

At home at the castle

Lifestyles at the Medieval strongholds of Östergötland, AD 1200–1530

By Martin Rundkvist

Complete version 14 December 2017

1. Introduction

- Aims and delimitation
- Pinpointing strongholds
- The field of research
- Seven core sites
- Historical context
- Chronology
- Beginnings: the 13th century

2. Landscape siting

- Water
- Long-settled agricultural land
- Churches
- Market sites and towns

3. Lifestyles: activities and roles

- Two castles with good written sources
- Multiple specialisms
- Beyond Östergötland: Nyköpingshus and Stegeholm
- Agriculture at arm's length
- Baking bread
- Brewing
- Keeping livestock and eating meat
- Hunting and eating game and wildfowl
- Fishing and eating fish
 - Imported fish
 - Fish farming
- Cooking
- Dining
- Drinking
- Waste disposal
- Relieving oneself
- Lighting
- Keeping warm
- Healthcare and personal grooming
- Fashion and jewellery
 - Textiles and cloth seals
 - Jewellery
 - Costume spangles
- Lords and ladies
- Chivalry and horsemanship
- Love affairs
- Weddings
- Growing up
- Religion

- Music
- Gambling and boardgames
- Writing
 - Writing equipment
 - Epigraphy
 - Writing elsewhere
- Taxation, customs collection, rent collection
- Coin use
- Soldiering
 - Ranged weapons
 - Mêlée weapons
 - Armour
- Imprisonment
- Slavery
- Keeping pets
- Smithwork
- Crafts in perishable materials
- Fur production
- Shipbuilding

4. Stegeborg Castle and Skällvik Hamlet

- Skällvik hamlet, the Bishop's manor and the South Farm
- Skällvik Church and the hamlet's location
- Stegeborg I, 1304–1390
- Skällvik Castle 1330–1356
- Stegeborg II, historical overview 1390–1689
- 20th century fieldwork
- The archaeology of Medieval Stegeborg

5. Skällvik Castle

- Historical overview 1330–1356
- Carl F. Nordenskjöld's 1875 plan
- August Lundberg's fieldwork in 1902
- Fieldwork in 2016
 - The Bakery, building IV: trench A
 - The bailey's northern corner: trench E+B
 - Building VIII: trench C
 - Building IX: trench D
 - Building X: trench F
 - The Gatehouse, building III: trench G
 - The west spoil dump
 - 19th century brickworks at the foot of the castle hill
 - The field east of the castle hill

6. Bjärkaholm in Vist

Historical overview

Otto Janse's excavations in 1914–15

Find distribution and functional differentiation

7. Ringstadaholm in Östra Eneby

Historical overview

Otto Janse's excavations in 1908, 1910, 1912

Find distribution and functional differentiation

Post-Medieval Ringstadaholm

8. Stensö in Östra Husby

Historical overview

History of exploration from 1856 on

Chronology and structural development

The South Tower: trenches E and F

The perimeter wall and the North Tower:
trench A

Levelling and using the bailey: trenches
B, D, E

After defortification: trench C and E

9. Landsjö in Kimstad

Historical overview

History of exploration from 1730 on

Chronology and layout

The inner bailey's perimeter: trenches
A, B, C, F, I

The north-west corner building: trench F

The south-west corner building: trench I

The south-east corner building: trench C

The outer bailey's perimeter: trenches
D, G, H

An inconclusive search for a bridge

Pre- and post-Medieval activity

Middle Neolithic finds

11/12th century fish traps

Quarrying for building materials

An 18th century smallholding

10. Munkeboda in Kimstad

Historical overview

Early site plans and Ann-Lili Nielsen's
excavations 1997–98

Structures and finds

Pottery

Spatial finds distribution

11. Birgittas udde in Ekebyborna

The three sites of Ulvåsa manor

History of exploration from about 1640 on

Johannes Magni in c. 1640 and 1667

Nils Månssons Mandelgren's 1880 plan

Axel Forssén's fieldwork in 1924

Forssén briefly on site again in 1926–28

Kajsa Althén's 1990s plan

Excavations in 2016

Chronology and layout

Pre- and post-Medieval activity

12. Defortification

Medieval

Post-Medieval

13. Conclusions

Peasants over there across the water

Social environments in flux and human
continuity

The walking castle

Doings at strongholds

Timelessness within the walls

An envoi to textual scholars

Bibliography

1. Introduction

Aims and delimitation

This is a study of lifestyles at fortified sites of the Middle Ages in the Swedish province of Östergötland. Informally, I have described my approach as "the Pitted Ware perspective": approaching these sites as if they were Middle Neolithic seal hunting stations with an unusually strong textual record. This perspective harks back to the excavations at Bollbacken in Tortuna where I learned much in my youth.

Lifestyles: to make this somewhat vague concept concrete, I have structured my inquiry by means of the activities people performed and the social roles they played (cf. Woolgar 1999; Svensson 2008; Gilchrist 2012). This goes for everyone who was at home at these sites, from the last few generations of Swedish slaves on up to kings and queens. To a lesser extent I have also kept my eyes open for named spaces and differential access at the strongholds.

The First World War was widely described at the time as "months of boredom punctuated by moments of extreme terror". Similarly, life at Medieval fortified sites was in most cases decades of boredom punctuated by weeks of terror. Though built to enable defence, these structures were not used in active defence most of the time, and many never seem to have been attacked at all. This study looks mainly at how people lived at strongholds in peacetime.

Middle Ages: in the absence of any Roman occupation, this period in agricultural Sweden is reckoned from the first monasteries and masonry architecture c. 1100 until Reformation c. 1530. But the period's earliest known Medieval fortification in Östergötland, the *kastal* tower at Stensö in Östra Husby, dates from c. 1200. This would limit our inquiries to a period of 330 years. But furthermore, out of 25 sites only Stensö seems to have been fortified before 1270, and only six strongholds remained in good defensible upkeep after 1480. We are thus dealing mainly with little more than 200 years.

Fortified sites: to qualify here, I have demanded that at least one of five classes of defensive feature be present or documented in antiquarian sources: a multistorey masonry keep or tower, a masonry perimeter wall, a bank, a moat, or failing all of these, simply a masonry building on a small defensible island. 25 sites fulfil this rather wide and inclusive definition (tab. 1:1; fig. 1:1). Such sites are referred to as *borgar* in Swedish archaeological parlance. This specialist usage differs from how the general public uses the word, where people tend to think more in terms of large masonry castles with towers and a perimeter wall. In this study I have translated *borgar* as "strongholds". Notable sites that have been discussed as strongholds in the literature but do not fulfil this study's definition are Saxbacken in Skärkind, Ämnisholm in Tjärstad and Hästholmen in Västra Tollstad (Berg 2003:178; Mattisson 1980; Lovén 1999:298).

Turning the aim of the book around and looking at what it is not, this study is not focused on what a Medieval stronghold's architect, its military commander or its besieger were thinking. These are all valid perspectives that have been dealt with expertly and voluminously by other authors.

Site	Keep / tower	Perim wall	Bank	Moat	Masonry on island	Latest excav	Lit ref
Borg, Raä Borg 270 + Nkpg 326	0	0	1	0	0	2010	Lundqvist et al. 1996; Räf 2010
Ekebyborna, Birgittas udde Raä 29	0	0	1	1	0	2016	Rundkvist & Aines 2018a
Järstad, Klackeborg Raä 1	0	0	1	1	0	1993	Feldt 1994a; 1994b
Kimstad, Landsjö Raä 84	1	1	0	1	1	2015	Rundkvist et al. 2015; 2016b
Kimstad, Munkeboda I Raä 91	1	0	0	0	1	1998	Lindeblad 1997; 1998; Hedvall & Cnattingius 1945; 1947; Lindeblad 1998; Hedvall & Lindeblad 2007:50ff; Feldt 2013
Kimstad, Munkeboda II / Norsholm Raä 102	1	0	0	0	0	-	Lindeblad 2007:50ff; Feldt 2013
Kimstad, Munkeboda III / Henriks borg Raä 92	1	1	1	0	0	-	Lovén 1999
Krokek, Uttersberg Raä 12	1	0	0	0	0	-	Lovén 1999
Linköping, Bishop's Castle Raä 148	1	1	0	0	0	c. 2015	Modén 2004; Modén & Feldt 2004; Feldt 2016a
Mjölby, Konungsberg / Björkhaga Raä 248	0	0	1	0	0	-	Lovén 1999
Motala, Hårstorp Raä 139	0	0	0	1	0	1921	E.J. Lundberg 1932
Norrköping, Knäppingsborg (no Raä)	0	0	0	0	1	1925	Nordén 1922:78-95
Örtomta, Gammelgårdsudden Raä 241	0	0	1	1	0	-	Berg 2003:132, 145ff
Östra Eneby, Ringstadaholm Raä 64	1	1	0	0	1	1912	Lovén 1999
Östra Husby, Stensö Raä 59	1	1	0	0	0	2015	Rundkvist 2015; Rundkvist et al. 2016a
Rönö, Rönö Raä 18	1	0	0	0	0	-	Lovén 1999
Skällvik, Skällvik Raä 1	1	1	0	0	0	2016	Rundkvist & Aines 2018b
Skällvik, Stegeborg Raä 222	1	1	0	0	1	1952	Thoresen 1945; Lundberg 1955; 1964; Lovén 1999
Skänninge, Biskopsholmen (no Raä)	1	0	0	?	0	2006	Menander & Stibéus 2006; Stibéus 2012; 2013
Vadstena Raä 16	?	0	1	1	0	2015	Anderson 1949; 1972; Lovén 1999; Hedvall 2002:82; Sigurdson & Zachrisson 2012:44, 48
Vånga, Ål Raä 3	1	0	0	0	0	-	Lovén 1999
Vårdnäs, Bos källare Raä 264	0	0	0	0	1	c. 1920	Brandel 1929
Västra Harg, Svanaholm Raä 28	1	1	1	1	1	-	Lovén 1999
Vist, Bjärkaholm Raä 53	1	1	0	0	1	1915	Brandel 1929
Vreta kloster, Kungsbro Raä 194	1	0	1	1	0	1996	Tagesson 1991-2004

Tab. 1:1. Medieval strongholds in Östergötland.

Pinpointing strongholds

The historically minded reader will now ask “But what about period classifications and terminology? This is after all an historical period.” The fact is that most sources of the time do not treat fortified sites as a separate named category. In the early Latin sources, most of these properties are simply called *curia*, “court/seat”, *manerium*, “manor” or *mansio*, “mansion”, regardless of any fortifications (cf. Rahmqvist 1996; Gejrot 2014). *Castrum*, “castle”, denotes Crown property rather than any particularly impressive defences. Indeed, few written sources pay any attention to the physical characteristics of a site, with the vast majority just mentioning it either as the object of a land transaction or as the place where a document is issued. Most sites are not mentioned many times at all. The documentary record for the period is incomparably weaker in Sweden than in e.g. England, France or Germany.

This book's perspective is thus a distinctively archaeological one. Among historians, only a military one would ever choose to write specifically about strongholds. The general historian follows people, organisations, events and social movements from town to monastery to castle to

manor to church to hamlet as the sources may direct. This book makes the claim that the physical reality of the fortified sites sets them apart from other stages on which Medieval life roles were played. Martin Hansson (e.g. 1999; 2000; 2001; 2006) has fruitfully approached rural manor sites of the period from a less restricted perspective where the presence of fortifications has not been decisive for whether a site interests him or not. But he has worked in wooded parts of Småland province where Medieval masonry architecture is rare. I deal with Östergötland's plains belt, a much more fertile and politically central part of the country. Here most archaeologically identifiable manor sites have visible fortifications.

Notable exceptions are the royal manor at Borg church (Lindeblad & Nielsen 1997), near Ringstadaholm, and the aforementioned Saxbacken in Skärkind (Berg 2003:178). And at Ulvåsa in Ekebyborna, as we shall see, it seems that the owners kept both an accessible unfortified manor and a peripherally positioned stronghold in parallel during the 13–14th centuries.

The field of research

Castle studies, infamously, still very much suffer from a lack of communication between building archaeologists and those who study culture layers, pottery, bones etc. The vast majority of publications on Medieval strongholds continue to deal with issues of architectural history at individual sites (e.g. Biller & Müller 2013; Bourgeois & Remy 2014; Andrzejewski 2015; Wartburg-Gesellschaft 2016). But there is a burgeoning movement to integrate these approaches.

Kaj Borg (1998) performed painstaking studies of the find distributions inside the 12–13th century ringfort of Eketorp on Öland. That site is not commensurable with the ones examined here in terms of dating, architectural layout or societal function. But it is thematically important: crucially, Eketorp's last phase is a Medieval stronghold excavated by prehistorians. This was what made Borg's work possible: certainly in terms of the documentation's level of detail, and arguably also in conceptual terms.

Martin Hansson's work along similar lines from 1999 on has already been referenced. In 2003 Charlotte Boje H. Andersen presented her doctoral thesis at Aarhus University, looking at thirteen Danish strongholds. Her work aimed to shine a light on the activities that took place at strongholds starting from the composition of the finds, and to discuss the strongholds' functions. For most of her sites she did not have access to any detailed information about where individual finds had been made. Boje Andersen's thesis has regrettably not been published, but she has kindly given me a PDF copy.

In 2005 the Deutschen Burgenvereinigung organised a landmark conference in Passau on the theme “Everyday life at strongholds in the Middle Ages”. In the conference publication (Zeune & Hofrichter 2006), Christoph Krauskopf offers some useful insights into the various categories of written evidence available to workers in this field in Germany, and the attendant source-critical problems.

Eva Svensson's 2008 book deals in great spatial detail with two strongholds on the north shore of Lake Vänern in Värmland province, comparing them to nearby farmstead sites. Here the focus is not on the function of a site, but on that of the individual buildings at each site. Svensson (2008:307ff) also offers a survey of seven European sites that have also seen more detailed fieldwork and analysis.

On the subject of Swiss and German castles, Norbert Gossler (2009) emphasises that the small finds are only comprehensible as social indicators when seen together with the stronghold itself, its origins and layout. Not every owner of a piece of luxury attire is a Count. “When assessing archaeological small finds from strongholds ... the influence of the nobility's self-perception with its pronounced tendency to sometimes elaborately staged self-presentation should not be underestimated.” (p. 76, my translation).

Seven core sites

In this study I concentrate on seven sites that have produced a varied body of Medieval artefact finds, and which I describe in some detail in ch. 4–10. Additionally, in ch. 11 I describe Birgittas

udde in Ekebyborna; not because it has yielded any great number of Medieval finds, but because it is one of four sites that saw their first well-documented excavations under my own direction in 2014–16. This underlines the fact that the wealth of the strongholds' artefactual record varies dramatically. The richest ones are sites that were abandoned through catastrophic events: Ringstadaholm was burnt down by attackers, Bjärkaholm was apparently locked up and left to rot during the complicated settlement of its owner's estate. The poorest sites, on the other hand, are those that were never inhabited for very long, like Birgittas udde.

I do not attempt any detailed description of Linköping Castle. This is mainly because it is in such a unique location that it cannot be counted in the same category as other fortified sites in the province: next to a cathedral inside a Medieval city. But also because excavations in the continuously remodelled castle have identified rather few undisturbed Medieval stratigraphical contexts. I have however made extensive use of Provost (later Bishop) Brask's economic book for Linköping Castle from about 1510 (Bonow et al. 2016). As to the castle's architectural history, the indispensable starting point for any discussion is Modén & Feldt 2004. I have accepted their account even though their chronology rests largely on radiocarbon analysis of mortar, a still controversial technique.

Historical context

In the following are some of the most important historical break points during the period under study. Bo Eriksson (2011) offers a good recent overview of the Swedish nobility's changing fortunes. Note that “Sweden” refers to a considerably smaller area here than the current country, but includes coastal Finland. The kingdom's most populous core provinces are Uppland, Västmanland, Södermanland, Östergötland and Västergötland.

- c. 1150. King Sverker or his son King Karl builds the kingdom's first masonry castle, Näs on Visingsö Island in Lake Vättern.
- 1250. By means of having his young son Valdemar elected king, Birger Jarl assumes power after his brother-in-law, King Erik the Lisp and Lame. This marks the start of the Bjälbo dynasty's tenure of the Swedish crown and the first major wave of Swedish stronghold construction.
- 1272–73. Construction starts on Uppsala Cathedral, a major Gothic edifice.
- c. 1275. Construction starts on Östergötland's first Gothic edifices, the Palace of Vadstena and the east part of Linköping Cathedral's nave (e-mail, Ann Catherine Bonnier, 15 June 2016).
- 1280. The Ordinance of Alsnö codifies the rights and duties of Sweden's secular nobility, establishing a tax-exempt equestrian military class.
- 1319. Following the fratricidal Banquet of Nyköping, a civil war and the exiling of King Birger, Magnus Eriksson is elected king aged three. His reign proves the longest of all Medieval Swedish kings: 45 years (Nordberg 1995). But he is the last Swedish ruler of the Bjälbo dynasty's male line.
- 1350. The Black Death devastates Sweden.
- 1363–72. Civil war between King Magnus's faction and the Mecklenburg faction.
- 1397. Sweden enters the Kalmar Union with Denmark and Norway.
- 1434–36. Major popular uprising under Engelbrekt Engelbrektsson. Many strongholds of the Crown and Church burned and abandoned.
- 1463–71. Another uprising followed by nine years of almost incessant war on Swedish territory. Further strongholds burned and abandoned.
- 1523. Gustav I takes the Swedish crown, ending the Kalmar Union.
- 1527. Reformation: the Swedish Church severs its ties with the Church of Rome.

Chronology

The main classes of dating evidence used in this book are written sources, coins, pottery (Hurst et al. 1986; Linaa 2016) and dendrochronology. Two methods that play no part are radiocarbon on mortar and optically stimulated luminescence on brick. This is because as I understand it, these two

methodologies are still being worked out and do not offer dependable and exact dates yet. It would of course be a building archaeologist's dream to be able to date a masonry phase directly and as easily as we date a carbonised hazelnut or a human tooth. Thus, during fieldwork for this book my team has sampled mortar to enable future analyses. But given the current state of research, I have judged that the introduction of still-debated techniques would increase rather than decrease confusion about the structural history of the sites involved.

Beginnings: the 13th century

Most of the sites show no evidence for fortification before AD 1300. Only seven are certainly earlier, and they represent something distinctly new in the Medieval landscape. Let us look at what 13th century strongholds were like in Östergötland, and who had them built.

Stensö Castle's great south tower is the province's oldest piece of masonry fortifications. It is one of the free-standing coastal guard towers known as *kastaler* and dating from about 1200 (Olsson 1932; Lovén 1999:433ff). Stensö sits isolated from Late Iron Age settlement indicators on a hill overlooking the Bråviken inlet, the main sea lane into Östergötland from the Baltic.

It seems likely that the mainland's *kastal* towers are built as tax-funded projects by the Crown during the reigns of King Knut Eriksson (1167–95/96) and Sverker II (1195/96–1208), though evidence is scarce. An annular brooch found in Stensö's bailey has a close parallel in a coin hoard from late in Knut Eriksson's reign. Stensö however only enters the historical record much later, in 1369 (DS 6108). At this time it is the manorial seat of Holmger Torkelsson (Båt), whose mother belongs to the powerful Ama patrilineage (ÅSF 1:107ff).

A fortifications hiatus of at least half a century follows upon the *kastal* horizon in Östergötland. Then Birger jarl seizes power and the Crown, Church and nobility all begin building strongholds. This begins only a decade before the Ordinance of Alsnö, when the nobility becomes formally recognised as something other than just the top layer of the landowner class. It is a period of strong, expansive royal rule (Harrison 2003). Each of these construction projects must have come about with a royal blessing, if not a written licence to crenellate.

Biskopsholmen is built by Bishop Henrik of Linköping about 1270 (judging from the water frontage's dendro dates) on an islet in a fen along the Skenaån stream, on the northern outskirts of Skänninge town (Stibéus 2012). It has a free-standing brick tower whose foundation has been excavated, but few other details are known. Skänninge is a marketplace already from the early 11th century on, but full urbanisation sets in right about when the Biskopsholmen stronghold is built (Ersgård 2002:10f; Hedvall 2008). Henrik's family connections are unknown, but he has good relationships both with King Valdemar Birgersson and his usurper-brother King Magnus Barnlock.

Vadstena's well-preserved royal palace from the 1270s is not itself a defensive structure, but in the following century St. Bridget mentions it being surrounded by an earthen bank (Anderson 1972:52f; Lovén 1999:104). This manifestation of the new royal dynasty's power sits on the shore of Lake Vättern, not far from the familial origin at Bjälbo.

Landsjö Castle is characteristically located on an islet near the shore of a small lake at some remove from Late Iron Age settlement indicators. Its first phase consists of an L-shaped perimeter wall on the two least steep sides of the islet's highest part. It has towers in two or three corners and measures c. 40 m diagonally from one corner to the other.

Coins date the stronghold's foundation to the later reign of King Valdemar, roughly 1260–75. This coincides with the manor's first written mention about 1280, in the will of Kristina Fastesdotter (Växt; DS 855). Landsjö is her manorial seat. Being the widow of Folke jarl's son Holmger, she belongs to the top-level nobility. Holmger may have been a second cousin of Birger jarl, which would have counted as close kinship. Kristina's marriage to Holmger originates the aforementioned Ama lineage. The couple are maternal ancestors of Holmger Torkelsson at Stensö.

Birgittas udde consists of a group of buildings on a promontory in Lake Boren, fortified with two parallel moat-and-banks that cut off the promontory and create two artificial islands. The finds are extremely few, but some dating evidence comes in the form of Venetian glass and a coin possibly struck for Birger jarl's fourth son Erik, who died young in 1275. The site location is similar

to that of Landsjö Castle, but here the main manor site, Ulvåsa, remains inhabited. The father of the future St. Bridget inherits the property in 1315, and she moves there with her husband Ulf the following year. The couple are both members of the top-level nobility, Bridget's great-grandfather having been a first cousin of Kings Valdemar and Magnus.

Konungsberg's historically documented perimeter bank has been razed and the site has seen no excavations. But there are visible remains of a building with a masonry cellar, King Magnus dates three or four letters there in the 1280s (DS 739; 935; 936; Lovén 1999:101f), he calls the place *castrum* and the name itself indicates a royal property. The location has excellent communications: it is on the lip of a creek near both River Svartån and a major road. Bjälbo, again, is nearby.

Linköping Castle becomes an episcopal residence already about 1100 when the see is established and construction starts on the cathedral's first version. The site only becomes visibly fortified in about 1290 however, during the episcopate of Bengt Birgersson, the fifth and last son of the ubiquitous Birger jarl. At the time, Linköping has yet to see full urbanisation, so the compound that Bishop Bengt fortifies is next to a cathedral in a still essentially rural setting on a major road. The first known defensive structure here is a crenellated brick tower which now forms the east end of the castle's north wing (Modén & Feldt 2004).

Summing up this review of Östergötland's earliest Medieval strongholds, it can be said that following the Crown's guard tower at Stensö and at least half a century's inactivity, the stronghold projects become many from about 1270 on. The first firmly dated one is set in motion by the See of Linköping, whose Bishop Henrik has a continental education and few local ties (SBL 18:653). But with others it seems that the better the surviving written evidence is, the clearer we see the owners' membership of or affiliation with the new dynasty from Bjälbo, Birger jarl's family. If anyone else in Östergötland tries to build something even vaguely defensible during this time, the projects have left no visible trace in written or archaeological sources. They would very likely have been firmly dissuaded at an early stage.

2. Landscape siting

Before we begin to look at how people lived at the strongholds, we should establish what their surroundings were like. Anna Marciniak-Kajzer (2016:33ff) offers a good recent study of this issue for coeval sites in Poland. In Sweden, the three possibly most important considerations known to have influenced the landscape siting of Medieval strongholds are a) military strategy (particularly with the royal castles), b) trade and transportation (particularly with episcopal manors), and c) an ideal favouring water-girded sites away from peasant hamlets (particularly with the manors of the nobility; Hansson 2006; see Johnson 2002:19ff for additional English parallels). But the Östergötland plain was quite a busy landscape already before the period of the strongholds from 1270 on. It sported a rich variety of rather recent nodal points – churches, monasteries, towns – in addition to the old hamlets, manors, sanctuaries and assembly sites that had dotted the area already before AD 1000. Let us look at what our 25 sites were like from the point of view of landscape at the time when each was first built.

Water

Medieval strongholds were preferably built near open water, for a complex set of reasons (Faucherre et al. 2015). They include tactical defensibility, strategic control, communications, access to drinking water and fish, landscape design ideals and symbolic distancing from the peasantry. Of the 25 sites under study here, only Uttersberg in Krokek and Linköping Castle were more than 100 m from the shore of a stream, lake or sea inlet, and many were in fact on little islets.

One of these latter is Munkeboda I in River Motala ström. It shares the river with a permanent Medieval fishery which is so productive that kings and bishops get involved in conflicts over it. This is one reason for why it is so well documented. But additionally, the disagreements are due to the Crown making increasingly insistent claims to *kungsådra* riparian rights through the 15th century. These mean that certain important water courses may no longer be blocked or built over across their entire width with e.g. weirs or fish traps.

There is no more important water course in Östergötland than Motala ström, the chain of short rivers that link up the lakes between Lake Vättern and the Baltic Sea. Following this route in cold Little Ice Age winter weather, we will see Vadstena, Hårstorp, Birgittas udde, Kungsbro, Ål, Munkeboda, Ringstadaholm, Borg, Knäppingsborg and Stensö before exiting Bråviken Bay. This is half of the sites under study, without having to get out of our sleigh.

Long-settled agricultural land

Many strongholds are in locations withdrawn from the peasantry's hamlets, but none are in Östergötland's peripheral woodlands that become settled by *-säter* and *-boda* smallholdings and mining operations during the Middle Ages. Though they seek some measure of splendid isolation, the elite builds its strongholds in the settled agricultural landscape, the *bygd*, where place names and pagan cemeteries demonstrate deep continuity.

The most peripheral of our sites is Svanaholm in Västra Harg, whose location Lovén (1999:138ff) interprets as one of desperate last-ditch retreat towards the end of King Magnus Eriksson's ill-fated war against Albrecht of Mecklenburg in the 1360s. But even Svanaholm is less than 2 km from the ancient place names Spellinge and Västra Harg, of which the latter indicates a pagan sanctuary, and 3 km from a pagan cemetery at Lake Hargsjön. Bjärkaholm in Vist and Bos källare in Vårdsnäs may also look peripheral to the site scatter, but both are on islets in the important River Stångån waterway south from Linköping to the iron-rich interior of Småland province. Both are near pre-Christian *-by* hamlets and in or near a rich cluster of pagan cemeteries between Lakes Stora Rängen and Järnlunden.

Churches

Half of the strongholds (12/25) are within 2 km of a Medieval church, and several are between 2 and 4 km from one. This is expected given that we have already established that the strongholds are

mainly in the long-settled plains belt where the churches are many. The location of most strongholds did not make religious observances a problem, even disregarding the possibility that a few of the sites may have had private chapels.

Market sites and towns

The strongholds are on average located farther from towns and trading places than from churches. This is expected given that the province's mercantile centres are far less numerous than its churches. Only one fifth of the strongholds (5/25) are within 2 km of a town or pre-urban market site that was active at the time of their construction. Few are however very far from a town. And note that the speed of travel varied greatly depending on the topography. Stensö in Östra Husby for instance is the longest distance of all these sites from a town, but it is on the shore of the Bråviken Inlet and so has excellent communications by boat with both Norrköping and Nyköping. Riding to town from Svanaholm or Gammelgårdsudden in Örtomta took much longer despite the shorter distances involved.

3. Lifestyles: Activities and Roles

Two castles with good written sources

A good place and time to start this investigation of activities and roles is at Stegeborg Castle about 1490. Not because there is a lot of well-excavated archaeological material to work with, sadly, but because there are a pair of exceptionally good written sources. These are Gregers Matsson's (Lillie) account book and food-and-fodder expenditure book (SFSS 1:82; *Food and Fodder*). Janken Myrdal (1987) discusses them from an history-of-accountancy point of view. Johan Söderberg (2015) analyses the data they hold from an economical perspective. Christopher Woolgar (1999) shows what is possible to do with sources like these in England, where they are far more plentiful.

Gregers is born around 1420 and, over a long successful career, becomes a knight, a long-serving member of Sweden's Council of the Realm, a lawspeaker and fiefholder at a succession of three Crown castles (SBL 23:64). His manorial seat is Tyresö near Stockholm. Gregers and his second wife Ramborg Gustafsdotter (Sparre av Hjulsta och Ängsö) are entrusted with Stegeborg and its *slottslän* taxation district in 1487. This is after the bailiff of their dynamic but somewhat over-ambitious predecessor Ivar Axelsson (Tott) is ousted from the castle by besieging troops sent by the Swedish regent Sten Sture the Elder and the Council. (Ivar actually serves on the Council 1470–84, within Gregers's long tenure 1450–93; Gillingstam 2009 w. refs.) Being an old, experienced administrator, Gregers keeps voluminous detailed records, which survive to a unique degree and provide an idea of what life is like at Stegeborg. Bear in mind that this is one of the province's biggest, busiest castles where activities are likely to be the most diverse. Ramborg dies in 1492, Gregers hands Stegeborg's keys over to fellow Council member Arvid Trolle in 1493 and then Gregers dies the following year.

Food and fodder does not differentiate consistently between people who live and work at Stegeborg itself and in the general vicinity. It does however indicate fairly clearly when someone is visiting from afar. In the environs of the castle, people live either in hamlets or in the town of Söderköping (where for instance the coppersmith's workshop is likely to have been). On modern roads, walking from Stegeborg to Söderköping takes four hours. The castle is clearly a major source of employment and income to various specialists and labourers, who are largely paid in kind. I list the specialists and named spaces at Stegeborg about 1490 in tab. 3:1–2.

<TEXTRUTA>

Tab. 3:1. Roles and specialists at Stegeborg about 1490 in Gregers Matsson's Food and Fodder Book

Compiled from Zeth Alvered's index in SFSS 1:83 with a few additions from Gregers's account books SFSS 1:82 (), and interpretations of rare terms in accordance with Alvered 1996*

Leadership

Fiefholder / Länsherre

Fiefholder's wife / Fru

Administration

Bailiff / Fogde

Scribe / Skrivare

Sheriff / Länsman

Religion

Priest / Präst

Sexton / Klockare

Kitchen

Bakeress / Bagerska

Beer cellar keeper / Källarsven

Breweress / Bryggerska

Brewery worker / Bryggardräng

Cook / Kock, stekare

Agriculture and livestock

Farmer / Bonde

Farmwife / Hustru, Kona

Farmhand / Dräng, Legodräng

Pig tender / Svinaherde

Supporting farm's overseer / Ladugårdskarl

Thresher / Tröskare *

Servants

Servant / Sven, Tjänare, Legokona, Stugkona

Steward / Redesven

Guards and soldiers

Gatekeeper / Portvakt, Grindkarl

Guard captain / Adelväktare

Tower guard / Kure *

Soldier / Sven

Craftspeople

Barber / Bardskärare

Carpenter / Timmerman

Cooper / Tunnbindare

Coppersmith / Kopparslagare

Crossbow maker / Verkmästare

Dyeress (apparently a breweress who takes on extra work)

Harness maker / Bältare

Netmaker / Skötbindare

Painter / Målare

Seamstress (apparently usually a farmwife who takes on work)

Shoemaker (who also makes leather sacks) / Skomakare

Smith / Smed

Smithy worker / Smedjdräng

Tailor (employed by Gregers) / Skräddare *

Weaveress (apparently a farmwife who takes on work)

Others

Charcoal burner / Kolare

Day labourer (apparently usually a farmer who is taxed in labour)

Ditch digger / Dikare

Fisherman / Fiskare

Fisherman's helper / Fiskardräng *

Hunter / Jägare

Lime kilner / Kalkbrännare

Mason / Murarmästare

Miller / Mjöltnare

Ship builder / Skeppsbyggare

Skinner / Skinnare

Tanner / Barkare

Wet nurse (who also takes on needlework) / Amma

Visitors

Beggar (visiting) / Helgeandskarl

Beggar woman (visiting) / Allmosekvinna

Chef (visiting) / Köksmästare

Mate (on a ship) / Styrman

Merchant's assistant (visiting) / Köpsven

Monastery overseer (visiting) / Gardian
Monk (who begs, visiting) / Broder, Gråbroder
Page boy (visiting) / Småsven
Piper (visiting) / Pipare
Student (who begs, visiting) / Allmosedjåken
Trader (Finnish, visiting) / Finne
Skipper / Skeppsman

</TEXTTRUTA>

<TEXTTRUTA>

Tab. 3:2. Rooms or buildings at Stegeborg Castle about 1490 in Gregers Matsson's Food and Fodder Book

Compiled from Zeth Alvered's index in SFSS 1:83

Bailiff's cellar / *Fogdekällaren*
Bakery / *Bagarstugan*
Common room / *Borgstuga* (had an oven installed in November 1491)
Cooper's workshop / *Tunnbindarstuga*
Grey Tower / *Grå tornet*
Kitchen / *Stekarhus*
Lady's bower / *Frustuga*
My Lady's cellar / *Min frus källare*
Pantry / *Fatabur*
Secret gates that were once two little passages / *Lönnportarna som var två små gångar*

</TEXTTRUTA>

Another important group of sources are the documents pertaining to the household at Linköping Castle collected in Provost (from 1513 Bishop) Hans Brask's economy book from about 1510, often referred to in Swedish as *Linköpings domkyrkas pappersregister*. Bishop Henrik Tidemansson dies in 1500 and his former chancellor Hemming Gadh is elected his successor the following year. Gadh however fails to secure papal confirmation of his episcopal status, spends little time in Linköping and is excommunicated in 1506 (though he continues to tap the see's resources for several years; Carlsson 1915). Brask is formally only a canon and a provost before his elevation to the bishopric in 1513. But he too has served as Bishop Henrik's chancellor, and thus Brask represents the real on-site leadership continuity when the economy book is written.

