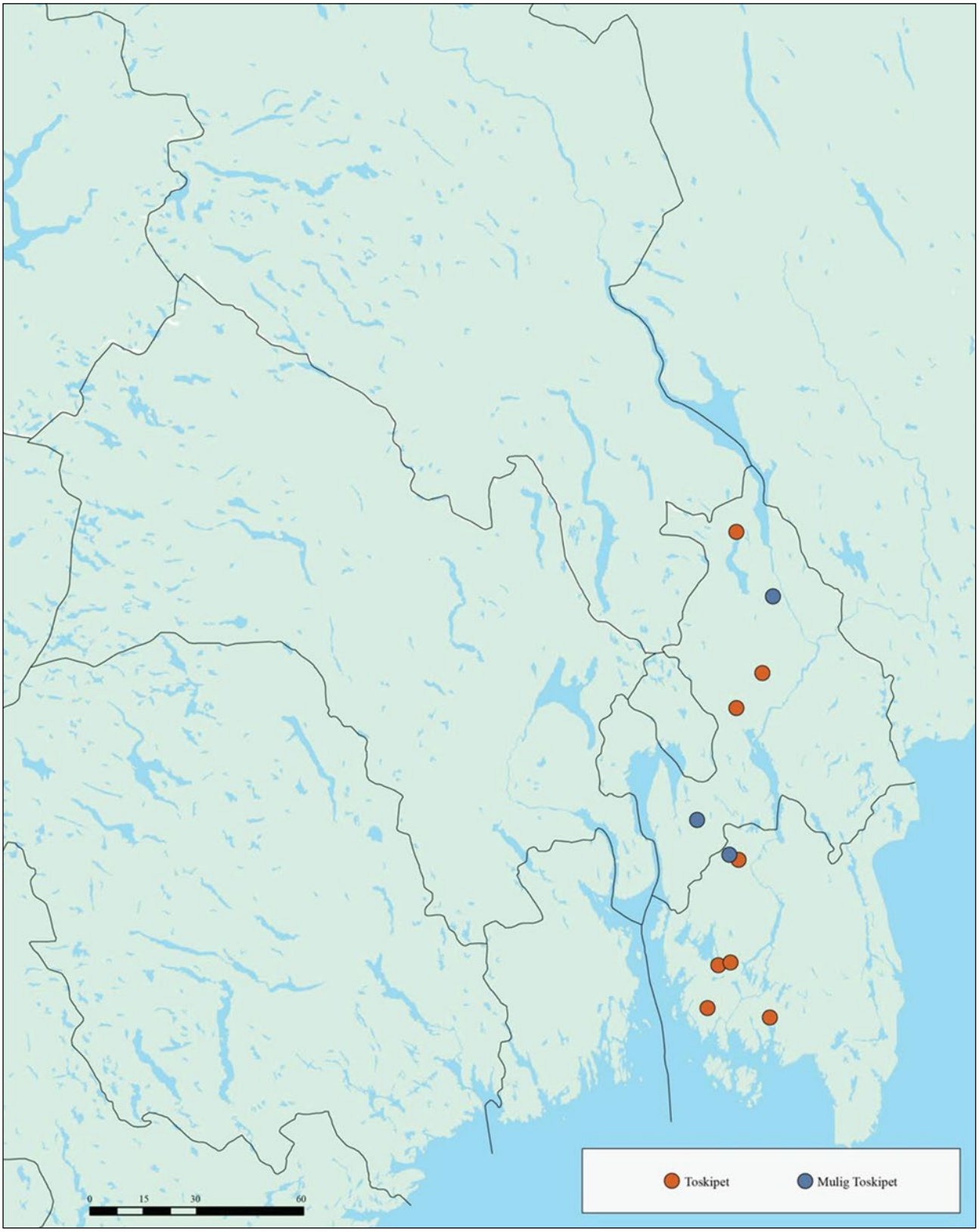

Figure 6.8 *Distribution map of two-aisled buildings. Drawn by Elise Naumann.*

Age, and one of the Viking Period. The excavator of the Viking-period building, Christian Rødsrud (2014), has pointed out that both its dating and its identification are uncertain. There are, though, Viking-period parallels in Rogaland and Troms which support his interpretation (Eriksen 2015: katalognr. 01-2, 40-10).

With such relatively limited evidence, the minor differences between Østfold and Akershus should perhaps not be over-emphasized, such as the fact that

Table 6.13 *All four-post structures.*

Period	Total	Akershus	Buskerud	Østfold	Telemark	Vestfold
pRIA	2	1			1	
RIA	2	1				1
RIA/MigP	8	2		1		5
MigP	2	1				1
MerP	1					1
IA	14	7	1	4		2
Total	29	12	1	5	1	10

the majority of the buildings with surviving evidence of wall posts are in Østfold. Nevertheless, there is a distinction between Østfold and Akershus with their two-aisled buildings and the remainder of Østlandet around them.

Four-post structures

Twenty-nine four-post structures have been excavated: small buildings which very probably functioned as storage units rather than for occupation by people or animals (Ch. 1.1; Tab. 6.13, Fig. 6.9). Only fifteen of them are dated by period, all of which are of the Early Iron Age apart from just one of the Merovingian Period. Most of them have been found in Akershus, Vestfold and Østfold, while there is also one each from Buskerud and from Telemark. Thus no four-post structures have been found in northern Østlandet. This distribution consequently reinforces yet further the differentiation between northern and southern Østlandet outlined in Chapter 6.2.

