ESTATE DIVISION: SOCIAL COHESION IN THE AFTERMATH OF AD 536–7

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ABSTRACT

In Scandinavia, large scale abandonment of farms and farmlands is recorded in the 6th century. Most scholars today argue that this was linked to contemporary plague epidemics and climate change. The different social strategies for adapting to this crisis are, however, poorly understood. This paper investigates some of the largest, excavated, elite settlements in eastern Norway, and how these developed throughout this period. One strategy to counteract the crisis seems to have been to divide old estates into smaller production units. The lack of labourers may have led to problems maintaining production levels on the estates. The fact that more than 70% of the larger settlements abandoned during the Migration Period are located on the boundaries of later historic farms, supports this theory. This is further strengthened by an in-depth analysis of five larger settlements in eastern Norway, which were abandoned or reorganised in the mid-6th century.

INTRODUCTION

In recent research, climate and cultural change have been linked. In the words of the climatologist Christian Pfister (2010): 'Whether and to what extent climatic factors mattered for social vulnerability needs to be determined through empirical analyses.' In recent years, archaeologists have shown a strong interest in the dramatic event of AD 536–7, 'The Dust Veil' (Tvauri 2014), while climatologists claim to have identified a longer cold period, from AD 536–660, termed 'The Late Antique Little Ice Age' (LALIA) (McCormick et al. 2012; Büntgen et al. 2016). Ulf Büntgen et al. (2016) emphasise the need for new case studies and warn against using climate models that are too simplistic and reductionist for explaining cultural change. At the same time, new aDNA research shows that pandemic plague spread north of the Alps in the 540s (Harbeck et al. 2013), and probably recurred until around AD 750, just as the plague in southern Europe (Little 2007).

This is also my starting point. In this study, a structuralist approach has been adopted. I do not perceive cultural evolution as determined by climate and crisis, but instead as important factors for societal developments, which create possibilities and new frameworks for different social groups.

This article will explore how Scandinavian elites dealt with what appears to have been a double-edged

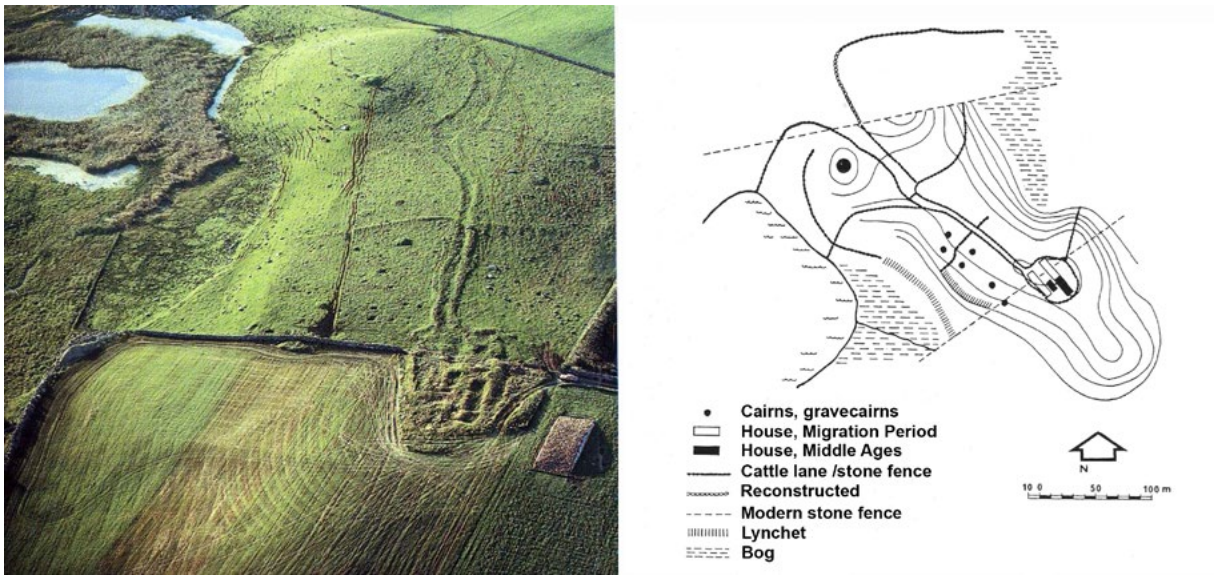

Figure 1. Bo Gräslund has intepreted the many abandoned farms in Scandinavia in the context of a major climate crisis after a volcanic eruption of AD 536. The farm Hanaland in Time, Jæren, was abandoned in the Migration Period and resettled in the late 10th century. It was finally deserted in the Late Middle Ages. Photograph from Myhre 2002, AM, UiS, Ragne Johnsrud, illustration from Myhre 1972, with additions by the author.

crisis, with plague and a colder climate over a prolonged period. The starting point will be taken in settlement evidence from south-eastern Norway, followed by an in-depth analysis of five larger settlements that were abandoned or reorganised at the end of the Migration Period (Fig. 5, Table 1).

Earlier studies of settlements in Scandinavia from the period AD 500–750 have focussed on small abandoned farmsteads near the outer edges of larger settlement areas (Rønneseth 1966; Myhre 1972; Widgren 1983; Fallgren 2006). These farms are preserved and visible 1,400–1,500 years after their abandonment, and consist of house foundations, cattle tracks, fences, clearance cairns, fields and graves (Fig. 1). These settlements were presumably linked to the lower social strata, and seemingly not attractive enough to be resettled, as they have been used for grazing until modern times.

A lot of Scandinavian settlement evidence has become available since c. 1990. Several hundred settlements and several thousand buildings have been identified through machine-based de-turfing (mechanical top-soil stripping) (Edblom 2004; Streiffert 2005; Söderberg 2005; Göthberg 2007; Iversen 2013). Many of these had more central locations than the classic abandoned farms. Examples include Veien in Ringerike, and Missingen in Østfold (Fig. 2). Here longhouses with integrated halls belonging to the higher echelons of society have been excavated (Bårdseth 2009; Gustafson 2016).

Somewhat simplified, it could be said that while early investigations focussed on small marginal farmsteads, later research also dealt with larger, central, estates. Both types of farm were abandoned in the Migration Period. The question is why, and the degree to which settlements were re-organised during this

Figure 2. Photograph taken in 2003 during reconstruction of the large hall at Veien, Ringerike, Buskerud. Photo T. Bjørnstad, CC-BY-SA.

turbulent era. This article will investigate whether these factors triggered the partition of larger estates.

In Norwegian settlement history, it has long been argued that the farms of the Middle Ages were the result of divisions of large Bronze Age farms, *urgårder*. This term is problematic, since it suggests a static origin for the rural settlement patterns (Pilø 2005; Gjerpe 2014). The so-called 'geometrical method' was introduced by the historian Håkon Hovstad in 1980. The geometrical shapes and sizes of the farms were seen as evidence '… of boundaries and spheres of interest for the original settlements …' (Hovstad 1980: 10). Prehistoric burial monuments, toponymical evidence (farm names) and the size and location of farms provided vague chronological indicators for the partition processes. At the time when this method was developed, little was archaeologically known about settlements and their chronology. Since then, however, the empirical situation has changed, as far more settlements now are known. Unlike Hovstad and other agrarian historians, I will use new archaeological settlement material, and to a higher degree analyse this in the context of the plague outbreaks and climatic crisis of the 6th century. The attempt to explain societal change based on climate history and plague is not new, rather the opposite. Research has, however, progressed considerably since the 'geometrical method' was introduced in 1980 and the first comprehensive studies of abandoned farms presented in the 1960s and 70s.

My hypothesis is that the social structure of Scandinavian society was radically changed between AD 500 and 750. Population levels were reduced by plague and agriculture had to be adapted to a colder climate. The farming 'middle class' grew in relative terms, with recruitment both from upper

and lower tiers of society. Parts of the elite were unable to sustain their estates and lost social status, while others abandoned marginal farms in favour of better land available elsewhere, and thus gained status. Production of grain was reduced and extensive animal husbandry grew. One central outcome of this investigation is that the large areas of abandoned estates seem to have been divided into smaller units in the 6th century. We also need to consider whether the members of the elite who managed to sustain their large estates became more powerful. If so, did a new 'super' elite arise in the Merovingian period, and was this a prerequisite for the emergence of the Scandinavian kingdoms?

PLAGUE AND CLIMATE CHANGE IN THE 6TH CENTURY

Several archaeological studies of the last 15 years have focussed on 'The Dust Veil', of AD 536; when a gigantic volcanic eruption created a global climate crisis, which led to the desertion of farms (Axboe 2001a; Gräslund 2007; Gräslund and Price 2012; Löwenborg 2012; Iversen 2013; Amundsen and Fredriksen 2014; Tvauri 2014). Ash and aerosols reached the stratosphere, shaded the sun and led to several years of crop failure (Oppenheimer 2011). This had serious effects for the northern, climate senistive, farming of Scandinavia and the Baltic area.

Frands Herschend (2009: 403), Lotte Hedeager (1992; 2011) and others have argued that also the preceding Migration Period was turbulent. The societies of northern Europe stagnated after the collapse of the Western Roman Empire as markets and elites' connections changed. The deteriorating climate and the events of AD 536 amplified these developments in the north. Unoccupied land, without obvious owners, opened new opportunities for estate acquisition and created the opportunties for the large land owners of the Viking Age (Gräslund and Price 2012: 434, 440; Herschend 2009: 404; Löwenborg 2012: 19-25). A similar development has been described also for Norwegian lands (Myhre 2002:202-203; Iversen 2013; Amundsen and Fredriksen 2014).

The Estonian archaeologist Andres Tvauri (2014), who recently reviewed this type of research, has found clear evidence of a crisis in Scandinavia and around the Baltic Sea. Pollen diagrams from Lake Hino in south-eastern Estonia show less human impact on the landscape between the 7th and the 10th centuries (Tvauri 2014: 35). Pollen analyses from Lithuania indicate an overall cooling of the climate after the Roman Climate Optimum. Pollen diagrams from Stążki, on the Baltic coast of northern Poland, show a cessation of human activity in the mid-6th century, after 3,000 years of previous occupation (Tvauri 2014: 36). Similar finds of recession have been made in Sweden, e.g. in Lake Mälaren (Sporrong 1971: 197), in Östergötland (Widgren 1983), Hälsingland, the rest of Norrland (Engelmark and Wallin 1985), Öland (Herschend 1988: 54), and also in Denmark (Hamerow 2002: 109-111). The question is whether this type of evidence can be connected to the archaeological settlement evidence. In my opinion, the answer is probably yes.

In Scandinavia, the archaeological evidence has many traits suggesting a large crisis. Research shows that the number of farms in Uppland (Sweden) was reduced by 75% during the 6th century (Göthberg 2007: 440). Another indication is that the number of Merovingian-Period graves found in Norway, equals only 5–10% of the total number of graves from the Migration Period (Solberg 2000: 180-182, 197-198). This may, of course, be a result of changing burial practices, but it seems clear that many Early Iron Age burial sites were abandoned at the beginning of the Merovingian Period. This is seen, for example in Västmanland, Sweden (Löwenborg 2010; 2012: 12-13). In Denmark, the number of hoards increased in the 6th century (Axboe 2001a; 2001b; 2004; Hamerow 2002: 109-111), which