Hedda Gunneng's translations of Provost Brask's household documents into modern Swedish have been published in Bonow et al. 2016, referred to here as *Brask*. This material is not as immediately relevant to the issues at hand as are Gregers Mattsson's manuscripts. Linköping Castle is, as discussed in ch. 1, a highly unusual stronghold. And furthermore, Brask is dealing on a daily basis not only with one castle as Gregers does, but with an entire episcopal see and thousands of tenant farmers. When he makes a note to himself that he needs to send barrels, salt, money, beer and bread on 31 July each year to the fishermen on Håradsskär Islet, half-way to Gotland (*Brask* 27), he is clearly not focused on activities that take place within sight of Linköping Castle. Worrying like this about what your employees are doing far away is in fact part of elite lifestyle at the strongholds.

Provost Brask himself helpfully provides us with Linköping Castle's equivalent of tab. 3:1 and adds detailed instructions for many of the specialists in his household (*Brask* 50–84). Tab. 3:3 lists the employees whom the provost places explicitly at the castle or who seem most likely to have been active there, not somewhere else in the see. Christofer Herrman (2001) analyses a similar document detailing an even larger castle household, the *Hausordning* drawn up in the 1460s and 70s for the bishop of Ermland's castle Heilsberg (Lidzbark Warmiński) in what is now north-east Poland.

<TEXTRUTA>

Tab. 3:3. Roles and specialists at Linköping Castle about 1510 in Provost Brask's economy book

Extracted from Brask 50–84, excluding those who work far from the castle

Leadership

Bishop

Provost

Administration

First chancellor (i.e. secretary) / Förstekansler

Manorial scribe / Gårdsskrivare

Manorial bailiff / Gårdsfogde

Messenger / Brevförare

Religion

Chaplain / Kaplan

Chaplain's assistant (who doubles as teacher) / Kaplanens tjänare, kapelldjäkne

Kitchen

Chef (also judges quality of horses) / Köksmästare

Cook / Kock, mästerkock

Kitchenhand / Kockens dräng

Cupbearer, butler / Skänk, munskänk

Procurer of food & beverages / Skaffare

Brewer (doubles as pantryman and pig feeder) / Bryggare

Head of dairy / Mjölkkare

Baker (if a man, doubles as steward and helps the procurer; if a woman, doubles as laundress) / Bagare

Pantrywoman / Fatburskvinna

Livestock

Equerry (in addition to horse-related duties, also allocates housing for travellers among the bishop's tenants) / Fodermarsk

Stable overseer / Stallsven

Milkwoman (also churns butter) / Mjolkdeja, fäkvinnna

Pig keeper / Svinagårdskarll

Ox keeper (doubles as stable hand) / Oxkarll

Gardening

Gardener / Trädgårdsmästare

Hops grower / Humleman

Farm hand (they double as carpenters and brickmakers) / Legodräng

Servants

Page boy (must be old enough to be able to bear armour; one doubles as sleigh driver) /

Småsven, smådräng, slädsven

Head page boy / Mästersmåsvven

Chamber servant / Kammartjänare, kammarsven

Door servant / Dörrsven, dörrdräng

Steward (doubles as baker) / Dukningssven

Servant / Svennetjänare

Steak cutter / Förskärare, underförskärare

Guards and soldiers

Door guard / Dörrsven

Gatekeeper / Portvakt

Gunpowder master / Krutmästare

Gunner / Bösskytt, skytt

Squire / Väpnare

Others

Musician / Spelman

Hostel keeper / Föreståndare för härbärgat

Barber / Barberare

Smith / Smed

</TEXTRUTA>

Comparing tab. 3:1 and 3:3, we see that though they differ in many specifics, roughly the same general categories of people are present at both castles. I do not use quite the same categorisation in the following though, because many of the roles mentioned in the lists have left neither historical nor archaeological source material beyond the brief mentions afforded them by Gregers and Brask. Conversely, other written material and the archaeological finds document activities that the creators of our main written sources do not mention, such as the butchering of cats and dogs at Stensö and the unabashed philandery going on at Stegeborg.

Multiple specialisms

Before analysing the activities and roles revealed by our written and material sources, let us compare a particular aspect of tab. 3:1 and 3:3. One thing the lists show is that several specialisms are not mutually exclusive. Many castle dwellers master more than one task. I have collected these in tab. 3:4.

Curiously, there is a clear gender difference between the two sites. At Stegeborg, most of the people combining tasks are women, at Linköping Castle most of them are men. The multicompetent women at Stegeborg seem largely to be local farmwives who know how to weave, sew and nurse infants. Of course, Linköping castle is surrounded by a town rather than by a number of farming hamlets, but half of the townsfolk are female.

I believe that there are two main reasons that we do not find similar women at Linköping. Firstly, Brask is listing his staff, not occasional workers at the castle that he pays wages to like Gregers does. But secondly, Provost Brask cannot marry. At his castle there is no lady like Ramborg Gustafsdotter at Stegeborg who can cultivate business relationships with local women. For several reasons, Provost Brask would probably find it quite difficult to recruit a wet nurse.

The largely male multispecialists in Linköping are instead members of the Provost's own household to whom he assigns extra tasks. These follow rather obviously from the person's main duties, with one exception. There cannot have been many chefs at the time who also knew enough about horses to be entrusted with estimating their trade values for an entire episcopal household. Here Provost Brask must be thinking of a given individual, his own particularly horse-wise chef, when setting down on paper how he wants his household to operate.

<TEXTRUTA>

Tab. 3:4. People with multiple specialisms

Stegeborg

Dyeress + breweress

Farmer + day labourer

Farmwife + seamstress

Farmwife + weaveress

Seamstress + wet nurse

Shoemaker + sack maker

Linköping Castle

Baker + steward + assistant procurer

Bakeress + laundress

Brewer + pantryman + pig feeder
Chaplain's assistant + teacher
Chef + horse expert
Equerry + housing organiser
Farm hand + carpenter + brickmaker
Milkwoman + butter maker
Ox keeper + stable hand
Page boy + sleigh driver
</TEXTTRUTA>

Beyond Östergötland: Nyköpingshus and Stegeholm

Though I make no attempt to cover all of Medieval Sweden's strongholds in this book, I do reference two Crown castles in neighbouring provinces repeatedly thanks to unusually strong written sources. One is Nyköpingshus (Lovén 1999:83ff), located on an island in the mouth of River Nyköpingsån, Södermanland, and built to defend the town of Nyköping. This is just across the Kolmården border woods from Östergötland. The knight and royal bailiff Raven van Barnekow keeps detailed accounts in Latin for the castle and surrounding taxation district that survive for the period 1365–67 (*Barnekow*).

The other site is Stegeholm Castle (Lovén 1999:137f), located similarly on an island in the mouth of the Gamlebyviken inlet, Småland province, and built to defend the town of Västervik (now Gamleby, “the Old Village”). Here a new fiefholder, Peder Turesson (Bielke), takes a detailed inventory in 1506 which survives (HSH 19:165ff; Hjord 2001:30ff; Palm 2017). An additional one is compiled in 1520 (briefly summarised by Hjord 2001:33 after a copy in Stockholm of the original in Copenhagen). Stegeholm in Småland is easily confused with Stegeborg in Östergötland.

Both Nyköpingshus (Gustafsson Gillbrand 2013; 2016) and Stegeholm (Palm & Ring 2016; Palm 2017) have seen recent well-published extramural excavations.

Agriculture at arm's length

Östergötland's Medieval strongholds tend not to be sited in or very near agricultural land or long-established farming hamlets. Their islets and occasional hilltops would be impossibly inconvenient locations for working farms. Agricultural implements are rare finds there: we have only a single sickle from Ringstadaholm. Plant macrofossils from indoor floor layers at Birgittas udde, Landsjö, Skällvik and Stensö consist entirely of weed species that may have grown in the bailey (Andersson 2017). The strongholds, thus, are environments where produce is consumed separately from the production. At Birgittas udde, Bjärkaholm, Munkeboda, Skällvik, Stegeborg and Ål we can confidently identify each stronghold's nearby supporting farm on Early Modern maps (KLNLM 6:697ff; *avelsgård, ladugård*; the latter word's sense has drifted and it currently means “barn”). German scholars call such a farm a *Versorgungshof* (e.g. Meyer 2006:54f). There is a recurring possibility that this High Medieval supporting farm is actually the Early Medieval manor site that has been demoted to a purely agricultural function when the stronghold was built.

Baking bread

Bread is the main source of carbohydrates in Medieval European diets (Kühtreiber 2006; Lemmer 2006), and flat bread trenchers often serve as plates during meals (KLNLM 3:104). Flour is usually ground professionally in mills powered by water or wind (Ericsson 2016). Quern stones for rotary hand mills have been found at Bjärkaholm and Ringstadaholm, though the nearest watermills cannot have been far off in the river valleys where these strongholds are located, and at Skällvik Castle.

The baking is largely done at home even in towns. Small-scale baking can be done in any kitchen or even outdoors in a clay-domed oven. Specialised bakery facilities only occur at the largest masonry castles. Skällvik Castle's baking oven, probably dating from the 1330s, was uncovered and identified in 1902 by an experienced architect, but there is neither a detailed drawing

nor a photograph of it. It is on the ground floor of building IV where finds from our 2016 excavations suggest that not only the bakery staff but also idle soldiers enjoy the warmth from the oven.

In the decades around 1500, both Stegeborg and Linköping Castle are in contact with local millers and have permanent bakeries on the premises with bakeresses (or bakers) on staff. Linköping Castle's bakery with an amply dimensioned oven survives on the ground floor of the castle's south-west corner. It is part of a building erected by Bishop Henrik Tidemansson, with roof posts felled in the winter of 1473–74 (Modén & Feldt 2004:154; Feldt 2016b). The baker here doubles as steward in the Provost's dining hall about 1510. Stegeborg's bakery has not been identified on site as almost nothing survives above ground of the late-15th century building ranges inside the castle's perimeter wall. This castle may have had two ovens: a new one is added to the common room in November 1491.

In southern Värmland, at Edsholm in Grums a building in the outer bailey identified as a barracks has a baking oven. Quern stones were found in another building, also tentatively interpreted as living quarters (Svensson 2008:200). At Saxholmen in Ölme the oven is in the main hall, with the head of a battle axe built into its foundation and a gold finger ring placed inside the oven itself, both probably for magical protection. Objects found spread around the oven add further to the impression of it as a focus of household ritual (ibid:135, 226, 253).

Brewing

Brewing is among other things a method to preserve boiled drinking water. The brewer kills all microorganisms through boiling, and the yeast then keeps new ones from colonising the beer by means of the alcohol. Antibacterial compounds in the hops add further to the effect. In the rather unsalubrious environment of Medieval towns and strongholds, brewing is thus a life-saving technology. One reason for the period's high child mortality is that Medieval children, for reasons that are of course not bad in themselves, mostly drink other beverages than beer.

Period brewing however involves no specialised tools or installations made of imperishable materials, and so is invisible in the artefactual record. Paleobotany can identify malt and hops, but no such data have come out of Östergötland's strongholds yet. We must rely on the written records (cf. Durdík 2006).

Malt and brewing are constantly recurring themes in *F&F* at Stegeborg around 1490 (cf. Söderberg 2015). The breweress, brewery worker and beer cellar keeper make many appearances. The castle has its own cooper with a dedicated workshop to provide barrels. In 1502, Svante Nilsson repeatedly reminds his Stegeborg staff in writing about malting and brewing (Pers & Sjödin 1932:156; SDHK 34490). In a didactic poem on home economics, Bishop Henrik Tidemansson of Linköping who serves 1465–1500 advises his readers to take care of their hop gardens (Klemming 1881–82:426). About 1510, his successor Provost Brask employs a brewer and a specialised hops grower at Linköping Castle. He makes notes to himself and his staff to make mead in March of every year and to malt the harvest in November (*Brask* 22, 31).

The 1506 inventory at Stegeholm in Småland lists over a hundred barrels of various beer types, over a hundred barrels of malt, three barrels of aged mead and the equivalent of almost 0.6 metric tonnes of dried hops (HSH 19:165ff; Hjord 2001:30ff; Palm 2017). The new kettle in the castle's brewery holds eight barrellfuls.

Keeping livestock and eating meat

Stronghold dwellers like to eat meat; indeed the most abundant find category after building materials is animal bones (for Germany, cf. Doll 2006; Kühtreiber 2006). But as we have seen, most of the sites are in locations that would have been highly inconvenient for keeping livestock. The only evidence we have that may suggest that such beasts lived inside an Östergötland stronghold is two large iron cattle pickets from Ringstadaholm. These would not seem very useful on the little islet, but were more likely in storage there when the castle was burnt down. Instead most of the meat eaten at the strongholds probably comes on hoof from normal farmsteads nearby.

At Stegeholm in Småland in 1506, 9 head of cattle and 7 adult pigs are kept at the castle itself, while the corresponding figures for the nearby supporting farm are 54 and 11 (HSH 19:165ff; Hjord 2001:30ff; Palm 2017). Account books from German castles of the period suggest that typically only a few pigs and chickens are kept within the walls (Volk 2006:22).

The bones from Östergötland's strongholds are almost entirely (>92% by identified weight) from four domestic species that have been bred in Sweden since the beginning of the Neolithic: cattle, pigs, sheep and goats (tab. 3:5). The same is true for the country's Medieval towns (e.g. Skara in Västergötland: Vretemark 1997:66). Note that neither bone weight nor fragment count gives a good unqualified idea of how much meat people got from the respective livestock species. This is because different parts of the animal yields different amounts of meat, breeds vary over time, and no two animals are exactly the same size.

Cattle always dominates by bone weight at the strongholds, which is unsurprising since they are the largest of the four. Counted by fragment, which gives a better idea of the number of animals involved, either cattle or pig dominates all the Östergötland assemblages (cf. Sten 1992b; Söderberg 2015) except Landsjö's. At that site sheep and goat dominate, just like at Borgholm Castle and Gråborg on Öland. Looking to Medieval Skara again for an urban comparison (tab. 3:4), we find that the percentage of sheep and goat there is closely similar to what we see at the strongholds, while the townsfolk slaughter more cattle and fewer pigs than typical stronghold dwellers. Given that tender young pigs in particular dominate among the bones found at strongholds, this probably reflects a greater influence of elite dining on the meal waste there than in urban Skara. Pigs are slaughtered younger than the other livestock species at these high status sites: usually before two years of age at Stensö (Gustavsson 2016:7), Landsjö (Gustavsson 2014a; Nilsson 2017a) and at Linköping Castle in the 14th and 15th centuries (Olson 1997:4).

Ola Magnell (2015:189ff) makes interesting comparisons between the species distributions of strongholds, towns and rural hamlets, suggesting that a higher percentage of ovicaprids is indicative of urbanisation, where it becomes lucrative to drive entire herds of sheep to market from the countryside. This cannot however explain Landsjö's or Gråborg's numbers, which are more likely to reflect availability in the primary production areas themselves.

Cattle were clearly bred both for veal and beef and for their milk, as shown by the bones of old cows and young calves in the same contexts at Stensö (Gustavsson 2016:10).

As for the meat dishes that people cooked, Rudolf Gustavsson (2016:6) notes that at Stensö, pig skull fragments co-locate with more familiar cooking waste, and suggests that this may be due to a fondness for head cheese, *sylta*. He has also identified an ovicaprid ulna there (2016:9) with a series of regularly spaced transversal cutmarks, showing that the meat was sliced neatly off the bone – possibly from a smoked or dried leg of lamb. Pig trotters were enjoyed at Stensö, Landsjö and Skällvik (Gustavsson 2016:10; Nilsson 2017a:8; Nilsson 2017b:19).

The 13–14th century assemblages from Stensö, Landsjö and particularly Skällvik include chicken bones, and these birds' medullary bones at Stensö identify some as egg-laying hens (Gustavsson 2014a; 2016:5). Small numbers of bones from geese (possibly to some extent wild ones) and chickens are known from Stensö, Landsjö and from Linköping Castle in the 14th and 15th centuries (Olson 1997). In 1365, chicken is eaten during the re-building of Nyköpingshus Castle (Barnekow 96–99). And around 1510 Provost Brask notes goose and chicken as suitable meals between Easter and Pentecost (*Brask* 24).

Eating horse meat had strong pagan ritual connotations since the Viking Period, and a taboo against it survives to this day in Sweden. In the Middle Ages, the disposal of horse carcasses is an unclean task for the assistant hangman, not for an upstanding butcher. It is thus unsurprising that only three horse bones have been identified in the course of these investigations, and that all can be interpreted as artefacts or raw material (Nilsson 2017b:16). They are from Skällvik Castle. The gatehouse has a worked horse metapodial with “attempts at flattening” according to Lena Nilsson's 2017 database. This is probably an unfinished ice skate. The castle's nearby bakery, where much gambling takes place, has two horse teeth, which could be used to make gaming pieces.

Site	Date	Weight	Identified wt	Burnt wt	Sus Bos Ovis Capra out of identified wt	Pig frags	Cattle frags	Ovicaprid frags	Pig weight	Cattle weight	Ovicaprid weight	Ref
Ög: Landsjö in Kimstad, trench A-E, 2014	13-14th c.	1.7 kg	73%	7%	93%	41%	27%	31%	24%	65%	11%	Gustavsson 2014a
Ög: Landsjö in Kimstad, trench F-I, 2015	13-14th c.	13.5 kg	70%	6%	96%	24%	35%	41%	15%	64%	20%	Nilsson 2017b
Ög: Linköping Castle, kitchen layer 4, 2009	15th c.	4.8 kg	77%		97%	27%	54%	19%	14%	82%	4%	Nyberg 2011
Ög: Linköping Castle, NE wing phase 2-3, 1994-96	14-15th c.	<32.9 kg	c. 79%	0%	97%	26-34%	41-66%	7-25%				Olson 1997
Ög: Skällvik Castle, trench A-F, 2016	14th c.	23.2 kg	69%	0%	95%	54%	27%	19%	13%	75%	13%	Nilsson 2017a
Ög: Stensjö in Östra Husby, trench A-C, 2014	13-14th c.	1.4 kg	66%	0%	94%	47%	25%	28%	36%	44%	20%	Gustavsson 2014b
Ög: Stensjö in Östra Husby, trench D-F, 2015	13-14th c.	6.1 kg	83%	0%	98%	51%	38%	10%	29%	63%	7%	Gustavsson 2016
Hs: Faxeholm in Söderhamn, phase I-II, 1986-91	15th c.	26.4 kg	54%	13%	99%	15%	62%	23%	7%	83%	9%	Sten 1992a
Sm: Kalmar Castle, phase 2-4, 2013-14	12-13th c.	45.2 kg				21%	56%	23%				Magnell 2015
Sm: Stegeholm Castle, 2015	14-15th c.	26.7 kg				17%	59%	25%				Magnell 2016
Vg: Husaby Castle, 1965-66	15th-16th c.	60.5 kg		33%	95%	<18%	82%	<18%	<8%	92%	<8%	Lepiksaar 1979; Schnell 2001
Vm: Saxholmen in Ölme, 1992	13-14th c.	12.7 kg	35%	47%	91%	39%	51%	10%	23%	73%	4%	Sigvalius 1995
Öl: Borgholm Castle, 2010	14-15th c.	3.3 kg				19%	44%	37%				Vretemark 2010
Öl: Borgholm Castle, phase 4-10, 2004	13-15th c.	101.3 kg				14-20%	27-41%	41-53%				Vretemark 2006
Öl: Gråborg ringfort, Medieval phase, 1998-2002	12-13th c.					32%	26%	42%				Vretemark & Sten 2008
Median						21%	44%	23%	15%	73%	9%	
Vg: Skara town	13-15th c.					12%	57%	31%				Vretemark 1997:66

Tab. 3:4. Bones of cattle, pigs, sheep and goats found at a selection of Medieval strongholds in Sweden, with the town of Skara included for comparison.

Hunting and eating game and wildfowl

To the Medieval elite, hunting is a heavily formalised pastime similar to jousting (Almond 2003). Little can however be seen of this in the archaeological or historical record for Östergötland. Instead we have evidence for a lot of humbler everyday hunting. At Stegeborg about 1490, *F&F* mentions a hunter named Olaf many times, as well as his unnamed wife who is paid several times for needlework. Roe deer venison is a very common weekly foodstuff at Stegeborg at this time, with clear aristocratic connotations (KLNLM 14:543f; Söderberg 2015). Elk is less common and red deer is mentioned only once in five years. Hunting roe deer and elk is a royal privilege in Medieval Östergötland (ÖgL Bb 36:5). When Gregers Mattsson has Olof shoot roe deer for his table at Stegeborg, he is enjoying one of the royal rights that the Council of the Realm has transferred to him as fiefholder.

Roe deer and hare occur sparingly among the bones unearthed at Landsjö (Gustavsson 2014a; Nilsson 2017a) and Skällvik (Nilsson 2017b). Hare also occurs at Stensö (Gustavsson 2016), and at Skällvik, red deer (Nilsson 2017b). At Linköping Castle, in 14th and 15th century deposits on the ground floor of the north wing, roe deer is the fourth most common mammal species among the bones, after the three usual domestic species (Olson 1997:2). A 15th century floor deposit in the western range's kitchen has bones of roe deer and mountain hare (Nyberg 2011). Around 1510, roast roe deer haunch and hare are staples on Provost Brask's table (*Brask*, e.g. 20).

Stensö, Landsjö and Skällvik all have small numbers of duck bones, most likely from wild dabbling ducks such as the mallard, *gräsand*. The goose bones from these three sites are difficult to assign either to domestic fowl or wildfowl. Skällvik has given a single bone from a wader such as the oystercatcher, *strandskata*. And period hunters were quite aware of woodfowl: we have two hazel grouse bones from Skällvik (Nilsson 2017b), and Provost Brask enjoys dining on hazel grouse, black grouse and capercaillie in April (*Brask* 24; *järpe, orre, tjäder*).

Farther afield, deposits from the period c. 1170–1270 immediately outside Kalmar Castle's perimeter wall have a few bones of mountain hare, roe deer, fox and harp seal, in addition to antler waste of elk and red deer (Magnell 2015:188). 12–13th century Gråborg on Öland likewise offers only very little evidence for the hunting of hare and squirrel, but at least seventeen species of wild bird are known from this ringfort, mostly sea birds (Vretemark & Sten 2008:214). Borgholm Castle's Medieval species list is similar, but adds one or two recognisable bones each from roe deer, red deer and wild boar (Vretemark 2006). Both red deer fragments from Borgholm are from the skull, suggesting a hunting trophy. In 1367, the royal bailiff Raven van Barnekow mentions hares in his accounts as something he might buy for the king's table at Nyköpingshus Castle (*Barnekow* 163–171).

14–15th century extramural shoreline deposits at Stegeholm in Småland have a few bones of roe deer, wild boar, wolf, squirrel and hare, plus antler fragments from red deer and elk (Magnell 2016). Small numbers of wildfowl bones are also known from Stegeholm: capercaillie, hazel grouse, dabbling duck and golden or white-tailed eagle (*kungsörn, havsörn*).

The occasional dog bones found at the strongholds (e.g. at Stensö and Landsjö) may represent hunting dogs. Provost Brask instructs his staff about 1510 that “The bailiff will issue the hunter two *fat* [about 310 litres] of rope and two pairs of hounds with leashes and a hunting horn” (*Brask* 68).

Crossbow bolts and the far less common arrows used with bows were to some extent multifunctional, but it is commonly assumed in the literature that wide flat-bladed points (e.g. KLNLM 13:284) were intended for specialised hunting projectiles. Indeed, they would not have been very effective against chainmail or plate armour, unlike the long narrow *dalpil* type. These wide flat hunting points have been found in the smithy at Munkeboda I (photograph Ternström 2004:146; Feldt 2013:137), in the Main Building at Skällvik Castle and somewhere at Stegeborg.

Fishing and eating fish

Fish was until recently a particularly important food source in Scandinavia, where the climate means that for at least one third of the year nothing grows on the land. During the Middle Ages, this

relationship with fish is particularly intense for religious reasons: the fasting rules of the Church. The Hanseatic league traffics heavily in salted herring and dried cod.

As seen in ch. 2, almost all of Östergötland's Medieval strongholds are near or in open water, which offers convenient access to fish. Knäppingsborg in River Motala ström in Norrköping has a salmon fishery for its neighbour, as shown by a 1238 deed where Queen Sophia donates the fishery to Skänninge monastery (DS 760). About 1380 there is an eel fishery in Norrköping (KLN 20:419). Munkeboda has permanent fish traps at least from 1346 on and into the modern era (SDHK 10845, 14445, 26569, 26570; Feldt 2013:149). In 1370, Bjärkaholm's first two preserved mentions in writing deal with an eel fishery there, among other things (DS 8112, 8113). Maps from 1695 and 1704 still show permanent eel traps at the site (Brandel 1929:14, 16). 17th century maps show permanent eel traps half a kilometre downstream from Ringstadaholm (Lindeblad & Nielsen 1997:12).

A fisherman and his assistant at Stegeborg receive many mentions in *F&F* about 1490, and a netmaker also figures there. Provost Brask goes into great detail about fishing in his household instructions from about 1510, e.g. “Also pay attention to your spring fishing, with leisters, fish traps and nets, in order that you do not neglect the spawning time of the fish” (*Brask* 22).

Period fishing equipment is largely made of organic materials, and so the material record for fishing at the strongholds is weak. We do have a fish hook from the central pottery cluster in the late-15th century ancillary building at Munkeboda I.

Imported fish

At all sites where fish bones have been secured during fieldwork and then identified by osteologists, we see various marine littoral and freshwater fish species that could be caught nearby. An interesting issue regarding the fish intake at the strongholds is whether the inhabitants had access to deepwater marine fish. The important distinction here is between small-to-medium cod that can be caught off Östergötland's coast in the Baltic, and really large individuals from the North Atlantic. Dried deepwater cod was as mentioned an important trade commodity and has left a lot of bones in Medieval culture layers elsewhere. The vertebrae are large and easily found even with dry screening. They have not however turned up at most of Östergötland's strongholds. Their owners could afford to employ fishermen and eat fresh fish.

The evidence for imported fish then is slim, though bear in mind that herring will be severely under-represented in any assemblage dry-screened through 4 mm mesh, like ours from 2014–16. Neither Stensö, Landsjö nor Skällvik has any Atlantic cod bones. At Linköping Castle, a 15th century floor deposit in the western range's kitchen has a bone assemblage of which almost 4% by weight are, unusually, fish bones (Nyberg 2011). Amid various freshwater and marine littoral fish species, they include ample finds of cod and, more tellingly, a single bone of Atlantic pollock, *lyrtorsk*. All 79 cod bones recovered from 14th–15th century floor layers in the same castle's north range are too small to represent Atlantic fishing, but the contexts have two bones of European hake, *kummel*, which is Atlantic in origin (Olson 1997:14, 27). Linköping Castle, let us recall, is an unusual stronghold: the bishop's fortified home next to the cathedral and near the city's market square. Around 1510, Provost Brask makes a habit of sending people to buy Scanian herring in Vadstena and unspecified Norwegian fish in Lödöse. Dried cod, ling (*långga*) and “Bergen fish” are all on the menu, as is imported Finnish pikefish (*Brask* 21, 27, 38, 40, 44; Hartola 2016).

Skällvik Castle's bakery and gatehouse have five bones of turbot (*piggvar*) or possibly brill (*slätvar*; Nilsson 2017b:3). These species occur in the Baltic, but not as far north as the coast of Östergötland. They thus represent importation of fish, though possibly not from as far away as Bergen.

The 1506 inventory at Stegeholm in Småland lists many kinds of dried and smoked fish, some of which can be identified as imported: Finnish pike, blue whiting (*kolmule*), cod and flatfish from Skagen, plus Scanian herring and kippers (HSH 19:165ff; Hjord 2001:30ff; Palm 2017).

At Kalmar Castle though, things look quite different. In contexts here from the decades around 1200, imported Atlantic cod is rather common, with bone counts almost on a level with the

local Baltic pike (Magnell 2015:197ff). This reflects Kalmar's central position in the Hanseatic trade network. In the same era, people at Gråborg ringfort on Öland eat both Baltic and Atlantic cod, as well as small amounts of imported ling (Vretemark & Sten 2008). Borgholm Castle has much Baltic cod, a little Atlantic cod and a few bones of ling (Vretemark 2006).

A rare imported fish species shows up in Raven van Barnekow's accounts for Nyköpingshus Castle. During a visit by King Albrecht on New Year's Day in 1367, two barrels of salted sturgeon, *stör*, are eaten (Barnekow 162f). We found 23 dermal bone plates of sturgeon at Skällvik Castle in 2016. All but one are however from trench G, where an early-20th century kitchen midden overlay and mingled with the 14th century layer. The 23rd sturgeon plate is from high up in the nearby trench A. Radiocarbon analysis could settle the dating issue.

Fish farming

Not all the fish that people eat at the strongholds is wild. Carp ponds now visible as depressions in the ground north of Linköping Castle may date back at least to the episcopate of Henrik Tidemansson (1465–1500). In his previously referenced didactic poem he offers advice not only on hop gardens, but also on carp ponds (Klemming 1881–82:426). Around 1510 Henrik's successor Provost Brask then instructs his head bailiff to keep track of carp ponds at the see's tenant farms (Brask 59).

Fish farming is strongly linked to Medieval monasticism and the particularly strict fasting rules observed in monasteries (Bonow & Svanberg 2016 w. refs). Its written record in Medieval Sweden does not however reach farther back than 1446, when ponds were dug at Viborg Castle in Karelia. The archaeology goes farther back. Eight little wood-lined carp ponds have been excavated on the premises of the Franciscan friary in Linköping, less than 300 m south-east of the castle. Dendro dates place the construction of three ponds in 1391, 1420 and 1429 respectively (Linderson & Hansson 2017).

The fish species most commonly farmed in Sweden is crucian carp, *ruda* (KLNLM 14:440ff). This species appears among the fish bones at Landsjö Castle, dating from the later 13th century (Nilsson 2017a). The site's location on a small rocky islet makes any carp ponds there highly unlikely. The carp eaten at the castle are probably from a stock introduced to Lake Landsjö itself. The legend of a 1730 cadastral map of Landsjö manor mentions crucian carp among the species of fish that are caught in the lake. Alternatively, the Medieval carp eaten at Landsjö may have been a gift from the bishop, whose manor at Munkeboda is nearby.

Cooking

Cooking was of course part of everyday life at the strongholds as everywhere else. Both the lords of Stegeborg and Linköping Castle in the decades about 1500 mention kitchens in their writings and employ a large kitchen staff. But we do not have a lot of identifiable kitchenware or cooking installations. Instead we have enormous amounts of meal waste in the form of the animal bones discussed above. In Late Medieval and Early Modern contexts e.g. at Stegeborg and Munkeboda I, fragments of tripod cooking pots made from Late Red Ware and brass are common. But prior to that, the pottery is almost entirely drinking jugs and we have no brass pots. A possible explanation for the absence of early kitchen pottery from the first generation of strongholds, such as Stensö in the 13th and early 14th centuries, might be that food is cooked in iron pans and kettles, as is the case at Stegeholm in Småland according to the inventory of 1506. Raven van Barnekow buys pots, kettles and a frying pan (*ollis, caldariis, sartagine*) for the re-built Nyköpingshus Castle in 1365 (Barnekow 172f). Unlike broken pots, these are large, durable and valuable objects. They are not left behind when a site is abandoned in an orderly fashion. Of the later strongholds, Ringstadaholm has an entire copper cauldron from a conflagration layer and Bjärkaholm a number of iron cauldron handles. Tellingly, these are sites whose abandonment was in some sense catastrophic.

The best currently known evidence for kitchen installations is from Linköping Castle (Feldt 2016b). Here a Medieval (and later) kitchen is identified by a large cooking hearth with an in-wall chimney. It was built already in the mid-12th century along with a masonry well on the ground floor

of the little unfortified episcopal palace that now forms the northern half of the castle's central, western range. Later remodelling makes it impossible to say anything about details in the hearth's design and use during the 14th and 15th centuries.

Dining

The sources do not say much about table furnishings and manners. But Raven van Barnekow buys two table cloths when re-equipping Nyköpingshus in 1365 (*Barnekow* 172f). And in 1506, there are five tablecloths at Stegeholm in Småland (HSH 19:165ff; Hjord 2001:30ff; Palm 2017).

In the decades about 1500, the lords of both Stegeborg and Linköping Castle employ stewards who are responsible for the high table. At Linköping the steward doubles as a baker. In the dining hall he is assisted by a steak cutter, possibly two, as well as the Provost's general servants. Bjärkaholm has two fine table knives, one with remains of an antler handle decorated with copper-alloy sheet, the other intricately shaped and originally with riveted decorative antler plates on the handle.

From the time about 1510, Provost Brask has left us fourteen pages of basic feast menus in Gunneng's printed translation (*Brask* 34ff; for German parallels, see Lemmer 2006). When he gets into culinary details, we learn for instance that beef and goose go with little dishes of mustard, as does fried herring and eel (cf. KLNLM 15:123f), tongue can be baked into pastries, chicken goes with apple sauce, goose goes with aspic, imported rice can grace the table around New Year's and after Easter, dried fish goes with raisins and almonds, and festive cakes can be shaped like strongholds, trees or animals. Indeed, almonds, figs and rice are eaten already in 1366 at Nyköpingshus during the castle's re-building (*Barnekow* 174f).