The nine four-post structures with the largest dimensions were found in Østfold, Vestfold and southern Akershus. The only four-post structure dated to the Late Iron Age is of the Merovingian Period and was found in Vestfold. There is only one of these structures from Østfold that can be dated more precisely to period, and that is from the Roman Iron Age/Migration Period transition, while two more from that province are dated to the Early Iron Age. In Akershus and Telemark, four-post structures are dated to the pre-Roman Iron Age. Vestfold thus stands clearly apart in that one four-post structure is dated to the Merovingian Period. It is unclear whether or not the minor differences are really due to the sparsity of the evidence or are concrete realities of prehistory. It is otherwise difficult to discern any pattern in the geographical distribution. It may be that the absence of four-post structures from Oppland and Hedmark, where the buildings of the most frequent alignment are longer than those in southern Østlandet, reflects the fact that the four-post structures were used for storage. If (for instance) food, fodder or equipment were stored in the four-post structures rather than in the three-aisled buildings, the space needed in the latter would be a little less. However, a hearth has been found one four-post structure at Bråte in Akershus (Røberg 2014) which may show that such structures were not exclusively storage units.

Regions and landscapes

It appears, then, that there was a clear distinction between a region to the north consisting of Oppland and Hedmark and a region to the south consisting of Østfold, Akershus and Vestfold. The evidence from Buskerud and Telemark is too slight as yet to determine where they belong (Fig. 6.10). In Oppland and Hedmark the buildings were primarily oriented E–W and the entrances were of the mid-Scandinavian type. In Østfold, Akershus and Vestfold the buildings were primarily aligned N–S and there are both mid- and southern Scandinavian entrance-types. In this area a considerable number of four-post structures have been found too. In accord with Herschend's (2009) inference of a division between southern and central Scandinavia, I have now demonstrated that the northern boundary of the southern Scandinavian building practice in Østlandet runs approximately between Akershus to the south and Oppland and Hedmark to the north (Fig. 6.10). As noted by way of introduction, the household was the central social institution of the Iron Age, and like Herschend (2009:15, 19–20) I assume that different building practices reflect differences in cultural context. The buildings analysed here all represent agrarian societies but there was a fundamental economic difference between these two regions to which I shall return.

The boundary between northern and southern Østlandet, as it can be defined through building practice, was of great time-depth (Ch. 6.3), and it is interesting to see if it can also be discovered in written sources of the Middle Ages. I shall take a closer look,

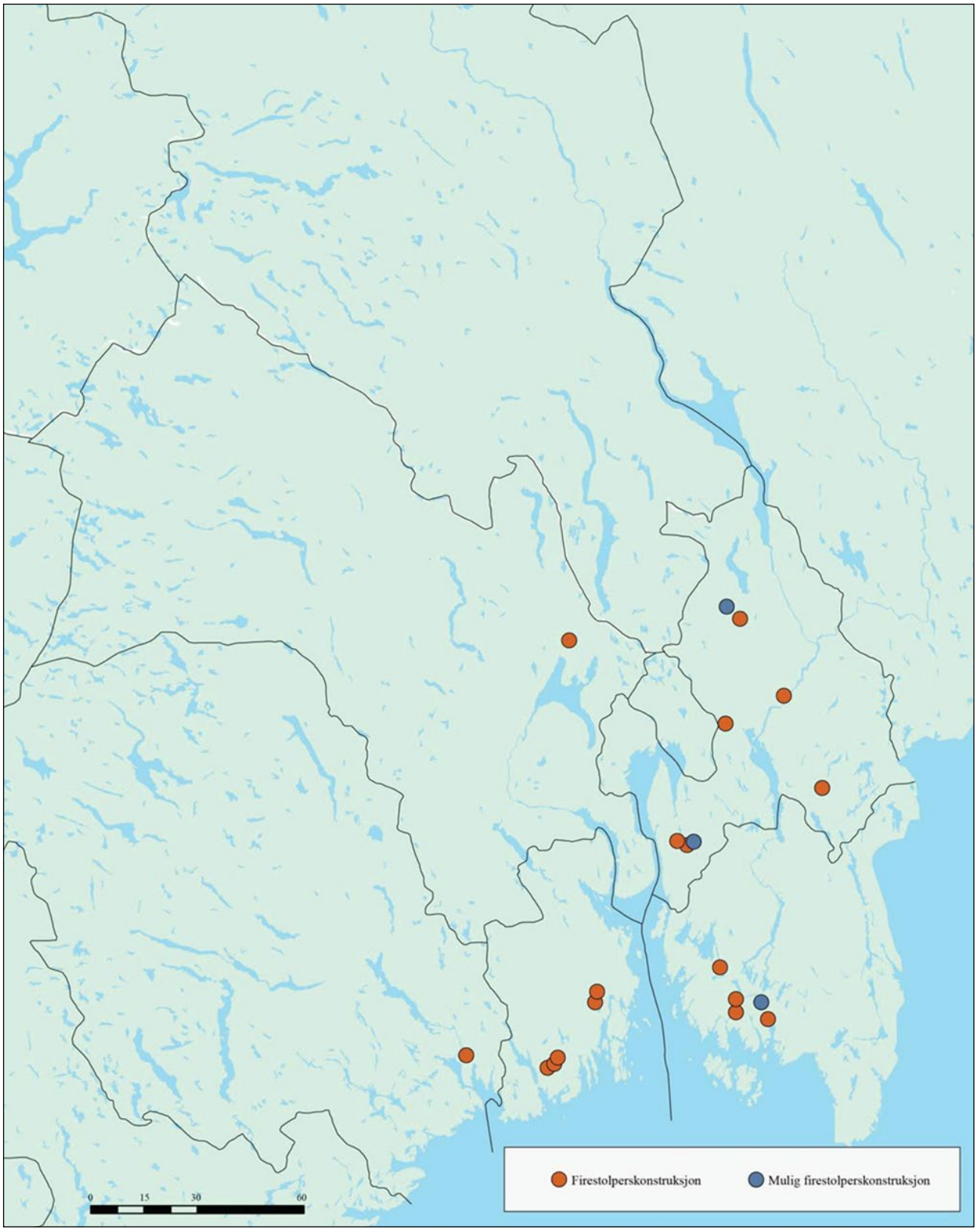

Figure 6.9 *Distribution map of four-post structures. Drawn by Elise Naumann.*

as a result, at the boundary between Viken and the Uplands and the boundary between the Eidsevating and Borgarting Law districts as those are known from medieval documentary sources (Holmsen 1979; Halvorsen 1987:37). Viken and the Uplands are two political or cultural regions. The Uplands (*Opplandene*) may be the description of Viken's hinterland and should not, therefore, be confounded with the much later *fylke* of Oppland (Stylegar 2002). The Borgarting and Eidsivating Law districts are judicial territories.