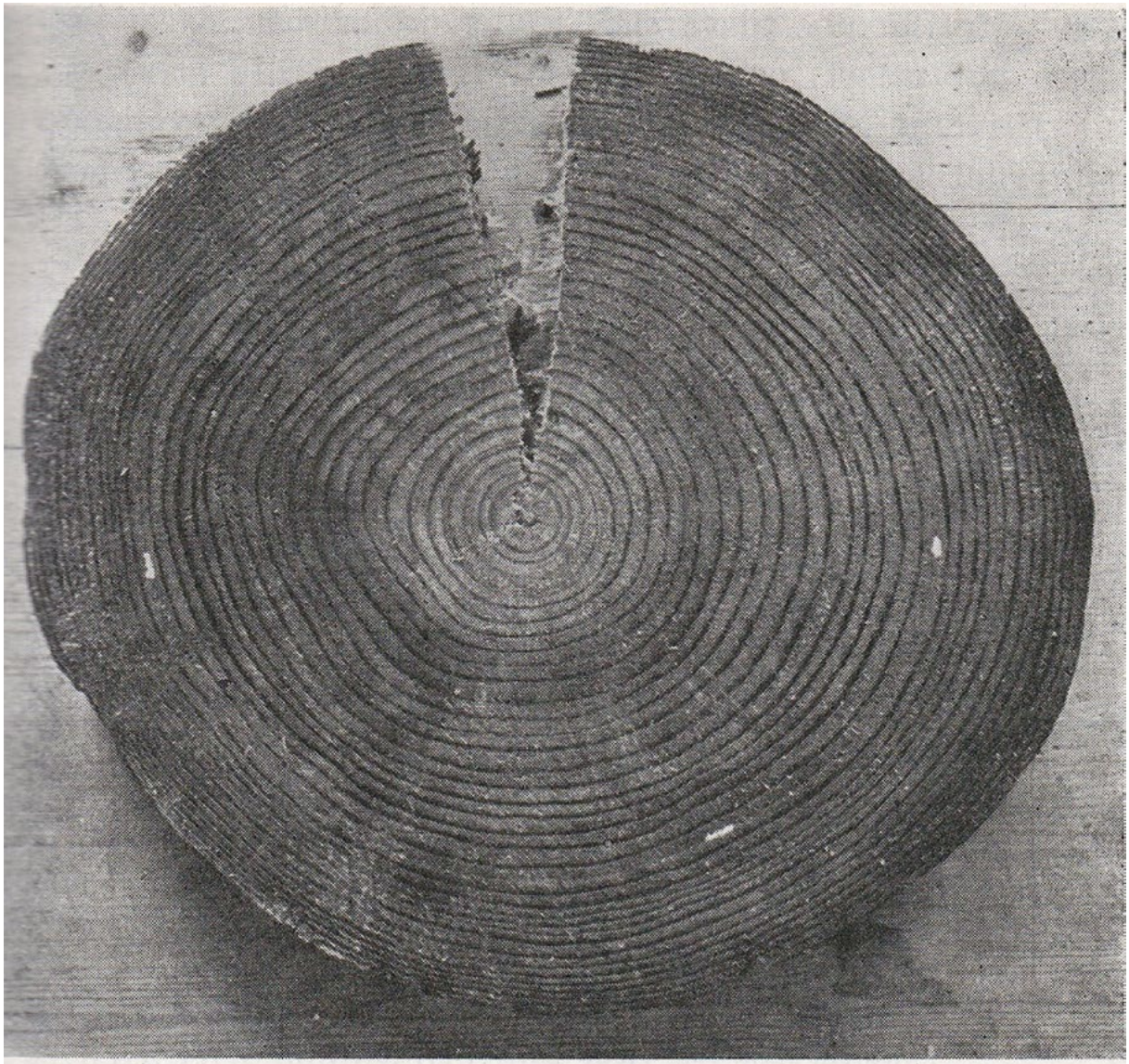

Fig. 9. Stammeskive fra tømmerlag I i Raknehaugen.
«Årring nr. 15» er merket med tre hvite flekker.
Tree section from timber layer I in Raknehaugen.
»Annual ring No. 15» is marked with three white dots. (Fot. H. Roll-Hansen.)

Figure 3. Tree section from Raknehaugen ('the Rakne mound') built in AD 552. The timbers used as building material were felled in 551. The abnormal tree-ring (no. 15) represents AD 536 is marked in white. Photo H. Roll-Hansen, after Ording 1941.

either suggests that the owners died (Tvauri 2014), or that offerings to the gods became more common in times of crises (Axboe 2004). It has also been shown that contacts between Scandinavia and the outside world ceased, or were significantly reduced, and not re-established until the 8th century (Høilund-Nielsen 2006: 48; Arrhenihus 2013). All this may be interpreted as indications of a crisis. The question is of what type, and how it affected settlements and population development.

The theory of 'The Dust Veil' has, in the Scandinavian context, been most systematically described and analysed by Bo Gräslund (2007), and further developed by Gräslund and Neil Price (2012). Gräslund emphasised mythological stories about the Fimbulwinter and Ragnarok in *Gylfaginning* and *Kalevala*. By using Late Antiquity and Chinese sources, he argued that the start of this crisis stretching over several years was AD 536. This was further supported by material produced by natural scientists. Two summers failed to appear between March 536 and September 537 (Gräslund 2007: 104, 105). This is corroborated by unusually high frequencies of sulphates in the ice of eastern Antarctica (540 ± 17 years) and Greenland (534 ± 2 years), interpreted as traces of a volcanic eruption. Later ice-cores studies have also indicated that there were several eruptions at this time (Sigl et al. 2015).

At the beginning of the 20th century, Scandinavian botanists, e.g. Johan Rutger Serander and Rolf Nordhagen (1933), showed great interest in pre-historic climate. A. W Brøgger (1933, 28) brought these ideas into archaeological research as seen in his work 'Sigd, Ljå og snidill' (Sickle, Scythe and Pruning Knife). Brøgger argued that the poor climate was attributed far too much importance and was not convinced of the existence of a Fimbulwinter. More recently it has been shown that the crisis is observable in the dendrochronology of timber found in the largest burial mound of northern Europe, the *Raknehaugen* in Romerike (Norway) (Fig. 3) (Skre 1997; 2016).

A new large meta-study shows that a cold period between AD 536 and 660 is mentioned in and corroborated by all climate studies in the Northern Hemisphere, covering the last 2,000 years (Büntgen et al. 2016). It has been named the 'The Late Antique Little Ice Age (LALIA)', and has been considered as an additional environmental driver of crop failure, plague and famine, as well as a possible trigger for political, societal and economic turmoil. The changing climate is seen to have impacted on the transformation of the East Roman empire, the collapse of the Sasanian Empire, migrations of the Asian steppe and on the Arabian Peninsula, as well as political turbulence in China (Büntgen et al. 2016). The direct links between climate and cultural change have, however, been rarely studied.

Somewhat simplified, recent research suggests three main phases of climate change in Scandinavia in the last 2,000 years: 1) a warm period during The Early and Late Roman Iron Age, 2) a colder period from AD 500 to 1100, and 3) another warm period during the High to Late Middle Ages, which was followed by the so-called 'Little Ice Age' (c. 1550–1850). The annual mean temperature varied c. 1.5° C from AD 1 to 1000. The Roman Iron Age (AD 1–400) was a relatively stable warm period. Temperatures dropped markedly in the 6th century, but recovered around AD 600. In the 8th and 9th centuries it grew colder again, but from the 10th century to the High Middle Ages temperatures again raised to Late Roman Iron Age levels (Lauritzen and Lundberg 1999) (Fig. 4). These results are confirmed by other studies based on dendrochronology and summer temperatures (Esper et al. 2012), as well as studies of glacier dynamics (Svendsen & Mangerud 1997; Nesje 2009).

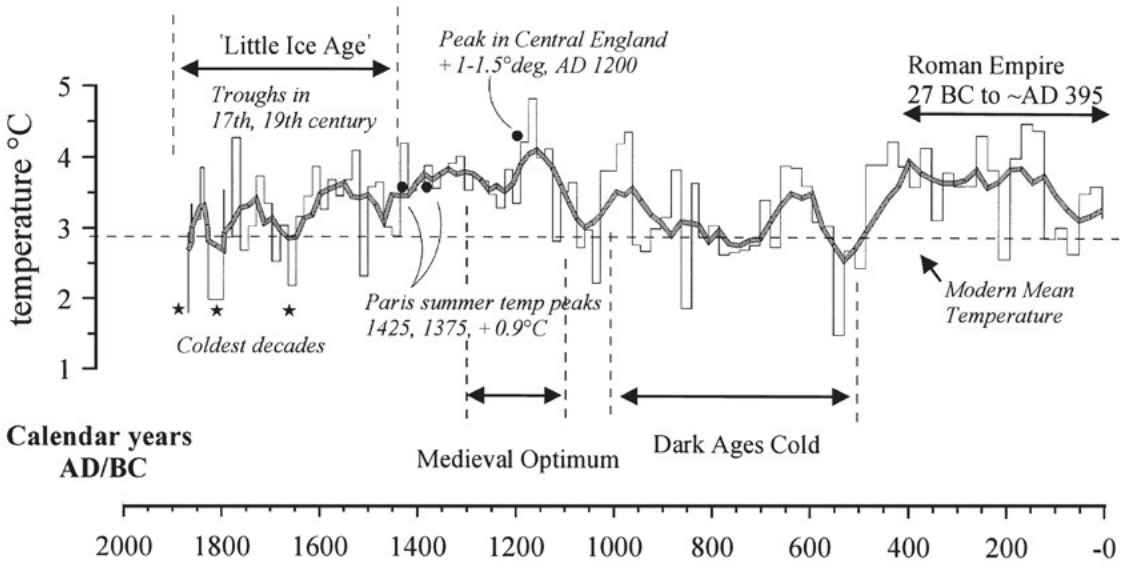

Figure 4. Changes in temperature in Scandinavia over the last 2,000 years. Based on speleothem-data from Søylegrotta ('the Søyle cave') in Nordland. After Lauritzen and Lundberg 1999: 668.

These climate changes may suggest that the Scandinavian conditions for farming deteriorated from the Early to the Late Iron Age. (See climate and vegetation zones in Norway in Hjelle, Prøsch-Danielsen and Soltvedt: Figs. 1-3, this volume) The warm climate of the Roman Iron Age contributed to good growth conditions for cereal and other cultivated plants, while the colder climate of the Late Iron Age led to shorter growing season and poorer crops, thus favouring animal husbandry. This may have changed the balance between cereal and cultivated plants on the one side, and animal husbandry on the other.

Plague outbreaks have often been seen to explain the abandoned farms in Scandinavia, although mostly as a theoretical possibility, rather than reality. A pandemic outbreak of plague is documented in southern Europe in AD 541/2, which flared up on several occasions until c. AD 750 (Little 2007). It has not been clear whether this plague spread to northern Europe and Scandinavia, but in 2013 the discovery of aDNA from the bacteria *Yersinia pestis,* was secured from three individuals in a burial ground in Aschheim, near Munich in Germany (Harbeck et al. 2013). This confirms that the plague spread north of the Alps, perhaps through the Brenner Pass (Little 2007: 20), and most likely also affected Scandinavia.

It is estimated that between 1/3 and 2/3 of the Norwegian population died in the plague outbreaks of the Late Middle Ages (Benedictow 1992: 73). It is well-known that owners of large estates were unable to run them, their income dwindled and labour costs rose. The elite in England tried to keep wages and prices down through the introduction of 'The Ordinance of Labores' in 1349 (Cartwright

1991). In AD 544, similar measures were used, when Emperor Justinian I (AD 527–65) declared that the plague was over and that prices and wages were to return to previous levels (Little 2007: 22). Recurring epidemics kept the population down and mostly affected younger people, who were not immune to the plague. The Greek poet Agathias Scholasticus of Myrina (c. 536–82/94), the main source of information for Emperor Justinian I, tells us about a plague outbreak in AD 558 that affected the young above all. Another epidemic, in Basra in AD 707, was named 'the plague of the maidens' by contemporaries (Little 2007: 18). The plague of the Late Middle Ages shows possible similarities to those of 542–767, since it also affected and killed many young people (Benedictow 1992: 20).

The 6th-century crisis, however, had a different social and economic context than the late medieval crisis. Before the 13th century, around 20% of the Scandinavian population were slaves (Myrdal 2011: 293-295). By the 14th century slavery had been abolished. For maybe as much as 60–80% of Norway's farm land, a tenant system was in place, governed by supply and demand of land. In 1661, only 19% of the land in Norway was farmed by landowners themselves (Bjørkvik and Holmsen 1978: 100). The land tenure system, which was governed by contracts and lacked social obligations, was based solely on economic relations between landowner and tenant, previously discussed by Tore Iversen (1995; 1996; 1997).

Lester K. Little (2007: 23) has argued that the lack of labour in the 6th century may also have affected the running of large estates. Possible evidence is found in the laws of the early Germanic kingdoms, which contain regulations regarding runaway slaves. Similar regulations are found in the much later Scandinavian provincial laws. The Law of the Gulathing (c. AD 1150) promises a retriever's reward for the return of a slave in chains (i.e. returned against her/his will) (G 68). Naturally, Scandinavian medieval law cannot be attributed to circumstances of the 6th century. Control over humans must have been important for owners of large estate in the 6th century as well.

MATERIAL AND METHOD

I have chosen the southern and eastern parts of Norway (Sørlandet and Østlandet, respectively) as the basis for my analysis. Changes in these areas can perhaps reflect developments important for central Scandinavia as a whole. This study comprises 10 out of Norway's 19 counties.

In my earlier research I have shown that farm abandonment within this study area was more extensive during the Migration Period than in any other pre-historic period (Iversen 2013). In this area by 2010, 139 settlements with a total of 450 buildings had been investigated (Fig. 6). A third of the settlements were abandoned in the Migration Period (38 out of 139) (Fig. 5). Larger settlements with long continuity will be investigated. This study has been limited to settlements with five or more buildings. A total of 17 such sites with the last occupation phase in the Migration Period have been identified (Table 1).

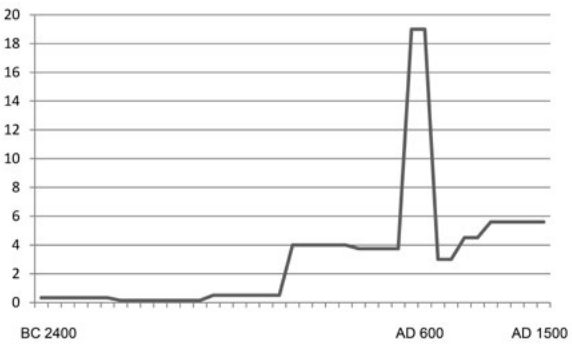

Figure 5. Abandoned sites in south-eastern Norway, between 2400 BC and AD 1500, displayed by century. N = 139. After Iversen 2013.