Gregers Mattsson collects five barrels of vinegar (*etikya*) as taxes from the Stegeborg district in 1488 (SFSS 1:82, C32:34r). This is most likely locally made malt or berry vinegar (KLNLM 3:489). Pickling is an attested use for the product: at Linköping Castle around 1510, an evening meal at New Year's can include roast chicken with cabbage in vinegar (*Brask* 39). But it is also used when making granulated gunpowder. On a side note, the provost's staff also makes Sauerkraut each year in September (*Brask* 29), where the tart taste comes from *Lactobacillus* fermentation.

Imported oil is not only for ritual use at Linköping Castle about 1510, but can be used for fried bread and Finnish pikefish during Lent and eaten with baked apples at New Year's (*Brask* 39, 41). The castle gardener tends to the apple trees.

Drinking

We have already touched upon Gregers Mattsson's and Provost Brask's preoccupation with beer, and the enormous quantities of it kept at Stegeholm in 1506. But there are other drinks as well, and fine flagons and glasses to serve them in.

Brandy is recorded from Lund in 1348 and St. Bridget mentions it later in that century (KLNLM 2:301f). In June of 1504, Sander Arendsson (Svante Nilsson's bailiff at Stegeborg) sends Jakob Andersson a bottle and asks him to return it filled with brandy (Sture archive #1417; Pers & Sjödin 1932:474). Sander is a notorious drunkard: about the time of this request he provokes an armed skirmish in Söderköping which leads to a general riot (Harrison 2012:227–229). Hemming Gadh jokingly calls him “my ale foe” in a letter (Carlsson 1915:329).

Imported Early Red ware and stoneware flagons are ubiquitous at the strongholds. Additionally, the floor layer in Stensö's oldest tower has yielded a domed lid of beaten sheet copper which may have topped a drinking flagon (figs 3:YYY–YYY). Shards of decorated High Medieval drinking glasses from the Near East and Venice have been found at Ringstadaholm and Birgittas udde (figs 3:YYY–YYY; Lamm 1929–30; 1941). We have shards of simpler drinking glasses from both islets at late-15th century Munkeboda I, representing several different designs. A single sherd from a *Krautstrunk* beaker found in the floor layer of Stegeborg's south-east tower shares this Late Medieval date.

Waste disposal

Archaeologically speaking, the most visible activity at the strongholds during their periods of habitation is the waste disposal, or perhaps more correctly, its absence. The large amounts of animal bones found everywhere one opens a trench most likely just represent the most durable fraction of an originally much more voluminous, diverse and pungent midden material. Indoors and outdoors, these sites must have reeked to high heaven. But it clearly did not bother people. Many of the sites were in rivers or lakes where it would have been easy to get rid of waste. Instead it was allowed to accumulate as it might. Gustavsson (2016) comments on Stensö's part that the represented bone elements indicate butchery inside the south tower and meal waste at the base of the perimeter wall in the east part of the bailey.

Relieving oneself

Calls of nature were not always attended to on a board laid over a cesspit (for Germany, see W. Friedrich 2006). Three of Östergötland's masonry castles are equipped with indoor privies built into their walls, all probably as part of elite apartments. They are in Stensö's south *kastal* tower, Stegeborg's west and north-east towers, and Linköping Castle's north-east tower and south-west building (E.B. Lundberg 1964; Modén 2004:127f; Modén & Feldt 2004). Note that this includes the oldest masonry fortification in the entire province, at Stensö. These structures would project from an upper wall face like a little shuttered balcony.

The functional interpretation of the north-east installation in Linköping is uncertain as it is poorly preserved and faces the grand west façade of the cathedral. It may instead be an opening for an elevated walkway between the two buildings. If it really was a privy, then anyone exiting the cathedral's main gate would have been keenly aware of whether the bishop was using it at that moment.

Lighting

Around the winter solstice, the sun is above the horizon for little more than six hours a day in Östergötland. Medieval windows are few, small and semi-opaque. Lighting is thus of paramount importance in order to get any work done. In the Middle Ages, people wander about with lit resin-rich wooden tapers on their hats or in their mouths, like unusually long cigars (Magnus 1909–51, book 2, ch. 17). Iron holders for such tapers have been found at Bjärkaholm and Ringstadaholm. Straight ones are hammered into horizontal surfaces, angled ones into walls.

At Stegeborg about 1490, *Food and Fodder* often mentions the making and distribution of candles. Sometimes simple ones (*spisningh lyws*, literally “meal candles”, probably tallow) are distinguished from finer candles (*herre lyws*, literally “lord candles”, probably beeswax). These fine candles go well with an ornate piece of brasswork found in Stegeborg's north-west corner room (fig. 3:YYY). It is part of an exclusive Dutch or German chandelier from the Late Middle Ages, comparable to the one in Jan van Eyck's celebrated Arnolfini portrait from 1434 (cf. KLN 1:444; 8:177). A similar one hung in the lady's bower at Stegeholm in Småland according to the inventory of 1506.

On more of an everyday level, two simple T-shaped iron wall sconces for candles have been found at Ringstadaholm. The Stegeholm inventory lists the equivalent of 170 kilogrammes of tallow (HSH 19:165ff; Hjörd 2001:30ff; Palm 2017).

Keeping warm

Floor hearths, chimneyed fireplaces or baking ovens are known archaeologically at Bjärkaholm, Linköping Castle, Munkeboda I and Skällvik, and from written evidence at Stegeborg. They demonstrate how people stayed alive and comfortable through the many cold months of each year. Stegeborg Castle had an oven in its common room, as did probably Skällvik Castle as well.

We have slitted frame-like iron strike-a-lights from Bjärkaholm, Skällvik and Stensö (fig. 3:YYY). They find good parallels from the royal manor at Borg church (Lindeblad & Nielsen 1997:70), from Eketorp III on Öland about AD 1200 (Borg 1998) and from phase 3 in the Bodarne

block in Strängnäs, dating to the interval 1200–1350 (Berg & Norberg 2013:36f, 71). Flint flakes to go with the strike-a-lights are ubiquitous when screening the culture layers.

The *Chronicle of Duke Eric* (l. 2632, p. 149) specifically references a heated chamber, *werme stuffwa*, at Nyköpingshus. The context is a description of how well King Birger is treated while his ducal half-brothers keep him imprisoned in 1306–08 after the Håtuna game. Birger and his entourage “were not starved to death indeed”, comments the poet pointedly.

Healthcare and personal grooming

Unlike what we find at the monasteries (cf. Bergqvist 2013), medicine and surgery have not left many traces at the strongholds. Stegeborg is visited occasionally by begging monks and a monastery overseer about 1490 (*F&F*), some of whom may have had medical training. Johanna Bergqvist has found that the medical knowledge cultivated at the monasteries does not spread much into secular society, but then treating the sick is one thing and teaching medicine is another. The Black Death strikes in 1350 and may contribute to the abandonment of certain sites. But the only written evidence we have for plague at the strongholds is from 1496, when it kills a large proportion of Stegeborg's inhabitants (G. Lundberg 1978:121). From an epidemiological point of view, Stegeborg is a high-risk environment at the crossroads between an important road and an international shipping lane.

About 1510, Provost Brask makes careful note at Linköping Castle of propitious and dangerous days for therapeutic blood-letting (*Brask*, e.g. 21). He also lists a blood-letting tool with the stable overseer's equipment (p. 84), suggesting that the treatment was employed with horses as well as people. Two of these implements have been found at Bjärkaholm and one at Ringstadaholm.

In the decades about 1500 Stegeborg and Linköping Castle receive at least occasional visits from barbers, who offer both hair care and simple surgical interventions (*F&F*). Provost Brask certainly takes good care of his appearance: in his staff instructions he is quite particular about his comb, scissors, clothes brush, handkerchiefs and towels (*Brask* 57, 76). At Skällvik Castle in the mid-14th century, we have two comb fragments from building IX (fig. 3:YYY), and a few decades later there is one fragment from Bjärkaholm.

Building VIII at Skällvik has few finds and cannot at present be ascribed any particular function, but its high location next to the keep suggests a modicum of elevated status. This is supported by an object found inside: part of a finely wrought ivory ear scoop with a lathe-turned handle (fig. 3:YYY). It finds close parallels in fine writing styli or parchment prickers, such as the ones found at Varnhem monastery in Västergötland (SHM 18393:835) and the Domen plot in Uppsala (SHM 34524:1666), both ecclesiastical contexts. Skällvik Castle was at times controlled by the Bishop of Linköping.

Fashion and jewellery

Medieval fashion has a strong and detailed record in the pictorial sources (Buren & Wieck 2011), but in Scandinavia the material remains are far fewer than for the preceding Iron Age. The main reason for this poverty of evidence is the adoption of unfurnished burial along with Christianity. Not only are original sets of Medieval costume jewellery rare, but so are the scraps of fabric that survive in many furnished earlier graves thanks to the toxic corrosion products leaching from the metalwork. Still, there are some contributions to the annals of fashion to be had from Östergötland's strongholds.

Textiles and cloth seals

Around 1490, Gregers Mattsson like most Crown fiefholders pays his staff's salaries at Stegeborg mainly in coin and imported textiles. The cloth comes in a bewildering variety named for its Continental points of origin (SFSS 1:82). The standardisation and easy measurement of these textiles make them useful as a kind of currency in themselves. In one case in June of 1489, the cloth is particularly fine and Gregers adds a fashionable accessory: “Further, Botolf 5 marks coin and [5?] ells of shrunken shorn Leiden cloth and 1 silver belt” (C32:45v). This Botolf is clearly no

farmhand: he may in fact be the man referred to with the honorific *Herr* three pages later, which would make him a priest in Gregers's employ.

Stegeborg has four pieces of lead seals from bales of imported textiles, all found in the culture layer under the rubble inside the castle's oldest, south-east tower (E.B. Lundberg 1964:114f; for a good introduction to cloth seals, see Elton 2017). The seals belong to the common Medieval type with two disks joined by a short ribbon. Three are incomplete, single discs with paired holes that obscure the motif.

Two of the three incomplete pieces may belong to identical seals where the blanks have been oriented different ways between the same stamps. One depicts an heraldic escutcheon with a closed helmet, surrounded by leafy branches (fig. 3:YYY): the town arms of Helmond in Brabant (pers. comm. Steen Agersø & Stuart F. Elton 29 June 2017). The helmet type depicted probably dates from the 16th century. Another piece has a letter H and probably a letter L, separated by a sword, all against a cross-hatched background (fig. 3:YYY). A complete seal found near Åhus in 2016 (pers. comm. Petter Karlsson 29 June 2017; now in Lund University's Historical Museum) combines these two motifs.

One incomplete seal (fig. 3:YYY) bears the outline of a heraldic escutcheon, but the motif inside the frame does not survive. The fourth seal, finally (fig. 3:YYY), is complete, folded over and sealed with a flattened prong through a single central hole. It shows a leafy tree and the blackletter inscription "...hertogen..." on one side, and on the other side two robed people of whom one holds a chalice, with a potted plant between them. This seal originates in 's-Hertogenbosch, likewise in Brabant (Siebmacher 1974, Taf. 39, 285; Orduna 1995:85).

Textile seals are known from all manner of Medieval sites including strongholds. On Denmark's part, Jette Orduna (1995:47ff, 97) lists finds from thirteen of them.

Interestingly Stegeborg's inhabitants are not entirely content to dress in whatever Continental cloth that comes in with the ships. A dyeress is active at the castle, apparently the woman whose main occupation is brewing the all-important beer. She has the equipment and skill necessary to manage large volumes of hot liquid. Whether she mainly dyes local homespun or re-dyes imported cloth to suit local taste is unknown. One of the women at a nearby farm takes on weaving for the castle now and then.

About 1490, fabric is sewn into clothes by Stegeborg's full-time tailor or occasionally by local women, apparently farmer's wives. As for the laundry, all we know is that about 1510 Provost Brask expects Linköping Castle's bakeress to do it, but not if the baker is male.

Jewellery

In 1818, one of Medieval Scandinavia's grandest pieces of jewellery was pulled out of the river on a fishing line along with 16 eels at Kimstad mill near Munkeboda I (Cnattingius 1945:161–165; Feldt 2013:150f). The round jewel-encrusted golden brooch measures almost 20 cm across and was probably made in France in the early 14th century (Tegnér 1989). It may equally well have been worn by a bishop or a queen, though its decorative motifs are secular.

But in excavations at strongholds, jewellery is rare. Stensö has two brooches: one annular, made from beaded silver wire and dating from about 1200; the other droplet-shaped copper alloy with blue glass inlay and dating from the period 1200–1350 (figs 3:YYY–YYY; Højmark Søvsø 2004, type 4.1). Bjärkaholm has an unadorned copper alloy annular brooch in the ~50 mm diameter range. Ringstadholm has two similar unadorned annular brooches and an unadorned copper alloy finger ring. Landsjö has a tiny iron annular brooch.

An openwork gold finger ring reported from Bjärkaholm by a private finder in 2013 is most likely Early Modern (pers. comm. Lotta Feldt and Pia Bengtsson Melin, September 2017).

Costume spangles

Medieval metal ornaments also include those that formed part of the costume: notably cast or embossed copper alloy spangles, *ströningar*, that were sewn or riveted onto fabric and straps.

Landsjö's south-west corner building in the upper bailey has a cast copper-alloy spangle in the shape of a six-petalled heraldic rose, diam 22 mm (fig. 3:YYY). In the English-language literature these are known as sexfoil mounts (Egan & Pritchard 2002:191f, 197). A similar one has been found at Borg manor in Östergötland (Lindeblad & Nielsen 1997:96), but they are far more common among Danish metal detector finds. I have reports of them from north-west Zealand (two finds from Odsherred municipality, pers. comm. Ole Harpøth, April–August 2017), east Zealand (Havnelev, pers. comm. Steffen Bechmann Olesen, September 2017), Møn (Nørre Frønderup, pers. comm. Betina L Olsen, August 2017), western Lolland (two finds from Aagebygaard and Øster Nordlunde, pers. comm. Torben Christjansen, 2015–17) and north-east Funen (e-mail Claus Feveile April 2017). Each has a single central hole, sometimes retaining a short rivet, or a cast rivet stem. Feveile writes that the find from Funen is a coin hoard from the 1290s and contains five or six of the sexfoil mounts along with other mounts of various shapes. He suggests that they may have decorated a purse.

Bjärkaholm has an embossed and domed 37 mm sheet spangle. Skällvik Castle has four sheet spangles: three plain ones and one openwork floral spangle with a loop on one edge (fig. 3:YYY). It's outline forms a rudimentary sexfoil and it may have formed half of a hook-and-eye. Since the loop is broken and it is rather flimsy, such pairs of hook-and-eye must have been sewed in considerable numbers onto a garment to ensure that each link did not have to sustain too heavy a load on its own. Two almost identical pieces have been found in Hallstorp church in Småland (SHM 26330:15, 530). The first version of this church was built in 1209/10 according to dendrochronology. Interestingly for our purposes here, it was fortified and had loopholes in the attic walls (Hansson 2011:163).

Lords and ladies

Medieval society is patriarchal, but its gender roles are complementary and interdependent (Butz 2006; Morrison 2016). This is particularly visible to us for the nobility. A lord has difficulty functioning in society without his lady, and vice versa. This ideal relationship is built into the era's chivalric standards (Bengtsson 1999). I have said that the Council of the Realm puts Stegeborg in the hands of Gregers Matsson (Lillie) and his wife Ramborg Gustafsdotter (Sparre av Hjulsta och Ängsö) in 1487. This is not just the programmatic statement of a feminist writer. It is borne out by the sources and illustrated particularly clearly by Stegeborg's cellars.

In *F&F*, Gregers calls one of them “the bailiff's cellar”, which ties it to his official function as tax collector. This cellar contains public property, to use an anachronistic term. But then there is “My Lady's cellar”, which seems to be where Ramborg keeps family property. Gregers may hold the castle, but if he wants to eat some butter or smoked lamb from his estates, then he has to ask his wife. She is the head of the great intramural household at Stegeborg. Gregers the private man has no cellar.

Where the written sources are strong like at Stegeborg, strongholds are often known to have a lady's bower, *frustuga*. This is the North European equivalent of the Muslim harem, “that which is off-limits, private”. (That word's connotations of walled sexual playground for a man is a later Western fantasy.) To some extent the bower embodies unfreedom and circumscribed mobility for women. But equally, it represents safety, respectability and an exclusive female space. At Stegeborg the lady's cellar embodies Ramborg's economic duties and prerogatives, and the bower her social duties and prerogatives. They are the castle's twin loci of ladyship.

As shown in tab. 3:4 and discussed above, the written sources penned by Gregers and his scribe reveal the presence of a remarkable number of multitalented farmwives at Stegeborg who take on occasional work. They are paid for tasks relating to textiles and child-rearing, and their main contact at the castle is in all likelihood Ramborg.

In addition to her, three other aristocratic ladies are particularly visible in the written sources for Östergötland's strongholds. They are Kristina Fastesdotter (Växt) who has Landsjö Castle built and seals her will there about 1280, Sigrid Karlsdotter (Stubbe) who gets married at Stensö Castle

in July of 1359, and Mette Iversdotter (Dyre) who receives the courtship of her future third husband the Regent of Sweden at Stegeborg in 1503 (SBL 25:434).

A Stegeborg lady whose personal silence in the surviving sources is particularly unfortunate is Queen Margrete: daughter of the Danish king Erik Klipping and wife of the Swedish King Birger Magnusson. The *Chronicle of Duke Erik*, whose author loathes her, describes the execution of her oldest son in 1320 and the death in exile of her dethroned husband the following year, when she is 43 years old.

Chivalry and horsemanship

“It is advisable for each to stock up on horseshoe nails and horseshoes when the spring work approaches, because often you will lose a horseshoe for lack of a nail, a horse for a horseshoe, a man for a horse, a country for a man.” (*Brask* 63).

Horsemanship forms an enormous part of elite lifestyle and identities at strongholds and elsewhere (Bengtsson 1999 w. refs). Riding is the main mode of land transportation, and anyone with decent-sized landholdings has to perambulate among their estates. Furthermore, the military service that defines nobility in legal terms specifically demands *heavily armoured cavalry*, which means that a nobleman has to provide the Crown not only with a fully equipped soldier but also with an extremely expensive trained war horse. Troops like these do lose their military importance already about 1400 (Neuding Skoog in press), but the image of the mounted chivalrous knight survives as a social ideal for the nobility far into modern times. People even pray to the saints for their horses (Myrdal & Bäärnhielm 1994).

At Nyköpingshus, Raven van Barnekow spends many pages in his accounts listing and putting prices on the horses that have died or otherwise been spent by men under his command during 1365 and 1366 (*Barnekow* 179–185). Gregers Matsson mentions his tax collector Torkel Pedersson at Stegeborg twice in connection with horses in the account books around 1490 (SFSS 1:82, C32:33r, 38r, 41v). Provost Brask gives his equerry and his stable overseer at Linköping Castle long detailed instructions about 1510 (*Brask* 79–84), and expects his chef to work part-time as a horse evaluator.

Spurs are the foremost symbol of chivalry, and they are common finds at the strongholds. Even Provost Brask wears them when travelling about 1510, and he instructs his page boy to always take good care of them (*Brask* 79). The earliest ones are prick spurs. We found one such in the south-west building at Landsjö Castle in 2015 (fig. 3:YYY). This type is replaced by the rowel spur some time in the 14th century, and these are far more common finds (fig. 3:YYY). We have them from Bjärkaholm (two fragments), Kungsbro (found in the rubble of the westernmost house foundation, Tagesson 2001:33), Munkeboda I (photograph Ternström 2004:146; Feldt 2013:137), Skällvik (fig. 3:YYY), Ringstadaholm and Stegeborg (possibly Early Modern).

Many spurs are fastened with small double strap buckles, 8-shaped or annular with a cross bar. As the straps break or decay the buckles are rarely found together with the spurs. They can be difficult to recognise, particularly among metal-detected finds from ploughsoil, as they resemble the ubiquitous shoe buckles of much later centuries. Size is an important distinction, with most shoe buckles being far larger than the spur buckles. Another distinguishing trait is that in cases where these buckles are not flat, the spur buckles are concave and the shoe buckles are convex.

We have a spur and a very fine iron buckle from Munkeboda I, found together outside the south-west corner of the late-15th century building there. It has a strap attachment mount and a ornately profiled concave frame (fig. 3:YYY). It may have been worn by one of be-spurred Provost Brask's predecessors. A simpler spur buckle also made from iron has been found at Bjärkaholm.

Ringstadaholm has a pair of stirrups. But Medieval tack (saddles, bridles, reins etc.) is rather difficult to identify in the archaeological record as the metal parts are largely quite anonymous. The bridles however are characteristic. We have four from Ringstadaholm, one from Bjärkaholm and one from Kungsbro (which is a stray find). And people were keen to keep their expensive chargers looking good in themselves too. Ringstadaholm has an iron curry comb.

As for the humbler trappings of horsemanship, horseshoes and particularly horseshoe nails are ubiquitous at the strongholds. The nails show a great deal of variation in terms of the head's design. The simplest ones are T-shaped, while a particularly intricate group has two triangular heads set at right angles to each other, one on top of the other.

Love affairs

Love leaves few material traces apart from our mortal remains themselves. We do however have some written evidence for extramarital relationships at a stronghold, all late and pertaining to the high nobility's doings at Stegeborg. The circumstances are not reminiscent of the courtly love sung about by Provençal troubadours three to four centuries before.

In 1500–01 Hemming Gadh jokes in letters about his public affair with young Karin, a member of Mette Iversdotter's (Dyre) entourage and possibly her sister-in-law (Carlsson 1915:328f; G. Lundberg 1978:124; Lindén 2013:71). This is scandalous: Hemming is a priest, a dean, and just about this time becomes elected Bishop of Linköping. His behaviour is however, it must be admitted, consistent with what he would have seen during his years in Rome at the papal courts of Innocent VIII and Alexander VI (a.k.a. Roderic Borgia). As Gottfrid Carlsson (1915:62) put it, “In particular, the atmosphere at the papal court must have acted to dissolve Lord Hemming's religious and moral concepts”.

Then in 1503 we find Mette dallying with the Regent of Sweden and fiefholder, Svante Nilsson (SBL 25:434; Lundberg 1978:128). This is shortly after the murder in Norway of her second husband Knut Alfsson (Tre Rosor). The two are 38 and 43 at this time, no tender youngsters, and Svante becomes Mette's third husband in 1504. Her surviving letters show her to be quite devoted to him, yet practically minded and competent in the issues she writes him about.

Weddings

We have textual evidence for weddings at two of the strongholds. At Stensö on Tuesday 30 July 1359, Holmger Torkelsson (Båt) issues two letters (DS 6108–09) to announce that he has granted his new wife Sigrig Karlsdotter (Stubbe) her dower on the correct day according to law, that is, the day after the wedding. No wedding in the Medieval aristocracy is celebrated for less than three days, Saturday through Monday (KLNLM 2:310), and in this case the 15 largely very prominent witnesses to the first document show that everyone is still at Stensö on the Tuesday.

In the mid-14th century the castle is likely to have been the scene not only of the wedding feast, but of the matrimonial ritual itself (KLNLM 2:311). Östergötland's provincial law (ÖgL Gb 8, 2) describes associated feasting both in the bride's home and in the groom's, and demands that the groom invite all his relatives as far back and out as his great grandparents and second cousins. This emphasises marriage's function as an alliance between patrilineages: a man cannot become correctly married unless he gives all living members of his lineage the opportunity to witness the act. Note though that neither Holmger's nor Sigrig's family is likely to have been enormously large at this point: all adult participants at the wedding had survived the Black Death a few years previously. And sadly Holmger and Sigrig do not seem to have had any children.

Most of the weddings we know of from the strongholds take place at Stegeborg around 1500. At this late date a wedding involves a religious ceremony, probably performed in the castle's chapel (though its existence is only documented from 1515 on). In November 1487 Frände, the castle scribe, marries an unnamed woman (*F&F* 4r:23). In September 1489 Torkel Pedersson the tax collector marries a likewise unnamed woman (*F&F* 39Av:29). *Food and Fodder* mentions two additional weddings at the castle around 1490, where the people involved seem to have had weaker links to the castle (*F&F* 18r:33, 21v:2). And in 1514, the noble couple Holger Karlsson (Gera) and Beata Nilsson (Grip) get married in Stegeborg's chapel (G. Lundberg 1978:136).

Growing up

Due to the vagaries of preservation, children are not visible as a separate group in the archaeological source material from Östergötland's strongholds (cf. Hadley & Hemer 2014). We

have neither clothes in small sizes nor identifiable toys (unless we count a possible unfinished skate from Skällvik Castle; cf. Edberg & Karlsson 2016). But rather than calling the children invisible, it is perhaps more correct to say that the source material is just generally quiet on the subject of people's age. Outside churchyards, elderly people such as Stegeborg's lord Gregers Matsson are no more visible, archaeologically speaking, than small children. Medieval life expectancy is low and the socially sanctioned childhood is short. There is every reason to assume that children are in fact present everywhere, not least as we have abundant written evidence for married couples. If nothing else, the high nobility would have a very hard time indeed to reproduce if they had no children at the fortified manors where they spend so much time. One of the women who take on needlework at Stegeborg around 1490 also serves as wet nurse to infants not specified in *F&F*.

Two children we do know of who grow up at one of Östergötland's strongholds are Sten Sture the Younger and Kristina Andersdotter, a daughter of Mette Iversdotter (Dyre) in her first marriage. Sten spends most of his childhood in the 1490s and 1500s at Stegeborg while his father Svante Nilsson is fiefholder there (SDHK 34490; Carlsson 1915:328; Pers & Sjödin 1932:154f, 156; G. Lundberg 1978:135f). Most children are of course not as privileged as Sten and Kristina. Some do however receive schooling from the chaplain at Stegeborg (as does Sten) and from the chaplain's assistant at Linköping Castle (*F&F*; *Brask* 58).

Religion

It is a commonplace that Medieval life is suffused with religion. Yet apart from the bishop's castle in Linköping, there is little evidence, written or material, for any chapels at Östergötland's strongholds. As seen in ch. 2, most sites are within a convenient distance of a parish church. Bishop Lars has a chapel at the see's rural manor at Munkeboda in the 1240s (DS 282), but this is before any fortifications are built there. In the later 1490s Svante Nilsson employs a chaplain and scribe, Jakob Andersson, as part of his household at Stegeborg (G. Lundberg 1978:135). Among Jakob's duties is tutoring Svante's young son Sten. Only in about 1515 are we explicitly informed by Bishop Brask that Stegeborg has a chapel (*Linköpings domkyrkas pappersregister*; cf. SRS 3:2 p. 295). Services continue there long after the Reformation. And Rönö Castle has a chapel dedicated to St. Anthony in the early 16th century (Franzén 1937:184).

Stegehölm Castle in Småland has a chapel in 1491, and it is still in use in 1515 when Bishop Brask lists the chapels in his see (Hjord 2001:33f). A few chapels are also known at rural manors in the same province. A will documents one in an unfortified setting at Lagmansryd in Stockaryd already in 1282 (DS 742; Hansson 2001:208), and another will mentions a chapel at the unidentified *Wddanes* in 1286 (DS 951; Larsson 1986:117). A building foundation from about 1300 at the island manor site of Agundaborg in Agunnaryd looks a lot like that of a small church (Hansson 1999; 2001:230–232). Medieval Småland is much less densely furnished with churches than the plains of Östergötland, so there is probably a greater need for chapels there.

But private devotions demand neither chapel nor church. As mentioned above, about 1280 Kristina Fastesdotter of Landsjö owns a psalter that would have been useful both for prayer and for teaching literacy (DS 855). Two centuries later, rosaries are important (Regner 2017). As we have seen, Frände the scribe and Torkel Pedersson the tax collector both work for Gregers Matsson at Stegeborg. A fortuitously preserved list of some items that Frände acquires from Torkel in 1491 includes a rosary (*F&F* 38A:3). Kungsbro has a bead made of walrus ivory, possibly from such a rosary (Tagesson 2001:33). In the late-15th century ancillary building at Munkeboda I, two similar beads apparently made of antler have been found in the south-west corner, in addition to an imported jet bead in the south-east corner. Bjärkaholm has a single red opaque glass bead of a design indistinguishable from that of the late-1st millennium.

Music

Apart from the hymns sung in the Provost's household at Linköping, we do not know anything about everyday music at the strongholds. Professional music is a rare treat. In the decades about 1500, both Stegeborg and Linköping Castles are visited occasionally by pipers and other musicians.

There is hardly any material record of music at the strongholds though: a possible antler roughout for a tuning peg has been found at Ringstadaholm, but it does not directly represent a playable instrument.

At Nyköpingshus Castle, Raven van Barnekow's accounts note the payment of a mark of silver to a piper on 3 December 1365 during a brief stay by King Albrecht and his entourage (*Barnekow* 154f).

Gambling and boardgames

“No young man on such an expedition may, though drunkenness or gambling, lose his horse, his mail coat or his sword, with which he shall serve under his lord against the enemy. If he does, he loses all honour and his assets become war booty and he shall himself be sentenced according to the word of the law” (*Brask* 63).

Boardgames and gambling with dice are popular pastimes in the Middle Ages (Koksvik Lund 2013). Stegeborg has an exceptionally fine 13th century chess bishop made from walrus ivory (fig. 3:YYY). Munkeboda I's ancillary building offers a lathe-turned bone chess piece (depicted by Feldt 2013:138), and Ringstadaholm has a burnt fragment of something similar. A wooden chess bishop found at Nyköpingshus Castle probably dates from the 14th or 15th century (Wachtmeister & Wachtmeister 1986:34f).

Ringstadaholm has five disc-shaped lathe-turned antler gaming pieces that may have been used to play draughts, tables and nine men's morris (*dam, bräde, kvarn*). Bjärkaholm has one of these. Ringstadaholm also has a bone die with opposing faces organised 1+2, 3+4, 5+6. Stegeborg likewise has a bone die, but of unknown date.

Skällvik Castle's bakery has five bone or antler dice. They measure 7–10 mm to a side and four have opposing faces organised 1+2, 3+4, 5+6. On the fifth die the sum of opposing faces equals seven. The dice were found together with most of the site's crossbow bolts and Medieval coins. This suggests that armed men with little to do are gambling for money in the warmth of the bakery, identifying part of the building as the *borgstuga*, the castle's common room. The same trench also has two horse teeth, which is highly unusual for the era's faunal assemblages. These may have been intended as raw material for gaming pieces.

This evidence for gambling at a castle that is at least for part of its lifetime in King Magnus's hands is remarkable. The oldest surviving *gårdsrätt* legislation for royal manors dates from his reign, about 1332. It prohibits a) gambling after the king has retired for the evening, b) gambling for horses or weaponry and c) gambling for more money than a man carries on his person (KLN 19:199). King Magnus's town law from about 1350 (KLN 11:226f) then places restrictions on gambling in all of Sweden's towns. Our finds from Skällvik suggest that these regulatory efforts are made for good reason.

Writing

The activity that brings history and archaeology together most intimately at the strongholds is that people write there, and a considerable selection of what they write still survives in the archives. These documents and manuscripts, with their seals and their codicological details, are surviving pieces of the material culture of strongholds. They were written at tables that have turned to dust, in rooms that are now long since filled with rubble, roofless. Before the 15th century it is mostly property deeds where the subject of a document has nothing to do with the stronghold at which it was written. But in Stegeborg's case we have seen that there are actually several years of accounts and food-and-fodder expenditures as well. Frände, the head scribe at Stegeborg about 1490, is a Dane. And a little later, Provost Brask is very prolific.

King Birger dates documents at Stegeborg already in 1310 (DS 1693). And when describing King Eric of Pomerania's last visit to Stegeborg (and Sweden) in the summer of 1439, *Karlskrönikan* tells us that “While the king is [!] at Stegeborg / He received many letters there / From all his men in Denmark” (v. 6336–38). Any office-holder or major landowner would bring his paperwork and his clerical staff along on his travels.

As for books, we know very little about any being read at the strongholds. About 1280, Kristina Fastesdotter has a psalter for her devotions at Landsjö (DS 855). Over two centuries later Provost Brask has a full complement of religious books at his disposition, if not always in his castle then next door in his cathedral. And we may assume that the Bishops of Linköping bring books along occasionally from the cathedral to their strongholds at Kungsbro and Munkeboda. Whether anything like the *Chronicle of Duke Erik*, *Flores and Blanzeflor* or the *Marriage Song* was read and enjoyed at the sites under study is unknown.

Writing equipment

The material culture of Medieval literacy does not survive well in the ground (cf. Bitterli-Waldvogel 2006), but we do have two relevant finds from Östergötland's strongholds. To begin with, briefly, there is a wooden inkwell from Linköping Castle's north-east tower, found in the bishop's privy (?) that was bricked up probably in the years after 1423 (Modén 2004:127f).

The late metal detectorist Svante Tibell found a seal matrix (figs 3:YYY–YYY) during our fieldwork in 2016 in the field east of Skällvik Castle, some tens of metres from the probable site of the castle's dock. The spot was under water in the 14th century. The top loop of the seal is broken off, which may have something to do with why the object ended up here. Conservator Max Jahrehorn has identified seal-wax residue under the verdigris.