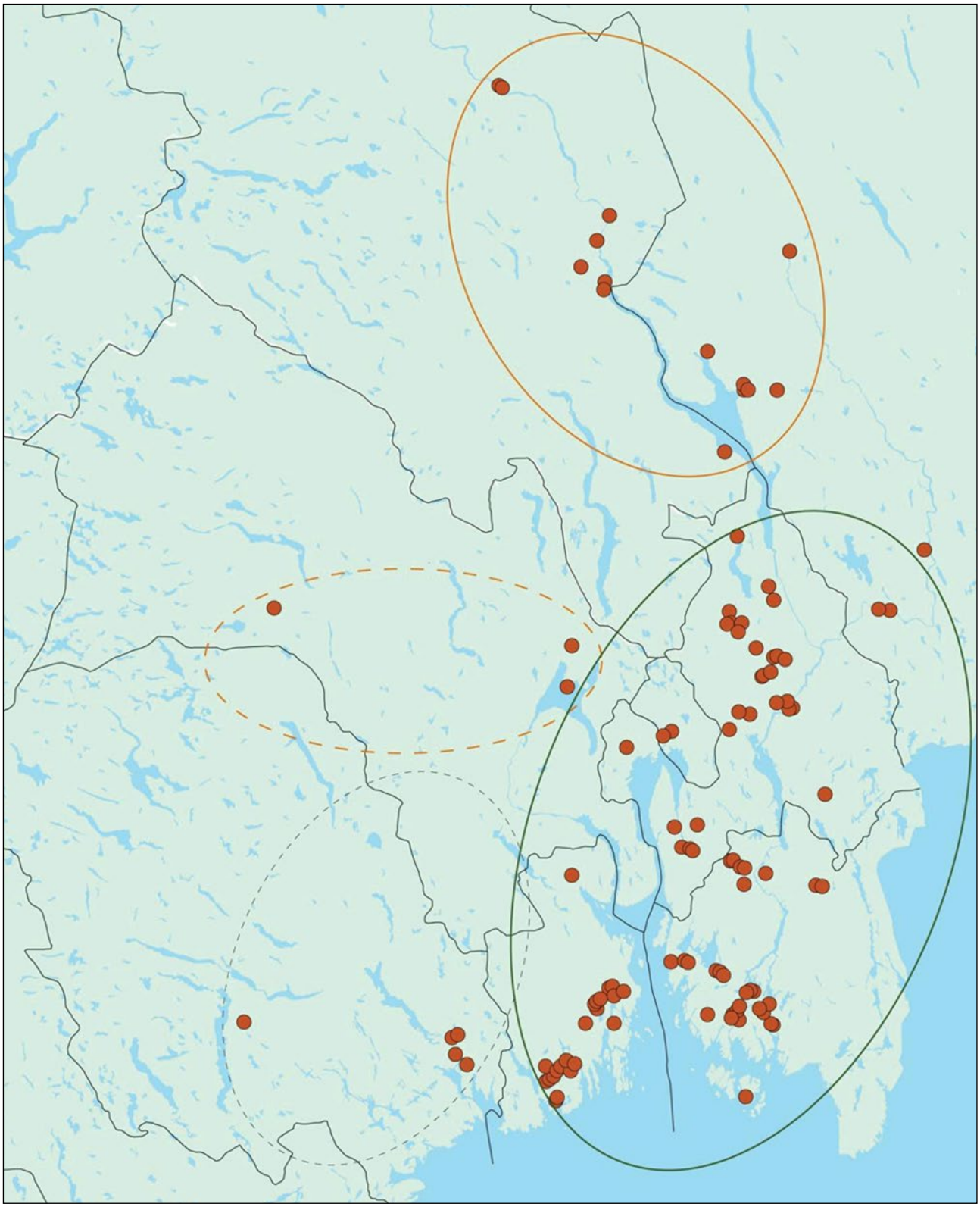

Figure 6.10 *Zones defined by building practice. Drawn by Elise Naumann.*

The Uplands and the Eidsivating territory overlap to a great extent; in the Middle Ages they included what are the modern administrative provinces of Hedmark and Oppland and also, amongst other areas, Romerike in the north of Akershus. Viken and the Borgarting territory also largely coincide, incorporaring the area around the Oslofjord south of Romeriket. My analysis of building practice has shown that the buildings in Romerike are aligned N–S and have both southern and mid-Scandinavian entrances, and so belong to the southern zone of building styles. The southern cultural and judicial regions, Viken and the Borgarting Law,