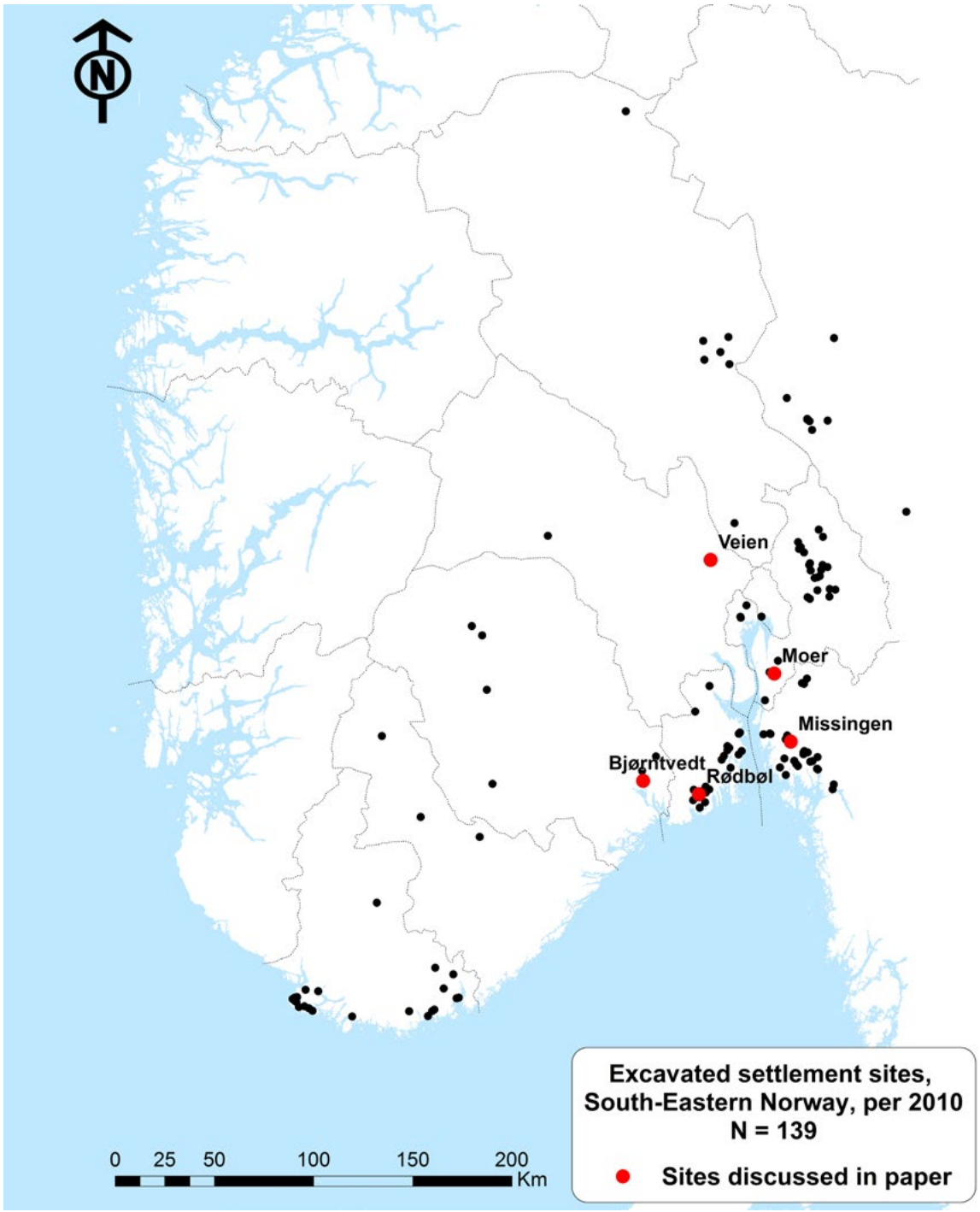

Figure 6. Settlements in south-eastern Norway excavated before 2010. The five case-studies are marked with red dots. Map Frode Iversen.

Case study area	Name	Farm no.	Council	County	Year investigated	No. of houses	ID no. Askeladden / Other
1	Bjørntvedt (Kongerød)	221	Skien	Telemark	2008	6	92057
2	Rødbøl	2040	Larvik	Vestfold	2005	8	112764
3	Bråten (Veien)	48	Ringerike	Buskerud	2000	6	71137
4	Moer	54	Ås	Akershus	1997	12	76045
5	Missingen	84	Råde	Østfold	2003	6	100016
	Prestegården	38	Kristiansand	Vest-Agder	1971	25	23285
	Augland	20	Kristiansand	Vest-Agder	1974	9	62150
	Lunde	71	Søgne	Vest-Agder	2001	6	134423
	Ringdal	2041	Larvik	Vestfold	2005	21	112762
	Korsegården	27	Ås	Akershus	1989	9	Excavation report
	Åmål	148	Nannestad	Akershus	1995	8	Excavation report
	Nannestad	26	Nannestad	Akershus	2004	6	54786
	Børgen	30	Sørum	Akershus	2003	5	Excavation report
	Habberstad	114	Ullensaker	Akershus	1993	5	Skre (1998: 140, 141)
	Rør	3	Rygge	Østfold	1996	5	103656
	Busgård	1003	Sarpsborg	Østfold	2005	5	100239/ 100240 /100243
	Skøyen	5	Spydeberg	Østfold	2006	5	97632 (Loc. 3)

Table 1. *Large settlements in south-eastern Norway abandoned in the Migration Period, excavated before 2010. 17 settlements with five or more buildings have been identified, of which five sites are investigated in detail in this paper.*

At these settlements, buildings from the pre-Roman Iron Age (BC 500–1), Roman Iron Age (1–400 AD), and Migration Period have been identified, but not from the Merovingian Period or later. It is unusual with more than two or three simultaneous households at these settlements. What caused the abandonment of these seemingly viable, well-established settlements in the Migration Period?

The representability and reliability of the material must be taken into account. The study area encompasses 30,880 of 55,688 land-registered farms, i.e. 55% according to the register entitled *Norske Gaardesnavne* ('Norwegian Farm names'). Less than 0.5% (135) of the registered farms in the study area have been investigated archaeologically. Lowland and coastal areas are overrepresented. Nearly half of the settlements are situated in three counties: Østfold, Vestfold and Akershus, where a lot of building activity has taken place in the last two decades. The valleys, forests and mountains of Agder and eastern Norway are therefore underrepresented in this material.

Five farms have been selected for in-depth analysis in order to understand the processes leading to abandonment: Bjørntvedt (Telemark), Rødbøl (Vestfold), Veien (Buskerud), Moer (Akershus) and Missingen (Østfold) (Fig. 6; Table 1). With the exception of Moer, these were all large estates in the Middle Ages and later (so-called *fullgårder*, i.e. paying full tax). These examples may shed light on how the elite dealt with the challenges of the 6th-century.

For each of the farms to be studied in detail, a 'cultural geographical' context has been devised (Figs. 7, 10, 12, 15 and 17). This includes farm boundaries, historical farmsteads (*tun*) and older roads, documented on historic maps from the 18th and 19th centuries. Information regarding farm sizes is available from 16th and 17th-century sources, together with more scattered information from the 13th and 14th centuries onwards. The land rent for these farms came to c. 1/5–1/6 of their production capacity, as will be shown below. There is very little archaeological evidence showing when the historic farms were first established which limits this investigation.

I have carried out a thorough review of finds and ancient monuments in the study areas in the data base of artefacts of the Norwegian Museum of Cultural History and the cultural-heritage data base *Askeladden*. Whether fire cracked stones and traces of cooking and brewing are present near the farmsteads has not been surveyed in this study (see Grønnesby, this volume). In a few cases, pre-historic graves are present near the historic settlements which can provide possible, although unreliable, data regarding the settlement chronology. I have also investigated farm names suggesting partitions of the farming settlements. This will be explained in more detail below.

RESULTS

This study shows that 12 of the 17 settlements with five or more buildings are situated between later farm areas, which indicate that partitions have taken place. These are: Åmål, Rødbøl, Nannestad, Bråten (Veien), Bjørntvedt, Missingen, Børgen, Rør, Busgård, Ringdal and possibly Skøyen. Bjørntvedt, Rødbøl, Veien and Missingen will be examined in greater detail (case studies 1, 2, 3 and 5).

Four of the 17 larger abandoned settlements are situated by historically known farmsteads centrally placed within a farm territory: Prestegården, Moer, Haberstad, and possibly Lunde, which suggests continuity of use. Moer illustrates this well (case study 4). The settlements from the Early Iron Age seem to have been bigger than those of historic times, which may suggest partial abandonment, i.e. that some farm units were deserted while others continued in use (see Bjørdal, this volume).

Specialised settlements have only been established at one of the 17 identified sites. This was Augland in Vest-Agder, which specialised in pottery production (Rolfsen 1980). I have not examined this site further.

THE FIVE CASE STUDIES

This section contains a short presentation of five farms in different counties in order to provide a clearer picture of the nature of farm abandonment.

Case study 1. Bjørntvedt, Skien and Porsgrunn (previously Solum and Eidanger), Telemark

This settlement is situated on the boundary between the large farms of Bjørntvedt (221) and Klyve (223) (Fig. 7). The site was investigated in 2008 when 8,800 sq. m was deturfed (Skogsfjord and Glørstad 2010) (Fig. 8). In Area A, six houses were found, in Area B one house with two phases, and in Area C there was one house (Fig. 9). The houses had atypical shapes with curved gables and non-roof supporting posts. The excavators suggested this was a less substantial house than a longhouse, perhaps with a hip roof. The latest C14-date, derived from house 1, was AD 545–600. Houses 2 and 4 were from the Late Bronze Age, house 5 from the pre-Roman Iron Age, and house 6 from the Bronze Age/pre-Roman Iron Age. In Area B houses from Roman Iron Age/Migration period were found, and in Area C, there were houses from the transition between the Bronze and Iron Ages. No indications of activity in the Late Iron Age and Early Middle Ages were found.

Four farms may have formed part of a large estate. These are Bjørntvedt and Klyve, and also

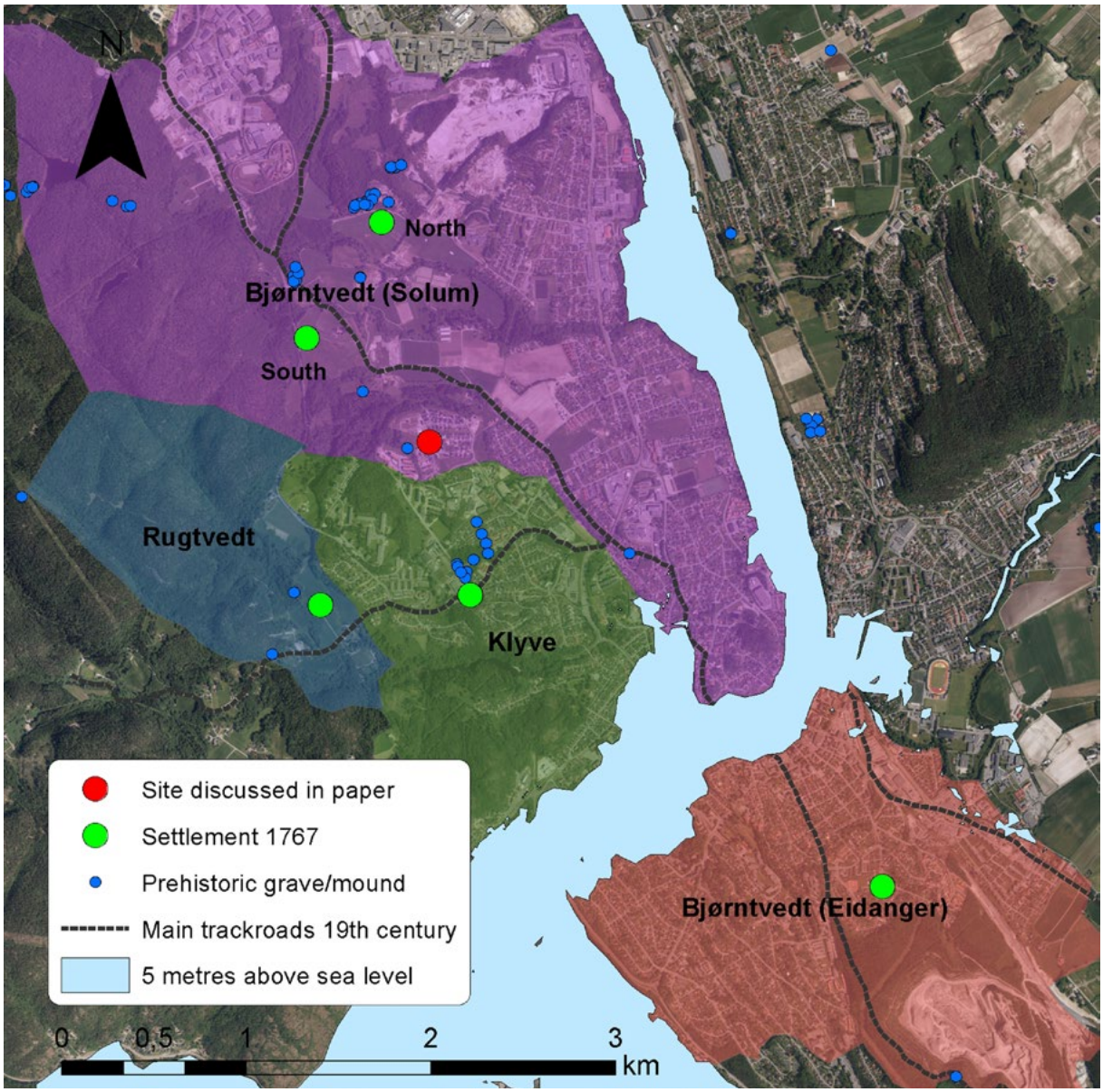

Figure 7. Bjørntvedt. The large estate of Bjørntvedt in the County of Telemark is situated at the end of the Frier fjord and the estuary of the River Far. Since the water levels of the 6th century were five metres higher than today the river was navigable far inland, and there were natural landing sites on both sides of the estuary. This river later formed the boundary between the two herred ('hundred') of Eidanger and Solum. When Porsgrunn emerged in the 17th and 18th centuries, the urban settlements on both sides of the river were integrated into Eidanger. The old estate included land holdings on both sides of the river, and the investigated site is situated on the boundary of a supposed primary division. Later three farms were known in this area: Bjørntvedt, Klyve og Rugtvedt (when the two Bjørntvedt farms on either side of the river were counted as one farm). The historic farmsteads were initially documented in the 14th century, as well as on maps from 1767 and the 19th century. There are also burials close to the historic farmsteads indicating that the division into smaller farms was made during the Iron Age. These burials have not yet been dated. Map Frode Iversen.

the small farm of Rugtvedt (225) which may have been parcelled off from Klyve. On the eastern side of the river, in Porsgrunn Municipality (previously Eidanger), there was another farm named Bjørntvedt (47). An older Bjørntvedt farm must originally have held land on both sides of the river.