The inscription along the edge of the seal matrix has been damaged during centuries in the ploughsoil. Looking at mirror-flipped images of the matrix prior to conservation, Roger Axelsson of the National Archives and his colleagues offered the following reading:

[S' _ _]S[O] V[X]ORI S[O]NO[N]V[M]

Sigillum ...so uxori Sononum

The seal of ...sa, wife of Sune

Sadly, the two completely illegible letters are part of this woman's name. But Axelsson has suggested who her husband Sune may be: Sune Ingevaldsson, who lived in Östergötland about the right time and whose wife's name has been lost to history. Surviving documents including Sune's 1369 will (DS 7929) place him consistently in Hällestad, a peripheral parish in the forest of north-west Östergötland.

Kaj Janzon of the National Archives has identified the heraldic device as the letter "T" in a shield. This use of letters in heraldry is rare in Medieval Scandinavia (KLNLM 2:54f). Janzon has pointed out a seal with an identical device, but on a triangular matrix, not round like the one found at Skällvik. This similar seal is on a property document issued in 1331 at Ubbared in Gullared parish, Västergötland (DS 2874). It belongs to one Torberg who is the brother-in-law of the document's issuer Lars Kärling. Lars also issues documents in Skövde in 1358 (DS 5956) and in Söderköping in 1359 (DS 6155). Regarding the social context, we may note that Lars's paternal uncle Sigge is a *diacn* in 1331, a deacon, and that in 1359 Lars is a *swen*, a squire.

Axelsson points out that while the man with the similar T seal from 1331 was named Thorberg, there is no known female name T...sa from the time. Why then has this woman got a T on her shield? May she have been using her father's coat of arms? (For a general background on women's seals, see KLNLM 9:576–578.)

Epigraphy

Writing at strongholds is not entirely confined to the small scale and to perishable media. About 1200 someone named Helge signs a mortar joint on Stensö Castle's south *kastal* tower in runes, on a surface so prominent that the inscription cannot have been clandestine graffiti.

About 1470, when Ivar Axelsson (Tott) has the west tower and perimeter wall of Stegeborg built, memorial plaques are a highly visible part of the project. Four have been found, two of which

have inscriptions reading “Ivar Axelsson, knight” (E.B. Lundberg 1964:63, 76, 105). The three most complete plaques all feature heraldic escutcheons with Ivar's arms, and in two cases also his wife Magdalena's. (She was the daughter of King Karl Knutsson and an important person in her own right. Her father had besieged Stegeborg in 1439, before she was born; Harrison 2002.) Some of these memorials to the inter-Nordic magnate Ivar were symbolically defiled during the reign of the Swedish king and dynasty-founder Gustav, after the end of the Kalmar Union. One was set ignominiously into the chute of a privy. The only plaque whose original placement is known is about twelve metres above ground on the outward-facing side of the tower, where the writing would have been difficult to make out even if the plaque was brightly painted, as is likely. At any rate, this scattering of heraldic imagery and texts across the fabric of castles is known from mid-15th century England as well (Johnson 2002:61).

Note also another interesting case of 16th century re-use of epigraphy at Stegeborg. A runestone from the 11th century has been found built into the north-east corner of the western gate house (Jansson 1950:342f), in masonry that E.B. Lundberg (1964:105, Pl. VII) dated to Johan III's building campaign of 1572–90. The runes faced outward and would have been visible to all. It is not known whether the runestone was brought to the castle islet by King Johan's architect, or earlier by Medieval builders, or if indeed it was originally erected at Stegeborg. The islet is high enough that its top was above sea level already in the time of the runestones. There is an apparently original combination of a strategically important Stegeborg-style sea barrage and a runestone at Baggensstaket east of Stockholm (Rundkvist 2003a), and both sites were in royal hands about 1300.

Writing elsewhere

Nyköpingshus Castle has a fine lathe-turned bone stylus from the 14th or 15th century (Wachtmeister & Wachtmeister 1986:38). Husaby Castle in Västergötland, built and owned by a bishop, has an iron-and-brass stylus that is likely to date from about 1500 (Schnell 2001:88). Both objects may alternatively be interpreted as parchment prickers.

Farther afield, we find a remarkable level of runic literacy at the stronghold of Saxholmen in Ölme, Värmland province, on the northern shore of Lake Vänern (Eriksson et al. 2004; Svensson 2008). The site was kept defensible only for part of the period 1251–1315, but in addition to abundant High Medieval finds, modest excavations have also yielded a considerable number of fine pre-1100 objects. Finds from the stronghold's lifetime include a stylus, four runic lead tablets apparently deposited for magical purposes, and a spindle whorl with the inscription “Kristin owns me” in Swedish (Svensson 2008, pl. 11–12). This possibly refers to Kristina Anundsdotter, whose husband Lars Boberg is likely to control Saxholmen in the late 13th century. No reading of the lead tablets has been published, but judging from what is visible they are likely to be in Latin (Magnus Källström, e-mail 1 February 2017).

Taxation, customs collection, rent collection

The owners and keepers of strongholds collect steady revenues for themselves and their masters in the form of taxes, customs, rents and tithes, to which can come more incidental income such as fines and plunder. Often paid in kind or labour rather than coin or bullion, this wealth is largely concentrated at the strongholds, where much of the foodstuffs are simply eaten by the inhabitants. Taxation centres like Stegeborg are among the very few places where the Crown can feed troops dependably in peace time (Neuding Skoog in press). At Stegeborg, a lot of the revenue is kept in the bailiff's cellar designated for this purpose. Keys and padlocks are ubiquitous finds at the strongholds (fig. 3:YYY), with a particularly large number having been found at Bjärkaholm whose owner is a particularly wealthy man.

Stegeborg is, in addition to its focal position in terms of military strategy, a customs collection point for ships on their way to Söderköping (Styffe 1875:162f, #108; Smith 1934:64ff; Franzén 1937:177 note 3). From 1390 on it assumes the function already alluded to as centre of a *slottslän* taxation district, one of four such Crown centres in Östergötland (G. Lundberg 1978:66 ff;

Retsö 2009). *F&F* mentions various goods and livestock that are received as taxes and consumed on site: pork, pike fish, barley, rye, butter, cattle and pigs.

Linköping Castle is the central collection point for the See of Linköping's revenues, receiving a great variety of tithes, taxes, fines and other dues (*Brask* 48f). Among the staff listed by the Provost, we find the first chancellor, the manorial bailiff and the manorial scribe, all with wide-ranging duties in this administration. Note that the see encompasses all four of Östergötland's Crown taxation districts and collects its dues independently of the royal bailiffs.

Like Stegeborg, Ulvåsa is a taxation centre for a *slottslän* consisting of the two *härad* Aska and Boberg in the last few decades before the Reformation (Hammarström 1956:58f). During Hemming Gadh's and Hans Brask's episcopates the fiefholder is the Bishop of Linköping. By that time though, the stronghold of Birgittas udde has long been left to decay, and the bishop's bailiff in all likelihood stays in some comfort at Brittås-Gamlegården.

Coin use

Coins occur at most strongholds even though the Medieval economy is not thoroughly monetised. As we have seen at Stegeborg, as late as 1490 neither Gregers Mattsson's tax collection nor his salary payments are entirely (or even mainly?) in coin. Many transactions are conducted in kind. Though we have no unequivocal archaeological evidence for trade at the strongholds, the written sources produced by Gregers suggest not only that he collects customs from traders passing Stegeborg on their way to Söderköping and back again, but that he also does regular business with them. Together, these two means of access probably provide his apparently endless supply of imported textiles, as well as the cloth seals we have already discussed. Trade is one use for coins, and the archaeology allows us to form some idea of how they were used at certain strongholds.

The clearest case is Skällvik Castle's bakery. Eleven of the site's fourteen known Medieval coins have been found in this building along with all of the site's dice and most of its crossbow bolts (Rundkvist & von Heijne 2017). As already pointed out, this suggests that idle soldiers gambled for money in the cosily heated building. All of Skällvik Castle's coins were struck at Swedish mints, and all possibly in 1354.

Stegeborg's thirteen Medieval coins all date from 1396 or later, and coin deposition at the castle continued without interruption past the Reformation. The Medieval mints involved are in Sweden, Denmark, Visby and the Prince-bishopric of Dorpat. Eight coins are from the ground-floor layer of the oldest south-east tower, three from the west tower's ground floor, one from a trench in the bailey and one from an unknown location. This distribution is not very illuminating as Stegeborg's excavators of 1948–52 went into the culture layers beneath the rubble only in very few places. It tends to suggest that there are coins everywhere at Stegeborg.

Landsjö has six Medieval coins, all Swedish, of which five identical ones date from c. 1260–75. We found them in the bottom layer on the natural, between the unfinished southern range of the perimeter wall and the dry moat, under a layer containing an apparently dropped clutch of seven unused sintel-type carpentry staples. (Sintels are typical of Hanseatic-era shipbuilding – cf. Blok 2014:8–29; Vermeersch & Haneca 2014; N.B. Gustafsson 2016). These contexts seem to represent construction, and though the coins do not say much about how they were used, they represent the latest possible start date for the stronghold. Landsjö's sixth coin was inside the south-east tower and is surprisingly late: 1354–64, after the site had been downgraded from country seat of a noble widow to tenant farm.

Bjärkaholm has five Medieval coins, all possibly dating from 1379–93. They form no particular cluster on site. This small collection is surprisingly eclectic as to the mints represented, which speaks to Bo Jonsson's (Grip) international contacts. The coins were struck for King Albrecht of Mecklenburg in Stockholm and Västerås/Turku, for his older brother Duke Heinrich III in Wismar in Mecklenburg, for the merchants of Visby and possibly also at a fifth mint.

At Munkeboda I, we have five coins from the ancillary building, all possibly struck in 1448–81. They were found beside the hearth yet not in contact with the potsherd cluster in front of it. The building's function seems domestic, with a definite elite presence. The represented mints reflect the

era of the Kalmar Union: Stockholm, Visby and Malmö.

Our excavations at Birgittas udde showed that little activity of any kind took place in that stronghold. One of the very few Medieval finds is a single late-13th century coin from an unknown Swedish mint.

The complete absence of coins from Ringstadaholm is probably due to excavation methodology, while Stensö's pennilessness can be attributed to the modest total area we excavated there.

Soldiering

The strongholds were built to be defensible, and ample weaponry finds show that there are indeed armed men there to defend them at least some of the time. But we have no way to gauge numbers. For Nyköpingshus in the 1360s, Söderberg (2015) and earlier scholars consider about 300 inhabitants all in all to be a reasonable number given the figures in the Barnekow account book. In 1512 Peder Turesson (Bielke) is down on his political luck and complains in a letter that ten soldiers are not enough to man Stegeholm (Hjord 2001:33).

At Stegeborg around 1490, Gregers Mattsson mentions that he employs a guard captain, a tower guard and a gatekeeper, but three men cannot of course defend the castle on their own. Very likely the castle has a sizeable garrison, subsisting on tax revenue collected in kind. About 20 years later, Provost Brask mentions a door guard, a gatekeeper, a gunpowder master, gunners and squires at Linköping Castle, but again, no numbers. In Germany, tower and gate guards are part of a castle's core staff even at times when it is scaled back to a minimum (Volk 2006:22f).

The issue of numbers is clouded by the fact that there is no specialised soldier role in the sources. The common term *sven* refers both to a general employee or servant and to a member of an armed retinue. One way to read the sources is that every male employee of a lord can at any time be issued arms and armour and be expected to fight. But such untrained troops would not be worth much on the battlefield. Neuding Skoog (in press) believes that when the word *sven* is used without a prefix, it refers to a certain kind of high-status member of a magnate's entourage: one who has some military training and may even be a mercenary or a member of the lower nobility.

For a final muddling of the issue a squire, *sven a vapen*, is sometimes also referred to simply as a *sven*. Thus Bo Jonsson (Grip), Sweden's largest landowner ever, is a *sven* in this sense, while his table waiter is also a *sven*, but in quite another.

Ranged weapons

During our period of study, the main ranged weapon for military use in Scandinavia is the crossbow (fig. 3:YYY). It supersedes the bow after the Black Death and is itself then gradually replaced by the firearm after the Reformation (KLN 1:238ff; cf. Geibig 2006).

In 1439 Nils Stensson (Natt och Dag) defends Stegeborg for eight weeks against the besieging troops of the *marsk* (and future king) Karl Knutsson (Bonde). *Karlskrönikan* is the main source for the siege, and being written from the attackers' perspective, it has almost nothing to say about life inside the castle. But it does mention light artillery and arrows (*byssa oc pila*), and more specifically fourteen *føglara*, light breech-loading guns ("The gun's chamber exploded / That stone did not fly 20 fathoms", v. 6112f) used by defenders commanded by the German artillery master Rodenberg (v. 6086–6117; G. Lundberg 1978:89–96).

Half a century later, about 1490, *Food and Fodder* mentions light breech-loaders at Stegeborg again (*føglare*; from an indecent German slang word, KLN 3:564), in addition to a mortar (*morthare*), arquebuses (*hage bøsser*), gunpowder (*pollfwer*), pivoting gun stands (*mecker*), crossbows (*arbørst*) and arrows or bolts (*piel*). As we have noted, five barrels of vinegar (*etikya*) collected as taxes from the Stegeborg district in 1488 (SFSS 1:82, C32:34r) may have to do with the making of granulated gunpowder somewhere in the realm.

Gregers Mattsson mentions crossbows in his own writing no less than 38 times in the account book C32 that includes his years as fiefholder at Stegeborg (SFSS 1:82:212). For example, in January 1487, his first winter at Stegeborg, Gregers pays Erik Birgersson a salary of two marks coin

and a crossbow (C32:32v), and in June 1488 he pays or issues Hakon Pedersson seven marks, a set of clothes, a horse and a crossbow (C32:42v). Two crossbow makers (*werkmestere*) named Hemming and Olaf are active about this time in the vicinity, probably in Söderköping.

In January of 1502, Svante Nilsson sends instructions from Örebro to his secretary-chaplain Jakob Andersson and his bailiff Jeppe Svenske at Stegeborg for the castle's military upkeep (SDHK 34490). Jeppe replies, promising to keep the ice around the islet broken up, to reinforce the sea barrage with wooden posts, and to have guns cast. "The gun caster shall want for nothing that he might ask me for. I ask your excellency to instruct me if you want any guns sent to you when they are ready. He has now made the moulds and will begin casting tomorrow" (Pers & Sjödin 1932:154).

About 1510 Provost Brask writes in the instructions for his chancellor at Linköping Castle that "If he has ... two or more servants the bishop shall give them money, cloth and crossbows, as is usual with well-armed servants" (*Brask* 52). This is in line with a 1489 regulation by the Council of the Realm, that each *sven* member of an armed retinue is entitled to a new crossbow every two years (Hadorph 1687:65f; Neuding Skoog in press). Also, the bishop's horse-judging cook and his stable overseer each receive a crossbow every two years as part of their pay (*Brask* 82f).

Turning to the archaeology (cf. Terävä 2015), the points of crossbow bolts are ubiquitous finds at the strongholds. We have them from Stegeborg (many), Ringstadaholm (51), Bjärkaholm (28), Landsjö (1), Stensö (3), Skällvik (11), Kungsbro (3) and Munkeboda I (3). Nine of the crossbow bolts from Skällvik were found in the floor layer of the castle's bakery next to a south-facing window, suggesting re-fletching work. Of Kungsbro's bolts, one was found in a superficial part of the floor layer inside the earlier of two conjoined Medieval stone cellars (Tagesson 1994:45), one in the manor's 15–16th century smithy (Tagesson 2001:21) and the third is a stray find. At Munkeboda I, bolts have been found both in the late-15th century ancillary building on the north islet and in the smithy on the south islet (Ternström 2004:146ff; Feldt 2013:137). In addition to the bolts, Ringstadaholm has an iron-and-bone loading hook for a crossbow.

As Boje Andersen notes (2003:141f), two important ways to judge whether the crossbow bolts found at a stronghold are friendly ammunition or traces of an enemy attack are how many there are on a site and how they are distributed across it. At Næsholm on Zealand, for example, she has counted 229 bolts, which suggests an attack. We have two likely examples of this from Östergötland. Ringstadaholm has 51 bolts, though we have little detailed information about where they were found. This stronghold was attacked and burnt down in 1470 according to the written sources. Stegeborg, which is known from written sources to have been besieged repeatedly, has not seen any comprehensive small-finds collection. But many crossbow bolts were at least observed there during excavations. At sites with more detailed information we instead see a small number of bolts concentrated in part of the stronghold at Bjärkaholm, and even inside a single building at Skällvik Castle and Stensö. These sites were probably not abandoned after attacks.

Ringstadaholm has about 15 small-calibre stone cannonballs. Stegeborg has many similar ones of stone and iron. These are however difficult to date to either side of the Reformation due both to the mixed layers at the site and to the field documentation methods used.

Extramural buildings on Nyköpingshus Castle's islet have armour details and crossbow bolts from the late 14th century (Gustafsson Gillbrand 2013:13–1; 2016). A ruptured mid-15th century brass mortar has been found in the river immediately next to the castle (Blomberg 1974; Wachtmeister & Wachtmeister 1986:62). It may have ended up there in 1457 when King Karl Knutsson (Bonde) besieges Nyköpingshus. The defender at the time is Karl's former councillor Erik Axelsson (Tott), the older brother of Ivar who will one day give Stegeborg its walls and western tower.

The 1506 inventory at Stegeholm in Småland lists four stone guns (*stenbysser*), eight heavy and light breech-loaders (*skerpentynner*) with some spare chambers (*kamer*), a barrel of gunpowder and a barrel of arrows (HSH 19:165ff; Hjord 2001:30ff; Palm 2017). A backfilled well at Husaby Castle in Västergötland yielded an arquebus from about 1400 and a fine-calibre muzzleloader from about 1500 (Schnell 2001:79ff). 19 stone cannonballs were found spread across the castle.

Mêlée weapons

Weapons were expensive and few functioning ones have been left at the strongholds to be found by archaeologists. At Skällvik we have the broken blade of a stout single-edged dagger from the gatehouse. Bjärkaholm similarly has a large knife or single-edged dagger with a small conical copper-alloy pommel, along with half a sword hilt. Ringstadaholm has a spearhead and fragments of three swords. Among the stray finds from Kungsbro, Tagesson (1991) enumerates several swords and a spearhead. At Munkeboda I, two longswords from about 1500 have (literally) been fished out of the river just west of the castle islet, one in 1925 and the other in 1994 (Cnattingius 1945:161–165; Hörfors 1996; Feldt 2013:150f).

Armour

Armour occurs as well among the finds. At Stegeborg, corroded lumps of chainmail have been recovered from the oldest south-east tower's burnt bottom layer, sitting on the natural clay. At Bjärkaholm we have many small armour plates with a distinctive row of small rivets along one edge and rounded corners, which is one of the types known from the Visby mass graves of 1361 (Thordeman et al. 1939–40). Judging from context, the plates from Bjärkaholm are more likely to represent an abandoned suit of armour than an on-site repair workshop. Ringstadaholm, let us recall, was taken by storm in 1470 and shows signs of having been abandoned after a fire; here we have an entire thigh greave (fig. 3:YYY).

Imprisonment

Imprisonment in a castle dungeon figures largely in one of the Swedish Middle Ages' most infamous events, the Banquet of Nyköping in 1317. Here King Birger deals conclusively with his ambitious half-brothers, starving them to death yet losing his crown in the ensuing civil war. Similar dungeons are in use in Östergötland too. At Munkeboda in 1373 or slightly earlier, Bishop Nils Markusson keeps a certain Ingeld Knula imprisoned for reasons that have been forgotten (DS X 266). It thus comes as no surprise that in 1487, when Gregers Matsson assumes command at Stegeborg and over its *slottslän* county, his list of provisions and equipment brought from Stockholm and Tyresö Manor include an iron prisoner's collar and an iron bar with six manacles (*F&F* 1v:43–44).

Bits of slender chain with up to four surviving links have been found in Skällvik Castle's bakery, at Bjärkaholm, at Ringstadaholm, and notably in the ground-floor layer of Stensö's oldest tower. This latter find is particularly interesting here, because the room's door towards the stairwell is designed to be bolted from the outside and the space has no other access. The chains found appear too flimsy to use as tethers for a recalcitrant bull (which could in any case never have been brought down the stairs at Stensö), and are reminiscent of the ones fastening books to their lecterns in Medieval libraries. The library chains were designed to stop thieves, not bulls. A person would not have been able to break them by main force.

Slavery

During the earlier part of our period under study, judicial or political imprisonment was not the most common form of unfreedom. Several of our sites were fortified during the last half-century of legal slavery in Sweden (Lindkvist & Myrdal 2003; Brink 2012). It was implicitly outlawed only in 1335, when it became illegal to enslave a child of Christian parents. By that time, no pagans remained available to enslave in agricultural Scandinavia, and the religiously sanctioned raids on the eastern Baltic had ceased.

The best evidence for slavery at the strongholds is from Landsjö. Transporting building materials to the castle islet and digging the dry moat demanded no particular engineering skill. The labour was probably put in by Kristina Fastesdotter's slaves. In her will from about 1280 (DS 855), she manumits a large unspecified number of people. She names eleven of them, eight men and three women: Margareta and Ragnhild from Tift, Manne, Sven Erngundsson, Erik, Hermund from

Landsjö, Johannes and Ragvald (sons of Sigge Lång), Havard, Sven and Cecilia. Apart from Hermund, the will is not entirely clear about which of the eleven live at Landsjö. In any case, such a manumission would carry over on any children they already had as well.

Keeping pets

A few bones of cat and dog have been identified at Stensö (Gustavsson 2014b; 2016) and Skällvik (Nilsson 2017b), and a few dog bones at Landsjö (Gustavsson 2014a). These were in all likelihood working animals, kept for hunting, shepherding, guard duty and pest control, but they could find other uses after death. As detailed in the section on fur production, the inhabitants of Stensö Castle knew at least one way to skin a cat. And they skinned and butchered dogs as well. Gustavsson (2016:9) suggests that the dogs at Stensö may have been skinned for leather and then rendered for their fat, which is useful for waterproofing. Magnell (2015:193f) however interprets bones of these species from Kalmar Castle as evidence that cat and dog carcasses were used for animal feed or occasional cooking.

Smithwork

Medieval technology emphasises wrought iron strongly (Karlsson 2015), and the material is cheap enough that period sites are swamped in small iron objects – notably carpentry nails. This makes them unusually expensive to excavate, as archaeological iron is by far the most complicated archaeological metal to conserve. Both Gregers Matsson and Provost Brask mention smiths at their strongholds in the decades about 1500.

At Skällvik, a hemispherical slag cake from the bottom of the collection pit next to an anvil shows that a smith was at work there. The slag cake had no value in itself and would not have been moved far. We however found it redeposited in a spoil dump from the 1902 clearing of the ruins, and so the workspace of the smith is as yet unidentified.

Bjärkaholm has a surprising amount of slag, one piece of which measures almost 19 cm across. A smith seems to have worked here too, though fieldwork methods did not allow the identification of the smithy. There is also one piece each of lead and copper alloy casting spill from the site.

Ringstadaholm has a slag ball the size of a melon, but also a large flat flaking iron cake, 18 cm across and reminiscent of the product from a small low-tech iron smelting furnace. If that is what it is, then the cake is likely to have been transported to the stronghold for the use of its smith from the iron production area in northern Östergötland. That area however had a centuries tradition of full-scale blast furnaces by the time Ringstadaholm was abandoned.

Part of a smithy has been excavated at Kungsbros in Vretakloster (Tagesson 2001:19–21). It was used during the 16th century and may have been built before the end of the Middle Ages. Products found inside it include a hinge pintle, a carpentry staple, a knife, a crossbow bolt, horseshoe nails and carpentry nails. Part of a smithy has likewise been excavated on the southern islet at Munkeboda I, yielding large amounts of slag, various iron tools, horse shoes, keys and a few crossbow bolts (Ternström 2004:147f; Feldt 2013:144).

When re-equipping Nyköpingshus Castle in 1365, Raven van Barnekow buys a set of smith's tools, *smydheoanbudh* (a term for which his scribe lacks a Latin translation, Barnekow 172f). And in 1506, Stegeholm's smithy is quite well equipped and has new bellows.

Crafts in perishable materials

None of Östergötland's strongholds has evidence for any crafts with a production volume above the domestic level. This sets them apart from the German situation at the time, where castles can have large specialised facilities where for instance pottery and textiles are produced far beyond the needs of the inhabitants (R. Friedrich 2006:43f; Herdick 2006; 2015). Indeed, though as we have seen there is evidence for modest on-site smithwork, there are few signs even on a small scale of any craft production in textiles, leather, bone, antler or wood.

This is unlike what is known from strongholds in Värmland, Saxholmen in Ölme and Edsholm in Grums (Svensson 2008:168ff), and may be due to the much higher level of urbanisation in Östergötland's plains belt compared to Värmland. The inhabitants of e.g. Munkeboda I and Landsjö do not need to make combs, shoes or crossbows on site, because they can buy those off the shelf in nearby *köping* towns.

Still, there is some craftwork going on. Although Linköping Castle is in a town, about 1510 Provost Brask for some reason wants to see a year's supply of shoes made there in June of every year (*Brask* 26). At Stegeborg, *F&F* makes no indication as to whether the shoe-and-sack-maker, the skinner and the tanner who serve the castle are local or work in Söderköping. But Gregers Mattsson does employ a cooper in a dedicated workshop.

And we do have a few finds that suggest crafts in perishable materials at Östergötland's strongholds. Ringstadholm has six cut-offs and work pieces that suggest manufacture of bone and antler objects, possibly including a tuning peg for a string instrument.

Bjärkaholm and Ringstadholm have many carpentry tools: chisel, file, hammer and trowel at the former site; awl, drawknife, claw hammer, beard axe with pick-shaped butt, socketed adze and wedges at the latter. Belt knives are multifunctional tools and are found almost everywhere, as are the slate whetstones that go with them.

There is a small lead spindle whorl from the late-15th century ancillary building at Munkeboda I, whose weight and diameter suggest the spinning of fine thread. A spindle whorl from Stegeborg's oldest tower seems made of limestone and may be either Medieval or Early Modern. A small pierced bone disc from Ringstadholm may have served the same purpose. A bone pin from Stensö may have been used for simple needlework, as a dress fastener or both. The 1506 inventory at Stegeholm in Småland lists quite a number of wall hangings, pillows and items of bed linen, some of which may have been woven and sewn on site (HSH 19:165ff; Hjord 2001:30ff; Palm 2017).

Below we will discuss the osteological evidence for fur production at Stensö, from which the step to making garments would have been short. Such work would have left few traces.

Fur production

<TEXTRUTA>

From the Marriage Song, 15th century

Young girls are not unwilling	Ær pigan vng hon ær ey twng
to go to where there is dancing	at ganga tit som dansas
If they are allowed to decide, they get quickly to	magha the rada the æra bradha
what usually gets a wreath	hwas som plæga kransas
To anyone who has beautiful cats	en then som haffwer katta fagra
I will give some good advice	jak giffwer hanom raad thet besta
He had better not invite	han skal ey gerna skinnara manga
many furriers to his feast	bywda sik til gestha
Before he even misses them	for han seer om at sakna tom
His cats will be gone	tha ærw hans kattor flagna
He imagines himself quite fortunate	han lathe sig tykka haffwa stora lykka
They have not been taken away at all	the ærw ey allz borth thagna

Schacktavelslek med Äktenskapsvisan 655-678 (ed. Wiktorsson 2016:53f). Thanks to Per-Axel Wiktorsson for helping me make sense of the Marriage Song's veiled earthiness.

</TEXTRUTA>

Stensö has bones of squirrel and domestic cat with cut marks that indicate flaying (Gustavsson 2016:9). Icelandic legislation from around 1100 treats cat pelts as just one of several everyday types of fur (KLNLM 7:32). And as the Marriage Song attests, skinning cats for their fur remains

unexceptional in the 15th century. The squirrel at Stensö however seems to have been skinned in the woods and its pelt brought to the castle: only bones from the feet occur at Stensö, much as is seen in urban contexts. Landsjö similarly has a couple of squirrel foot bones, but also bones from both the front and rear legs of a ferret or stoat (Nilsson 2017a). A largely complete fox skeleton found in a superficial layer at Landsjö is most likely post-Medieval in date.

Furry species among the bones from 14–15th century extramural shoreline deposits at Stegeholm in Småland include squirrel and a wolf metatarsal (Magnell 2016). On Öland there are finds of phalanx and tarsalia bones of bear, lynx and wolf from Borgholm Castle and the Gråborg ringfort (Vretemark 2006; Vretemark & Sten 2008). These indicate the presence of pelts, but say little about where the predators were hunted and skinned. Bear pelts were traded across Scandinavia for centuries or millennia before the Middle Ages, as shown by the abundant presence of bear phalanges in Late Iron Age burials even on faunally isolated Gotland (Rundkvist 2003b). Borganäs in Dalecarlia is one of the few Medieval strongholds in the northerly two-thirds of Sweden with boreal forest, the part where quality furs can be had by trappers and hunters. Excavations at this site have unearthed many squirrel bones, and fox and pine marten (*mård*) are also represented in considerable numbers (Sten 1988).

Shipbuilding

In 1487–92 *Food and Fodder* makes only a few mentions of shipbuilding around Stegeborg, and does not indicate that any such work is taking place near the castle. In 1517, however, Stegeborg has its own shipyard close nearby (G. Lundberg 1978:137).

4. Stegeborg Castle and Skällvik Hamlet

Stegeborg Castle sits on an islet in the long narrow Slätbaken inlet, which leads from the Baltic to Söderköping, one of Medieval Sweden's richest towns. A wooden sea barrage blocks the passage at least from the 9th century onward and gives the site its name with *stäk/steg* (Rundkvist 2011:72f w. refs). The castle's late-15th century version consists of a high rectangular perimeter wall with a round tower on the west side and square ones in the north-east and south-east corners (fig. 4:YYY). Most of this masonry survives despite later additions and subtractions (Thoresen 1945; E.B. Lundberg 1955; 1964). Stegeborg also has the best documentary record of all rural strongholds in Östergötland.

The twin castle sites of Stegeborg and Skällvik are located only two kilometres apart, within sight of each other across Slätbaken (fig. 4:YYY). The chronological and functional relationship between them has been given various interpretations in the literature. This discussion is at times difficult to follow because the two names have not had consistent denotations, neither in the Medieval sources nor the modern literature. Gösta Lundberg (1978) offers a useful overview of the sources, though I do not accept all of his interpretations. My understanding, being largely in line with that of Lovén (1999:79ff), is as follows.

Skällvik hamlet, the Bishop's manor and the South Farm

The start of the documentary record for Skällvik pre-dates the two castles and Skällvik parish church by some decades. The name means “Shield Inlet”. When first mentioned in a surviving source in 1287 (DS 941), it refers to a hamlet with several farms. We do not quite know where in the future eponymous parish this hamlet is located, except that it is near an inlet. At least one of its farms is at the disposal of Bengt Birger, Bishop of Linköping. Let us call this the Bishop's manor.

After his visit in 1287 Bengt dates another document at Skällvik in 1289 (DS 1000) and then dies in 1291. His successor Bishop Lars dates documents at Skällvik in 1292 and 1293 (DS 1077; 1094). Lars's will of 1301 (DS 1352) tells us that Skällvik is a hamlet and the Church has owned land there for some time. In addition, the Bishop has personally bought at least one farm in Skällvik hamlet, next to the one(s) belonging to the church, and he now wills this property to the *biskopsbord* of Linköping, estates reserved for the support of the bishop. It is uncertain however whether this planned testamentary transaction ever takes place. Before Bishop Lars dies in 1307, he sells at least one of his Skällvik farms to King Birger, most likely in 1304 (DS 1453).

After Bishop Lars's will of 1301 it becomes impossible to discern in the written sources whether Skällvik hamlet continues to exist as a separate group of buildings, let alone as more than one cadastral unit. Instead, in 1310 Stegeborg receives the first of its innumerable mentions (DS 1693). However, the peasants who till Skällvik's fields are unlikely to have torn down their houses and moved into the castle with King Birger.

With the *Food and Fodder Book* of 1487–92 things become clear again. Stegeborg Castle now has two supporting farms to either side of the Slätbaken Inlet. They are headed by Peder the overseer (SFSS 1:82, C32:47r), and receive a joint allocation of foodstuffs weekly from the castle. The South Farm must represent the continuation of agriculture on the land of the former Skällvik hamlet, and possibly the farm buildings have not moved much in the intervening 186 years.

Food and Fodder makes repeated reference to haymaking in *Skällvik äng*, “Skällvik Meadow”, and beer for the men working there (cf. Myrdal 2001). *Skällvik äng* seems to be a place name in its own right, referring to a meadow on the South Farm's land. Once it is even written as a single word, *skellewigeng* (15v:31).

Today's Stegeborg Manor is on the mainland near Skällvik church, having taken over the name of the castle after it became deserted. The manor house's first version was built after 1731 on the site of the South Farm. Today's manor house can thus be seen as the current incarnation of the Bishop's manor of 1287.

Skällvik Church and the hamlet's location

In the 13th century, the Bishop's manor probably has at least a chapel for private devotions. But as far as currently known, Skällvik church does not date back farther than 1300 at the earliest (Danielsson 1992). In its original Gothic version it is a rectangular aisleless edifice with a chancel equally wide as the nave, and does not seem to have any unusual features indicating the presence of power. The parish is first mentioned in 1325 (DS 2524). Two 1357 property deeds also mention it (DS 5705; 5706). In 1358 Bishop Nils Markusson dates a document in Skällvik church and mentions its parsonage (DS 5901).