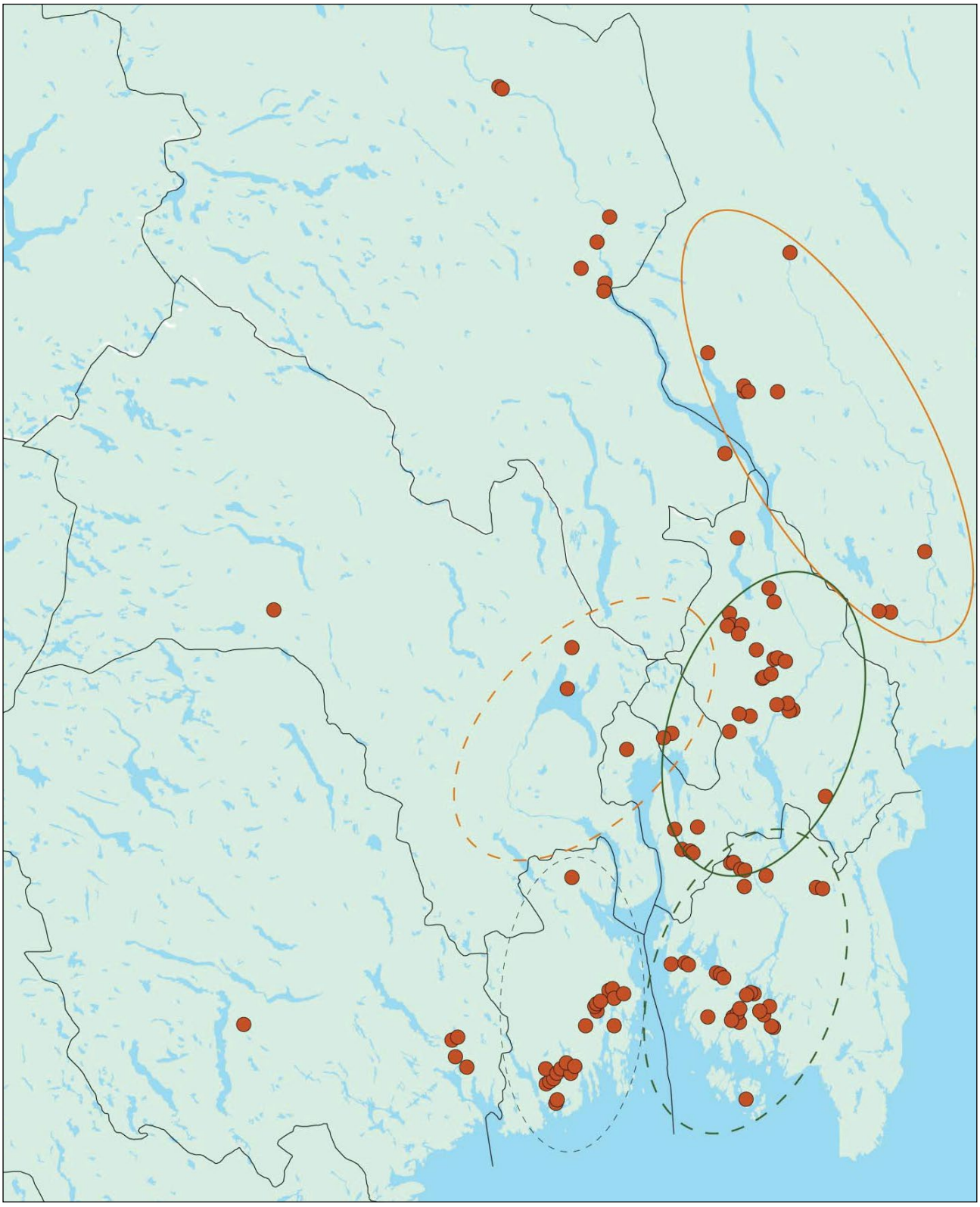

Figure 6.11 *Landscapes defined by building practice. Drawn by Elise Naumann.*

thus included parts of the southern zone of building practice in Østlandet but not all of it. Therefore neither the medieval *thing* and legal territories nor the medieval cultural or political regions of Viken and the Uplands coincide with the zones that are defined by building practice.

If we pull all the results together it also appears clearly that there are minor landscapes with local building practices within southern Østlandet too (Fig. 6.11). The building practices of Østfold and Vestfold differ from one another even though both regions lie within southern Østlandet. For its part,

Table 6.14 *The numbers of well-identified three-aisled buildings datable to period, grouped by fylke and by period.*

Period	Total	Akershus	Buskerud	Hedmark	Oppland	Oslo	Østfold	Telemark	Vestfold
pRIA	52	4	1	1	1	1	39	1	4
RIA	45	15	2	5	7		11		5
RIA/MigP	18	7	1		2		4		4
MigP	27	7		4	2		7		7
MerP	13	5		3			3		2
VP	2				1		1		
Total	**157**	**38**	**4**	**13**	**13**	**1**	**65**	**1**	**22**

Table 6.15 *The numbers of well-identified and dated three-aisled buildings aligned N–S or E–W, grouped by fylke and by period. Southern Østlandet in light grey; northern Østlandet in darker grey.*

	Period	Total	Akershus	Østfold	Vestfold	Hedmark	Oppland	Buskerud	Oslo	Telemark
N–S	pRIA	41	2	31	4		1	1	1	1
	RIA	27	9	10	3	1	2	2		
	RIA/MigP	16	7	4	4			1		
	MigP	16	5	5	5		1			
	MerP	9	4	3	2					
	VP	1		1						
	Total	**110**	**27**	**54**	**18**	**1**	**4**	**4**	**1**	**1**
E–W	pRIA	11	2	8		1				
	RIA	18	6	1	2	4	5			
	RIA/MigP	2					2			
	MigP	11	2	2	2	4	1			
	MerP	4	1			3				
	VP	1					1			
	Total	**47**	**11**	**11**	**4**	**12**	**9**			
Total		157	38	65	22	13	13	4	1	1

building practice in Akershus has both similarities and differences in relation to each of the regions of Østfold and Vestfold. It is only in Østfold and Akershus that two-aisled buildings are found. In Østfold, moreover, there is a high proportion of buildings of the pre-Roman Iron Age, and separate gable posts went out of use earlier than in Akershus and Vestfold. In Vestfold, meanwhile, no two-aisled buildings have been found. Previous studies of burial practice support the perception of differences between the various landscapes of southern Østlandet (e.g. Hougen 1924; Løken 1974; Forseth 1993; 2003; Stylegar 2004; Wangen 2009; Rødsrud 2012; Skogstrand 2014). The topographical and climatic conditions in Østfold and Vestfold are so similar that the differences in building practice cannot be explained in terms of ecofunctional adaptation. The causes must therefore be sought in cultural factors. I shall return to examine this in greater detail in Chapter 7.2, 7.3 and 7.5. There were probably local building practices in northern Østlandet as well. The lack of sunken hearths and walls in Hedmark are phenomena which may indicate such a situation, but the evidence to date is insufficient for further research into the differences.