Together, these four farms form a natural delimited farming area with a total of five farm yards, shown on a map from 1767 (Moseng 2006: 128). Bjørntvedt, in Solum, was always divided in a southern part (containing two units) and a northern, one-unit, part, known from c. 1390 (RB 18, 19, 38). This farm thus had two farmsteads. The two households of Bjørntvedt in Eidanger, however, shared one farmstead. At Klyve there was one unit in 1602, and two, sharing a farmstead, in 1647. Rugtvedt had one settlement, noted in 1767 and earlier.

Pre-historic burials are found near some of the farm yards. At both Klyve and Bjørntved (Solum) there are large mounds, with a diameter of more than 30 metres (Rolfsen and Larsen 2005). The engineer J. Christie, of the Museum of Skien, excavated/robbed Bjørntvedt in Solum, in the early 20th century. He found several Early Iron Age burials, but did not record their location (Gjone 1965: 37). Both burial mounds located closest to our excavated site have looting pits, perhaps remnants of Christie's excavations. In 1880 another burial from the Early Iron Age was found at Bjørntvedt in Solum (C 10095, C 10096 and C 10101). No location was recorded.

By the northern farmstead of Bjørntvedt in Solum, burials – including a cemetery with eight burial mounds – indicate that also they were in place in the Iron Age. At Bjørntvedt in Eidanger, a burial by a track way on the southern boundary of the farm functions as a territorial marker. Several Late Iron Age burials have been found in the area of the suggested estate. A bowl-shaped bronze buckle was found in a burial mound at Bjørntvedt in Solum (C 20305), and in a demolished mound in 'Bjørndalen' there was a male burial (C 23083), which contained e.g. a sword and an axe. Bjørndalen is situated between Klyve and Bjørntvedt in Solum, next to an old trackway. At Rugtvedt, finds from the Viking Age have also been made, a head from a throwing spear (C 28796) and an iron spearhead (C 37162). It is not clear whether these came from a grave. It is possible that the two cemeteries along the road to Klyve indicate that this farm was parcelled off in the Iron Age.

How did the partition process of large estates develop? Klyve and Bjørntvedt were both large farms in their own right. In 1647, the two farmers at Klyve paid a total of 16 hides in land rent, while the three farmers at Bjørntvedt in Solum paid as much as 24 hides. Rugtvedt was considered a fully taxable farm and paid 4 hides, while Bjørntvedt in Eidanger paid a total of 12. These were very large farms, illustrated by the fact that northern Bjørntvedt in Solum, with its 24-hide land rent, was the largest farm in the parish and one of the largest in Telemark's shire in 1647. An initial division may have been parcelled off from southern Bjørntvedt/ Rugtvedt, which also included Klyve and eastern Bjørntvedt. The northern farms paid a 28-hide land rent in 1647, and eastern Bjørntvedt / Klyve 28 hides. If this was the case, Klyve and Rugtvedt must have been parcelled off later. The total area is 1,878 hectares and my suggestion for a primary division results in a relationship of 1,103 to 775 hectares for each part (Table 2).

To conclude, this site is located on the boundary between Bjørntvedt in Solum (221) and Klyve (223). Together with Rugtvedt (225) and Bjørntved in Eidanger (47), these farms may have been part of a large estate in, and before, the Migration Period. The settlement was abandoned in the latter half of the 6th century, and by historic times, the old estate had been divided into four productive farms paying full tax. These farms were among the largest in the area in the Middle Ages (c. AD 1000–1500).

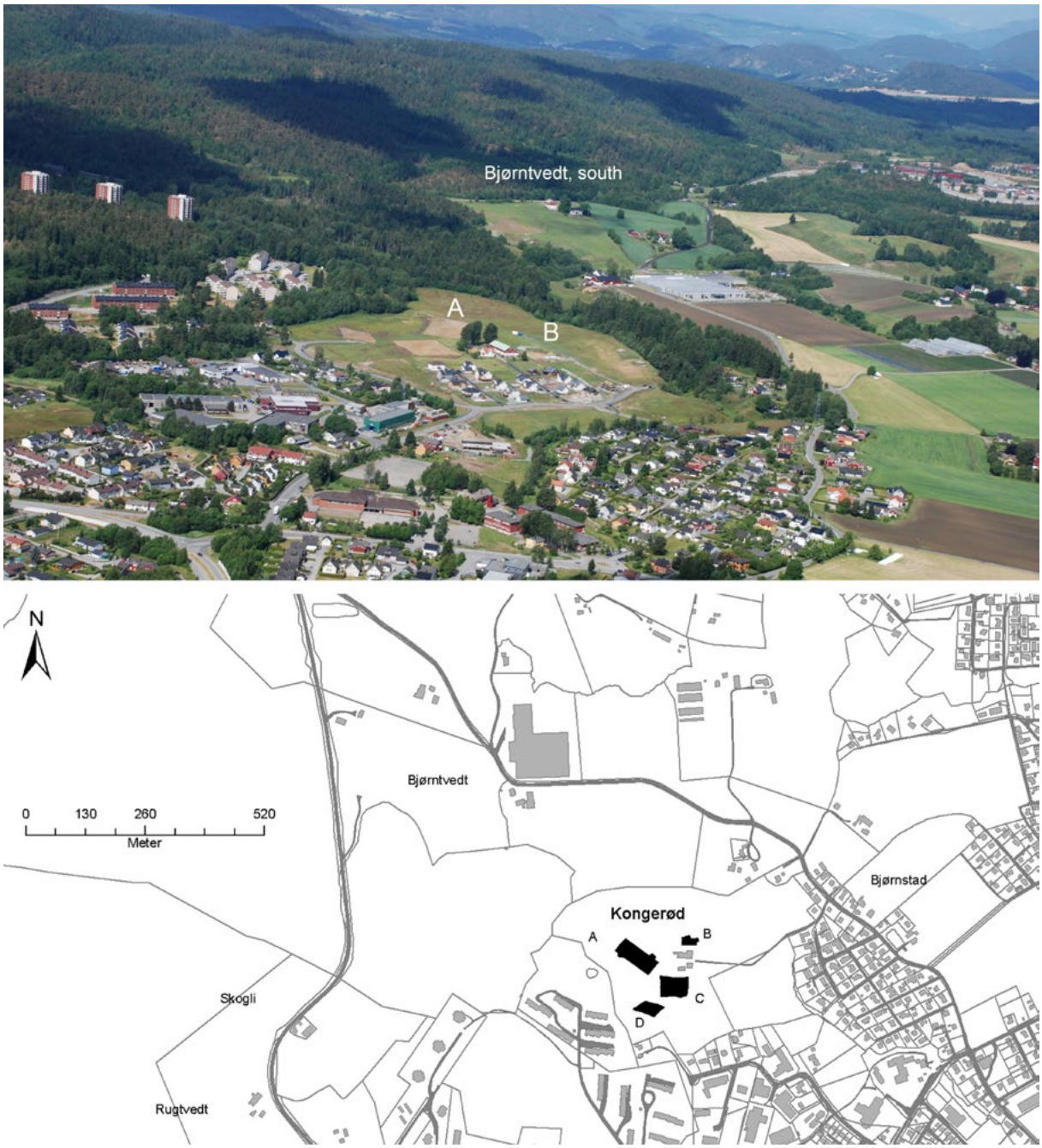

Figure 8. Overview Bjørntvedt. Aerial photo and map of the Bjørntvedt excavation area. Skogsfjord and Glørstad (2010) / Tom Heibreen, Museum of Cultural History.

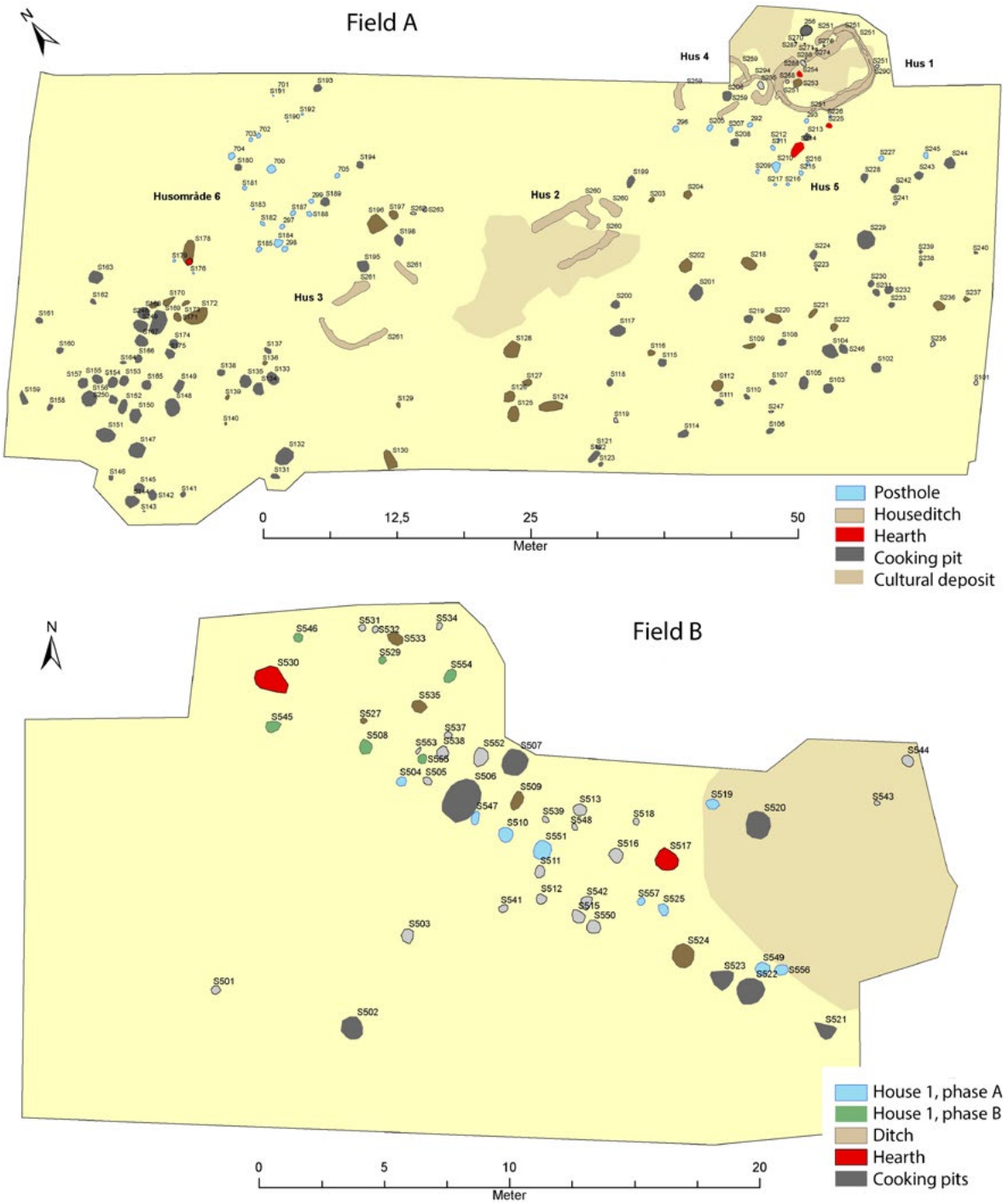

Figure 9. The Bjørntvedt excavation area. Skogsfjord and Glørstad (2010) / Magne Samdal, Museum of Cultural History, additions by author.