In May 1491, *Food and Fodder* mentions a "Herr Anders in Skällvik", whose honorific suggests that he is the parish priest. He is probably not "in Skällvik" in the usual sense that this is a farmstead in its own right, but in the sense that he serves in the parish of that name. Anders in Skällvik is difficult to follow confidently in *Food and Fodder* because there is another Herr Anders in nearby Östra Ny parish who is apparently the priest there. *Food and Fodder* also mentions the sextons Mikkel and Nils, who presumably serve in Skällvik and Östra Ny churches respectively. Nils's wife also receives mention.

With regard to shoreline displacement and surrounding agricultural land, the church marks a likely spot for Skällvik's Medieval hamlet (fig. 4:YYY). It was built on a foundation of timber piles, at the mouth of a stream on the inner end of a shallow inlet that has since become dry land. This, rather than nearby Yxeltorpsviken, may have been the inlet to which Skällvik's name referred. As the first place to seek the Medieval hamlet site, I would point to the hill east and south-east of the church towards the modern manor house.

Stegeborg I, 1304–1390

The property at Skällvik that the king buys from the bishop consists of land on the south shore of Slätbaken plus a number of islands in the inlet. One is strategically located in a narrows where regional rulers maintain a shipping barrage at least from the later 9th century on into the early 12th (radiocarbon dates collected in Rundkvist 2011:73). This would, in the language of the time, have been termed a *stækaholm*, a "barrage island". This explains the name of the castle that King Birger builds: *Stækaborg*, "Barrage Stronghold", and gives us our first precise information about where anything at Skällvik is located. In 1310 the castle is already important enough that it must be dealt with separately when King Birger reluctantly divides his kingdom's territories between himself and his rival brothers, Dukes Erik and Valdemar (DS 1690).

This first Stegeborg Castle proves short-lived. In 1318 it is besieged and largely torn down in a civil war after King Birger has his brothers starved to death in a Nyköping dungeon. *The Chronicle of Duke Erik* reports from the victorious party's perspective, "They demolished the walls so thoroughly / That not one stone was in place was left to see" (*Chronicle of Duke Erik*, 4324–4325, p. 223). King Birger is deposed and dies in exile in 1321. The written sources do not mention Stegeborg as an on-going concern for the next 70 years.

From the perspective of archaeology, the remains of Stegeborg I and any earlier activities on the islet are difficult to access beneath the massive structures of the 15th and 16th centuries. They may in fact largely have been obliterated during these construction projects. But as Rolf Pipping suggested (1926:702), the *Chronicle's* words about a complete annihilation of the castle may be more Scriptural allusion (Matthew 24:2) than sober reporting of the facts. The poet uses a similar expression about the destruction of Nyköpingshus Castle, and here we know that much of the pre-1300 perimeter wall actually survives to this day (Lovén 1999:84).

Erik B. Lundberg (1955; 1964:115) identified Stegeborg's south-east tower as the oldest surviving part of the masonry structure and placed it in the mid-13th century on typological grounds. Gunilla Malm, quoted by Lovén (1999:81), agreed with this early date. Lundberg and Malm thus believed that the tower pre-dated King Birger and had remained in use throughout the 14th century while Skällvik Castle performed most of Stegeborg's later functions. Lovén agrees on the south-east tower's early *relative* date but finds no compelling reason to place its erection before AD 1300.

Given this unanimous typological judgement from architectural historians that Stegeborg's oldest standing masonry cannot belong to the construction phase that began in 1390 (and which is then in fact entirely invisible today), the most parsimonious interpretation seems to be that the south-east tower dates from shortly after King Birger bought the land in about 1304.

The earliest coin known from Stegeborg is an issue of Eric of Pomerania, ruler of Sweden 1396–1439. All in all, numismatists have long only been aware of twelve Medieval coins from Stegeborg, all collected during Thoresen & Lundberg's excavations about 1950 and classified in 1954 by Nils Ludvig Rasmusson of the Royal Coin Cabinet (list in ATA). To this number, Malmer & Wiséhn (1982 #85) added a 13th Medieval coin as “find no 1”. This coin was not actually found at Stegeborg, but at Skällvik Castle in 1902. Finally, an additional Medieval coin from Stegeborg has actually been identified after Rasmusson drew up his list: a poorly struck and preserved *klipping* of Christian II that was not even recognised as a coin when found due to its rectangular shape.

Skällvik Castle 1330–1356

In the interim between Stegeborg I and II, Skällvik Castle is built on the mainland. I deal with this site separately in Ch. 5. For now, note only that written sources and coins from excavations date habitation at Skällvik Castle to the period from about 1330 to 1356.

Stegeborg II, historical overview 1390–1689

Despite the apparent survival of a tower on Stegeborg Islet, the written sources make no hint of any fortifications on the Slätbaken inlet for over 30 years after 1356. In 1363 the Mecklenburgian fleet can apparently sail undisturbed straight in past the two castle sites to Söderköping and take the town. Our first indication of renewed activity dates from 1390, and the site involved is Stegeborg, about which the sources have said nothing new since the civil war of 1318. None of the first few mentions discuss what kind of buildings or fortifications Stegeborg has now, but rich and powerful people certainly sojourn there.

The fabulously wealthy landowner Bo Jonsson (Grip) dies in 1386. His will names twelve executors of the estate, and in 1390 we find them at Stegeborg, conferring with Queen Margareta about Bos legacy and issuing paperwork (SDHK 13738–40). In 1391 we learn from the Provost of Linköping that the Queen has a fiefholder at Stegeborg, the Danish knight Evert Moltke, who is taxing the peasantry of Hammarkind *härad* unduly with the aid of his bailiff and brother, Vicke, and a considerable number of staff (SDHK 13980). Evert and his employees must have a safe base for this work, so this is strong circumstantial evidence that Stegeborg II is now defensible. Only in an undated document from the period 1390–1410 do we learn that there is definitely construction going on: the Cathedral Chapter of Linköping discusses reinforcements at Stegeborg that demand large numbers of wooden beams (SDHK 39607).

Margareta issues documents at Stegeborg in 1402 (?) and 1403 (DS 144, 380; cf. Carlsson 1965:36f). From her time on, the historical source material for Stegeborg is rich and detailed all the way up to the present day. The castle is repeatedly revamped, repeatedly besieged. Gregers Matsson's (Lillie) *Food and Fodder Book* and account book offer detailed information about life at the castle about 1490 (SFSS 1:82–83). Stegeborg's process of abandonment and ruination does not begin until after 1689 when the castle's last owner-inhabitant, Count Adolf Johan I, dies. By this time, Söderköping has long lost its significance as a trade hub to land uplift, and naval warfare has changed greatly, obviating the need for fortifications at Stegeborg.

20th century fieldwork

In August of 1901 King Oscar II visited Stegeborg and afterwards allocated funds for restoration work on the castle. Some removal of vegetation and rubble with restoration work on the masonry took place in 1905 with bricklayer J.F. Wallberg as foreman. He had worked with August Lundberg at Skällvik Castle three years previously. Engineer Gunnar Hellström directed renewed conservation work in 1925. This resumed for a month in the summer of 1938 under archaeologist Erik Bohrn.

Now for the first time a few finds were collected, though only building details and none of Medieval date. Bohrn also for the first time produced a detailed illustrated report on his work (in the ATA archives, Stockholm).

In 1943–45 and 1948–52 the ruins finally saw a concerted campaign of rubble removal, documentation and masonry renovation which put the site largely into the shape it has today. This project was directed by building archaeologists: first Hans Thoresen and then from 1948 Erik B. Lundberg. There was mostly no question of any excavation grid, screening or detailed stratigraphic recording. Thoresen and Lundberg had crumbling, overgrown multi-storey walls to make sense of and conserve, and hundreds of tonnes of rubble to deal with, and they did it with unskilled labour on a slim budget.

Thoresen submitted his report in January 1950. He discusses the masonry sequence in great detail. Lundberg submitted his, two massive volumes mainly containing plans and photographs, in 1963. The following year he then published a solid monograph on the castle's architectural history.

The reports are ambiguous as to how deep Thoresen and Lundberg really aimed to dig. They followed two guiding principles, and in some spots they ignored both of them. Firstly, they wanted to remove rubble, in other words, heaps and layers of building material that had fallen from the eroding walls and vaulting. But secondly, there was also an ambition to re-establish “original floor level”. Over most of the ruins, the rubble clearly did not rest immediately on a structure's original floor, so the stratification between these two surfaces had to go.

But Stegeborg has a complicated multi-phase structural history. There were fortifications on the islet already in 1310. Typically, a ground-floor room has a rear wall from about 1470, a front wall towards the bailey from about 1570, and in some cases it has a side wall from about 1670. This makes it difficult to understand both what “original floor level” might mean, and how Thoresen and Lundberg would recognise it once they reached it. Lundberg writes in the introduction to a terse finds list of March 1954:

<BLOCKCITAT>

During rubble removal inside the ruin, remains of Renaissance tiled stoves were found here and there. Only one tile was nearly undamaged. Here and there pottery fragments were also found, mainly tripod pots. Also were found a number of fragments of the sculpted decoration that once ornamented the east range. A few coins and various small items also form part of the finds, which cannot be considered extraordinary either as to their quantity or quality.

Beyond the removal of unmixed rubble, no extensive excavation took place in the castle area. Test pits were dug in two locations in the bailey, and trenches were likewise dug at a couple of places in the east range, among other things to determine the level of the cellar floor. During these investigations a few small items were found. (transl. MR)

</BLOCKCITAT>

This description is immediately contradicted in the same document, when Lundberg lists finds from the bottom layers resting on the natural inside both the west and the south-east towers. He was probably particularly motivated to dig deep inside these two structures in order to examine and reinforce their foundations. Likewise, Thoresen mentions in his report having dug through a “secondary” floor layer in the north-west corner room.

In October 1972 through January 1973 Kerstin Christofferson oversaw continued restoration work at Stegeborg and excavated small trenches in and near the post-Medieval east gate. This is so far the only properly documented and stratigraphically argued excavation at Stegeborg, and it unearthed only one or two potsherds that have a clear Medieval date.

Since then further masonry conservation has taken place, notably in 1989–93 overseen by Olof Antell, and after part of the northern perimeter's outer facing collapsed in 2014, work under Krister Berggren's and Per Rydberg's direction. To prepare for the wall's reinforcement and reconstruction, Emma Karlsson (2015) excavated eight shallow test pits along the unstable stretch, but made no artefact finds.

The archaeology of Medieval Stegeborg

As far as currently known, all standing masonry at Stegeborg except the south-east tower dates from after 1467. In that year Ivar Axelsson (Tott) gained control of the site and soon had the perimeter wall, the north-east tower and the west tower built. The masonry that survives inside the wall, however, dates from 1544 and later during the reigns of Gustav I and Johan III. This means that though Stegeborg has much to offer the student of late-15th century fortifications, it is far less informative on the subject of Medieval lifestyles.

Thoresen and E.B. Lundberg paid scant attention to small finds. Few were collected and even fewer survive in the County Museum. They are overwhelmingly of Early Modern date, as are Christoffersson's much more diligently collected finds. But there are some Medieval items from Stegeborg, and in a few cases it is possible to pinpoint in which structure around the bailey that they were found. All the finds commented on in ch. 3 are from ground-floor layers in the north-west corner room, the west tower and the south-east tower.

Tab. 4:1. Finds from Stegeborg discussed in the text

Inv. no	Find	Context
Lkpg 16860:1	Coin, Ag, Eric of Pomerania, örtug, 1396–1439	'48–52, W tower, below ground floor (E.B. Lundberg 1964:69)
Lkpg 16860:2	Coin, Ag, Karl Knutsson, örtug, Stockholm, 1448–70	'48–52, SE tower = room #12, below ground floor, sq 8
Lkpg 16860:3	Coin, Ag, Karl Knutsson, örtug, Turku, 1448–70	'48–52, W tower, below ground floor (E.B. Lundberg 1964:69)
Lkpg 16860:4	Coin, Ag, Hans, ½ örtug, Stockholm, 1497–1501	'48–52, SE tower = room #12
Lkpg 16860:5	Coin, Ag, Sten Sture the Younger, ½ örtug, Stockholm, 1512–20	'48–52, SE tower = room #12
Lkpg 16860:57	Coin, Ag, Visby, gote, c. 1420–40	'43–52, SE tower = room #12 (E.B. Lundberg 1964:114f)
Lkpg 16860:58	Coin, Ag, Visby, gote, c. 1420–40	'43–52, bailey, trench M I
Lkpg 16860:59	Coin, Ag, Visby, gote, c. 1420–40	'43–52, SE tower = room #12, below ground floor, sq 8
Lkpg 16860:60	Coin, Ag, Visby, gote, c. 1420–40	'43–52, W tower
Lkpg 16860:61	Coin, Ag, Christian I, hvid, Malmö, 1448–81	'48–52, SE tower = room #12
Lkpg 16860:62	Coin, Ag, Christian II, klipping, 1513–23	'48–52, SE tower = room #12, below ground floor, sq 1
Lkpg 16873:79	Coin, Ag, Christian II, klipping, 1513–23	'43–45, location unknown
Lkpg 16860:63	Coin, Ag, Helmicus Malingrade, artig, Dorpat, 1461–69/70	'48–52, SE tower = room #12, below ground floor, sq 7
Lkpg 16866:9	Chandelier, brass, fragment	'43–45, NW corner room #5

	with bird	
SHM 22395	Chess bishop, walrus ivory	Stray find
Lkpg 16866	Die, bone	'43–45, NW corner room #5 (Thoresen 1945:28)
Lkpg 16866	Gaming piece	'43–45, NW corner room #5
Lkpg 16866	Four seals, lead	'43–45, SE tower = room #12 (E.B. Lundberg 1964:114f)
Lkpg 16866	Crossbow bolts	'43–45, SE tower = room #12, along S wall in floor layer
Lkpg 16866	Spindle whorl, ?limestone	'43–45, SE tower = room #12, sq VI near wall, 0.75–1.75 m below floor level
Lkpg 16866	Two spurs	'43–45, NW corner room #5 (Thoresen 1945:28)
Lkpg 16866	Chainmail, fire-damaged lumps	'43–45, SE tower (E.B. Lundberg 1964:114f)
Lkpg 16873	Glass shard from a <i>Krautstrunk</i> beaker	'43–45, SE tower = room #12

5. Skällvik Castle

Skällvik Castle sits on a rocky hill at the Slätbaken shore. It consists primarily of six buildings arranged around a bailey and connected by short stretches of perimeter wall (fig. 5:1– YYY). Only greystone masonry is seen on site today, but brick flakes are abundant in the culture layers. It seems that the ruin has undergone focussed quarrying where almost every intact brick has been removed, leaving only greystone walls and foundations. (The term refers to local granite and gneiss, following Swedish usage of the word *gråsten*.)

The castle gate opened towards the shore in the north-east and can certainly not have been accessible to wagons, probably not even to horses. The gate probably led onto a dock. A small bricked-up postern to the south-east in extension XI to the main building had a limestone threshold and could once be bolted from the inside.

The main building forms the southern limit of the bailey, sits on the highest part of the site and survives to a height of two stories. It may have been inhabited both before the five smaller buildings were erected and after they were torn down. Consisting entirely of greystone masonry except for extension XI which was brick, it has been spared the quarrying.

Historical overview 1330–56

As detailed in the preceding chapter, 13th century Skällvik is a hamlet, one of whose farms is a manor belonging to the Bishop of Linköping. In about 1304 Bishop Lars sells the manor to King Birger, who swiftly has Stegeborg Castle built on a strategically located islet there. In 1318 Birger's enemies take the castle by siege and largely tear it down, though at least a tower survives.

Whoever controls the waterway past Skällvik also controls shipping access to Söderköping, one of Sweden's most important towns at this time. Re-fortifying the passage seems a foregone conclusion. The site of Stegeborg would still be by far the best strategical choice. But for most of the 14th century, the islet seems to harbour no major fortifications: only that single tower. Someone instead decides to build a new castle from the ground up, again on Skällvik Hamlet's land, but on the shore of the mainland. This person is most likely Bishop Lars's successor to the See of Linköping, Karl. (For the following discussion of the written evidence, cf. Schück 1959:306–311).

During the minority of King Magnus, the son of the murdered Duke Erik, Bishop Karl is the *de facto* leader of the Council of the Realm and the governing regency (SBL 20:706; Nordberg 1995:90). In 1319 the widow Duchess Ingeborg donates what has until recently been the Bishop's manor at Skällvik back to Bishop Karl with the agreement of the council, to reimburse Karl for expenses he has had on the kingdom's behalf (DS 2214). And around 1330, Karl begins construction on Skällvik Castle. We know this only thanks to a document where King Magnus takes Skällvik Manor back again.

Magnus comes of age in 1331 or 1332. In a complicated 1332 transaction he swaps various royal properties (including Borg manor, excavated in 1992–93) and rights to revenue and resources for the Bishop's land holdings in Skällvik (DS 2947). On 23 June 1333 the young king agrees to also reimburse Karl for the great and lavish buildings that the Bishop has erected on the property: the new castle (DS 2992). Later the same year Magnus dates documents on 12 November at *Skioldvig Slot*, “Skällvik Castle” (DS 3010), and on 6 December *in castro nostro skyaldowiik*, “in our castle Skällvik” (DS 3015).

But the ownership of the castle remains contested. In a 1336 document Magnus mentions having mortgaged *wart hws skialdawijk*, “our castle Skällvik” (DS 3267). The following year Bishop Karl mentions in a mortgage document of his own that he has butter, cheese and hams stored at Skällvik (DS 3326). And in 1349, Bishop Peter Torkilsson dates a document *in castro nostro Skældowik*, “in our castle Skällvik” (DS 4436).

Regardless of who has the stronger claim to owning Skällvik Castle, it is kept in habitable shape until the 1350s. Not only the king and bishop date documents there, but so does Östergötland's law-sayer Knut Jonsson in 1334 and 1339 (DS 3069; 3427).

The latest surviving document dated at Skällvik is from 1350, when Bishop Peter calls it *manerio nostro Skældowik*, “our manor Skällvik” (DS 4529). It seems unlikely that he is referring to the site of the 13th century Bishop's manor here, rather than to the castle he was writing in the year before. During the 1356 aristocratic rebellion fronted by King Magnus's son Erik, Bishop Peter's successor Nils supports the young pretender. Magnus sends troops to attack Skällvik Castle and the parsonage is sacked (DS 5901; 5962; Schück 1959:78). Herman Schück (1959:310) suggests that this is a repetition of the events after the Banquet of Nyköping half a century previously: the king may have had the castle demolished. The latest coin found there was struck in 1354–64 (tab. 5:2), and none of the pottery found suggests a later date.

Carl F. Nordenskjöld's 1875 plan

The ATA archives hold a schematic plan of the castle (fig. 5:YYY) that is accompanied by two fair-copy pages of description in a 19th century hand. Neither is dated or signed, but later writers including August Lundberg attribute the documents to the agronomist and antiquarian Carl F. Nordenskjöld and date them to 1875. Nordenskjöld indeed writes about the ruins with reference to this plan (ATA, Östra Ny parish, Stegeborg [!], manuscript copy), prior to the removal of any great volumes of rubble from several of its buildings. He also gives details about a partly double line of underwater softwood posts along the shoreline to the north and north-west.

August Lundberg's fieldwork in 1902

As we have seen, in 1901 King Oscar II allocated funds for restoration work at Stegeborg that began, haltingly, in 1905. A private citizen followed this august example and donated further money to the Royal Academy of Letters. These funds were used already in 1902 for the first fieldwork campaign at Skällvik Castle.

In 1902 the engineer and architect August W. Lundberg (1836–1907) celebrated his 66th birthday. When he came to Skällvik that summer he was an experienced man: he had renovated Medieval churches on Gotland and in Scania, two of his four Neo-Gothic brick churches in Scania had already been built, and he had long been the Scanian Cement Company's chief engineer. After discussions on site at Skällvik with Emil Ekhoﬀ of the Academy, Lundberg set to work on Monday 28 July with a team of ten labourers. His aims were to empty the ruin of rubble, investigate the masonry and draw a detailed plan.

Lundberg spent three weeks at this work and calculated in his report to the Academy that a total of 2465 man hours had been put in, not counting the foreman. He drew a set of detailed plans and sections (figs 5:YYY–YYY), and his brief discussion of his findings demonstrate a keen and perceptive understanding of the buildings he was investigating. Lundberg did not consider himself finished with the site. Fieldwork ended only because the Göta Canal Company wanted its wheelbarrows back. Lundberg planned to remove more rubble the following year, and he wanted to cap all the exposed walls with concrete (not turf, not asphalt, as he discusses at length). He considered both his plans and his report to be incomplete, though three letters written to Ekhoﬀ during fieldwork offer substantial additional information. Nevertheless, Lundberg never seems to have returned to Skällvik. A letter of 20 August 1905 from the bricklayer J.F. Wallberg to Ekhoﬀ (in ATA) about restoration work at Stegeborg (*stora Stegeborg*) refers briefly to on-going work at *gamla Steges ruin*, which most likely means Skällvik Castle. Wallberg was Lundberg's foreman on site in 1902.

Archive materials and the current state of the site show that Lundberg's team built a number of provisional wooden footbridges from inside the castle ruin to its perimeter, and ran wheelbarrows full of rubble on them. A voluminous spoil dump on the slope to the west shows where the barrows were emptied. A couple of slides was built of boards to transport individual stones downhill and across the north perimeter, where they still remain. During the second week fifteen labourers proved to be too many for the bottlenecks of this setup, and so only eleven were employed during the third and last week. A small crane was used to remove large fallen wall segments from a depression just east of the castle, which proved to be a brick kiln (probably modern) rather than part of an expected

moat. Further intact wall segments found where they had fallen inside the Main Building caused Lundberg problems as he found them too illustrative to remove. On this point he consulted the Custodian of Ancient Monuments, Hans Hildebrand, by mail. Mortar fragments on the other hand were collected in order to be sold as fertiliser.

Inside the castle, Lundberg noted a few non-wall structures under the rubble including a baking oven in Building IV's north-east corner. Much of this documentation is in the illustrated finds list. But small finds were no priority of Lundberg's: he lists only 22 items ranging from a single coin to an unknown number of bones. After the end of fieldwork he sealed all the finds except the coin in a barrel and sent them by steamer to Stockholm (that is, to the Academy offices, I assume), where I have sadly been unable to trace their later fate. Erik B. Lundberg (1964:111) could not find them in the early 1960s either. The coin, however, went by mail to the Academy along with the report and later became mis-attributed to Stegeborg (Malmer & Wiséhn 1982 #85, "find I").

One curious detail is worth noting for anyone who deals with Lundberg's documentation. The letter he wrote after eight days' fieldwork to Hans Hildebrand, about fallen wall remains inside the Main Building, reveals that up to this point, Lundberg had his cardinal points on site 90° wrong. He believed that the Main Building was oriented N–S when it is in fact close to W–E. He corrected this mistake in the final report and finds list, but it is possible that some vestige still lingers in the surviving paperwork.

<TEXTRUTA>

Tab. 5:1. Finds of 1902 from Skällvik Castle

1. Bones of livestock and birds from all over the castle.
2. Charcoal and disintegrating charred wood from all over the castle. One major concentration of spruce charcoal in the opening between the Main Building and the Bakery received Lundberg's special attention. It was just next to the modern brick kiln and very likely had to do with its use.
3. Nails from all over the castle.
- 4a. Horseshoe (half of one) from the large vaulted room at the Main Building's east end.
- 4b. Horseshoe from the Gatehouse, above the entrance vault.
5. Silver coin. Found "among animal bones in the trench near the Main Building's north-west outer side wall". A detailed drawing in the report (fig. 5:YYY) identifies it as type LL XXVII:3, Magnus Eriksson, E surrounded by three crowns, struck in 1340–54. Three coins of group XXVII were found in the Bakery in 2016 (F5, 7, 8).
- 6a. Knife. "Found in the entrance vault's upper part in the bone layer." "In the upper part of the entrance vault lay, in dark soil, a 10 cm layer of bones under and on top of limestone/mortar gravel, brick fragments and black soil".
- 6b. Knife. Found in the bailey. Not collected.
7. Floor tiles, undecorated, brick red, 30 by 30 by 7 cm. Found in the upper part of the Gatehouse, in the privy (building V) and among the rubble in the large vaulted room at the east end of the Main Building, probably originating from an upper floor.
8. Profiled brick, 30 by 15 by 9 cm.
9. Bone comb. Found with animal bones in a pit in the bailey.
10. Bullet casting mould, pliers fashion. Found at 1 m depth in the rubble near the west end of the Main Building "in line with the break in the north wall end". Well preserved, modern.
11. Crossbow bolt, wide rhomboid blade. Found in the Main Building.
12. Door latch with staple. Found in the doorway between the Main Building's large vaulted room and the sloping corridor along its north wall. Cf. #16.
13. Carpentry rivet. Found in the bailey.
14. Late Neolithic shaft-hole work axe. Broken across the hole. Found "in soil fill inside castle".
15. Two parts of the base for a greystone handmill. Unspecified find spot. Left on site "on the wall east of the ruin".
16. Door hinge (not described). Find spot as #12.
17. Key, length 18.7 cm. Found in the Main Building at the doorway to the upper cellar.

18. Crossbow bolt. Found in wall collapse between the Bakery and the Main Building.
 19. Door latch with staple. Found in the sloping corridor along the Main Building's north wall, 3 m from the doorway to the large vaulted room.
 20. Disintegrating remains of softwood from beam slots in the west or north part of the Main Building's north side wall. Not clear which wall this refers to, but the beams supported the second floor in the central part of of the Main Building.
 - 21a. Part of something similar to a spearhead.
 - 21b. Thick unclassifiable iron fragment.
 22. Pintle, found at the entrance to the Main Building.
- </TEXTRUTA>

Fieldwork in 2016

After 1902, the ruins received little archaeological attention. In September of 1949 Stegeborg's restorer Erik B. Lundberg visited the site and found a Medieval spur lying on a rock outcrop 50 m south of the castle (now in the County Museum). This suggests some level of unauthorised digging on the site at the time. In 2011 a group of local amateur historians formed the Friends of Skällvik Castle Association (skallviksborg.se), which was instrumental in having trees and bushes cleared from the ruins. A wooden staircase was built into the Main Building and benches for visitors installed on top.

This brush clearance made the task much easier when in July of 2016 myself and Ethan Aines directed 160 person-days of excavations at the castle (report at Archive.org). We opened six trenches for a total of 60 sqm, five inside each of the castle's lesser building foundations and one in the bailey (figs 5:YYY–YYY). We could not however go into the Main Building. The reason was that, as mentioned, this imposing structure has not been quarried to the same degree as the other buildings. It is still full of its own rubble, largely consisting of very large stone blocks. Emptying and stabilising the Main Building was far beyond our means in terms of time, labour and funds.

<h3>*The Bakery, building IV: trench A*

Lundberg identified a large baking oven in the north-east corner of this building. We opened the 4 x 3 m trench A in the south-east corner, encompassing about 1/5 of the building's floor area (Rundkvist & von Heijne 2017).

The stratigraphy proved simple: on the natural sat a clean levelling layer with few finds and on top of this the compacted earth floor L104, the mortar-rich rubble L105, the mortar-poor erosion rubble L102 and, finally, turf. The surface of the levelling layer was only about 35 cm below ground.

Seven of the twelve metre squares in the trench yielded Medieval coins, mainly in the south half. These eleven coins (fig. 5:YYY) are all of Magnus Eriksson and were found in L102 which appears to represent the building's demolition and the long post-abandonment period. These coins, as identified by Cecilia von Heijne of the Royal Coin Cabinet, have a tpq date of 1354, assuming that they were all deposited over a short period of time. Only one pre-dates 1330 (F6), and the date for that type is disputed.

The other artefact finds from the Bakery (fig. 5:YYY–YYY) conjure a rather interesting image of what people did there and why they lost so many coins. There are five gaming dice and seven crossbow bolts, all from the squares at the south wall where coins were also abundant. The northern part of the trench yielded three stoneware potsherds, part of a horseshoe and a horseshoe nail, and outside the trench edge near the baking oven we found a padlock (fig. 3:YYY).

This concentration of coins, dice and crossbow bolts at the building's southern end can be related to the window that Lundberg documented here. When gambling for money you need light. Likewise when fletching arrows. The bolts have been X-rayed and conserved, and they have not suffered any impact damage. We found no bolts anywhere else in the castle, but Lundberg found two nearby: one in the east end of the Main Building and another between the Main Building and the Bakery. The fact that the 2016 crossbow bolts lay concentrated inside the Bakery's south wall was most likely

not due to people shooting in there. All were in layers L104–105, while the coins were as previously stated on top in L102 along with the dice. The finds from L102 might conceivably have been dropped by the wrecking crew who tore Skällvik Castle's peripheral buildings down. But with an eye to their tpq date, it seems more likely that they fell from the Bakery's first floor when it was demolished. A similar combination of coins, dice, sherds from drinking jugs and a baking oven has been found in building 2 at Edsholm Castle in Grums, Värmland (Svensson 2008:145f). This was probably a military barracks.

All in all it seems that the castle's Bakery was a haunt of idle people who gambled (in the sleeping loft) and mended weaponry (on the ground floor). This points to the soldiery who manned the castle. Lovén has pointed out informally that the Bakery, with its oven, was probably the castle's best-heated building. At least one of its rooms would have been the *borgstuga*, the castle's common room. As we have seen, Stegeborg Castle certainly had an oven in its *borgstuga*.

<h3>The bailey's northern corner: trench E+B

The bailey slopes rather steeply from the south-west to the north-east. We wanted to investigate what sort of culture layers might remain in this outdoor environment, and we chose to look at the bailey's lowest point in the hope that refuse might have accumulated here, between the entrances to building X and the Gatehouse. The twelve square metres of trench E and its little appendage trench B did not however prove very informative.

The stratigraphy was thin and contained few datable finds. Three sherds of stoneware are the only Medieval ones (fig. 5:YYY), while two small nondescript copper alloy objects, abundant nails and some slag lumps may or may not share this date. Two fragments of profiled bricks hint that the entrance to building X was once quite finely turned out before the castle's brick components were quarried away.

Five sherds of modern creamware represent spillover from an early-1900s midden on the other side of the wall to the east, inside the Gatehouse. And finally, four pieces of knapped quartz and quartzite look like they may originate with people on the hill thousands of years before the castle was built. They call to mind the Late Neolithic stone axe that Lundberg found.

<h3>Building VIII: trench C

The site of building VIII is the castle's second-highest after that of the Main Building. The rock outcrop inside building VIII slopes steeply from the south-west to the north-east, and beam slots in the east wall show that people could only stand up straight near the north wall on the ground floor. The space inside which we worked has thus most likely been used as a cellar. In 1902 Lundberg saw remains of a brick floor in the northern part, but we did not encounter this in 2016. The stratigraphy was neither thick nor very productive of artefact finds.

Some or all of our three datable Medieval items are likely to have fallen into the cellar between the floor boards above, either during the lifetime of the building or when it was demolished. They are part of a lathe-turned ivory ear scoop, a silver coin of Magnus Eriksson and a stoneware sherd (figs 5:YYY–YYY). Before it broke, the ear scoop was an extreme luxury item fit for a king or a bishop. Other finds worth mentioning are two pieces of a belt knife and a piece of pierced copper alloy sheet strip.

<h3>Building IX: trench D

Our trench D near the middle of the floor in building XI yielded evidence for the finest flooring in all of the five buildings we investigated (fig. 5:YYY). A neatly laid greystone cobble floor had been covered up by a second flooring layer consisting of square brick tiles set in mortar. Finally the tiles had been robbed out, leaving only a few. Lundberg found similar floor tiles in the Gatehouse, and a couple still sit mortared into the north-west corner of the Main Building.

As for the artefact finds, trench D yielded five datable Medieval ones: a silver coin of Magnus Eriksson, a stoneware sherd, two comb fragments and a strike-a-light. Abundant nails, two

horseshoe nails and an openwork copper alloy sheet spangle may or may not share this date. Seen together they do not invite any functional interpretation of building IX.

<h3>Building X: trench F

The shallow stratigraphy in trench F inside building X proved even less informative than that of the bailey just outside in trench E. Again, Lundberg saw traces of a brick floor here, but we saw none. The only datable find is a glazed fine earthenware sherd that is identical to one of the wares represented in the post-1902 midden in the Gatehouse. Some iron fragments may belong to the tang of a tool or weapon but cannot tell us which. The rest is just four nails.

<h3>The Gatehouse, building III: trench G

The Gatehouse is an irregular, probably once roofed space that borrows walls from the neatly rectangular buildings X and IV. The Gatehouse has two small doors opening into the bailey.

Visitors to Skällvik Castle had to enter the Gatehouse from the seashore up a steep barrel-vaulted incline. The castle appears designed to receive almost all visitors and supplies by boat.

Lundberg found a bone layer there. We too found bones in trench G against the west wall, and datable Medieval artefacts as well: eleven potsherds, including Siegburg stoneware and wheel-turned Unglazed Grey ware, and a piece of an iron dagger (figs 5:YYY–YYY). Our finds are however dominated by modern pottery and glass.

It seems that shortly after Lundberg's workers had emptied the Gatehouse of rubble, the inhabitants of the Tegelladan smallholding at the foot of the hill used it briefly but rather intensively to house a kitchen midden. The modern sherd count in trench G is close to a hundred from six square metres, while we only found five modern potsherds across the wall in trench E, and one each in the nearby trenches A and F. Most of the sherds are creamwares, earthenwares and porcelain, but there is a little glass and milk glass too. As for other artefact finds of modern or indeterminate date, trench G yielded a piece of a belt knife, a bone bottle stopper, three functionally unidentified pieces of copper alloy, a whetstone, a horseshoe nail and abundant nails.