I can conclude, as a result, that there was no uniform building practice of Østlandet but a system of both regional and local practices which are all well integrated into the general Scandinavian range in that three-aisled buildings with earth-fast posts predominate in the range.

CHANGES OVER TIME

I shall now investigate whether building practice changed over time, in particular with regard to entrances, alignments, lengths and widths, areas and separate gable posts in the various periods. Above, it has been shown that there was no one building style in Østlandet, but rather two regions and a number of landscapes of the kind that are often referred to as distinct *pays*. The study of changes over time must, therefore, start from the landscapes, for otherwise

Table 6.16 *The broad alignment of well-identified and well-dated three-aisled buildings divided between the southern and central Scandinavian zones and the Early and Late Iron Ages (EIA, LIA). Percentages in brackets refer to the proportion of all buildings of the Early and Late Iron Age respectively per zone.*

	Oppland and Hedmark		**Akershus, Vestfold, Østfold**	
	EIA	LIA	EIA	LIA
N–S	5 (23 %)	–	89 (78 %)	10 (90 %)
E–W	17 (77 %)	4 (100 %)	25 (22 %)	1 (10 %)

Table 6.17 *Mean lengths of buildings aligned N–S and E–W grouped by period and* fylke*: well-identified and well-dated three-aisled buildings. Southern Østlandet in light grey; northern Østlandet in darker grey.*

	Period	**Mean**	**Akershus**	**Østfold**	**Vestfold**	**Hedmark**	**Oppland**	**Buskerud**	**Oslo**	**Telemark**
N–S	pRIA	16	19	16	22		6	19	14	5
	RIA	23	19	31	13	12	12	38		
	RIA/MigP	25	23	25	28			22		
	MigP	20	17	21	21		23			
	MerP	18	12	12	37					
	VP	22		22						
Ø–V	pRIA	12	9	13		11				
	RIA	16	16	10	14	14	19			
	RIA/MigP	20					20			
	MigP	25	15	16	12	39	37			
	MerP	24	18			26				
	VP	18					18			

VP

Table 6.18 *All buildings with recorded alignments, including those omitted from Table 6.14, except for four-post structures. The buildings are grouped by alignments as either N–S or E–W, and by period and* fylke*. Southern Østlandet in light grey; northern Østlandet in darker grey.*

	Period	**Total**	**Akershus**	**Østfold**	**Vestfold**	**Hedmark**	**Oppland**	**Buskerud**	**Oslo**	**Telemark**
N–S	pRIA	56	8	36	7	1	1	1	1	1
	RIA	36	13	13	4	1	2	3		
	RIAMigP	25	10	6	8			1		
	MigP	21	9	5	6		1			
	MerP	11	4	3	2		2			
	VP	3		1	2					
	VP/MA	3	1			1	1			
	IA	39	19	6	8	1	1			4
	Total	**194**	**64**	**70**	**37**	**4**	**8**	**5**	**1**	**5**
E–W	pRIA	17	3	10	2	1				1
	RIA	22	8	1	2	5	5			1
	RIA/MigP	7	1		1		2			3
	MigP	13	2	2	2	6	1			
	MerP	6	1		1	4				
	VP	3	2				1			
	VP/MA	2					1	1		
	IA	10	2	2	2	2				1
	Total	**80**	**19**	**15**	**10**	**18**	**10**	**1**		**7**
		274	**83**	**85**	**47**	**22**	**18**	**6**	**1**	**11**

Table 6.19 *The broad alignments of all buildings except for four-post structures, grouped into the southern and central Scandinavian zones and into the Early and Late Iron Ages (EIA, LIA). Percentages in brackets refer to the proportion of the total per zone.*

	Oppland and Hedmark		Akershus, Vestfold, Østfold	
	EIA	**LIA**	**EIA**	**LIA**
N–S	6 (23 %)	4 (40 %)	125 (79 %)	30 (88 %)
E–W	20 (77 %)	6 (60 %)	34 (21 %)	4 (12 %)

Table 6.20 *The broad alignments of all buildings except for well-identified and well-dated three-aisled buildings and four-post strutures, grouped into northern and southern Østlandet, and into the Early and Late Iron Ages (EIA, LIA). Percentages in brackets refer to the proportion of the total per region.*

	Oppland and Hedmark		Akershus, Vestfold, Østfold	
	EIA	**LIA**	**EIA**	**LIA**
N–S	1 (25 %)	4 (67%)	49 (84 %)	4 (57 %)
E–W	3 (75 %)	2 (33 %)	9 (16 %)	3 (43 %)

major local changes might remain unobserved. I have also indicated that there are building practices that are very locally distributed, possibly at the level of small district communities (Ch. 6.2.3). The volume of evidence does not allow local building practices at that level to be researched in relation to change over time by the application of quantitative methods. As a result, I continue to use the modern administrative provinces as geographical units.