Case study 2. Rødbøl, Hedrum, Vestfold

At Rødbøl in Vestfold, an Early Iron Age settlement was excavated when the new E18 Motorway was constructed (Gjerpe and Rødsrud 2008: 143-193) (Fig. 10). The excavation covered c. 4.200 sq. m. Houses 2, 3, 5 and 6 were all dated to the Roman Iron Age and the Migration Period (Fig. 11). Three burials from the Roman Iron Age and one Viking-Age burial were also investigated. The large number of post holes indicates that further houses may have existed. All houses had the same orientation. Christian Rødsrud argued that there were two or three contemporary houses in the farm yard, and that the largest longhouse measured 45x7.5 metres. This suggests a relatively large farm with one or two simultaneous units.

This site (marked red on Fig. 10) is situated on the boundary between eastern Seierstad (2037) and Rødbøl (2040) farms. In 1604, Seierstad consisted of three farms paying full tax: southern Seierstad (2035), northern Seierstad (2036) and eastern Seierstad with its sub-unit Grevet (mentioned in the 1390s). Lorens Berg argued that the three part division is '… probably very old' (Berg 1913: 241), although there is no clear evidence. These three Seierstad farms each paid a four-hide land rent in 1647. Rødbøl, however, only had one unit in 1604 and paid a five-hide land rent in 1647. The total size of Seierstad was c. 386 hectares and Rødbøl covered c. 213 hectares, and there was a relatively large difference in land rent and production capacity (Table 2).

The county map ('grevskapskartet') shows that in c. 1820 the farmsteads were clustered in an area where the boundaries of the three Seierstad farms joined. Rødbøl had, at this time, one large farmstead and a smaller one in the south, which was probably a result of a division in c. 1655 (Berg 1913: 254). Our site was situated c. 700 metres from both the main Rødbøl farmstead and the three at Seierstad. It is therefore located on the border between the two later farms. The question is whether it represents an older settlement for an area, which included the two later farms.

If placed in a settlement-burial context, the one or several farmsteads at Seierstad seem to be of Iron Age origin. There are two undated burial mounds on the ridge (Hesteløkka), immediately north of the Seierstad farmsteads. Farm-name chronology is an unreliable method, but the *stad* element of farm names is traditionally interpreted as being of Late Iron Age origin, which corresponds to the Seierstad division.

200 metres southwest of our site there was a pre-Roman Iron Age settlement (Rønne 2008: 301-316). Viking Age burials have been found on top of both house plots, which are situated on either side of the later farm boundary. Additionally, in the area in-between the plots, a late Viking Age Urnes brooch was found, which possibly derives from a burial (Rødsrud 2005).

To sum up: our settlement must be interpreted as an older one, shared by the later farms of Seierstad and Rødbøl. This potential old estate may have been split up at the end of the Migration Period, when the settlement was abandoned. The settlement area, on either side of the new farm boundary, was used for burial. The two farm territories were more equal in size (1:1.8), than in terms production capacity (1:2.4). If an equal division was initially made, activties such as the clearing of land at Seierstad during the Viking Age and Middle Ages, may have increased the yield beyond the possibilties of Rødbøl. It must, however, be taken into account that future finds of other settlements on these farms may lead to new interpretations.

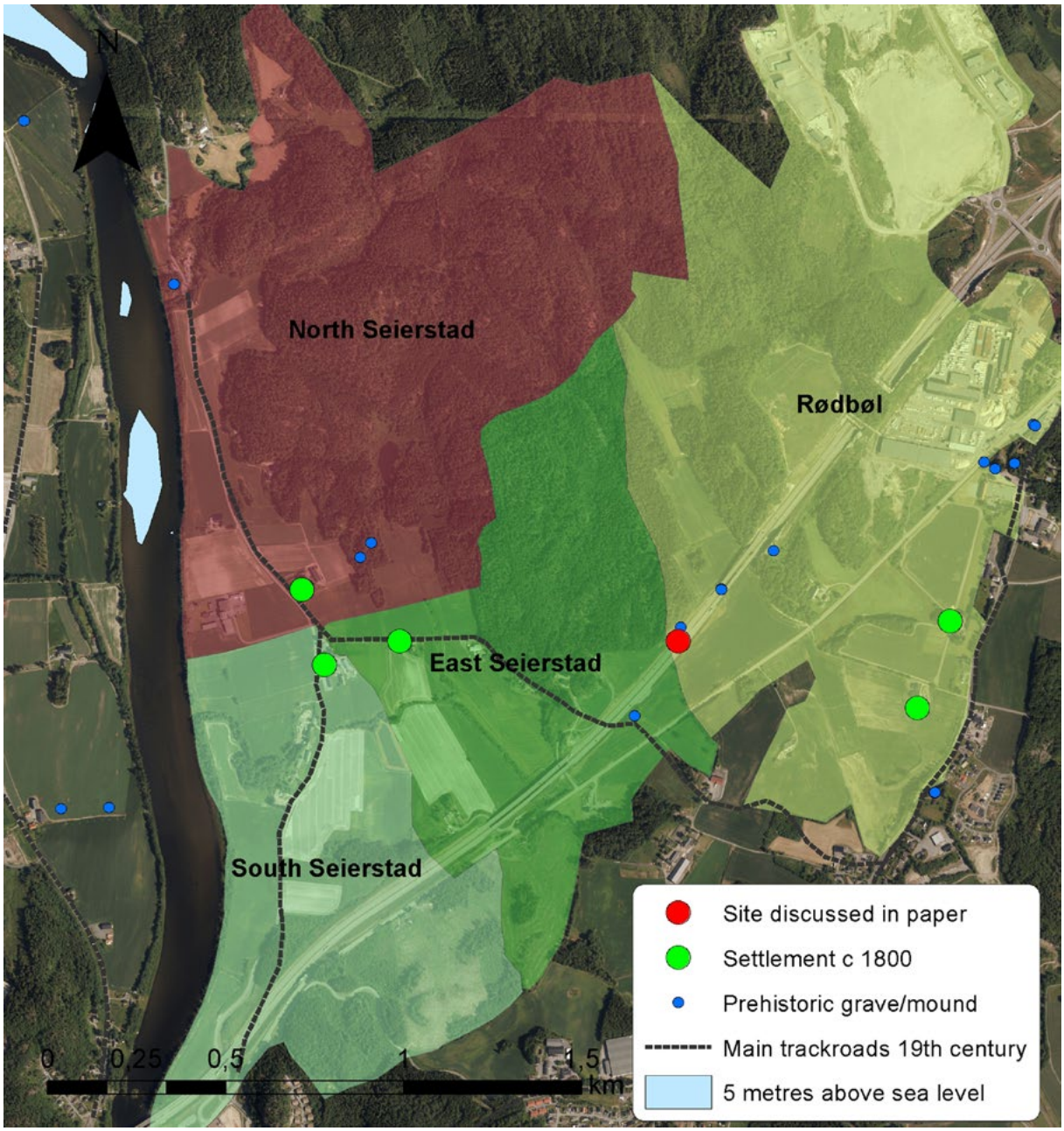

Figure 10. Rødbøl. Around AD 500, Rødbøl and Seierstad in the County of Vestfold may have been part of a larger estate situated by the estuary of Lågen (water levels were then five metres higher than today). The later Seierstad farm was divided into three units, each the size of Rødbøl. The historic farmsteads in the area are mentioned in written sources from the Late Middle Ages onwards, and also shown on the county map (N grevskapskartet) from the beginning of the 19th century. Undated burial mounds are found close by the old farm yards, and it is possible that a division into smaller farms took place in the Iron Age. Map Frode Iversen.

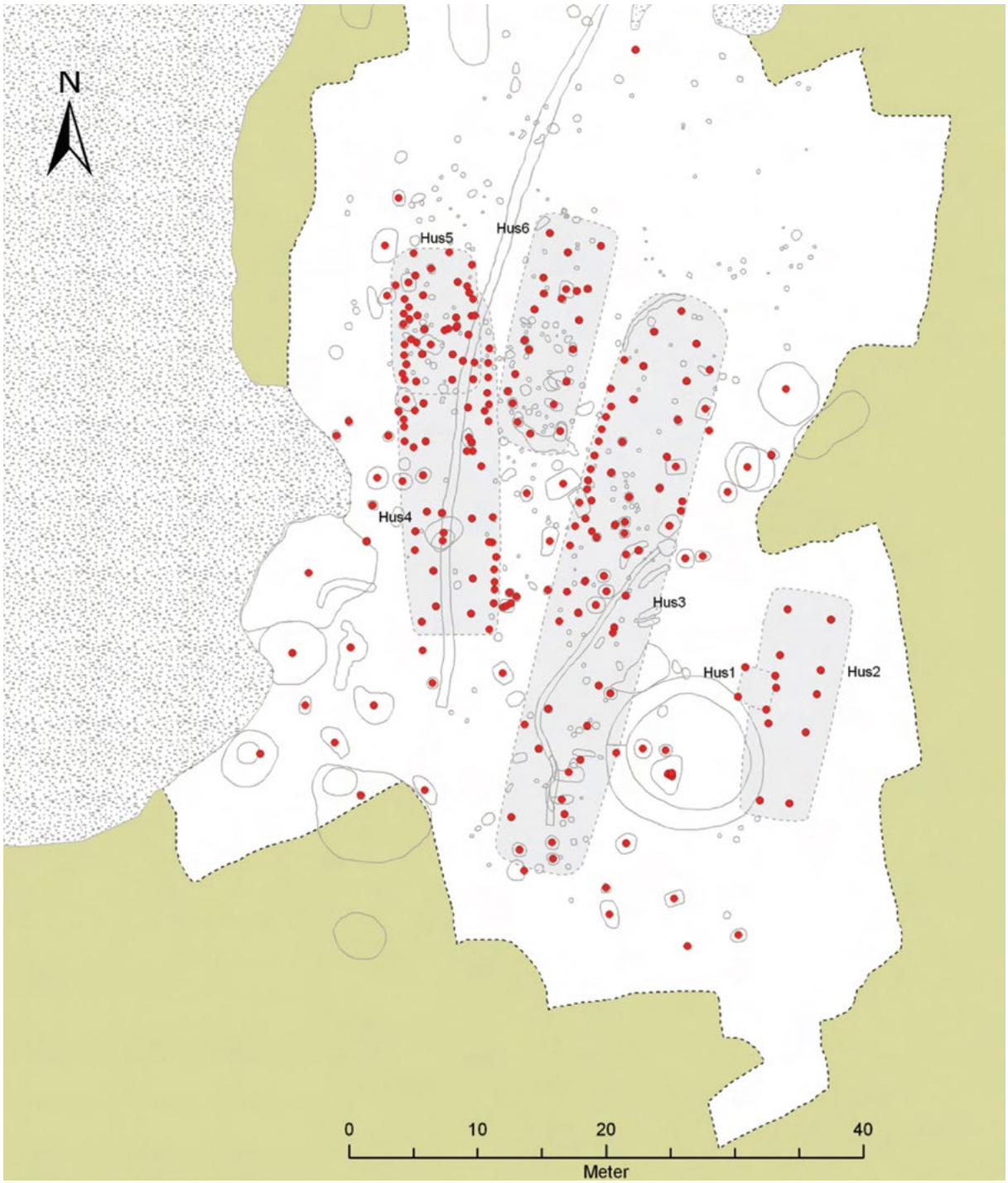

Figure 11. Excavated houses and structures at Rødbøl. The site was abandoned 6th century. After Gjerpe and Rødsrud 2008.

Case study 3. Bråten (Veien), Norderhov, Ringerike, Buskerud

This site is located on the small farm Bråten (48) between the larger farms, Sørum (47) and Veien (49) in Norderhov (Fig. 12). Five houses, from the pre-Roman Iron Age to the Roman Iron Age/Migration Period have been excavated (Fig. 13). House V, from the Roman Iron Age, measured 47x8 metres and had 17 pairs of roof-supporting posts (Gustafson 2016). The last phase of settlement (house IV) is stratigraphically dated to the Migration Period (Gustafson 2016: 113). Next to the settlement, there is a large contemporary burial ground with 200 burials, dated to AD c. 1–500 (Gustafson 2016: 131), and single finds of earlier and later dates (Skre 1998: 246) (Fig. 14). It has been argued that Bråten, mentioned in 1723, was separated from Veien, but since Bråten has land holdings inside the area of Sørum it is more likely that it was separated from Sørum (Fig. 12). The settlement therefore seems to be situated just 100 metres from the boundary between Sørum and Veien.

In 1647, both farms were fully taxed; Veien paid 1.5 *skippund* of flour, and Sørum 2 (corresponding to 270 and 320 kg). The biggest farms in the area was Tandberg (5 *skippund*) and Sætrang (8 *skippund*).

Dagfinn Skre (1998: 246) and Lil Gustafson (2016: 131) have both suggested that other farms nearby may have been separated from Veien. Gustafson argues that the Early Iron Age settlement spanned the area of the four historic farms, Ve (54), Vessal (55), Sørum (47) and Veien (49). Skre points to the fact that the name Sørum is derived from *sørlige heim* ('southern home'), and that the farm lies south of Veien. He also suggests that Oppen (52) and Opsal (56), on the ridge above Veien, may have been part of an older estate. It also seems plausible that Sørum was, as suggested, separated from Veien. Such a scenario is less likely for the other farms. There are several medieval farms between Veien and Oppen/Opsal: Hallum (53), the aforementioned Ve (54) and Vessal (55), which all appear in late medieval sources (NG V, 33). It is more unlikely that these were products of a division. Ve paid as much tax as Veien (1.5 *skippund* flour), while Vessal paid less (2 pounds of malt).