And waste disposal in the ruin continued. In a 1958 letter to the County Museum (copy in ATA), the landowner Ragnar Danielsson notes that the people in Tegelladan have previously had a kitchen midden in the south-east part of the ruin, apparently between the Bakery and the Main Building.

<h3>The west spoil dump

As mentioned, a clearly identifiable spoil dump that is likely to date from 1902's work on site is on the slope west of the castle, immediately outside the short stretch of perimeter wall between the Main Building and building VIII.

We hoped that such a spoil dump would offer easy access to redeposited culture layers with Medieval small finds, so we screened and metal detected a few square metres of the west spoil dump's surface layer. This did not prove a productive strategy. All we found worth collecting was a spill of an unidentified molten metal, a nail and a crust of iron-forging slag (diam 13 cm, density c. 2990 kg/m³). The latter find is informative in so far as it documents smithwork at the castle.

<h3>19th century brickworks at the foot of the castle hill

The smallholding east of the castle hill is named Tegelladan, "Brick Barn". As we have seen Lundberg found a brick kiln at the foot of the hill east of the Main Building. Lundberg simply describes the kiln as "old". No brickmaking seems to have been going on in 1902. We test-screened and metal detected a large spoil dump next to the kiln and found that it consists almost entirely of bricks and roof tiles, with only a few nails and mortar fragments. This is not material from inside the castle. Instead it must be either the spoil from when Lundberg's team emptied the kiln, or a waste dump from the time of the brickworks.

Detailed historical evidence for this industrial activity can probably be found in the Stegeborg Manor archives, but we have made no effort to seek it. Online early maps at Lantmäteriet name Tegelladan and show its buildings back to the year 1877 or a little earlier, with no older map being

available. We can offer archaeological dating evidence in the form of the coins we found and did not find. After the 14th century issues found inside the castle, the next group of coins on or near the castle hill are three copper coins from 1883, 1898 and 1900 from the general area of the brickworks. In the field east of the hill we found five earlier copper coins scattered across the decades back to 1800, and two of Queen Christina's *kopparfyrk* coins from the 1630s. But we do not have a single coin from the period 1640–1799. This suggests that the brickworks operated only during the 19th century.

<h3>The field east of the castle hill

Metal detecting in the Tegelladan smallholding's garden between the castle hill and the ploughed field proved difficult because much of it was under high vegetation. We did however find a glass-topped silver thimble from the decades around 1900 just east of Tegelladan, near the field boundary. In the field proper, we found seven copper coins as detailed above, a shoe buckle, a lead spill and a copper-alloy hinge. But the most interesting find of all is a Medieval copper alloy seal matrix (fig. 3:YYY–YYY) found by the late and sadly missed detectorist Svante Tibell, about 60 m due east of the Main Building and about 20 m from the north-east corner of Tegelladan.

Fno	Find	Context
5	Coin, Ag, Magnus Eriksson, LL XXVII:2, 1340–54	The Bakery, 2016
	Coin, Ag, Magnus Eriksson, LL XXVII:3, 1340–54	In or near bailey's SW corner, 1902
8	Coin, Ag, Magnus Eriksson, LL XXVII:11, 1340–54	The Bakery, 2016
7	Coin, Ag, Magnus Eriksson, LL XXVII:17?, 1340–54	The Bakery, 2016
12	Coin, Ag, Magnus Eriksson, LL XXVIII:1a, 1354–64	The Bakery, 2016
4	Coin, Ag, Magnus Eriksson, LL XXVIII:3a, 1354–64	The Bakery, 2016
10	Coin, Ag, Magnus Eriksson, LL XXVIII:3d, 1354–64	The Bakery, 2016
9	Coin, Ag, Magnus Eriksson, LL XXVIII:4a, 1354–64	The Bakery, 2016
3	Coin, Ag, Magnus Eriksson, LL XXIX:1b, 1348–64	The Bakery, 2016
11	Coin, Ag, Magnus Eriksson, LL XXIX:5b, 1348–64	The Bakery, 2016
2	Coin, Ag, Magnus Eriksson, LL XXIX:6a, 1348–64	Building IX, 2016
6	Coin, Ag, Magnus Eriksson, BM Kr H Ä Ic, 1300–25?	The Bakery, 2016
13	Coin, Ag, bracteate fragment	The Bakery, 2016
1	Coin, Ag, Magnus Eriksson, cf. M-B 645–647, Lund 1332–60	Building VIII, 2016

206–207	Comb, antler, 2 frags	Building IX, 2016
199–204	5 dice, antler/bone	The Bakery, 2016
205	Ear scoop, ivory	Building VIII, 2016
43	Seal matrix, Cu alloy, "Sigillum ...so uxori Sononum"	Field E of castle hill
18, 21, 22	3 spangles, Cu alloy	The Bakery, 2016
26	Sexfoil openwork spangle with loop	Building IX, 2016
Lkpg A15651	Spur, iron, rowel type	On nearby rock outcrop, 1949
Lost	Crossbow bolt, socketed, wide flat rhomboid point, 85 x 31 mm	Main Building, 1902
Lost	Crossbow bolt, socketed, 90 x 20 mm	Between Bakery and Main Building, 1902
55–63	9 crossbow bolts, 28–59 g before cons.	The Bakery, 2016
160	Dagger blade	The Gatehouse, 2016
129	Strike-a-light, iron, slitted	Building IX, 2016
66	Chain, iron, three links	The Bakery, 2016

6. Bjärkaholm in Vist

This stronghold is on a former islet in River Stångån that became landlocked through dredging in 1855. It was named Bjärkaholm in the 14th century and more recently Bosholmen: “manor islet” or “Bo’s islet”. The site was disturbed by antiquarians in the late 1880s and partly excavated by Otto Janse in 1914–15. His team collected many finds that are now in the SHM (inv. no 16969). The main publication is Brandel 1929.

On site the foundations of five buildings have been identified along with the base of an incomplete perimeter wall and a bridge head (fig. 6:YYY). At an unknown date all structures have been methodically torn down and any useful building material removed. Written sources and coins suggest only 20 years of habitation from 1370 to 1390. In 2016 the site looked much like it did in 1915, with wall bases, excavation trenches and spoil dumps clearly visible though heavily overgrown.

Historical overview

Bjärka hamlet in Vist parish is first mentioned in 1367, when Johan Petersson trades it for other property to the lawsayer Bo Jonsson (Grip; DS 7472). Three years later Bo begins to date letters at a nearby site that he calls Bjärkaholm and describes as fortified (DS 8112, 8113; SDHK 11701, 12926). This man becomes Sweden’s all-time biggest landowner, and at various times controls the strongholds of Bjärkaholm, Ringstadaholm, Stegeholm in Småland and Borgholm on Öland, to mention only a few sites that concern us here in particular (SBL 5:82). In 1379 he trades sizeable properties with Vist Church, where all the land involved is located in the parish (DS 9959). Bo dies in 1386, and in 1390 Bjärkaholm is mentioned for the last time in Medieval sources when one of the executors of his estate, Ulf Jonsson of the Aspenäs family (SDHK 13671), dates a document there.

Ann-Christin Mattisson (1986:45f) offers a series of Medieval mentions of the site with their spellings. In her opinion its name most likely simply incorporates that of the nearby unfortified hamlet of Bjärka. *Bjärkaholm* should be understood as a new coinage from when Bo Jonsson buys the property, builds the fortified manor and moves his main dwelling there from the hamlet (p. 136f).

Where Bjärka hamlet’s buildings stood before Bo’s arrival is not known. But a strong candidate is the land east and south-east of the islet, which is delimited by a loop in the river on three sides and by an earthen rampart on the fourth. One end of the rampart meets the river right at the Medieval bridge to the fortified islet.

Otto Janse’s excavations in 1914–15

Fieldwork at Bjärkaholm can be summarised as rich in finds, poorly documented and very nicely published. Two copper coins from 1812 and 1830 found among the ruins suggest an early antiquarian interest in the site. About 1855 River Stångån was dredged and deepened, which led to the castle islet becoming landlocked and its southern periphery becoming obscured by piles of blasted rock.

In the late 1880s, Count Nils Bielke and famous agronomist Ivar Insulander uncovered the largest south-west house foundation. Bielke writes to the Custodian of Ancient Monuments on 3 December 1886 (letter in ATA) that he would like to include a plan of the site in an upcoming monograph on the nearby modern manor of Bjärka-Säby, which owns the land. He asks “if there is anything to prevent revealing the outlines of the walls. Naturally any possible finds will be carefully collected”. I have no information about what happened to any finds they may have made. As we shall see, later fieldwork would reveal that Bielke’s workers left most or all small finds on the spoil dump.

In 1914–15 archaeologist Otto Janse (1867–1957) directed excavations of all visible building foundations as well as selected parts of the intervening ground. In 1918 Janse became acting Custodian of Ancient Monuments. At the behest of the landowner, Janse then handed the project over to architect Sven Brandel. He finished the excavations, surveyed the site in great detail and

published it in a lavish 1929 monograph. As his main source of information about Janse's fieldwork results, Brandel (p. 9) cites oral communication from Janse!

In 1925 Ragnar Blomqvist completed a detailed catalogue of Janse's finds. It is not included in Brandel's book, but has been scanned and is now available in the SHM's on-line inventory (mis.historiska.se). It includes no finds made after 1915, which suggests that though Brandel (1929:9) states that he continued *excavations*, he was like Bielke only interested in the walls. To accompany his finds catalogue, Blomqvist also drew up the only plan of the site that shows trenches and test pits, not just walls (fig. 6:YYY).

In contrast to this archaeological methodology that was clearly sub-standard for the 1910s, Barthel's 1929 book (pp. 69–74) contains reports on some botanical fieldwork on site that would be considered ambitious even if it had taken place in the 2010s. In June of 1914 Elias Melin surveyed Bjärkaholm's flora. Melin was a PhD candidate at the time and would later become professor of botany in Uppsala. Two years later Gunnar Samuelsson re-surveyed the site's flora. He was a curator at Uppsala's Botanical Garden and would later become a professor at the Swedish Museum of Natural History in Stockholm. The aim of these investigations was to seek cultivated plants that might descend from those grown and processed at Bjärkaholm in the Middle Ages. None were however found.

These botanical investigations had a curious 18th century precedent which may in fact have motivated them. Carl Fredric Broocman (1760:302) discussed the ruins of Bjärkaholm briefly, but used most of the space he afforded the site to enumerate the species of trees and bushes that covered it. "... apple and pear trees, which bear better and more sweet-tasting fruit than other wild trees, in addition to currant and gooseberry bushes."

Find distribution and functional differentiation

Janse did not collect his finds on a grid, but one building foundation or test pit at a time, with situation sketches and brief notes about context scribbled on the wrapping paper around each object. Blomqvist unwrapped the finds and painstakingly copied the information into his catalogue. As a complicating factor, Janse's notes usually, but not always, assumed that the large south-west building is orientated W–E, when in fact it is orientated NW–SE. After studying the finds at the SHM, I delved into this not very conveniently organised information for six interesting artefact categories with sufficient numbers to establish a pattern. These are offensive weaponry (mainly crossbow bolts), armour fragments, spurs, horseshoes, coins and pottery. I was hoping to perhaps be able to look at Bjärkaholm's functional find distribution somewhat along the lines of what Kaj Borg (1998) did for Eketorp on Öland and Eva Svensson (2008) for her sites in Värmland. Sadly the outcome proved disappointing (tab. 6:1).

It took little work to notice that Janse made a lot of finds around the outside of the large south-west building but only a single one inside it – a vitrified brick. For a few items he made a rare note of their depth, remarking that they were near the surface. Similarly for the enclosure with smaller buildings to the north-east: few finds inside the perimeter wall, and large numbers just outside the south-west wall. This all calls to mind the activities of Bielke and Insulander in the 1880s. It seems that when they "revealed the outline" of the ruins, their workers simply removed the culture layer inside each structure and dumped it unscreened outside the nearest wall. This means that the find distribution that Janse encountered at Bjärkaholm and did not document very clearly was a secondary one created 30 years previously.

In a final attempt to use Janse's data, I divided the finds into two large spatial groups: the south-west building and the north-east enclosure. This allowed for some useful observations. The large building has more armour fragments and coins than the enclosure. The enclosure, conversely, has more weaponry, spurs, horseshoes and pottery than the large building. This supports the interpretation made already prior to fieldwork on the basis of the buildings' dimensions and the topography. Soldiers and household staff stayed and worked in the enclosure's various smaller buildings where horses were also stabled and riding gear kept, while Bo Jonsson and his ilk met in the big main manor house. Note however that the site's second-largest building, forming the east

corner of the enclosure, had a fine fireplace with decorative brickwork which might suggest that this was Bo's sleeping quarters (Lovén 1999:300).

Tab. 6:1. Number of fragments found by Janse in the various parts of the manor site.

	Weaponry	Armour	Spurs	Horseshoes	Coins	Pottery	Sum
Building A, total	6	12	1	2	3		24
Building A, E quad		4			2		6
Building A, N quad	3	6					9
Building A, NW half	1						1
Building A, SW half		1		1			2
Building A, W quad	2	1	1	1	1		6
Enclosure, total	16	8	4	4	2	9	43
Outside enclosure towards building A	10	6	3	2		8	29
Bridge head	1				1		2
Building B	3			1	1	1	6
Building C	1						1
Enclosure, outdoors	1	2	1	1			5
River						1	1

Tab. 6:2. Finds from Bjärkaholm discussed in the text

All SHM 16969

Inv. no	Find
474	Coin, Ag, Albrecht of Mecklenburg, Stockholm, frontal crowned head bracteate, 1363–89
477	Coin, Ag, Albrecht of Mecklenburg, Västerås/Turku, crowned "A" bracteate, 1363–89
475	Coin, Ag, Heinrich III, Wismar, witten, Oertzen #258, 1379–87
476	Coin, Ag, Visby, gote, Haljak XLII:I, 1393–95
478	Coin fragment, Ag, possibly frontal helmeted head
452	Annular brooch, copper alloy, unadorned except for a small step at the base of the tongue
465	Spangle, copper alloy sheet, pierced, embossed and slightly domed, diam 37 mm
490	Bead, barrel-shaped, red opaque glass
491	Comb, antler, composite double, grip rib decorated with dot-circles
492	Gaming piece, antler, lathe-turned, disc-shaped, decorated with concentric circles
33	Table knife with remains of antler handle decorated with copper-alloy sheet
48	Table knife, intricate shape and originally with riveted decorative antler plates on handle
52	Spur rowel, rest of spur missing
56	Rowel spur, rowel missing

81	Spur buckle, iron, double frame
141, 353, 359	3 horse bit fragments
83–89, 121, 441	8 keys and latch lifters, iron
91–94, 149	5 lock parts, iron
98, 101	2 bloodletting implements, iron
100, 112, 363, 418, 420, 428, 429	6 cauldron handle fragments, iron
375–376	2 taper holders, iron
369–371, 436	4 strike-a-lights, iron, slitted
1–20	28 crossbow bolts
36	Large knife or single-edged dagger with small conical copper-alloy pommel
114	Sword hilt fragment
382, 384, 390, 391, 395, 397, 404, 405, 412, 414, 422, 427	16 armour plates
375, 401, 416, 437, 444	5 carpentry tools: chisel, file(s), hammer, trowel(s)
548–559	Slag pieces, one measuring 19 cm across
150–152	3 chain fragments, 1–4 links each
716	Quern stone, part of a hand mill

7. Ringstadaholm in Östra Eneby

Ringstadaholm's ruins sit on a small islet in River Motala ström between Lake Glan and the Baltic Sea. It is just above the Fiskeby rapids, which were prior to modern hydraulic engineering the first in a long series of rapids through what is today urban Norrköping before the river reached the sea. The visible ruins consist of a large rectangular structure along the islet's south-east shore, and a stretch of collapsed perimeter wall along the south-west shore. A ruin mound at the end of this wall stretch may conceal remains of a corner tower or simply be a spoil heap.

Historical overview

For the following overview of the Medieval sources I am indebted to Lovén (1999:112–114). Ringstadaholm enters the written record in a letter from 1312–14 as a tower, *turris*, that King Birger wishes to have returned to him by a vassal (Fritz 1973:81). Lovén suggests that the tower has been built to replace Knäppingsborg, which has recently been torn down if a 1310 agreement between the king and his rebellious brothers was honoured. Knäppingsborg was on another islet downstream, 4 km due east as the crow flies. Annals penned much later mention Ringstadaholm in connection with events in 1316, and then report that the stronghold is taken by siege and destroyed in 1318 during the violent aftermath of the Banquet of Nyköping (ASM 284, 306, 372). All of this finds a close parallel in Stegeborg's shifting fate.

The sources do not mention Ringstadaholm again until half a century later, when Valdemar Eriksson (of the Bjälbo family) dates a letter there in 1368 (DS 7667). Our first renewed (ambiguous) indication of fortifications on the islet is a miracle account that calls it *castrum* in connection with events in 1387 (Fritz 1973:86). The property probably comes into Bo Jonsson's (Grip) hands in 1377 and is certainly listed in his 1384 will. In 1404 Ringstadaholm is clearly fortified again. Bo's son Knut hands over the islet Ringstadaholm “upon which the stronghold and fort now stand”, *Rymstæthæholm ... som husit oc fæstæt nw wppa stander*, to Queen Margareta (SDHK 16234), and it becomes the centre of a *slottslän* taxation district. *Karlskrönikan* (v. 1105–91) recounts how Engelbrekt takes Ringstadaholm by means of a floating five-story siege tower in 1434. In 1470, during the next major period of war on Swedish territory, an army led by three knights besieges the castle and burns it down (Styffe 1870:228f; Ljung 1965:109f), laying the islet waste for nearly two centuries.

Arthur Nordén (1922) noted that although the castle's name incorporates that of the unfortified hamlet of Ringstad in Östra Eneby parish north of the river, the islet itself belongs to Borg parish south of the river in early sources. He believed that this might indicate the origin of that parish's name, which as we have seen means “stronghold”. Some years later he had another idea, suggesting that the name may originally have referred to the C-shaped earthen rampart on the riverbank east of Borg church (Nordén 1929:17; Räf 2010; Raä Borg 270). Parts of this site have been excavated on two occasions and given various prehistoric dates, but most of the rampart itself has been bulldozed away and no firm date for its construction has been established.

Regarding Ringstad though, note that it is not the nearest hamlet north of the river: there are three others with ancient *-by* names between Ringstad and Ringstadaholm. The bridge to the islet crossed from the north shore, but it is not clear which of the hamlets there performed the necessary agricultural support duties for the castle during its lifetime. As Ann-Christin Mattisson (1986:47ff) has demonstrated, the relationship between hamlet and islet that we see in their names is likely to refer to pre-castle land ownership rather than any economic interdependence in the 14–15th centuries. Indeed, as we have seen, in 1404 *Ringstadaholm* still refers to the islet, not to the stronghold built on it. Like most stronghold names with *-holm*, then, it probably pre-dates the castle itself. As for *Ringstad*, along with the names of its neighbouring hamlets it most likely dates from the later 1st millennium AD.

Otto Janse's excavations in 1908, 1910, 1912

Ringstadaholm's 14th century history closely tracks that of Stegeborg. Its 20th century excavation history instead resembles that of Bjärkaholm, another erstwhile property of Bo Jonsson (Grip). Otto Janse excavated at both sites in the 1910s and did not write up. In Ringstadaholm's case, sadly, no one else was employed to make sense of Janse's field notes while he could still be consulted. Bror Schnittger, the assistant site director, died in 1924.

The fieldwork was funded by Axel Ekman (1869–1939), director of the ordinance factory in Finspång that the De Geer family had made great in the 17th century. At the time of the excavations, Ekman was also a Member of Parliament for the Liberal Party.

A field notebook and some loose leaves with scribbled notes kept by Janse in September 1912 survives in the ATA archives, but here he makes no attempt to make the information he records comprehensible to anyone but himself – and while he remembers details of the fieldwork situation. This much is clear, that Janse concentrated on the main structure in the south-east, clearing vegetation and rubble from it and removing much of its culture layers as well. Beyond its walls he opened only narrow cuttings, of which unfortunately no location plans survive. He seems to have begun in 1908 by emptying the oldest rooms along the south-east wall (A), moving from the eastern corner towards the south-west, and then continued with the rest of the building (B) in 1910 and 1912. Late during fieldwork he returned to part of A, however, and took out the remaining floor layer there. The strongest aspect of Janse's documentation is the many photographs he took, all conveying the priorities of an architectural historian.

Eyewitness testimony from the fieldwork survives in the form of a letter written by one Wilhelm Eklöf in 1956 to the Fiskeby paper mill's forestry director (copy in ATA). Eklöf's signature displays the longhand style of half a century before as well as the shakiness of old age.

<BLOCKCITAT>

Regarding the excavations at Ringstaholm at the beginning of the century, all the soil and stones inside the walls were dug away. The soil was painstakingly screened, upon which a number of ancient objects were found. ... Regarding continued excavations at Ringstaholm, the chances of finding more objects are extremely small. There is however one small area that has not been excavated, located where the drawbridge was, towards Fiskeby. (transl. MR)

</BLOCKCITAT>

Janse seems to have been almost entirely motivated by issues of architectural layout and structural sequence. Only during the 1910 fieldwork did he record find locations in a way that I have been able to understand: dividing the ruin into rooms and tracing crude outlines of the objects from each room onto one, two or three folio sheets. These sheets depict 191 items and mention about 40 further ones in brief written notes. But sadly the scribbled plans found in the field notes carry a different set of room codes than the sheets with the outline tracings. They only agree regarding the distinction between A and B described above.

The Swedish History Museum holds a large number of finds from Janse's excavations: 202 numbered units of which many contain several items. They were neatly described and catalogued by Erik Bohrn in 1939, in illustrated inventory notes now available on-line (mis.historiska.se). We have already encountered Bohrn at Stegeborg in 1938. He also took an interest in Ringstadaholm and would work there repeatedly in the 1950s. His 1939 catalogue contains no information about find contexts, but it is possible to identify many of the objects on Janse's tracings.

Norrköping Town Museum holds three humble artefact finds from the site, all made of iron: an unadorned strap buckle, a knife and a crossbow bolt of the long slim tanged *dalpil* type. They were donated by the aforementioned Wilhelm Eklöf who found them as a youth digging illicitly in 1912 “at the drawbridge”, that is, near the islet's west point where remains of a bridge over to the north river bank survive.

Find distribution and functional differentiation

Because of the mismatched room codes, it is impossible to determine in any detail what was found where across the site. But a newspaper item in *Östgöten* 5 November 1912 (clipping in ATA) reports that “It could also be determined definitively that the castle has had a guard lodge, and where it was located. There were found a number of stone balls, whole and damaged, for catapults, arrowheads for crossbows, taper holders and a large cauldron”. This copper-alloy sheet cauldron is interesting because it must have been an expensive item and has been completely ruined by fire. This suggests that in the guard lodge at least (wherever it may have been), Janse encountered an untouched conflagration layer from the final fire in 1470.

Post-Medieval Ringstadaholm

Some of the masonry visible on the islet today dates from an aborted construction project in the 1640s. Louis de Geer the Younger began building a new manor house for Fiskeby on the foundations of the Medieval structure. Lovén suggests that what currently looks like the outer foundation walls of a large manor house is actually the perimeter wall of a small Medieval castle, and that some of what now looks like large rooms inside a manor basement are the foundations of small Medieval buildings built against the castle's south-east wall. This view is supported by Janse's sketched plans and by Erik Bohrn's observations during renovation work in the 1950s.

Interventions into the ruins did not end in the 17th century. Wilhelm Eklöf's 1956 letter again:

<BLOCKCITAT>

In the 19th century, Ringstaholm was used as a shipyard, where small sailing ships and barges were built. The last sailing ship was there 60 years ago, driven into the gap between the eyots above Eksund. When this shipyard was built, the remains of the guard towers and the drawbridge were destroyed. This is where continued excavations would be useful, specifically because there seems to have been a midden here. When the big excavations were closed, the youth was of course very interested. They continued excavating in their spare time. At the aforementioned spot I found the previously discussed objects [i.e. those now held by the Town Museum]. (transl. MR)

</BLOCKCITAT>

Indeed, Janse complains in a letter in ATA of unauthorised digging on site during pauses in his fieldwork.

In the mid-19th century there were plans to build a railway bridge across the castle islet (ATA, Östra Eneby, general parish file). The Näs sjö-Norrköping line that opened in 1874 instead crosses the river a few hundred metres downstream.

In 1955, the Norrköping Historical Society initiated a restoration programme at Ringstadaholm (Helmfrid 1989). A pontoon bridge was anchored to the islet's north side. With volunteer labour from the historical society and funding from the Fiskeby paper mill, Björn Helmfrid and Erik Bohrn cleared vegetation from the ruins and did some restoration work on the walls. They also removed Janse's spoil heaps and piles of dynamited stone lifted from the river channel in the intervening decades, using the material to fill out depressions in the ground along the islet's shores. This was all done with the intent of making the site accessible and comprehensible to the public. But then Axel Hemmar, the interested head of the paper mill, died: this ended the efforts and the bridge was removed.

Tab. 7:1. Finds from Ringstadaholm discussed in the text
SHM 14767 unless stated otherwise

Inv. no	Find
1	Glass sherd, decorated, blue and red with gold foil, C.J. Lamm's Aleppo group, 13th century

6–10	5 gaming pieces, antler, lathe-turned, disc-shaped, decorated with concentric circles, three of them burnt
11	Die, antler
12	Fragment of an upright lathe-turned antler object like a chess piece
78–79	2 annular brooches, copper alloy, unadorned except for a small step at the base of the tongue (one lacks the tongue)
80	Finger ring, copper alloy, unadorned
13	Small pierced bone disc, spindle whorl?
67	Blood-letting implement, iron
68–69	2 slender wall sconces for candles, T-shaped
70–74 + no #	6 taper holders
14–19	6 bone and antler cut-offs and work pieces, including one similar to a tuning screw for a string instrument
126–159 + no #	50 crossbow bolts, of which 8 are the long narrow tanged <i>dalpil</i> type
Nkpg 2388	Crossbow bolt, <i>dalpil</i> type, found by local youth digging at the drawbridge
125	Crossbow loading hook: “a sturdy hook divides into two arms which have been hammered out into two parallel discs and joined by an axis around which a bone disc rotates”
119	Thigh greave
120	Sword pommel, polyhedral
121	Sword hilt
122	Long narrow knife blade or dagger point
123	Spearhead
181–195	15 stone cannonballs, more or less complete.
161	Rowel spur
162–163	2 identical stirrups
164–166, 168	4 horse bits, one of them ornate
160	Curry comb, iron
110	Sickle
179	Copper cauldron: innumerable fragments of riveted sheet copper with an iron handle, partly fused with charcoal
81, 99, 104, 105–107, 109, 115	8 carpentry tools: awl, 2 drawknives, claw hammer, beard axe with pick-shaped butt, socketed adze, 2 wedges
46	Chain link, 8-shaped, twisted 90 degrees
113–114	2 large heavy looped cattle pickets, one still with 2 chain links
No #	Slag ball, melon-sized
196	Iron cake, flat, flaking, 18 cm across
180	Quern stone, limestone, part of a hand mill

8. Stensö Castle in Östra Husby

Stensö Castle is on a coastal hilltop with a good view of the Bråviken inlet, in an offensive position guarding a major shipping lane. Well-preserved standing masonry indicates that it began life as a free-standing *kastal*-type defensive tower, a kind of structure typically dating from the decades about 1200 (Olsson 1932; Lovén 1999:437; Norberg 2010; 2013). It has a perimeter wall, the eastern range of which survives above ground. The wall's abutment against the oldest South Tower shows that it was added at a later date. Excavations in 2014 revealed a smaller northern tower planned and built along with the perimeter wall. This tower flanks the wall's western range, suggesting a date in the Gothic period after about 1275.

<h2>Historical overview

Stensö means “Stone island” or “Stronghold island” (cf. *Svenskt ortnamnslexikon* pp. 302–304). This is a little confusing in relation to the shoreline displacement as it is currently understood by quaternary geologists (apps.sgu.se/kartgenerator). The hill probably ceased to be an island some time before there were any fortifications on it. The former strait was however in all likelihood boggy land long after it rose out of the sea, which may have been enough for the hill to qualify as an island to local name coiners. The most convenient spot for the castle dwellers to keep boats would have been a little cove south-east of the castle, currently occupied by the Örbäcken stream mouth. *Stensö* is peripheral and isolated even in relation to the low-status Medieval settlement expansion marked by hamlet names with *-torp* and *-sätter*, and there is no good candidate for any pre-castle mother manor nearby.

The earliest surviving textual evidence for *Stensö* is much later than the *kastal* tower. It dates from July of 1359, when *Stensö* seems to be the manorial seat of Holmger Torkelsson (Båt) and his wife Sigrid Karlsdotter (Stubbe), a recently married couple in Sweden's top-level nobility (DS 6108–09). The documents have to do with Sigrid's dower and suggest that the summer wedding has just taken place at the castle itself. One of the most prominent guests, Sigrid's maternal uncle Bengt Filipsson (Ulv), happens to be the owner of Landsjö at this point (DS 1766). It is not however his seat, and the castle there is not likely to have been in defensible shape any more.

Holmger's mother is a member of the powerful Ama lineage which is closely allied to the Bjälbo royal dynasty. She is a grand-daughter of Kristina Fastesdotter who sits at Landsjö Castle about 1280. Indeed, Holmger is very likely named after Kristina's husband, his great-grandfather, and so is one of his maternal first-cousins. Lovén (1999:437) has suggested that *Stensö*, with its powerful combination of a *kastal* tower and a perimeter wall, may have come into Holmger's hands by inheritance along this line. More about this familial link in ch. 9. (Confusingly, though Holmger's arms feature a boat, he is not a member of the Bååt lineage allied to the ancestors of King Karl Knutsson. Instead his wife Sigrid is a Bååt relative: her paternal grandmother is a sister of that lineage's originator Peter Jonsson Bonde).

Holmger and Sigrid marry five years before the last Bjälbo king, Magnus Eriksson, loses the crown. They never seem to have any children. Holmger's aforementioned cousin of the same name is present at their wedding, and he turns out to be the last male member of the Ama patrilineage. This all suggests that the political situation that allowed a noble family to hold this strong walled castle in a strategic location without interference from the Crown no longer pertained, and that things were about to change.

After 1359 the sources are silent about *Stensö* until 1480, when Peder Magnusson Brahe sells the property to Arvid Trolle (SDHK 30821, 30824; Arvid will one day be fiefholder at Stegeborg). Peder has inherited the land, but it is a tenant farm, not the seat of any nobleman, which means that the castle is no longer in defensible shape. The thorough removal of half of its perimeter wall is likely to have taken place some time in the interim. The absence of Late Red ware from the trenches we excavated at *Stensö* suggests that the castle was abandoned only years rather than decades after the wedding.

<h2>History of exploration from 1856 on

The history of investigations at Stensö Castle before 2014 is characterised by intense interest in the South Tower, as well as uncertainty about the North Tower's rubble mound and the perimeter wall's torn-down western range.

Carl Fredric Broocman (1760:593) described the South Tower and its staircase briefly, attributing the site to *Fylkis Konungar*, prehistoric kings of a dimly perceived pagan age. The extremely prolific antiquarian Nils Månsson Mandelgren (1813–99) visited the ruins in 1846 and found them so covered by rubble and woods that he could not make any sense of the castle's layout. Returning in 1856, he discovered that the landowner had cleared the site in order to use the mortar-rich rubble as fertiliser (cf. Skällvik Castle), and so he surveyed the site for the first time (figs 8:YYY–YYY; Mandelgren 1866, ch. 3). Mandelgren's plan shows the South Tower and the northern rubble mound quite clearly, but he is unaware of the surviving base of the perimeter wall's western range. The three tall petal-like rubble mounds around the South Tower had apparently survived the landowner's efforts, but by 1932 they were gone.

The first (somewhat) documented excavations at Stensö were undertaken three years later in 1859 by the historian and historical novelist Carl Georg Starbäck (1828–85). In a popular book (1866, ch. “Befrielsekrigets fortgång”) he describes the ruins briefly, pointing out that the top of the South Tower has once been brick. Then he adds a footnote on some excavations he has performed:

<BLOCKCITAT>

The author spent the summer of 1859 at Stensö and, with the owner's permission, organised some excavations around the ruin, whose age had been given as much greater. The entire location of the edifice, the directions of the walls and wall bases, the large amounts of brick rubble, all however seemed to indicate that the castle had belonged to our Middle Ages. In the bailey were found entire skeletons of cows and pigs along with a lot of charcoal and ashes, which show that the stronghold was destroyed by fire. Outside the wall on the south side, a bit east of the castle gate, was found the head of a rusty nail, as well as a brass mount, which has probably been sitting along the edge of a piece of clothing. (Transl. MR)

</BLOCKCITAT>

Note that Starbäck envisions a gate placed on the south-southwest face of the perimeter wall. If he has a correct understanding of the cardinal points on site, this implies that unlike Mandelgren, he is aware of the wall's western range. He makes no mention of the northern rubble mound.

Martin Olsson's influential 1932 paper on the *kastal* type towers has a simple sketch plan of the site (p. 283, fig. 140) which shows the perimeter wall in its entirety, east and west ranges, and does not differentiate which parts of it are still standing (fig. 8:YYY). Olsson ignores the northern rubble mound.

When planning the site in the 1990s, Christian Lovén (1999:437) returned to Mandelgren's perspective: he ignored the western range of the perimeter wall but included the northern rubble mound. This was the plan I used in preparing for our excavations in 2014–15. We could have saved ourselves trouble by studying Olsson's paper more attentively. I laid out our trenches B and E to seek a conjectured short wall section between the towers, and only during the 2015 fieldwork did I rediscover the base of the long curved western range that Olsson had once found completely unproblematic.