As noted, there are 157 well-identified three-aisled buildings that are relatively narrowly dated to period and these are the examples which I primarily make use of for further research (Tab. 6.13: see the criteria in Chs. 4 and 5). The well-identified and well-dated three-aisled buildings are predominantly of the Early Iron Age, with only 15 of them being Late Iron-age. I shall nevertheless attempt to describe how the buildings in the Oslofjord area changed across the Iron Age as a whole. Eriksen (2015; 2019) has recently investigated the buildings of the Late Iron Age in Norway. She did not attach a great deal of weight to regional or local differences, and it will be extremely interesting, then, to compare my local findings with her national overview.

There is a small number of elements which seem to be quite unchanging across the whole of the Iron Age. Southern and mid-Scandinavian entrances are broadly equally well represented in all periods in southern Østlandet (Tabs. 6.3 and 6.4), unless too few buildings with identifiable entrances have been excavated for any change over time that did take place to be revealed. The alignment of the buildings also appears not to change particularly over time, even though it may perhaps become more standardized in the case of well-identified three-aisled buildings and less standardized for other, or unidentifiable, types of building in the Late Iron Age (Tabs. 6.15–6.17/18?). It is possible that this progressive standardization in the alignment of three-aisled buildings and reduction in standardization in the alignment of other buildings shows traditional building practices coming under pressure in the Late Iron Age.

The three-aisled buildings

Although building practice in Østlandet may perhaps best be described in relation to regional or local frameworks, there are also certain features that are common to the whole area. As has been noted, the types of entrance and the alignments of the three-aisled buildings appear to change little over time (Tab. 6.18). There are additional general features that seem to be common for Østlandet throughout the Iron Age. The buildings are consistently shorter and narrower in the pre-Roman Iron Age than in later periods (Tabs 6.21 and 6.24) except in Vestfold where, on average, the buildings were larger in the pre-Roman Iron Age than in the Roman Iron Age. After that the buildings become longer up to a certain maximum and then progressively shorter again. In Østfold and Buskerud the maximum is reached as early as the Roman Iron Age, but in Akershus and Vestfold in the Roman Iron Age/Migration Period transition, and not until the Migration Period itself in Oppland and Hedmark. The mean length then goes down before rising again in the Merovingian Period in Vestfold and in the Viking Period in Østfold. The buildings are, moreover, consistently shorter in the Late Iron Age than their counterparts of the Early Iron Age. There are few well-identified and well-dated buildings of the Merovingian and Viking Periods but the trend towards somewhat longer buildings in the Viking

Table 6.21 *Mean length of three-aisled, well-identified and well-dated buildings.*

	Mean per period	Akershus	Buskerud	Hedmark	Oppland	Oslo	Østfold	Telemark	Vestfold
pRIA	15	14	19	11	6	14	15	5	22
RIA	20	18	38	13	17		29		13
RIA/MigP	24	23	22		20		25		28
MigP	22	17		39	30		20		19
MerP	20	13		26			12		37
VP	20				18		22		

Table 6.22 *The longest building per period and* fylke.

Period	Akershus	Buskerud	Hedmark	Oppland	Oslo	Østfold	Telemark	Vestfold
pRIA	24	19	11	6	18	31	21	35
RIA	34	45	24	31		61	8	27
RIA/MigP	44	22		27		36	17	45
MigP	28		51	37		28		32
MerP	22		34	15		17		41
VP	17			18		22		34

Table 6.23 *The longest building as a percentage of the mean length of well-identified and well-dated three-aisled buildings grouped by period and* fylke.

	Akershus	Buskerud	Hedmark	Oppland	Oslo	Østfold	Telemark	Vestfold
pRIA	171	100	100	100	129	207	420	159
RIA	189	118	185	182		210		208
RIA/MigP	191	100		135		144		161
MigP	165		131	123		140		168
MerP	169		131			142		111
VP				100		100		

Table 6.24 *The mean length of well-identified and well-dated three-aisled buildings grouped by period.*

	Akershus	Buskerud	Hedmark	Oppland	Oslo	Telemark	Vestfold	Østfold
pRIA	5.8				5.3		6.9	6.4
RIA	7.2	8.7		6.7			7.0	7.0
RIA/MigP	6.2	9.6		7.5			7.6	9.0
MigP	6.1			6.1			7.0	7.1
MerP	7.4						9.5	6.6
VP				6.3				9.2

Table 6.25 *Under- and over-balanced three-aisled buildings that are well identified and dated grouped by period. The dividing line is set at the central aisle occupying c. 50% of the full width of the building.*

	Number	Number with balance	Balanced	Overbalanced	Underbalanced
pRIA	52	29		10	19
RIA	45	20		5	15
RIA/	18	10		4	6
MigP	27	12	1	3	8
MerP	13	5		2	3
VP	2	2		1	1
Total	**157**	**78**	**1**	**25**	**52**

Period than in its predecessor appears to be confirmed by Eriksen's overview of a much larger body of evidence (Eriksen 2015:fig. 3.9). In her survey, the buildings were at their longest during the transition from the Merovingian Period to the Viking Period. A similar trend may perhaps be discernible in the particular study area here. In respect of change over time, the longest buildings of all follow approximately the same trend as that described by an average-sized building. In Østfold and Vestfold the longest building is of the Roman Iron Age, in Akershus and Vestfold from the Roman Iron Age/Migration Period, and in Oppland and Hedmark from the Migration Period (Tabs. 6.22–23).

The mean width of the buildings follows a similar course albeit with some interesting details (Tab. 6.24). The width of the buildings increases from the pre-Roman Iron Age to the Roman Iron Age/Migration Period, except in Akershus where a maximum is first reached already within the Roman Iron Age. After this, in the Migration Period, width reduces, only to rise again in the Late Iron Age. The length of the longest building in comparison with that of an average building also reaches a maximum in the Roman Iron Age, except in Vestfold where it is not reached until the Merovingian Period.[7] It is difficult to discern any pattern in the use of the wall trenches or wall posts, with the already noted reservation that no such features have been securely recorded in Hedmark (Ch. 6.2.3). Separate gable posts appear as early as the pre-Roman Iron Age in Østfold and Oppland but not otherwise until the Roman Iron Age. In Østfold they do not occur after the Roman Iron Age/Migration Period either. No separate gable posts have been found from the Viking Period but there are so few buildings of this date that it cannot be certain how representative this evidence is. In broad terms, therefore, there are many short and narrow buildings of the pre-Roman Iron Age, longer and wider ones in the Roman Iron Age and Migration Period, and fewer and shorter ones, although often quite wide, in the Merovingian and Viking Periods — perhaps a little longer in the Viking Period.