In 1647, there was one farmer and one farm yard at both Sørum and Veien, while in 1854 there were two farmsteads at Sørum ('northern' and 'southern') and one at Veien with two households ('upper' and 'lower') (Gustafson 2011: 20) (Fig. 14).

Our site (marked red on Fig. 12) is found 400 metres from the farm yard at Veien in the north, and 720 metres southwest from the nearest farmstead at Sørum. The site is also c. 700 metres from the historic farmstead at Ve. To conclude: Veien and Sørum may have been one estate, which was split in two, where Bråten was later separated from Sørum. If Ve, Vessal and Veien formed one farm, a two-part division into equal-size units may have taken place. The total area is 717 hectares and my suggestion for a primary division gives a relationship of 385 to 332 hectares for the respective parts (Table 2).

Figure 11b. Solidus of gold portraying the roman emperor Flavius Valerius Constantinus (AD 306-337), minted in Nicodemia prior to AD 330 (in modern Turkey). It is worn and used as jewelry, indicated by the secondary loop. Found at the gravefield at Veien 1893 (Fig. 14). Only six such finds are known in Scandinavia. Photo: Museum of Cultural History.

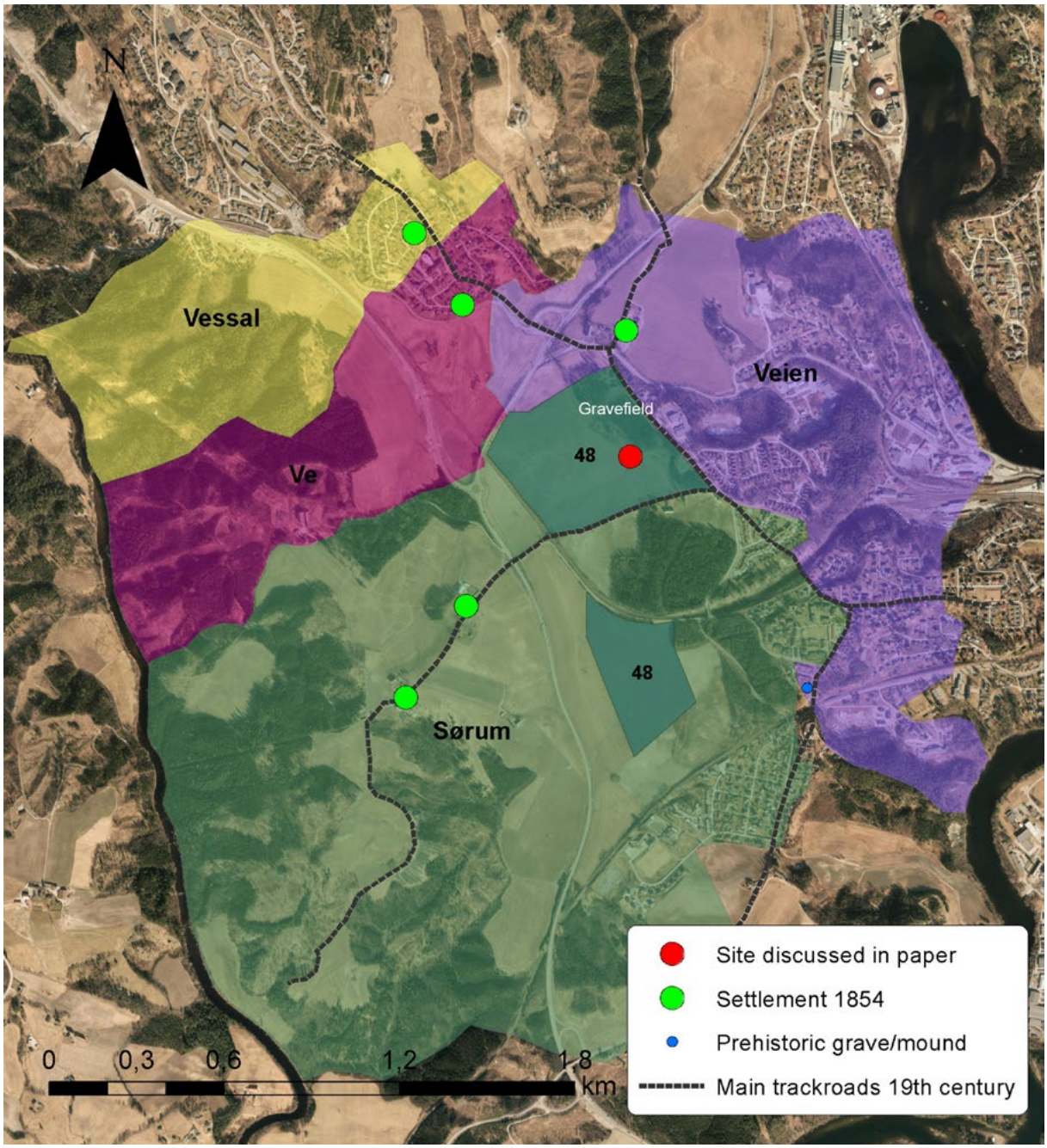

Figure 12. Veien. In the 1990s, five houses from the Roman Iron Age to the Migration Period, of which one was a long-house with a hall from the Late Roman Iron Age, were investigated. A large contemporary burial ground, with 200 burials, was situated next to this site (Fig. 14). The abandoned settlement is located close to the boundary of the later farms of Sørum and Veien, possibly also Ve/Vessal. This has been interpreted as a large estate, which was divided into two or three equal parts during the 6th-century crisis. Map Frode Iversen.

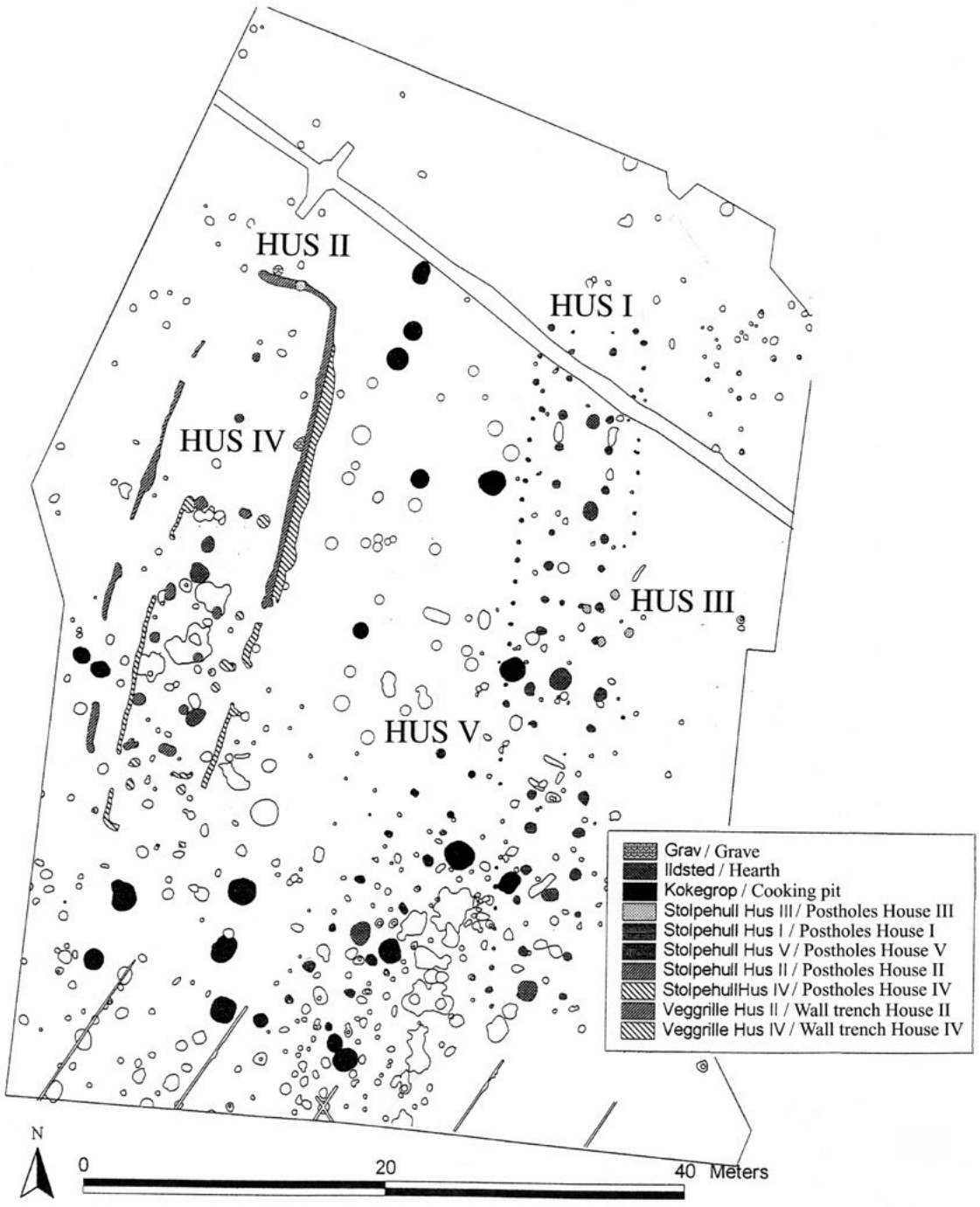

Figure 13. The excavated houses at Veien. After Gustafson 2016.

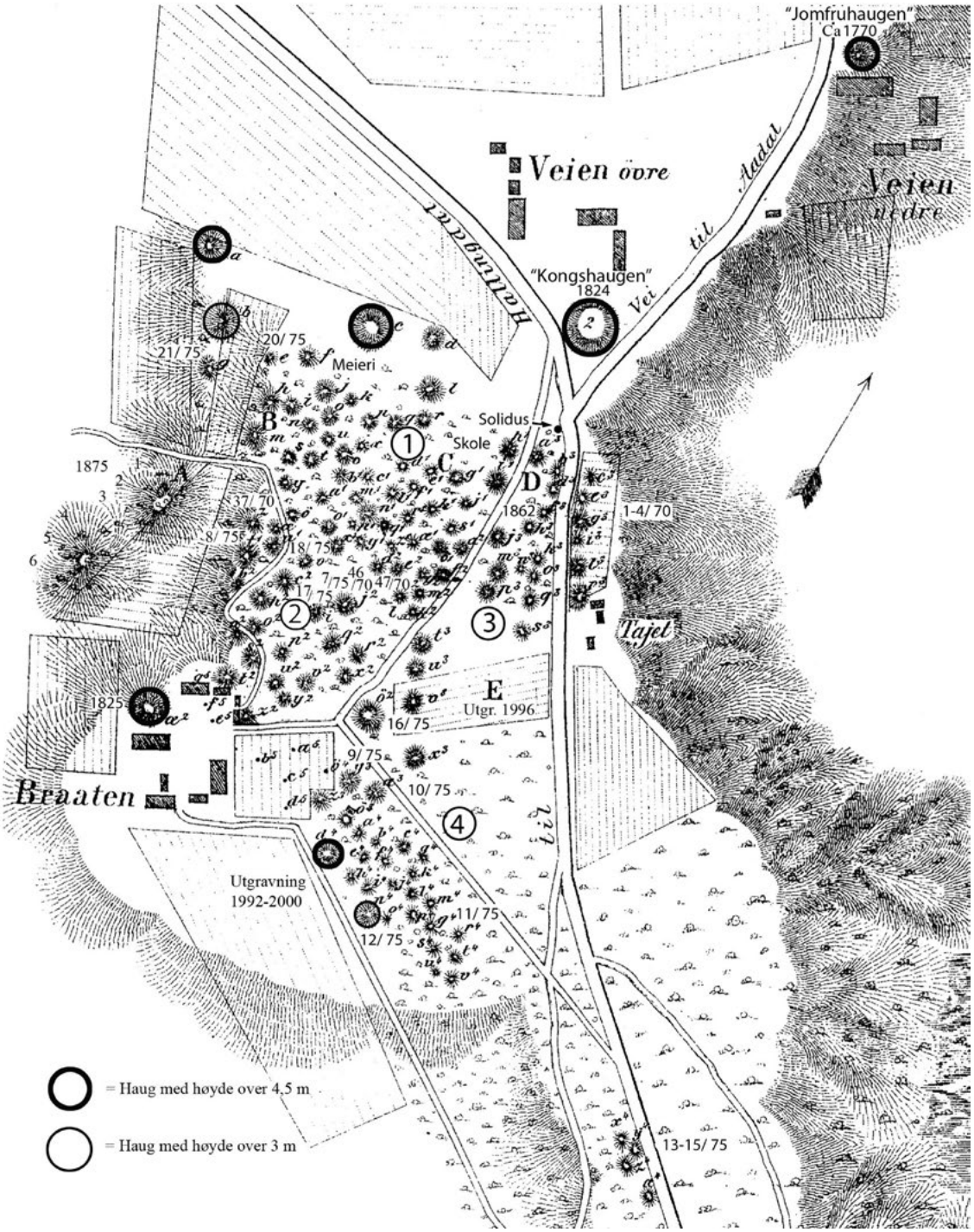

Figure 14. The large burial ground at Veien dated to AD 1–500. The remarkably large mounds, excavation areas and various find spots are marked on this map from 1847. After Gustafson 2016.