Clas Ternström (1997) phosphate-mapped the site in the mid-1990s. Myself and Ethan Aines directed 198 person-days of excavations there in the summers of 2014–15, opening six small trenches for a total of 61 sqm (reports on Archive.org). The following describes our current understanding of the site's chronology and structural development.

<h2>Chronology and structural development

All our Medieval finds, most of which are from trench F in the floor layer inside the oldest tower, fit within a 1200–1350 chronological bracket. The best independent dating evidence for when activity

started on the castle hill is an annular silver brooch that we found in trench D (fig. 3:YYY). It has a close parallel in an enormous coin hoard from Tingby in Dörby near Kalmar (SHM 4858), whose tpq date is 1196. Four equally similar brooches come from the Medieval phase of the Eketorp ringfort on Öland, where activity was the most intense in the interval 1190–1220 (Borg 1998:261). This tallies well with the accepted date about AD 1200 for the *kastal* tower horizon along the Swedish east coast. But the brooch most likely pre-dates by some decades all the pottery we found inside Stensö's tower and elsewhere on the site. Only a few sherds of Unglazed Grey ware may pre-date 1250, but they do not have to. Early Red glazed ware dominates. Late Red ware which begins after c. 1350 is absent from the finds known to date.

<h3>*The South Tower: trenches E and F*

Beginning thus in about 1200, we see the construction of the Romanesque greystone South Tower, 13.6 metres in diameter at the base. None of the brick masonry reported by Starbäck survives today. The tower's ground floor masonry is well preserved with its in-wall stair case, vaulting bases, embrasures and a privy chute coming down from the second floor. The entrance was on this missing second floor or even higher up in the structure. Despite its clearly defensive embrasures, the vaulted ground-floor room had a door designed to be bolted from outside, suggesting that in peaceful times this space was used to protect valuables or imprison people. The animal bones from the floor layer, however, are butchery waste rather than meal remains.

The bedrock that the tower rests on slopes rather sharply to the north. It seems likely that the builders would have installed a level floor, or it would have been difficult for people inside the tower to reach two of the embrasures, and also to get up onto the stair landing. We however found no recognisable traces of any flooring prior to the current rubble fill, which is late. The occupation layer on the bedrock under the fill showed a distinct concentration of pottery and bones below the entrance and to the right, from the perspective of someone coming in. This might reflect the placement of a short wooden staircase that acted as a trap for waste.

Against the northern outer wall face of the South Tower was a low turf-covered mound, onto which we laid out trench E. Looking at Mandelgren's plan from 1856, the trench is towards the north-east edge of a much larger rubble mound that has since been removed, leaving a quarry pit along the tower's north-west wall next to the trench. The mound consisted of redeposited bricks and greystones and seemed to represent post-abandonment quarrying for building materials. Many of the bricks had been neatly stacked while still solid, and had then become cracked in situ by frost cycling so that few could be lifted without collapsing into innumerable flakes. This is important because it a) gave us a better understanding of why so much rubble at Stensö is in tall stacks, b) allowed us to date the mound, and indirectly also something that we found behind it.

The wall face that we uncovered behind the mound was identical to that seen all around the South Tower: fine greystone masonry with wide intentionally smudged mortar joints. And on one of these joints around modern ground level is a runic inscription made while the mortar was wet (fig. 3:YYY). Four runes are well preserved and measure 72–83 mm in height. A fifth is almost entirely covered by a mortar splash. They read **helk-**. Whether the fourth rune has had the dot that would have made it read **g** cannot be determined due to minor damage. The inscription can be read as the male name *Helge*. The National Heritage Board's head runologist Magnus Källström kindly took the time to visit us during fieldwork and examine the runes, and he agreed with my reading.

Unlike inscriptions on the interior wall plaster of churches, runic inscriptions like this one on the mortar of a Medieval masonry wall are rare. One example is known from Hackås church in Jämtland, where a futhark has been incised into mortar on the outside of the chancel in the later 12th century (Persson 2004:5, 8). On secular buildings such as the South Tower of Stensö Castle, runic inscriptions are in fact almost unknown.

<h3>*The perimeter wall and the North Tower: trench A*

As mentioned, the perimeter wall abuts the South Tower in such a way that it must be a secondary addition. Its surviving eastern reach consists of greystone masonry up to about an adult person's

height, above which it has at least partly consisted of brick masonry. It is 1.7 m thick at the base. Trench A demonstrated that the northern rubble mound conceals the ground floor of a round greystone tower of about 5.5 metres' diameter. Out of the tower wall projects a torn-down remnant of the western perimeter wall, consisting mainly of greystone wall core, but also with a few surviving facing stones on either side that allow its original thickness to be measured to 2.3 m.

The tower wall's core and the western perimeter wall's core are of a piece, with an opening in the facing of the tower wall to let the perimeter wall through. This means that the North Tower and the perimeter wall were designed and built at the same time. The tower flanks the western reach of the wall, which as mentioned places the structure in the Gothic period after about 1275, as does the brick masonry in the wall.

The original gate through the perimeter wall seems likely to have been due south of the South Tower and immediately next to it. No trace of any gate structure survives on the bedrock here. Today there is also an opening through the wall due east of the South Tower, across the bailey. Whether this is an original gate might be determined through future excavations.

An odd feature of Stensö Castle is the great number of misfired bricks everywhere. They have been heated to the point of vitrification, causing them to turn a glossy burgundy red and swell up like rising bread dough, some of their component materials boiling and forming bubbles. In 2014 we interpreted these deformed bricks as signs of a devastating fire on site. Starbäck certainly believed that the castle had burnt down. But we found no great amounts of charcoal. There may be another explanation. Göran Tagesson (1994:13f) comments on similar misfired bricks at the stronghold of Kungsbro:

<BLOCKCITAT>

In the rubble over the floor were found about 50 bricks with traces of glaze. ... These deformed and fire-damaged bricks were also found in the wall, though always where they would not have been visible. The in situ floor bricks however are all undamaged by heat, which suggests that there was a problem with controlling the temperature during kilning and that a large number of bricks, mainly the glazed ones, had suffered too high a temperature, over 1000°C, and instead been used as construction bricks in non-visible situations. When the brick building was demolished people probably only collected complete bricks and left damaged and deformed ones as fill on site, which may explain the great number of damaged and fire-altered bricks found during fieldwork.” (Transl. MR)

</BLOCKCITAT>

<h3>Levelling and using the bailey: trenches B, D, E

Trenches B and E in the western part of the bailey demonstrated that its surface has been levelled by the application of over a metre of greystone boulders and a fill rich in animal bones and air pockets, but not in pottery or brick. This levelling operation was most likely undertaken after the perimeter wall was in place, during or after the use period c. 1200–1350 of a glass-inlaid brooch of inverted droplet shape found in trench B (fig. 3:YYY; Højmark Søvsø 2004, type 4.1). There is hardly any mortar on the boulders or in the fill, which sets this layer apart from the rubble seen in trench A. Nor is there any culture layer under the levelling layer, that might tell us about activities on the site during its first phase.

Trench D in the eastern part of the bailey demonstrated that the same levelling was not needed here. The bedrock in fact crops up above the turf in places. The culture layer here contains animal bones likely to represent meal remains, as well as an assortment of small artefacts including the annular silver brooch that marks the start of activity on the castle hill.

<h3>After defortification: trench C and E

We placed trench C over a rectangular building foundation whose stones were visible above the turf just inside the south-east perimeter wall. Ternström identified a phosphate concentration here. The trench proved poor in artefact finds, with only one tiny sherd of Early Red ware, so the building's

function remains obscure. Bearing in mind the phosphate enrichment, perhaps it was a byre. A *marleka* fairy stone found next to a foundation stone may have been placed there as magical protection.

Rather surprisingly though, it turned out that the structure post-dates the castle's defensible lifetime. The trench contained brick fragments, interpreted as erosion material from the upper brick-masonry part of the perimeter wall, all the way from the turf down to the natural. And the building foundation sat interleaved in this brick rubble: its use period dates from after the brick parts of the perimeter wall began to erode but before the last bricks on this wall stretch had fallen down. Indeed, the foundation seems to have been *laid on top* of a re-used greystone facing stone from the wall, to *consist itself* of such stones, and it was certainly *sealed by* a very large fallen greystone ashlar in the rubble. Like most of these sites, Stensö's castle hill is not a convenient site for a working farm. But it may have been a good place for the 15th century tenant farmer to shelter his sheep.

Trenches C and E touched upon stacks of building material that have been piled up on site and left behind. There are at least three of them inside the bailey. These stacks with their neatly piled bricks and many air pockets look very different inside from the compact mortar-rich rubble that we saw in trench A on the flank of the north rubble mound. They seem to represent a campaign of quarrying for re-use. It is tempting to link these stacks to the large-scale removal of rubble from the site about 1850 that Mandelgren mentions. He states that the landowner's aim with this work was to extract mortar to spread on his fields, not building material. One may imagine that as the workers collected mortar from the rubble, they also set complete bricks and conveniently sized greystones aside for a future use that then never actually materialised. But then there was another rubble-clearing episode in the 1856–1932 interval: the South Tower's three great petal-like rubble mounds that Mandelgren saw and drew were removed and a quarry pit was dug next to trench B. Perhaps we should see his plans and sections as drawn *during* the landowner's digging campaign, not after it had ended.

Tab. 8:1. Finds from Stensö discussed in the text		
Fno	Find	Context
8	Brooch, copper alloy, droplet-shaped, blue glass inlay	B:NW:2
124	Brooch, beaded silver wire, annular	D:8:202
123	Lid, beaten sheet copper, domed	F:7:106
237	Bone pin	D:10:202
119–121	3 crossbow bolts	F:5:103, F:17:103
107	Strike-a-light, iron, slitted	D:2:202
234	Chain fragment, 2 links	F:9:104

9. Landsjö Castle in Kimstad

Landsjö Castle is on a small high bedrock islet in the little shallow Lake Landsjön, near its western shore and connected to it by a belt of dense reeds (figs. 9:1–2). The masonry has been severely depleted by quarrying and consists mainly of two L-shaped walls: one delimiting the inner bailey on the islet's highest plateau, and one delimiting two sides of the steep outer bailey (fig. 9:3). A dry moat crosses the islet from west to east outside the latter wall. Building foundations have been identified and partly excavated in three of the inner bailey's four corners, all belonging to the same construction phase as the perimeter wall. Only the inner bailey seems to have been defensible, though protected by nothing more than sheer drops to the north and east. Myself and Ethan Aines directed the first documented excavations in 2014–15.

<h2>Historical overview

Landsjö means “land lake”. The name must originally have referred to the lake and was then applied secondarily to the property on its shores. The castle's location on the islet is a typical example of a Medieval landowner withdrawing their home from the proximity of the working farms that supported it. They were most likely in the hamlet of Melby. Though located one kilometre west of the lakeshore on a map from 1698, the hamlet's buildings once probably stood nearer to it judging from the Late Iron Age cemetery Grötkullen (Raä Kimstad 79). In 1698 Melby's buildings are co-located with those of Vallby hamlet, which documents at least one move after the end of pagan burial about AD 1000.

As a concern of the high nobility and a defensible stronghold, Landsjö enters and exits the written record about 1280 with the will of Kristina Fastesdotter (Växt; DS 855; for the document's date see Beckman 1970). She was once married to Holmger Folkesson (Ama), a knight who was the son of a jarl and the originator of his patrilineage. His father Folke was possibly a first cousin of Birger jarl, and the Ama lineage was closely allied to the Bjälbo royal dynasty that Birger originated. Confusingly though, Folke also originated the rebellious aristocratic *folkungar* party that violently opposed royal power, including the Bjälbo dynasty, from before 1210 until Birger's son King Magnus had the last leading party member executed in 1280 (Lönnroth 1949). In an example of how convoluted the era's politics are, Kristina wills a psalter to Helena Filipdotter of Sko, widow of the *folkungar* pretender Holmger Knutsson who was executed in 1248.

Kristina's will names Landsjö as her manorial seat, but as usual makes no mention of any fortifications. The castle is in all likelihood built during her lifetime, and her husband is unlikely to have been involved. He dies already in 1254 or shortly thereafter, and we have no evidence for any other castle projects being started in the interval 1200–1270 in Östergötland. The earliest coins found on the islet in Lake Landsjön date from c. 1260–75.

There are several suggestive similarities between Stensö and Landsjö Castles. Both have perimeter walls, which is unusual, yet are privately owned when we first learn of them, which makes them even more unusual. Building and maintaining these walls would demand some equivalent of the English licence to crenellate from the Swedish king, periodically renewed (Coulson 2016). If any Östergötland family is in a position to secure such a licence in the later 13th century, then it is the Ama lineage. Landsjö Castle is built by the widow of the lineage's originator Holmger. We do not know who had the wall built at Stensö, but as Lovén (1999:437) has suggested, Ulf Holmgerson (Ama) is a strong candidate. And in 1359, Ulf's grandson Holmger Torkelsson (Båt) and Sigrid Karlsdotter (Stubbe) celebrate their wedding at Stensö in the presence of the last Ama, who is also named Holmger.

After Kristina's will of about 1280 though, Landsjö does not reappear in the written sources until some time in the 1330s, and now as a tenant farm (DS 1766). This means that it is no longer an aristocratic seat, and that the castle is most likely no longer kept in defensible shape. Landsjö is mentioned in this source as one of several undistinguished properties that Bengt and Erik Filipsson (Ulv) inherit from their father, the knight and royal councillor Filip Ulfsson. How Landsjö has come into Filip's hands is unknown. Kristina does not bequeath the property to anyone in her will, so one

would expect it to pass on down to her sons Ulf and Lars Holmgerson (Ama). They are one generation older than Filip, and perhaps they simply sell Landsjö to him after giving up on their elderly mother's construction project on the islet. We may note in passing that the Ulv lineage is similarly allied to the Bjälby royal dynasty as is the Ama lineage, that Bengt Filipsson is a maternal uncle of Sigrid, the bride at Stensö in 1359, and that he is present there at her wedding (DS 6108–09).

<h2>History of exploration from 1730 on

Modern documentation of the ruins begins with a 1730 cadastral map where they are simply represented by a cartographic symbol on the islet: a building with neither roof nor chimney. Carl Fredric Broocman (1760:492) knew about the ruins and interpreted them as remains of a monastery, of which the name *Munkeboda* (“Monks' shieling”) in the same parish might also be a trace. But the site has not received much attention from writers, probably both because little remains above ground to be seen and because the islet is difficult to reach. In 1979, when the National Heritage Board re-surveyed the area for its Sites and Monuments Register, the archaeologist in charge had to pass the site over because no boat was available.

The first plan of the remains was drawn by Christian Lovén (1999:280) in the 1990s, when the islet was completely overgrown. He brought an inflatable rubber boat. In conversation, he has commented that getting an overview was so difficult that he did not realise that the fragments of the long western wall formed one long stretch until after surveying, back at his desk, when copying out his field drawings.

Myself and Ethan Aines directed 233 person-days of excavations on the islet in the summers of 2014–15, opening nine small trenches for a total of 79 sqm (reports on Archive.org). The following describes my current understanding of the site's chronology and structural development.

<h2>Chronology and layout

Landsjö Castle did not live long. All Medieval pottery found on the islet fits inside the 1250–1350 dating bracket of glazed Early Red ware, which dominates the little assemblage. Five identical coins from the later part of King Valdemar Birgersson's reign date the beginning of construction to c. 1260–75. Then there are no coins until after the written sources tell us that the property has been downgraded to a tenant farm. We found a single coin of King Magnus Eriksson dating from 1354–63 in the floor layer of the south-east corner building, but I have no inkling of what activity it represents. The single crossbow bolt we found is a rare early type whose point is shaped like a narrow elongated pyramid with a rectangular cross-section. Ain Mäesalu (2001) places the type in the early and mid-13th century in Estonia.

My overall understanding of the structure is that most of it is for show, but that the little inner bailey could in fact be defended if needed. The architect aimed primarily to present an impressive 60-metre façade towards the west and the nearest lakeshore. After this was accomplished, but before the outer bailey had been made secure, the project was abandoned.

<h3>*The inner bailey's perimeter: trenches A, B, C, F, I*

The short northern west-east stub of the inner bailey's perimeter wall has the most solid foundation on the islet, but tapers out only a few metres east of the north-west corner building. The sheer drop on this side may have obviated a wall for defensive purposes. The western range of the wall survives only patchily, and along the façade of the south-west corner building it is thin and poorly founded on the substrate. It does not look like it has ever been a very effective fortification, but it follows the top of a steep slope. The southern range separates the inner bailey from the plateau's most approachable side and is quite solid where it joins the south-east corner building. Both the building and the wall's exterior face seem to have had a decorative coating of white plaster. We have not investigated how this wall joins the south-west corner building. As for the inner bailey's east side, having opened trenches A and B we are confident that there was never any wall here. Again, a sheer drop sufficed for defensive purposes.

<h3>*The north-west corner building: trench F*

In the absence of any surviving eastern wall, the north-west corner building's width could not be measured, but its interior north-south length is c. 5.0 m. The stratigraphy here in trench F proved simple: under the woodland surface loam was a layer of rubble, then a thin black conflagration layer, and finally scorched natural coarse sand and bedrock. The inside of the dressed greystone perimeter wall is visibly flaked by the heat of the fire. Much of the trench bottom was formed by a smooth rock outcrop sloping from east to west.

With its sloping bedrock floor and the surrounding topography, the structure that we worked inside must have been a basement under the building's main floor, which was likely entered from the east. It may have been a tower, but not a very high one given that there is no sign of an eastern wall. The finds do not invite any particular interpretation as to the building's use, nor as to the circumstances of the fire. We found no crossbow bolts here that might indicate an attack. Indeed, shooting almost straight up at this building from the shore of the islet would have allowed you to hit only the eaves of the roof, at best.

<h3>*The south-west corner building: trench I*

Like the north-west corner building, the south-west one has no visible east wall, though here one may in fact survive outside our trench. Again, the structure that we worked inside here seems to have been a basement under the main floor of a building entered from the east. A cracked and upturned limestone flagstone found discarded on the surface of the natural may originally have been one of many covering that main floor. The building's interior north-south length is 5.5 m.

As previously mentioned, the western wall, though part of the high bailey's perimeter, proved quite flimsy. It has no widened foundation, no visible shell structure, and it sits partly on sand, partly on sloping bedrock. We did not investigate thoroughly if the wall has ever been a thick shell-and-core structure. All that is visible now is a single line of dressed stones. This wall strengthened our impression of an unfinished stage set of a castle.

The stratigraphy inside the building was dominated by rubble. Again the finds do not suggest any particular function: the structure can hardly have been a stable despite the finds of a spur and a few horseshoe nails.

<h3>*The south-east corner building: trench C*

Our trench included less than 2 sqm of this building's interior and we can say nothing about its function. It has two floor layers under the rubble, the older of which yielded the aforementioned coin of Magnus Eriksson.

<h3>*The outer bailey's perimeter: trenches D, G, H*

Like the inner bailey's perimeter wall, the steep outer one's is L-shaped and we are confident that it has never encircled the islet's eastern side. Unlike the case of the high inner bailey, though, this has left the outer bailey undefended: one can easily walk into it from the east. It may be that the outer bailey's perimeter wall was added to the castle some time after the inner bailey had been secured. In order to study this, it would be informative to open a trench where the wall's western range joins the inner bailey's south-west corner building. The project to secure the outer bailey with a wall was however aborted half-way through.

In the middle of the perimeter wall's southern reach are remains of a southward protrusion measuring 2.2 m in width. Its core is of a piece with the perimeter wall. This protrusion looks like remains of a bridge or drawbridge across the dry moat, which would mean that the intended entrance into the outer bailey was a gate in the ruined upper part of the southern reach of the wall. Trench H on the other side of the moat, however, yielded no sign of any south end for this hypothetical drawbridge. The sandy mound here seems simply to be tailings from the digging of the moat.

<h3>An inconclusive search for a bridge

The castle islet is likely to have had a bridge to the lake-shore: both to get building material out there during construction, and to get horses and cows onto and off the islet while the castle was inhabited. The alternative would be to transport heavy things to the islet only during mid-winter when the ice was strong.

We test-trenched the former lake bottom to seek the sturdy posts of a bridge, but instead found many slim erratically placed ones. Two have been dated to long before the castle was built, as described below. Our attempt to seek a bridge thus proved inconclusive. We could neither determine that there was once a bridge, nor rule it out. Certainly the lakeshore across from the castle islet has been a busy place.

<h2>Pre- and post-Medieval activity

<h3>Middle Neolithic finds

The intent of trench H was to investigate the sandy mound across the dry moat from the protrusion out of the southern wall. In re-deposited material from post-Medieval activity, we found two pieces of Middle Neolithic Battle Axe culture pottery, representing a regional version of the Corded Ware complex. The potsherds, from approximately 2400 cal BC, along with knapped quartz and numerous fire-cracked stones found in the same layer, indicate the longevity of human settlement on the islet.

<h3>11/12th century fish traps

A quay-like line of boulders across the dry moat's eastern end (fig. 9:YYY) shows that the lake's surface level has been lowered considerably since the Middle Ages, as is common in agricultural Sweden. Seeking the posts of an assumed wooden bridge, we therefore did not excavate under the reed belt that currently joins the islet to the lake-shore, where trenching would be difficult. Instead we went to the pasture to the west of the islet, right where the distance across the reed belt and lake-shore bog scrub is shortest. Using a mechanical excavator, we opened a 52-metre trench parallel to the shoreline.

Under about a metre of wobbly reed-root peat, we struck the post-glacial clay of the former lake bed. And stuck into this clay we found seven clusters of 14 slim wooden posts spread out along the trench. We could extract nine of the posts and determine clearly that they had been given a pointy end using an axe. Twelve of the posts were less than 11 cm thick. The thickest post we found measured 13 cm across and disappeared at a diagonal into the section, so that we could not extract it and examine its lower end. It consisted of alder, a rot-resistant but not very strong wood. All fourteen are far more likely to represent little jetties or fish traps than a bridge you could drive a wagon full of building stone across. The written legend of the 1730 map mentions fishing with *kattzor*, permanent fish traps, in Lake Landsjön.

I submitted samples from the outer tree rings of two posts from different clusters, including the thickest post, for radiocarbon analysis in Poznań. They returned dates that most likely lie in the intervals 990–1050 and 1080–1150 cal AD, a century or two before the castle project began on the islet (pole P2A, Poz-93801, 995±30 BP; pole P6A, Poz-93802, 940±30 BP).

<h3>Quarrying for building materials

As we have seen, after about 1280 and Kristina Fastesdotter's time, no-one in the nobility seems to have used Landsjö as their manorial seat. In 1630 though, Landsjö regained this status when Johan Fegraeus (Strömfelt) was granted *säteri* tax exemption for the property (Kuylenstierna 1912). One of the conditions for such privileges was that the property owner build a suitably representative manor house. The current mainland site of Landsjö manor (whose use prior to 1630 is unknown) now saw major construction work, which would have begun an era of intensive quarrying for building materials on the castle islet. The terrace walls in the manor park consist of the same kind of dressed orange-brownish greystone ashlar as the castle ruin's remaining wall facings.

<h3>An 18th century smallholding

The aforementioned 1730 map of the manor has three building symbols on the castle islet: a smallholding at the north end, a ruin in the middle of the island, and an uninhabited building at the south-west shore. Local historian Tommy Tyrberg has suggested (e-mail 23 March 2015) that the smallholding may be the otherwise unidentified Landsjölund that figures in a *kontributionslängd* taxation list from 1690 (Wennberg 1947).

The smallholding's foundation is immediately east and up slope from the north-west corner building, hugging the islet's northern scarp: right where the 1730 map places it. It takes the shape of a low rectangular 9 by 6 m platform. Foundation stones are visible above the turf in the north end of the western wall line and near the middle of the south wall line. Inside the middle of the northern wall line is a turf-covered mound of greystone and brick, apparently the collapsed remains of a small fireplace and chimney (*spisröse*, "stove cairn"). These are common in Early Modern building foundations. The mound actually currently forms the castle islet's highest point.

The smallholding's placement at the edge of the scarp ignored the effect of the northern wind and was extremely ostentatious from the perspective of landscape sightlining. When exiting Landsjö Manor, its owners would at all times have been immediately aware of whether their smallholder on the castle islet had a fire going. Such a placement would have been unthinkable without the landowners' permission.

A number of our finds from around the islet probably originate with the smallholding. We have a sherd of thin window glass from trench B, a brass button from trench G, a little sheet-copper cap and a posthole padded with re-used rubble from the castle in trench H, and shards of a bottle from trench I. The postholes in trench H probably represent the uninhabited building on the 1730 map.

The current vegetation on the islet has a strong component of modern-era garden plant species that grow well on the calcareous rubble, including redcurrant bushes and enormous sourcherry trees.

Fno	Find	Context
2–3	5 coins, Ag, Valdemar Birgersson, LL XVII:B, c. 1260–75	D:NE:2
1	Coin, Ag, Magnus Eriksson, LL XXVIII:4a, 1354–64	C:1:5
26	Brooch, Fe, annular, tiny	E
175	Spangle, cast Cu alloy, sexfoil	I:4:404
139	Spur, prick type	I:2:404
14b	Crossbow bolt, elongated pyramid shape, 29 g sans socket	D:SW:2a
29	7 sintel-type iron carpentry staples	D:NW:1

10. Munkeboda I in Kimstad

The Munkeboda complex consists of three Medieval strongholds within an 800-metre diameter (fig. 10:YYY). It focuses on Slottsholmarna, two currently land-locked Medieval islets near the left bank of River Motala ström at its exit point from Lake Roxen. This was once the larger of two drainages: prior to the digging of the Göta Canal, the Munkeboda stream also exited the lake at this very point and ran east to Lake Asplången.

In the following we will largely disregard two of the three strongholds for the simple reason that little is known about their archaeology: Munkeboda II / Nor / Raä 102 on a larger islet near the right-hand river bank, and Munkeboda III / Henriks borg / Raä 91 on a hilltop west of the river. II was built over at an early date and no sign of any fortifications is visible there today. III is well preserved except for early removal of building material. For detailed information about these sites, see Cnattingius 1945; 1947 and Lovén 1990:249ff.

Munkeboda I / Raä 91 is on the northern one of the Slottsholmarna islets. Its ruins consist of a squat robust tower house with a flimsier secondary extension, along with two or three visible foundations for ancillary wooden buildings (fig. 10:YYY). On the south islet, small-scale excavations have unearthed evidence for a smithy and another small building.

Historical overview

The written sources for Munkeboda are rich, because throughout the Medieval record this is one of the Bishop of Linköping's country manors. Travelling here from the city is convenient: a short ride from the episcopal castle next to the cathedral to the harbour on River Stångån, and then a few hours by boat or sleigh over Lake Roxen to Munkeboda at the lake's east end. The manor enters the written record already in 1178 as an estate centre for several episcopal properties nearby (DS 74). But in terms of the bishops' favour, it plays a secondary role to Bro (modern Kungsbrosjö) on the lake's west shore until the episcopate of Henrik Tidemansson (1465–1500), when Munkeboda takes over as the main country seat (Schück 1959:375). Neither property changes hands until the Reformation.

As with Ulvåsa in Ekebyborna and Skällvik Castle, our understanding of the Munkeboda complex is hampered by uncertainty as to what specific site the written sources mean when they mention the name at various dates. Like Stegeborg, Munkeboda has a separate agricultural unit on the mainland referred to as Ladugården, “the Supporting Farm”, this one being located north-west of the Slottsholmarna islets. Prior to the undated construction of the first stronghold, Ladugården may have been the site of the manor house (Cnattingius 1945:110).

A letter from Bishop Lars in the 1240s (DS 282) offers indirect evidence that Munkeboda has not yet received any fortifications at this time. The bishop writes proudly about his construction projects there (a chapel, a masonry cellar) but makes no mention of any defences.

A court document from October 1373 (DS X 266) reveals that Bishop Nils Markusson has recently kept a certain Ingeld Knula imprisoned at Munkeboda *husae*, a term which reveals that there is now a stronghold there.

In a 1495 conflict between Sweden's anti-unionist regent Sten Sture the Elder and the Church, all the Bishop of Linköping's strongholds are destroyed according to a brief note in a period psalterium (Kellerman 1935:289). This however causes no measurable pause in the bishop's use of Munkeboda. We find Bishop Henrik dating a letter there again only two years later (SDHK 33493), and in 1506 *electus* Hemming Gadh dates a letter at Munkeboda (SDHK 35520). The last surviving Medieval document dated there prior to a silence of over twenty years is from 1514 (SDHK 37584).

Munkeboda II is the site we know the least about archaeologically, while we understand it quite well historically: this is the new manor of Nor, established by Bishop Brask in 1514–15 and referred to in the sources as distinct from Munkeboda proper. When Brask builds his new fortified manor house, we may assume that he has his people quarry Munkeboda I and III across the river for building material.

The written sources thus allow us to place the entire lifetimes of Munkeboda I and III within the period 1250–1515, with one or both of them being kept in defensible shape in 1373. This is of course true for most Swedish Medieval strongholds, and so not very informative. Pending excavations, we are effectively in the dark about when Munkeboda III was built. But we have some information for Munkeboda I.

Early site plans and Ann-Lili Nielsen's excavations 1997–98

Bengt Cnattingius (1947) and Ann-Charlott Feldt (2013) offer reproductions of two detailed maps of the Munkeboda complex from the 1690s. Cnattingius (1945:121–125, 142) also reproduced two 19th century images of the tower house (one by Nils Månsson Mandelgren), a sketch plan of the two islets by Mandelgren and a 1931 plan by Fritz Nibbelblad.

For Munkeboda I, Cnattingius suggested a date in the 14th century on the basis of the choice of location in comparison with other Medieval fortifications with better-known dates. Lovén (1999:249f) expresses no particular opinion on the issue. In 1997–98, Ann-Lili Nielsen directed a team consisting mainly of amateurs in excavations of a foundation for a wooden building just north of the tower house, as well as two test trenches on the south islet. The results have been summarised repeatedly in print by other people (Lindeblad 1997; 1998; Ternström 2004; Hedvall & Lindeblad 2007:52; Feldt 2013), but due to Nielsen's untimely death the fieldwork has never been written up into a formal report.

Karin Lindeblad has kindly made Nielsen's documentation and all finds that could be located available to me. All datable finds rest comfortably together in the interval 1450–1500, including four identifiable coins all possibly struck in 1448–81. This dates the use of one ancillary building at the site and not strictly speaking the tower house that holds our main interest. But it seems likely that if there had been an episcopal manor on the north islet already in 1373 or earlier, then there should have been at least a few sherds of characteristic pottery from that period in Nielsen's trench too. There were not: this allows us to suggest that Munkeboda I on its islet was the complex's second stronghold and III on its hilltop the first.

Structures and finds

Nielsen began her excavation north of the tower house ruin by opening a narrow 9 by 1 metre NNW–SSE trench across the building foundation, which was vaguely visible through the turf. Having identified the wall lines, she then opened an 8 by 4 metre WSW–ENE trench across the original narrow one, uncovering most of the building foundation including its W, S and E wall lines. Each consisted of a line of large stones laid out with a flat surface facing outward, having once supported the footbeams of the walls. The wall lines were not quite parallel to the trench's grid, so the building's long axis was oriented close to W–E. The building's overall dimensions were about 7.5 by 4.0 metres. Its south-east corner was located 32 m due north of the tower house's north-west corner. The two building fronts facing each other were not quite parallel.

According to the excavator's interpretation, this building was a single-story log cabin with a tiled roof, glazed windows and lime-plastered foundation stones. Inside, it had a masonry fireplace at the middle of the north wall, as well as a U-shaped brick structure nearby similar to an oven. Little of the northern wall line was however uncovered.

Lindeblad and others who have commented on the excavation results in print believe that the building has had a wooden floor over a crawl space. One of Nielsen's section drawings shows wood remains forming an interface between a 5 cm occupation layer and an overlying 10 cm collapse layer. This suggests either that the wooden floor was a late addition on top of a very dirty dirt floor, or that the wood remains were in fact from the roof. It seems unlikely that so much waste, including large potsherds with tripod legs, could have fallen through the openings between floor boards and accumulated in the crawl space.

Finds were collected by metre-square and spit (numbered 1–3; the natural was not far below the turf). Nielsen made one somewhat confusing field-methodological choice: each spit in each square has its own series of find numbers. Every productive spit in a square thus has at least an F1

of its own, which means that the finds from this excavation have no unique identifiers unless square and spit IDs are also given.

I deal with the most interesting finds from this excavation in ch. 3. All coins were classified by Monica Golabiewski Lannby in 1998 (protocol in the excavation archive, KMK 711-5265-1997). I discuss the pottery here for reasons of quality and chronology.

Pottery

I have seen 30 determinable pottery fragments from the trench at Munkeboda I, of which 18 represent Late Red ware tripod cooking pots with greenish brown interior glaze. Two are Late Red ware with orange or brick-red interior glaze, bringing the total percentage of Late Red ware up to 67% of the fragment count. Five are Siegburg stoneware with beige/golden slip or in one case no slip (17%). Finally, five wares are represented by only one fragment, that is 3%, each.

A sherd from square PP is unglazed wheel-turned Unglazed Grey ware, of which there is also a sherd from one of the trenches on the South Islet.

A small sherd from square U is Siegburg stoneware with a secondarily applied bright deep green glaze, which contributes to the general 15th century dating of the site (Hurst et al. 1986:128f). Ian Reed (pers. comm.) has seen this ware in Trondheim, and according to Jesper Langkilde it shows up at many urban sites in Denmark, though never many sherds of it from each excavation.