The balance of the buildings has been supposed to change over time by many scholars (Ch. 6.2.3). A similar tendency may also be discovered in the evidence from Østlandet (Tab. 6.25; for the distribution by period and administrative province, see Appendix 2). In the Early Iron Age the under-balanced building is predominant — a building characterized by the greater part of the weight of the roof being borne by the walls. In the Late Iron Age, conversely, a higher proportion of the buildings are over-balanced, with the greater part of the weight of the roof being borne by the central nave. It must be emphasized that the evidence is slight; nevertheless, this trend is the converse of what has been seen in other parts of Scandinavia (Herschend 1989; Göthberg 2000). One pattern, however, is that only two of 23 buildings where the width of central aisle occupies 40% or less of the full width of the building are of the pre-Roman Iron Age, and both of them from Østfold. Otherwise, the 23 buildings are quite evenly spread through the periods and provinces, although they may be a little over-represented in Oppland and under-represented in Vestfold.

The 'other' buildings

One of the striking features in the evidence is that there are few dated and identified three-aisled buildings of the Merovingian Period, and even fewer of the Viking Period. In this section, I shall explore whether — or to what extent — this reflects a real pattern in prehistory or if the factors of representativity and taphonomy have led to the buildings of these periods being under-represented. The building practice could have been such that the excavation techniques we use, which in practical terms means open-area stripping by machine, prevent us from recognizing the with. Alternatively the buildings may be situated in locations that we do not explore, and, not least, within the sites of contemporary farmsteads (Ch. 4). I shall first examine whether the buildings could have been of a form that goes unnoticed, and consequently shall undertake a short review of all of the buildings irrespective of identification score or type.

There are 26 buildings more or less definitely of the Early Iron Age which are not classified as three-aisled, two-aisled, or four-post structures. Most of these are indeterminable or uncertain buildings with earth-fast posts, although there are some possible U-shaped foundations and shallowly sunken foundations with no earth-fast posts. The absence of earth-fast posts could indicate that the walls bore the weight of the roof. An implication that the building style itself means that we fail to find a considerable proportion of buildings of the Early Iron Age is there, therefore, but quantitatively seems very slight.

7 Akershus should strictly be noted as an exception as the ratio is marginally higher in the RIA/MigP than in the RIA. The difference is, however, so small that it is irrelevant to this study.

Altogether there are 29 buildings dated to the Merovingian or Viking Periods or the transition to the Medieval Period. The majority are well-identified three-aisled buildings, but here I shall look in detail primarily at four of the nine buildings that are not categorized as three-aisled, which could potentially shed light on building practice towards the end of the Viking Period. The object is first and foremost to investigate whether or not there are secure footholds for proposing when the three-aisled building was passing out of use.

The nature of the building practice may be a factor in the fact that few Viking-period buildings have been excavated: this is shown by the exploration of the foundations left by Raulandstua. This was constructed in the 13th century and moved to the Norwegian Folk Museum in the 1890s (Tollnes 1973; Thun and Stornes 2007). When subjected to archaeological investigation, the site had remained untouched for nearly a hundred years, and apart from the traces of the *stua* ('lofthouse'), stones were found which had been used as foundations, a hearth, and a culture layer from Rauland II, probably a building of the Late Viking or early Medieval Period. Although this was not explicitly noted by the excavator, Roar Tollnes (1973), it is the case that none of the traces of Rauland II or Raulandstua would have been identifiable had the site been under cultivation. This building thus would not be picked up through excavations employing open-area stripping by machine of cultivated land. Few technical architectural details are known of the hall at Huseby in Vestfold, and it is not known whether or not it had earth-fast posts (Skre 2007c). It is likely, though, that the building technique was not one characterized by heavy internal earth-fast posts and therefore probable that this building would not have been noticed if it had lain in land under cultivation where mechanical area-stripping had been used.

One-aisled buildings do not occur before the Viking Period and also show that building practice was changing. Eriksen (2019) has found four of these, two of them in Østlandet. Garder *hus* 1 from Akershus has a wide date-span with radiocarbon dates running from cal AD 795–1435 (Helliksen 1997:tab. 7). Eriksen (2015:katalog nr. 29-2) has dated the building to the Late Viking Period and I have dated it to the Viking Period/Medieval transition. Helliksen and Eriksen have interpreted the building as one-aisled with earth-fast posts in the wall lines. I am not certain whether the surviving post-holes were part of the roof-bearing frames of a three-aisled building or the walls of a one-aisled building, and I have interpreted it as a possible one-aisled structure. The width of the building is in the range 5.0–5.5 m. All three-aisled buildings of the Late Iron Age with preserved walls are wider than this, even if a few buildings of the Early Iron Age, especially in the pre-Roman Iron Age, are narrower. In her much greater data sample, Eriksen (2015:katalognr. 02-1 and 09-1) includes two one-aisled buildings with well-identified walls, from Troms and Nord-Trøndelag respectively. Both are of the Late Viking or early Medieval Period, and both narrower than Garder *hus* 1. The limited width thus is no argument against Garder 1 having been one-aisled. The Viking-period building at Hedrum churchyard in Vestfold is classified by Eriksen as one-aisled (2015:katalognr 63-1) but as three-aisled by myself. This building has two or three pairs of post-holes approximately in the middle of the building lengthways and individual post-holes around the centre of the nave in the southern part. In the northern part there are no signs of post-holes inside the building, but the post-holes in the wall line are heavier than those in the other part of the structure (Berg 1998). The walls to the north may therefore have carried the roof without any internal roof-bearing posts. In the middle of the building, the post-holes may represent the internal roof-bearing posts of a three-aisled structure while the post-holes at the centre of the building may be remains of the internal earth-fast posts from a one-aisled structure. It is possible, therefore, that this building is a hybrid of one-, two- and three-aisled. When I have classified it as a three-aisled building, I interpreted the internal earth-fast posts as roof-bearing. I attached less significance to the absence of traces of pairs of roof-bearing posts in other parts of the building because I assume that that absence was the result of poor preservation.