Figure 15. Moer in Ås, a middle-sized farm in historic times. From the Roman Iron Age until the 6th century there were three contemporary farmsteads here, while in the Late Middle Ages there were two units, and in the 17th century, there was only one. Moer is one of the most thoroughly investigated farms of south-eastern Norway and the crisis of the 6th century seems to have resulted in a reduced number of units or complete abandonment. The settled area was much bigger in the Early Iron Age than in historic times.

Case study 4. Moer, Ås, Akershus

Altogether, c. 47,000 sq. m. were excavated at Moer, Akershus, in 1997, 1998, 2000, 2004 and 2005 (Guttormsen 2003; Derrick 2005; Martens et al. 2010) (Figs. 15 and 16). Six longhouses, in addition to other possible houses and buildings, e.g. four-post

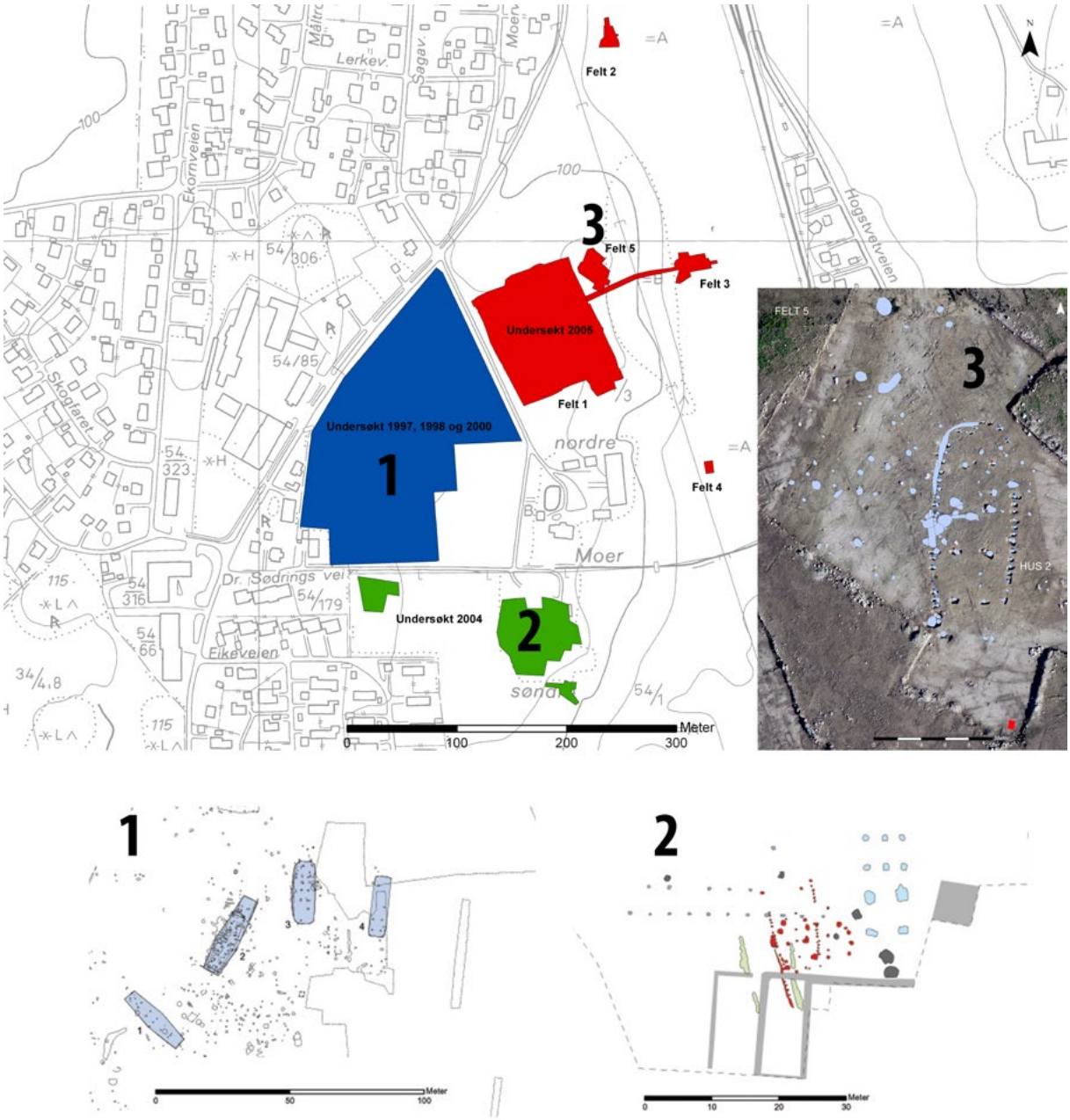

Figure 16. The houses at the farm Moer in the Roman Iron Age and Migration Period. These were excavated during the three archaeological campaigns of 1997–2000, 2004 and 2005. The investigated areas are marked in blue, green and red. The houses show that there were three contemporary settlements during the Roman Iron Age and Migration Period. The modern farmstead at Moer is located in the middle of the archaeological sites, and may also be situated on top of the Viking Age and medieval settlements (after Guttormsen 2003; Derrick 2005; Martens et al. 2010).

houses and pit-houses, were excavated. Altogether, this is one of the most thoroughly investigated farming areas in south-eastern Norway where the evolution of the settlement is well known. Vibeke Vandreup Martens et al. (2010: 49) concluded that this was not '… a farm which moves around over a large area over time – but probably three contemporary farms of roughly equal size'.

Chronologically, the buildings span the pre-Roman Iron Age, Roman Iron Age, and the Migration Period. There were 1–2 longhouses in each unit during the Roman Iron Age and Migration Period. A comparably large amount of high quality pottery was found at each of the three units. Three Bronze Age dates suggest that there may also have been an older house at site 2 (Fig. 16).

According to the The Cadastre of Bishop Eystein (c. 1390), Moer was divided into a southern and northern unit in c. 1390. From 1600 to 1741, there was, however, only one unit on the farm (Vik 1971, 299). Later the two-part structure is resumed, and historic maps from c. 1800 show the closely spaced farmsteads of southern and northern Moer, on either side of a road which ran through the estate (Derrick 2005: 9). A farm, to the south, abandoned in the Late Middle Ages (northern Brekke), was used by the southern Moer for some time (Vik 1971: 299-300; Derrick 2005: 6). Moer paid full tax in 1647, and a land rent of 9 pounds of flour, and was therefore a medium sized farm for this area. The farm covered c. 72 hectares (Table 2).

To summarise: Early Iron Age settlements are known to the north, west and south of the historic settlements at Moer, which have been interpreted as three separate and contemporary units. The settlement area was bigger in the Early Iron Age than later. The settlements seem to have been centralised to a smaller area, which may indicate partial abandonment and contraction. In the Late Middle Ages there were two units and in the 17th century one. What we see here is a variation from one to three units, where the settlement was the largest before the crisis at the end of the Migration Period.

Case study 5. Missingen, Råde, Østfold

The site is located on the boundary between Åkeberg (82/83) and Missingen (84), which were both large and productive farms (Fig. 17). The settlement at Missingen has six houses dating from the Early Roman Age to the Migration Period (Fig. 18). During the excavations of 2003 and 2004 an area of c. 1,500 sq. m. was uncovered. House 5, which was roughly dated to the Early Iron Age, was situated 100 metres south of the other buildings and was possibly a separate unit. Longhouses 1–3 follow each other chronologically. House 1, from the Early Roman Iron Age, was 61 metres long with a central hall (Bårdseth & Sandvik 2007; Bårdseth 2009). Traces of fields and ard marks were found to the west of the settlement.

It is unclear when this site was abandoned. 30 cooking pits have been found, of which two were dated. A cooking pit at the farm yard to west of the houses was dated to AD 545–660 (1. sigma) (Bårdseth and Sandvik 2007: 170). None of the buildings could be dated with certainty to the Migration Period, although this cooking pit also indicates activity in this period.

Gro Anita Bårdseth (2009) links this settlement to a Roman Iron Age warrior aristocracy, but not to the top elite. Although the soil layers on top of the settlement were examined with metal detectors, no prestigious artefacts were found. Metal detection at four nearby sites in 2014 revealed many high status finds. Birgit Maixner (2015) argues that Missingen/Åkeberg was a central site both in the Early and Late Iron Age and emphasises the continuity between these periods. Evidence of specialised high-skilled metal craftsmanship and precious metal finds, forms the basis of this interpretation (Maixner 2015). Area

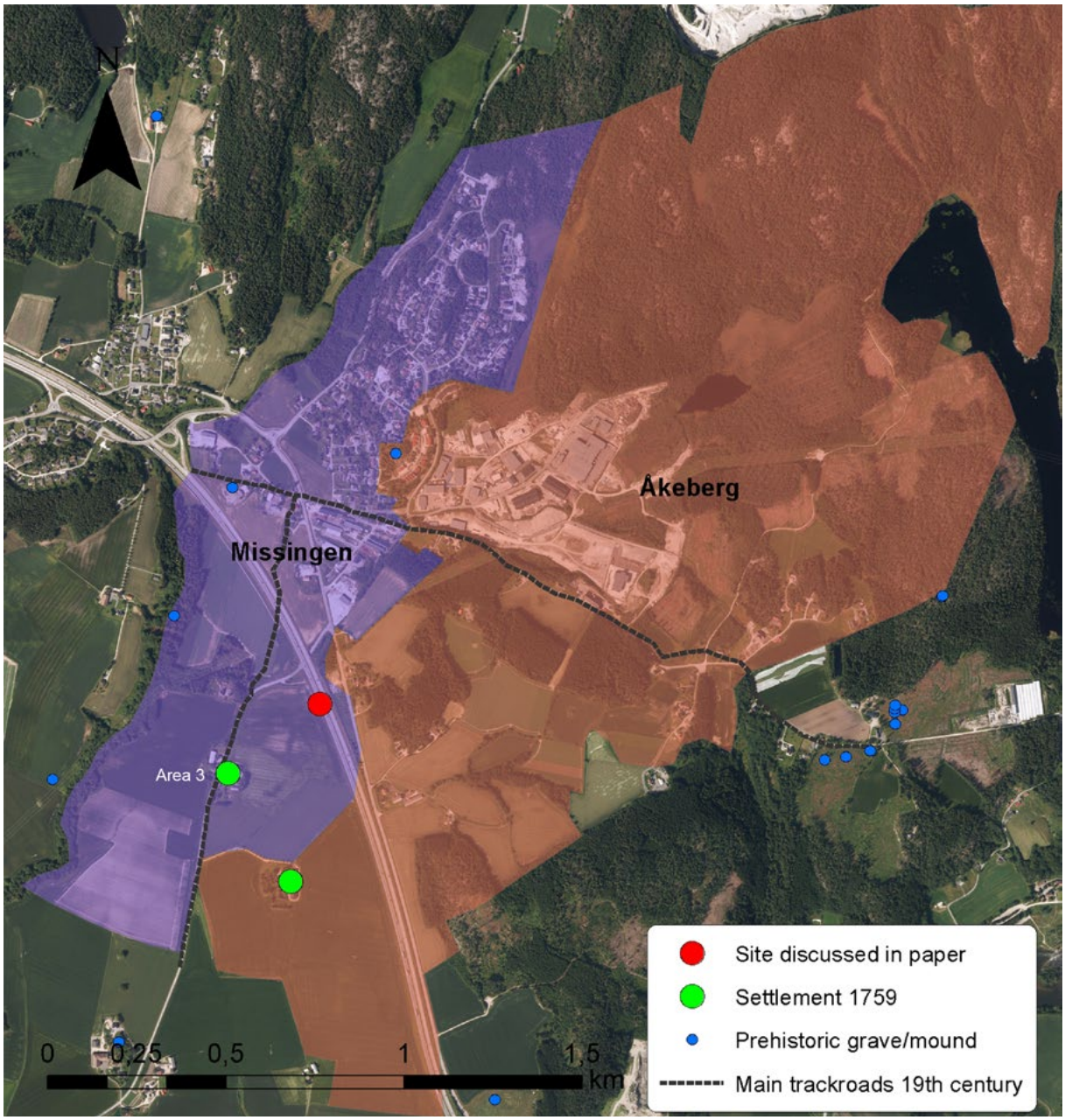

Figure 17. Missingen. In 2003 and 2004, six houses from the Roman Iron Age were excavated at Missingen. The largest was 61 metres long and had a central hall. The abandoned settlement is situated on the boundary between Missingen and Åkeberg, both large and productive farms in the 17th century. It has therefore been suggested that during the 6th-century crisis, one large estate was divided into two equally sized units. In area 3, typical settlement finds from the Late Iron Age and the medieval period, as well as traces of textile production of at least Viking-Age date, have been uncovered. The evidence suggests continued use of the area from the Early to the Late Iron Age, although the settlements were probably moved, and the estate divided. Map Frode Iversen.

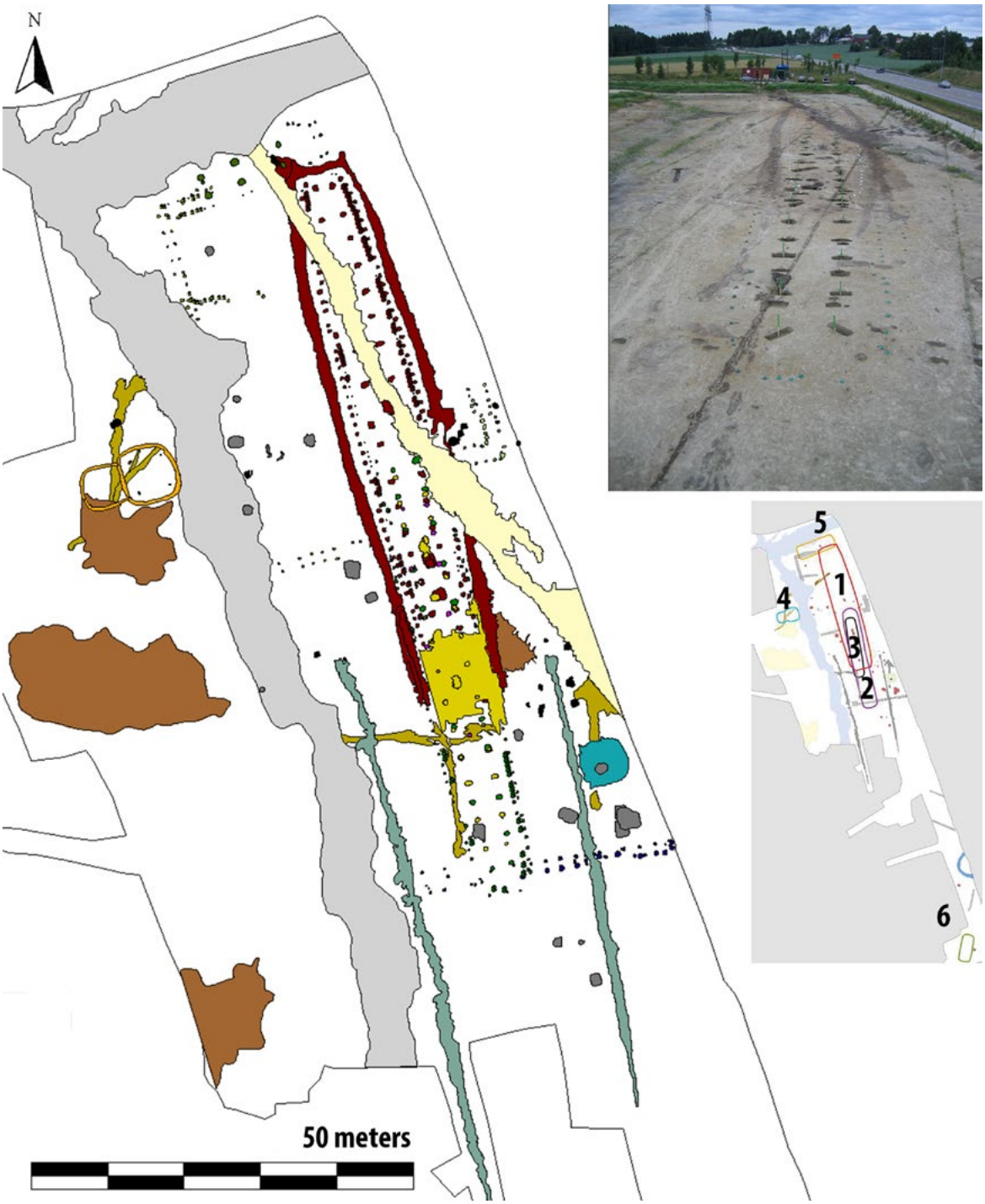

Figure 18. Site plan and building traces at Missingen. After Bårdseth & Sandvik 2007 and Bårdseth 2009. Graphics: Per Erik Gjesvold, Museum of Cultural History. Photo: Museum of Cultural History. Collage by author.

Figure 19. Map 1759. The known historical settlements at Missingen and Åkeberg. Statens kartverk, historiske kart: Amt2 Smaalenenes Amt 56 vest 1759.

3, to the west of the historic farmstead at Missingen (Fig. 17), is the most thoroughly investigated. The presence of a workshop for precious metals is indicated by fragments of gold and silver of suitable size for crucibles. The oldest trace of metal work at the site is a Merovingian-Period matrix used to produce gold foil for cloisonné work. The lead moulds are presumably from the Viking Age. A lot of metal from the Early Iron Age was also found at the site, although it is unclear whether this was used in contemporary production or for reuse in the workshop, although Maixner suggests the latter. At this site, typical settlement finds from the Late Iron Age and the medieval period, as well as traces of textile production of at least Viking-Age date, have been uncovered. It is possible that the function of the site changed over time (Maixner 2015: 33-34).

In 1593 Åkeberg consisted of two units ('east' and 'west'), while Missingen was a single unit. In 1759, these two historic farms had a farmstead each (Fig. 19). Judging by the amount of land rent paid in 1664, Missingen and Åkeberg were not of the exact same size (Engebretsen and Roer 1968), as Åkeberg paid a total of four *skippund* (640 kg) grain, and Missingen the equivalent of c. 2.7 *skippund* (c. 430 kg). Eastern Åkeberg, paid half the land rent of Åkeberg, and was itself a fully taxed farm in 1647.

To sum up: the excavated site is located on the boundary between Åkeberg and Missingen. A division from a larger initial estate seems plausible. New farmsteads were established on the two historic farms. Missingen had a workshop for precious metal, where the first dateable evidence is from the Merovingian Period, although the workshop itself could be older.

Case study no.	Name	Farm no.	Interpretation	Farms produced through partition	Land rent 1647	Hectare	Primary division
1	Bjørntvedt	221	Division	Bjørntvedt (S) Rugtvedt Klyve Bjørntvedt (E)	24 hides 4 hides 16 hides 12 hides	926 177 287 488	Equal division between Bjørntvedt (S) / Rugtvedt and and Bjørntvedt (E) / Klyve?
2	Rødbøl	2040	Division	Rødbøl South Seierstad East Seierstad North Seierstad	5 hides 4 hides 4 hides 4 hides	213 84 89 165	Equal division between Rødbøl and Seierstad?
3	Bråten (Veien)	48	Division	Sørum Veien Ve Vessal	2 skippund 1,5 skippund 1.5 skippund 2 pounds of malt	385 162 89 81	Equal division between Veien / Ve / Vessal and Sørum?
4	Moer	54	Contraction	None	9 pounds of flour	72	
5	Missingen	84	Division	Åkeberg ('east' and 'west') Missingen	4 skippund 2,7 skippund	341 126	Equal division between Åkeberg and Missingen?

Table 2. Five large Migration-Period farms in south-eastern Norway have been investigated. These sites are either located on or close to later property boundaries or, in one case, near a historic farmstead. This table shows which farms may have been part of the original estate, as well as the sizes of the later units.

FINAL RESULTS

12 of the 17 settlements with five or more buildings show signs of estate division: Åmål, Rødbøl, Nannestad, Bråten (Veien), Bjørntvedt, Missingen, Børgen, Rør, Busgård, Ringdal, Korsegården and, with less certainty. Skøyen. In four cases, settlement contraction is evidenced, where the historic settlement is smaller than the settled area in the Migration Period, as seen at Moer (case study 4). This presumably applies to Prestegården, Moer, Haberstad and possibly Lund.

This means that 70% of the abandoned settlements are located on the boundaries of later farms. Table 2 lists the case-study farms that may have been created from older, divided estates. The sizes of land rent in later sources, and size of farm land (hectares) have been used in order to assess whether the divisions were equal or asymmetrical, as this may have been relevant for inheritance. A lot of land may have been cleared in the Late Iron and Middle Ages, which means that caution must be exercised in terms of what conclusions can be drawn from later tax registers and their potential to reflect productivity of the Early Iron Age. Bjørntvedt, Veien and Missingen may be examples of equal divisions, although this is far from certain.

DISCUSSION AND CONCLUSION

It was not until 1983 when Richard Stothers and Michael Rampino published an overview of known volcanic eruptions before AD 630 that scholars became aware of 'The Dust Veil' of AD 536–7 (Stothers and Rampino 1983; Stothers 1984; Tvauri 2014: 30). Before the 21st century, neither Brøgger nor Scandinavian archaeologists in general took this into consideration. Since Morten Axboes short article from 2001, however, the crisis has received a lot of attention and has been used to explain almost all changes between the Early and Late Iron Ages. Very few researchers examined in detail the cultural

implications of the crisis, or the strategies used to tackle it. Cultural changes were thus seen as passive reflections of this crisis.

Researchers in the first decade of the 21st century were concerned with whether such an event really took place. Later researchers have acknowledged the crisis, but point to a longer cold period lasting until AD 660. Recent aDNA studies have indicated that recurring plague epidemics took place until c. AD 750, influenced settlement development. It is therefore clear that there were more factors at play, not only 'The Dust Veil', which only lasted a short term. How did the elites deal with these?

The results are relatively unambiguous: more than 70% of the larger settlements (12 of 17) abandoned during the Migration Period are located on the boundaries of later historic farms. One strategy to counteract the crisis seems to have been to divide old estates into smaller production units. The lack of labourers seems to have led to problems maintaining production on the estates, just as during the late medieval crisis when family farms came back into existence.

A warmer climate and better growing conditions may have contributed to more grain production in the Roman Iron Age. The elite networks brought them luxury goods and a good supply of labourers, some of whom may have been slaves.

The historian Johan Schreiner (1948) argued that the late medieval plague epidemics brought a new economy with more animal husbandry and less grain production (Benedictow 1992: 41). Similar developments may have taken place during the 6th-century crisis. The historian Michael M. Postan (1950: 342-343) argued that around 1350 the 'rural proletariat' in England was reduced twice over; initially by death, and then by an increase in social mobility. The farmers of the English lowlands had to give up the advantages of economic specialisation and goods exchange, and were forced to adapt to a family based self-sufficient farming. Similar ideas have been proposed for Norway in the Late Middle Ages (Holmsen 1977; Sandnes 1977; Benedictow 1992: 187).

Bjørn Myhre (2002) argued that the agricultural landscape was reorganised in the 6th century. He stated that the crisis theory was part of historiography, and pointed to continuities of settlement and farming from the 6th century to the Viking Age (Myhre 2002: 179-180). He opposed an earlier simplified crisis theory which linked the lack of burial mounds with a lack of settlement. I would like to combine these different perspectives. Society may have responded to the plague and the cold by changing its production methods and reorganising its settlements. At the same time there may have been a population decline. One does not exclude the other.

Society may to a larger degree have based its economy on animal husbandry. Availability of large amounts of manure may have reduced the need for crop rotation and periodic fallowing. The amount of arable land may have been reduced, but was fertilised to a higher degree. This opened up earlier grain producing fields for pasture and hay production. The colder climate shortened the grazing season and the length of time needed for winter feeds increased. The lack of labourers stimulated a development towards family run units and fewer unfree labourers. It seems likely that some large estates survived the crisis. Bjørn Myhre suggested that there was an increase in land and estate acquisition during these centuries. He pointed to Borre in Vestfold, and the area around the Raknehaug in Romerike, as examples of emerging power centres in the Merovingian Period.

There are many indications of power concentration in the Merovingian Period. Rich burial finds from the 'Åker complex' have been dated to the 7th century. Terje Gansum (1995) has investigated the

large mounds of Vestfold. There are fewer mounds, but the ones known are wealthier and bigger, and are placed in dominating positions in the landscape (Gansum 1995). This suggests that a smaller elite attained more control. A similar scenario has been suggested for Sweden (Bratt 2010). Research has shown that the settlements around the power centre of Old Uppsala changed a lot around AD 600 (Göthberg 2007: 442). This has also been observed by Linköping in Östergötland and further south in Sweden (Petersson 2011: 251; Ericsson 2001). Settlements were relocated, while the land was still in use (Petersen 2006: 32). This may suggest reallocations and changes in land use (Zachrisson 2011: 144).

A recent study by Ingunn Røstad has shown an emerging uniformity in the aesthetics of clothes and jewellery in the 7th to 8th centuries, within a large geographical area (Røstad 2016). The quality of the workmanship was reduced and mass-produced jewellery took over. This can lend support to theories about a new social 'middle class', seemingly more uniform. At the same time, parts of the elite may have become even more powerful. Purchase and sale of land and property may have been crucial to this development.

There is little doubt that there was a climate crisis around AD 536–7, which initiated a colder period. At the same time Scandinavian societies were hit by the plague. This article suggests that many large estates were split into smaller units as a cultural response to the crisis, while smaller farms were abandoned. This had a great impact on the social structure of Scandinavia, as both the higher and lower strata in society were reduced in number. As a result of the division of the land, a more equal society emerged.

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