The buildings I have referred to above were constructed in a way that implies that Viking-period builders were exploring styles of building other than the three-aisled to a greater extent than had been done before. The buildings discussed constitute nearly a third of the structures from the period, and this emphasizes the point that alternatives to the three-aisled building had become more common. The wall posts of the possible one-aisled buildings at Garder and Hedrum churchyard were earth-fast but bore the weight of the roof. The lafted building at Rauland and the hall at Huseby suggest that the three-aisled buildings were replaced or supplemented by buildings that did not necessarily have earth-fast posts. Building practice in the Viking Period may therefore have been of such a kind that the buildings will not be identified as a product of machine area-stripping

of cultivated land. The lack of long buildings with earth-fast posts in the Medieval Period does, however, appear to have been a distinctive feature of Østlandet. Both in Agder and in Vestlandet medieval buildings with such posts that appear to have much in common with the three-aisled buildings have been found (Diinhoff 2009b; Kile-Vesik 2014). This might, for one thing, be due to the laft technique being a building style that requires a lot of material, and rich supplies of timber in Østlandet making it easier to introduce this as a new way of building (Bugge and Norberg-Schulz 1990). My own view of the relationship between building practice and society as a reflexive one renders this change in practice essential to my understanding of society, something I return to in Chapter 9.

BUILDING PRACTICE AT REGIONAL AND LOCAL LEVELS IN ØSTLANDET

To this point in the present chapter, I have explored how building practice varied spatially and chronologically in Østlandet in the Iron Age. Here, I summarize the most important features. In some parts the discussion has been conducted at a detailed level, and complicated by the fact that a number of features appear at different times in various parts of study area. The variance in building tradition is a crucial element in my results so far. In order for the diversity and the changes to be maintained to the maximum degree possible in this summary too, I shall consider the geographical variance first and then the changes over time. It is also worth noting, though, that in some respects I attach less significance to Østfold because it is very different from the rest of the area studied and so difficult to incorporate in an overview.

Building practice in Østlandet had major regional and local differences but is constantly part of a whole Scandinavian picture. At a regional level I have demonstrated that there is a line of division between northern Østlandet (Oppland and Hedmark) and southern Østlandet where Herschend's mid-Scandinavian and southern Scandinavian entrance-types are found side-by-side. In Oppland and Hedmark the buildings more than 18 m in length and many shorter buildings are oriented E–W while a minority group of shorter buildings are aligned N–S. In the other administrative provinces the buildings more than 18 m in length and many shorter buildings are aligned N–S while it is a minority of shorter buildings that lie E–W. In both southern and northern Østlandet those minority groups account for around one-fifth of the building total. Buildings in Oppland and Hedmark did not reach their greatest lengths until the Migration Period, which is later than in the other provinces apart from in Vestfold where there are two long buildings of the Merovingian Period. The Migration-period buildings in Oppland and Hedmark are strikingly longer than those in other provinces. Neither two-aisled buildings nor four-post structures have been found in northern Østlandet. At a local level, building practice shows some distinctive features. The relatively limited evidence means that I have concentrated on an investigation of local building practices in Østfold, Vestfold and Akershus. Østfold stands apart from the other administrative provinces in having separate gable posts as early as the pre-Roman Iron Age, the only pent-roof building in the area of study and the only three buildings with an entrance in the gable end. Together with Akershus, Østfold is the only area in which two-aisled buildings have been found. The longest buildings in Østfold are of the Roman Iron Age while in all other provinces except for Buskerud the greatest lengths occur later. Akershus and Vestfold are distinct from both the central Scandinavian zone and from Østfold, and building practice in these two areas has a number of shared features.

Three-aisled buildings with earth-fast posts are, as has been noted, the most common form throughout the Iron Age. They are utterly predominant through to the Merovingian Period but this predominance appears to reduce in the Late Iron Age even if it is rather unclear what types of building supersede them. This holds for the entirety of the study area, although, as has been demonstrated, there are major regional differences.

Four-post structures occur primarily from the Roman Iron Age to the Merovingian Period and two-aisled buildings in the Early Iron Age. More buildings of the pre-Roman Iron Age in particular and of the Early Iron Age generally have been excavated than of the Merovingian and Viking Periods. Consequently our understanding of the Early Iron Age is greatest, while it is the case that the relatively few buildings of the Late Iron Age do reflect the fact that the building style was changing. The three-aisled buildings generally increase in length from the pre-Roman Iron Age onwards, with the longest buildings being found in the Roman Iron Age/Migration Period or within the Migration Period. After that the buildings become shorter again until length appears to increase once more in the Viking Period. Width followed broadly the same pattern. Separate gable posts were in use from the Roman Iron Age to the Migration Period or the Merovingian Period.

I have studied building practice in this chapter in isolation. It varied in time and space but can as a whole be viewed as presenting variations on a theme — the three-aisled building with internal earth-fast posts was the predominant house-type. In southern Østlandet it was supplemented in some periods by economic buildings in the form of four-post structures and two-aisled buildings.