A small sherd from square Q is tin-glazed blue-on-white painted earthenware, i.e. majolica or faience. This looks a lot like the “chestnut series” of Spanish drug jars made at Paterna and Manises during the period 1400–50 (Ray 2000). A complete one in the Victoria and Albert Museum, London (inv. no 49-1907; m.vam.ac.uk/collections/item/O160624), has a characteristic spiral under the shoulder, similar to the decoration on the Munkeboda sherd.

Two sherds are difficult to classify and opinions diverge among specialists I have polled. One is a small sherd from square K with brick red exterior (!) glaze, traces of white slip and patchy spillage of glaze inside. The other is a large rim sherd from square T of a large grooved wheel-turned vessel, whose slip and glaze may have been lost to re-firing. Both sherds may be coeval with the clearly datable pottery – or not.

Spatial finds distribution

I have looked at the spatial distribution of three find categories across the 1997–98 trench: potsherds, coins and glass shards from drinking vessels (fig. 10:YYY). Coins and pottery avoid each other while vessel glass co-locates with them both. There are two pottery clusters: one across the middle of the building from the hearth to the opposite wall, the other immediately outside the south-east corner. Both contain roughly the same mix of wares. A coin cluster straddles the northern wall line west of the hearth. Most of the glass is in the coin cluster.

Tab. YYY. Finds from Munkeboda I discussed in the text	
Find	Context
Coin, Ag, Sten Sture the Elder, Stockholm, type BM KrH YIIIe, c. 1470–1500, 0.21 g	Sq B, spit 2
Coin, Ag, Visby, gote, type LL XXXV:4, c. 1420–50, 0.72 g	Sq HH, spit 2
Coin, Ag, fragment, probably another gote, 0.50 g	Sq M, spit 3
Coin, Ag, Christopher of Bavaria, Malmö, hvid, type Galster #20, 1440–48, 0.59 g	Sq C, spit 2
Coin, Ag, Hans, Malmö, hvid, type Galster #31, 1440–48, 0.60 g	Sq EE, spit 2
Bead, antler, barrel-shaped, 4,5 x 6 mm	Sq M, spit 2
Bead, antler, spherical, 8 x 9 mm	Sq M, spit 3
Bead, jet, flattened sphere, 9 x 11 mm	Sq TT, spit 2
Tripod brass pot, leg	Sq L, spit 2
Tripod brass pot, handle	Sq R, spit 1
Crossbow bolt, socketed, 25 g, 65 mm	Sq I, spit 2
Crossbow bolt, socketed, 40 g, 56 mm	South islet, smithy
Crossbow bolt, socketed, wide triangular head, 71 mm	South islet, smithy
Punch, iron	South islet, smithy
File, iron	South islet, smithy
Fish hook, iron	Sq QQ, spit 2
Spur + spur buckle, iron	Sq U, spit 3
Drinking glass shard, base, inverted conical, badly crizzled	South islet, smithy
Drinking glass shard, base, inverted conical, almost colourless, badly crizzled	Sq HH, spit 3
Drinking glass shard, edge of base plate	Sq HH, spit 2
Drinking glass shard, base near ?stem, pale green	Sq JJ, spit 2
Drinking glass shard, wall sherd w beaded thread, pale green	Sq LL, spit 2
Drinking glass shard, from grid-relief vessel, brown	Sq N, spit 2
Spindlewhorl, lead, flat, featureless, diam 35 mm	Sq R, spit 2

11. Birgittas udde in Ekebyborna

This stronghold is on land belonging to Ulvåsa manor, on a long narrow spit that extends from the southern shore of Lake Boren. Two moats have been dug across this promontory and the backfill piled into banks behind them. Inside the inner, deeper moat are a number of house foundations that form an L-shaped arrangement with a large masonry cellar at its east end (fig. 11:YYY). In the outer bailey between the moats, no structures are known.

The three sites of Ulvåsa manor

Ulvåsa enters the written record in 1315 with the settling of the knight Johan Ängel the Younger's (Finsta lineage) estate (DS 1999). Johan and his wife are closely related to the Bjälbo royal dynasty and to the Ama lineage (SBL 16: Folkungaätten, Finstaätten), whose members may have owned Landsjö and Stensö Castles. And they are childless. Johan's cousin Birger, however, has a young daughter who will in time become the arguably most famous Medieval Swede of all: Birgitta Birgersdotter, St. Bridget. Through the settlement of 1315, Ulvåsa becomes her father's property.

Somewhat confusingly, Ulvåsa manor has had three groups of high-status buildings within a 3 km diameter (fig. 11:YYY), and only the latest and current one has had adequate dating evidence. This has led to debate over in which order the two Medieval ones were inhabited. Fieldwork at both sites in 2002, 2016 and 2017 has resolved that issue: they were used in parallel and served different purposes. Agneta von Essen (1994) presented the relevant historical archive materials, and I refer the reader to her for those in the following.

Modern manor. Since about 1580 Ulvåsa has been a manor house on a hilltop overlooking Lake Boren. It replaced an unassuming Medieval hamlet on the site, named Hamra.

Gamlegården / Brittås. Prior to 1580, the name Ulvåsa probably referred to a Medieval manor site with brick and stone buildings located 1.3 km south of the modern manor. This site, known on early maps as Gamlegården and on current ones as Brittås, was not as far as currently known fortified. But it may have been on a large indefensible island in a lakeshore fen. Abundant finds from a metal detector survey that I directed in 2017 (Jahrehorn 2017; Rundkvist 2017), along with some unpublished finds from a small excavation in 2002 by Ann-Charlott Feldt and Eva Modén (report in prep.), dates the beginning of high-status habitation here to the 11th or possibly 10th century. The earliest map from 1635 documents a direct move from this site to the modern manor site. In the early 20th century there was still enough standing masonry left at Gamlegården to provide hundreds of cartloads of stones for a road bank and land reclamation embankments (von Essen 2002:70, 72).

Birgittas udde / Hångernäas / Djurgårdsudden. Some time during Gamlegården's lifetime, probably in the mid-13th century, the stronghold that interests us here was built on the promontory in the lake, 3 km north-northwest of Gamlegården and 1.5 km north-west of the modern manor's future site. Before our excavations in 2016 the start and end dates of habitation here were unknown despite fieldwork by Axel Förssén in the 1920s. Now we know that the stronghold saw occasional visits by the nobility in the later 13th century, but that people have never lived here in any great numbers or for longer periods. In the 16th century the promontory and a farmstead somewhere near the ruins are repeatedly called Hångernäas (Lovén 1995). On maps however into the early 20th century, the site is known only as Djurgårdsudden, "Deer Park Point". Now it is called Birgittas udde, "Point Bridget", which is a recent antiquarian coinage.

As for St. Bridget herself, the written sources say only that the manor she comes to as a 13-year-old child bride in 1316 is named Ulvåsa. Where on the property the buildings are is not discussed. Whether Bridget and her six years older husband Ulf spend all their time at Gamlegården or stay occasionally at Birgittas udde too as they raise their many children will probably never be known. That issue is not of any great importance to the present study, as it aims to investigate lifestyles at

fortified sites regardless of whether any future saints lived there or not. Our interest in Ulvåsa focuses on Birgittas udde.

<h2>History of exploration from about 1640 on

<h3>Johannes Magni in c. 1640 and 1667

The first written discussion of the site that survives is from about 1640 when the vicar of Ekebyborna, Johannes Magni, describes it and associates it with St. Bridget. He calls the site *S. Britas nääs*, “Saint Bridget's Promontory” (a learned coinage of his?) and describes it as being located “in the great deer park”. Mentions in various written sources, including the 1667 *Rannsakingar* survey (p. 274f) where Father Johannes describes the ruins again in great detail, then document that people continued to associate the ruins with St. Bridget.

<h3>Nils Månssons Mandelgren's 1880 plan

In June of 1880, Nils Månssons Mandelgren (whom we have already encountered at Stensö and Munkeboda) surveyed and planned the stronghold (fig. 11:YYY). His water-colour plan is dated 15 June but Mandelgren's travel journal (online at www.folkklivsarkivet.lu.se/samlingar/mandelgrenska-samlingen) places him at Ulvåsa on the 9th and in Gränna on the 14–17th. Due to the rather wide dispersal of Mandelgren's papers across Swedish archives, I have not been able to ascertain whether he commented on his impressions of Birgittas udde in writing. Interesting details on the plan are that Mandelgren was fully aware that the building ranges each consists of three or four separate small foundations, and that he identified the backfilled cellar that we excavated in 2016.

<h3>Axel Forssén's fieldwork in 1924

Architect Axel Forssén (1888–1961) directed archaeological fieldwork at the site in the summer of 1924. The National Heritage Board often hired him for restoration work on important churches and monastery ruins in Västergötland such as Husaby, Varnhem, and Gudhem. A rich paper trail in the ATA archives from 1923 to 1928 details the circumstances of his involvement at Ulvåsa. For our purposes, suffice to say that Forssén was given two main tasks: to *restore* the dilapidated masonry cellar, and to *plan and investigate* the overall site. After working on site in July, August and September, he submitted his report on 12 November to the Board. I have not been able to locate his few humble finds, but he illustrates some of them.

Forssén aimed to remove vegetation, plan the site's surface features and restore the masonry cellar with its staircase extension. He found that the upper part of the cellar walls had largely collapsed and the floor was covered with 30–100 cm of rubble and dirt. Between the rubble and the dirt floor's surface was a thin patchy burnt layer, and the both the staircase treads and the walls were visibly fire damaged. Excavation proceeded until the post pads / pillar bases appeared. 10 cm of the bottom layer under the rubble was screened (mesh space unstated), producing only four finds that Forssén found interesting enough to draw (potsherd, twisted metal loop, iron strap buckle, pierced sheet iron rectangle). He also he found and illustrated a deposit of four door-hinge pintles at the east side of the cellar passage's outer end. Judging from the irregular sandstone flakes of the post pads, Forssén suggested that the floor had at one point been covered entirely by such. If so, then the flooring had been robbed out while the pillars still stood. After uncovering the floor he had the cellar walls rebuilt up to ground level re-using stones from the rubble, and covered their tops with two layers of turf. The arch over the cellar entrance is original and still stood when Forssén arrived on site.

Forssén also identified and planned the long west-east and north-south ranges of small buildings, which he interpreted incorrectly as the foundations of two very long undivided structures. He does not seem to have excavated inside them. Forssén uncovered the top of the wall base all around the west-east range. As for the north-south building, he only delimited it, apparently by deturfing a few unspecified patches. Forssén did not excavate in the moats or between them.

The 1924 report is of course lacking in detail by current standards. But we can draw some

conclusions about what Forssén did *not* do on site in 1924 by examining what he planned to do in 1925 (see box). He expected the specified work to take two or three weeks, including six man-days for a mason with one helper and 30 man-days of unskilled labour, at a total cost of SEK 270 including materials. But little of the planned work seems ever to have been done.

<TEXTRUTA>

Forssén's finds

- 1 potsherd, orange side, flat bluish grey base. In masonry cellar's floor layer just inside the threshold.
- 1 loop of twisted metal rod. In masonry cellar's floor layer.
- 1 rectangular iron strap buckle. In masonry cellar's floor layer.
- 1 pierced rectangular piece of sheet iron. In masonry cellar's floor layer.
- 4 door-hinge pintles. Found at the east post of the masonry cellar's outer entrance.
- A number of clay pipe fragments. In masonry cellar's floor layer.
- A number of slag fragments. Unstated find context.
- A number of nails. In masonry cellar's floor layer.
- 1 horseshoe. In masonry cellar's floor layer.

</TEXTRUTA>

<TEXTRUTA>

Forssén's fieldwork plans for 1925

Work

1. Reinforce all joints with limestone mortar mixed with a little cement.
2. Reassemble the post pads and put them back, elevated slightly above floor level.
3. Check turf cover on walls, remove recently sprouted bushes, sow grass on deturfed surfaces.

Investigations

1. Screen the soil under the post pads, investigate whether there is a drain at the east wall, open a couple of test pits in the floor.
2. Outer drawbridge at the cairn.
3. Inner drawbridge at the cairn.
4. Inner side of the inner bank, possibly battlement or stone pavement.
5. Uncover entire outer wall of west-east building and study its inside at a few points.
6. Remove fill between west-east building and bank.
7. Uncover and investigate north-south building and its ruin mounds. [These mounds are collapsed chimneys.]
8. Attempt with test pit to study the original depth of the inner moat.

</TEXTRUTA>

<h3>*Forssén briefly on site again in 1926–28*

Forssén wanted to continue work at Birgittas udde from 1925 on, and finally he did spend three days there in 1928. But I have not found even so much as a reference to a report. The continued fieldwork was postponed repeatedly. Forssén inspected the site briefly in October 1926 and judged (as he had in late 1924) that the mortar joints needed some more attention. In May 1928 he received a renewed work order for Birgittas udde from the National Heritage Board, and in November he sent them a bill. It specifies only “supervision of restoration work”.

In the accompanying letter Forssén states that he has finished the restoration. Here he probably refers to the three tasks set out under “Work” in his plan for 1925. But, he says, work at Varnhem, Gudhem and Husaby has kept him from completing the planned investigations at Ulvåsa – tasks 1–8 under “Investigations” in his plan. Given the wording of his bill for 1928, the quality of

his 1924 report, and the way the Board would usually handle these matters, it seems safe to assume that in this case, no report means no excavations.

Two pieces of the 1928 paperwork are marked *Sump*, “Unfinished business”, suggesting that the matter languished on someone's desk at the Board as nothing further was heard about it from Forssén. It seems that he had too much to do in Västergötland. In a 1945 letter, the landowner at Ulvåsa Gösta Hermelin states that the ruins of Gudhem monastery kept Forssén from continuing his work at Birgittas udde after 1924.

<h3>Kajsa Althén's 1990s plan

For her 1998 Bachelor's thesis, Kajsa Althén surveyed the site using a total station. She was the first to note a line of large boulders along the inside of the outer rampart, as well as one of two undated boat berths on the lakeshore outside the fortifications to the south-east.

<h3>Excavations in 2016

Forsséns fieldwork yielded no finds of clear Medieval date. In the summer of 2016, myself and Ethan Aines directed 180 person-days of excavations on site, opening seven small trenches for a total of 78 sqm (report at Archive.org).

<h2>Chronology and layout

The dearth of finds at Birgittas udde is in stark contrast to what we encountered at Stensö, Landsjö and Skällvik, which we investigated with the same methods. We found no noticeable culture layers, few bones and no pottery whatsoever. In fact, we made only three finds with any clear date within the Middle Ages: a coin from the later 13th century and two sherds of a decorated Venetian drinking glass from the period 1250–1350. All of this shows that Birgittas udde was only inhabited briefly. On the other hand, we found evidence that three of the buildings have been replaced with new versions. Together, this suggests that the stronghold was kept in defensible shape for quite some time and completely refurbished once, but saw very little use. Its owners probably lived at Gamlegården. Birgittas udde was a special-purpose site for threatening situations, a fortified retreat in a peripheral location on Ulvåsa manor's land where people usually did not live.

Moving from the outside inward, we found that the outer moat has always been dry. The outer bailey seems devoid of Medieval activity. The deep inner moat has held water for some time while Lake Boren had a higher level than today. The building just west of the great cellar that Forssén worked in also has a cellar, but its walls are drystone, it has no significant culture layer on its floor and it has been backfilled with large stones. This may have been because it was succeeded by the larger mortared structure to the east. It would have saved considerable labour to extend the cellar instead of replacing it, which might suggest that this was the stronghold's original main building that could not be torn down until its successor was habitable. The foundations at the angle between the long building ranges each has two phases, and this is where we found the coin and the glass sherds. The foundation at the northern end of the north-south range seems to have ended with a drystone wall that has collapsed into the building. The open space framed by the two building ranges is as clean and nondescript as the outer bailey.

The two ranges of wooden buildings at a roughly right angle to each other is a trait shared with the ostentatious but not strictly speaking fortified manor site at Hultaby in Näsby parish, Småland (Raä 15; Hansson 2000; 2001:217, 221). Use of the two sites is fully coeval as far as the dating evidence goes, and the representative part of the Hultaby complex seems to have been inhabited equally rarely as Birgittas udde. Our site's main representative building forms the end of one of the ranges instead of being located separately at a corner of the compound as seen at Hultaby.

Pre- and post-Medieval activity

In terms of habitation traces, Birgitta's udde is more Mesolithic than Medieval. We found a considerable amount of lithics scattered in primary and secondary contexts throughout the trenches,

mainly quartz but other materials too. No sunken features however could be assigned to this phase, and we found nothing to provide radiocarbon dates. Fredrik Molin places the assemblage in the Middle or Late Mesolithic on typological grounds, most probably around 6000 cal BC, which is during the lifetime of the large and exceptionally well preserved sites at nearby Motala. No doubt people at the time moved among many sites around the lake.

As for post-Medieval visits to the site, we have no sign at the stronghold of the historically documented 16th century inhabitants of Hångernäås farm. Their home may be represented by a cellar about 100 m outside the stronghold's outer moat, towards the south-west. But Forssén found clay pipe fragments from the 17th or 18th centuries in the masonry cellar. And in 2016 we found coins from 1846, 1926 and 1980 in the turf. These are likely to represent St. Bridget tourism. One coin from 1926 is Norwegian.

Tab. 11:YYY. Finds from Birgittas udde discussed in the text		
Fno	Find	Context
101	Coin, Ag, anonymous, LL XVIII B:1a, c. 1250–1300	F:20:602
102–103	2 glass vessel sherds, opaque white decoration on colourless, Venetian	F:2:602, F:7:602

12. Defortification

Medieval

Most of Östergötland's Medieval strongholds are defortified and abandoned before the end of the Middle Ages. In most cases, Reformation and the beginning of the Early Modern era play no part, because only very few Medieval strongholds survive up to the 1520s. This chapter describes how and when defortification takes place at sites where we have evidence.

Landsjö Castle seems to be the concern of only one noblewoman, Kristina Fastesdotter (Växt), who has it built as her manorial seat in the 1260s or 70s. After her death most likely in the 1280s, it seems that her heirs sell the property to members of another lineage and it becomes a tenant farm. The wall around the steep outer bailey is left unfinished. The north-west corner building burns down, and the south-west corner building is robbed of all but one of its limestone floor slabs. A large key and hinge gudgeon that we found together on the cellar floor along with this single slab suggest an interpretation as a closing deposit. Quarrying of the ruins for building materials probably begins in earnest in the 1630s when Landsjö becomes a *säteri* manor.

In 1310 the unfinished Crown fortress of *Knäppingsborg* in Norrköping is demolished shortly after construction has begun. This is done as part of an agreement between King Birger and his ducal half-brothers (DS 1690). As a replacement, the king has Ringstadaholm built (Lovén 1999:111f).

Quite when *Birgittas udde* is abandoned is hard to say despite excavations, as the site shows few signs of ever having been inhabited. After a period of decades when the owners of Ulvåsa manor keep the site ready as a retreat, upkeep ceases, probably some time in the early 14th century. The main building burns down. Doors are lifted off their hinges and removed. The hinge pintles are pulled out of the door frames, and four are left on the ground next to the main building's cellar entrance.

Skällvik Castle is abandoned in the 1350s, possibly after a failed aristocratic rebellion in 1356 when the Bishop of Linköping who controls Skällvik chooses to support the wrong side. The 1902 excavator reported seeing a lot of traces of burning, though none were visible during our fieldwork in 2016. The castle has been systematically robbed of all its bricks, sparing only the large south greystone building. This quarrying may begin in 1390 when nearby Stegeborg is rebuilt.

Stensö's lifetime as a strong walled castle in private hands may, I have suggested, be linked to the strong relationship between the Ama family and the Bjälbo royal dynasty. Some time not very long after a wedding at Stensö in 1359, the castle is decisively disarmed through the removal of half of its perimeter wall, right about the time when the last male Ama and the last Bjälbo king die. A 19th century digger reported large amounts of charcoal in the bailey, though we saw very little in 2014–15.

Bjärkaholm (like Landsjö) lives and dies with its wealthy builder, in this case Bo Jonsson (Grip). In 1390, four years after his death, one of the executors of Bo's will dates a letter at the stronghold, and then both written and archaeological sources go silent. Left on the islet in River Stångån are an enormous number of iron objects, many of them surviving there into the 1900s despite ample opportunities for workers to pick over the remains when they tear the buildings down and cart the materials away. (A likely context for this is when nearby Bjärka-Säby manor is built in the 1630s, in another parallel to Landsjö.) Expensive arms and armour abound among the finds. Perhaps Bo Jonsson's riches are simply so vast that none of the involved find it worthwhile to collect the movables locked into the crumbling buildings on the islet in the river.

Vadstena's pre-urban ditch-and-bank defences fall victim to urban expansion. This goes both for the ones alluded to in St. Bridget's writings, around the mid-13th century brick palace that became her order's mother convent, and for the defences documented by excavations elsewhere on the site of the Early Modern castle (Hedvall 2002). The town blooms after the inauguration of the convent in 1384.

At *Klackeborg*, Vadstena monastery owns a meadow in 1447 (VKJ p. 20), which suggests that this difficult-to-grasp stronghold is no longer operative. Some time after the eastern moat has

begun to silt up, the inhabitants of the site take to throwing Late Medieval pottery and other household waste into it. This waste disposal continues uninterrupted at least until 1636, forming a culture layer (Feldt 1994a; 1994b). An 8 m² trench into this context has yielded most of the datable Medieval artefact finds from the site, and so we can say little about life at Klackeborg during its fortified phase.

Ringstadaholm is similar to Bjärkaholm in the wealth of its artefact finds, but here it seems to be due to a catastrophic event rather than to neglect after the death of an owner. In 1470, the castle is besieged and burned, never to be rebuilt (Ljung 1965:109f).

Post-Medieval

Medieval *Munkeboda* undergoes no less than three defortification events, or rather, three moves, and lives on today as the unfortified modern manor Norsholm (Cnattingius 1945; 1947; Feldt 2013). The most likely sequence is that first the bishops built Munkeboda III / Henriks borg on its hilltop, they used it at least around 1373 and then they had it torn down at a date that is unknown in the absence of excavations. Then followed Munkeboda I on its two islets in the river, being certainly inhabited from about 1450 onward and possibly earlier. In 1515, Bishop Brask has Munkeboda I replaced with the manor house Nor on another nearby islet. This seems to mark the point when Munkeboda's owners begin to abandon earlier fortificational ambitions for the property.

Nor was built within sight due east across the river from the Munkeboda I ruin, its walls probably incorporating a lot of the building material now missing from the two earlier strongholds. This original Nor was soon succeeded by a series of buildings on and near the same foundations, as chronicled by Cnattingius (1945:156f; 1947). The 1680s version of the manor house depicted in *Suecia antiqua et hodierna* had no defensive features, but was still surrounded by an ornamental moat (suecia.kb.se). This structure survives today, though greatly changed, just north-east of Bishop Brask's site. Its function as the main manor house has however been taken over by an 1875 edifice to the north-west.

Stegeborg's islet in the Slätbaken inlet received modest earth bastion defences in the mid- to later 16th century. But in the same period Gustav I and Johan III had the masonry structure itself remodelled from Medieval stronghold into unfortified Renaissance palace. Ornamental gables were added and large windows opened through the perimeter wall, converting it into a display façade. Very little construction work was done at Stegeborg after 1590. The town that it had defended, Söderköping, was no longer of major concern to the Crown.

Linköping Castle was taken over by the Crown after Reformation. Overseen by the same architects as Stegeborg, it then developed similarly with respect to its transformation into a palace. No bastions were however added: this would have demanded the levelling of Linköping Cathedral and, as was actually done for Vadstena Castle about this time, large parts of the surrounding town.

13. At home at the castle: conclusions

This is a study of lifestyles at fortified sites of the Middle Ages in the Swedish province of Östergötland. It aims to investigate the activities people performed there and the social roles they played. It is not focused on what a stronghold's architect, its military commander or its besieger were thinking.

The source material has proved to be eloquent but far from ideally distributed. The best written sources are those produced by Gregers Mattsson (Lillie) at Stegeborg about 1490 and by Provost Brask at Linköping Castle about 1510. They are late in the period under study and they deal with unusual sites: large masonry castles owned by the Crown and Church that enjoyed long post-Medieval lives. Neither site has yielded a large body of Medieval finds. Archaeologically speaking, the richest sites are instead Bjärkaholm, Ringstadaholm and Skällvik Castle. Only the latter, which saw excavations through this project in 2016, offers any detailed information about which object was deposited where. All three strongholds were built in the 14th century and have several brief mentions in the written record. All three possibly met various catastrophic ends, which is good for archaeology.

Of the earliest sites, built in the 13th century or even slightly before 1200, this project has excavated at Birgittas udde, Landsjö and Stensö in 2014–16, securing considerable finds and detailed contextual information from the latter two. The written 13th century evidence for these three is however limited to a single document, the will of Kristina Fastesdotter of Landsjö from about 1280.

Peasants over there across the water

An uncharitable judge might say that excavating these sites has primarily offered insight into the lifestyles of Medieval livestock. After building materials, bones are by far the most common find category. Stronghold dwellers eat a lot of beef and tender pork. Meanwhile, little in the written, excavated and palaeobotanical records illuminates their sources of starch and greens. This is largely because the strongholds are not themselves agricultural environments: they all seem to have one or more supporting farmsteads nearby, seen most clearly in the *ladugårdar* of Stegeborg and Linköping Castle in the written sources and on Early Modern maps.

This is an aspect of the clear tendency for builders of Medieval strongholds to withdraw from everyday contact with the peasants who had been their neighbours before about 1270. They do not move far however: the landscape siting of Östergötland's strongholds is with few exceptions one where communications, agriculture, a parish church and a town are all conveniently available. An attraction to open water is perhaps the main difference between these fortified locations and the poorly understood siting tendencies of the era's unfortified manors.

Social environments in flux and human continuity

The large long-lived castles owned by the Crown and Church are places that a lot of people pass through for brief stays. Gregers and Ramborg hold Stegeborg for little more than five years. The continuity of lifestyle at such strongholds is probably kept up by their humblest inhabitants. Lords and ladies come and go, troops march through, begging monks and powerful guests with their entourages are fleeting acquaintances. The people of 14th century Skällvik may be as confused as we are as to who really owns the castle there at any given moment.

But the breweress-dyeress at Stegeborg and the hops grower at Linköping Castle probably do not move much from their homes. Like the masonry walls and locked doors that direct and circumscribe movement in and around the castle, the staff is always there to tell a newcomer – high or low, incoming castellan or guest – how things have usually been done.

This is in contrast to the smaller private strongholds kept as manorial seats by members of the nobility. As we have seen, they tend not to be inhabited for very long, and the lifestyle there is in all likelihood strongly marked by individual preferences and ad-hoc solutions. Landsjö Castle and

Bjärkaholm would not exist, or would at least be very different places, without Kristina Fastesdotter and Bo Jonsson.

The walking castle

Strongholds also move around, taking their people with them. Munkeboda has three fortified Medieval locations. Stegeborg and Skällvik Castle take turns at guarding the passage to Söderköping. The Borg rampart site, Knäppingsborg and then Ringstadaholm keep vigil at the rapids of Norrköping. There are two separate moat-and-bank sites in Vadstena. This emphasises the double nature of the stronghold as both tangible structure and abstract entity, and recalls the ambulatory habits of the region's rural hamlets over the millennia – *den vandrende landsby*, as the Danes put it.

Most strongholds are never really deserted: they move and eventually shed their defences. The stronghold is one fortified link in a long chain of settlements. The Bishop's manor at Skällvik enters the written record in 1287 as an unfortified property, and after a walled High to Late Medieval interlude moving to and fro between two separate sites, it is still there today in the shape of the modern unfortified Stegeborg Manor with its golf course and airfield. The two nearby castle ruins that sit there glancing wistfully at each other across the Slätbaken Inlet are husks that the manor has moulted and cast off. Landsjö's manor house now looks out both at the castle ruin on the islet that yielded so much building material to it, and at Melby hamlet that probably provided Lady Kristina's castle project out there with slave labour and its first inhabitants.

Doings at strongholds

This book makes the claim that the physical reality of the fortified sites sets them apart from other stages on which Medieval life roles were played. This shows in the social environment. A clear difference between the stronghold and other Medieval settlements is the constant presence of soldiers within the defences. Remember, few strongholds ever become places where these men fight, suffer wounds or die. Instead the stronghold is primarily the soldier's home between campaigns. This is where his commander can feed him dependably, as Martin Neuding Skoog puts it. Being able to support its troops is a major reason for why the Crown bothers to amass so much taxes in kind at certain castles: pork, pike fish, barley, rye, butter, cattle and pigs, as Gregers Mattsson notes in his account book.

Another distinguishing characteristic of the stronghold is, famously, the presence of lords and ladies: a noble household pursuing a courtly lifestyle, at home at the castle. They put their stamp on almost every group of written and material sources for these sites. Most of the source material seems to document either something they do, or something their staff does for them. The closest parallel to the find assemblage from Östergötland's strongholds is from the long-lived but unfortified royal manor at Borg church near Norrköping (Lindeblad & Nielsen 1997:102). This site, investigated in 1992–93, is an early example of metal detectors used by professionals on a Medieval settlement excavation (cf. Schmidt Wikborg 2006). There is an almost complete overlap of artefact types with the strongholds, which is unsurprising since like most of them, Borg manor was an abode of the high nobility.

The stronghold then is a busy home where a wide variety of things go on. There is considerable evidence for people there practising several specialisms in parallel. To characterise this environment further in comparison to other kinds of Medieval site, let us look at what spheres of activity are *not* commonly seen at Östergötland's strongholds.

The evidence for religious observances is meagre and late. Evidence for domestic crafts is rare, and there is no evidence at all for surplus craft production. The evidence for trade is almost nil. This is different from what we see at strongholds in other areas, such as Småland with its little manorial chapels in the woods and Värmland with its wide variety of intramural craft waste. I have argued that this is because Östergötland's plains belt in the 14th and 15th centuries is so richly furnished with towns and rural parish churches. People who live at strongholds here can easily go to church and to market elsewhere. Indeed, if later historical attitudes are anything to go by, such trips

beyond the defensive perimeter are probably the high points of people's everyday lives. Church service and market days are social events. Though set physically in some measure of splendid isolation, a Medieval stronghold is by no means a monastery into which people withdraw to pursue lives of contemplation.

Timelessness within the walls

About 330 years pass from the erection of Stensö's *kastal* tower until the Reformation, which marks the end of this book's period of study. In terms of word count, the relevant written record deals overwhelmingly with the last half-century of this period. But society is never static, and we cannot allow the late sources to determine our ideas about far earlier times. Let us consider what we have learned about life at strongholds in the first half of the period, before 1350.

Of course, Scandinavia sees wide-ranging general changes about that time, many of which are to some extent knock-on effects of the plague, such as the Late Medieval agrarian crisis. But what changes at Östergötland's strongholds, specifically? Judging from the archaeology, very little of any import. The Black Death marks neither the beginning nor the end of many strongholds as far as currently known. Society becomes neither more peaceful nor more warlike. The tall, closed vessel shapes of Early Red ware with their external glaze give way to the squat, open ones of Late Red ware with internal glaze, but the table and the people around it are still the same, though there are fewer faces after 1350. Services continue in the parish churches and the Hanseatic ships continue to arrive at Söderköping. The strongholds are environments where conventional periodisation actually seems to work: the big changes here happen after the end of the Middle Ages, not during them.

Pondering the life histories of these sites, we should remember this though: the many bones that dominate the find assemblages probably represent long periods of accumulation, not a few events. One day when the price of radiocarbon dating has come down enough, it may become possible to chart the ups and downs of habitation and people's shifting culinary preferences at strongholds by dating every single bone.

An envoi to textual scholars

Archaeology and history tend to deal with different issues and operate at different scales. An ample number of historical sources has been intensely interesting to me in this investigation. Conversely though, it is difficult for me to gauge whether my work will serve to make the archaeological material I present equally interesting to historians or philologists. Historical archaeology has long had its own agenda, independent of what textual scholars might think, and we do not see ourselves as handmaidens. Still I hope of course that historians and philologists will find this book useful. I could not have read the written sources or understood their context without their work.

Bibliography

- Almond, Richard. 2003. *Medieval hunting*. Stroud.
- Althén, Kajsa. 1998. *Sätessgården som högmedeltida koncern: Ulvåsa*. BA thesis in Medieval archaeology. University of Lund.
- Alvered, Zeth. 1996. Några binamn och andra personbe-
teckningar i Gregers Mattssons räkenskaper. *Från gö-
tarna till Norens kor. Hyllningsskrift till Lennart El-
mevik på 60-årsdagen 2 februari 1996*. Uppsala.
- Anderson, Iwar. 1949. Palatset i Vadstena – preliminär re-
dogörelse för fortsatta undersökningar. *Fornvännen* 54.
KVHAA. Stockholm. (Online at fornvannen.se)
- Anderson, Iwar. 1972. *Vadstena gård och kloster*.
KVHAA:s Monografier 50. Stockholm.
- Andersson, Jennie. 2017. *Makrofossilanalys Martin Rund-
kvist – medeltida borgar 2015, 2016*. GEARK rappor-
ter 2017:50. Uppsala. (Online at archive.org)
- Andrzejewski, Aleksander (ed.). 2015. *Castella Maris
Baltici XII. Castle as residence*. University of Łódź.
- ASM. *Annales Suecici medii aevi. Svensk medeltidsanna-
listik kommenterad och utgiven av Göte Paulsson*.
Lund 1974.
- Barnekow. *Raven van Barnekows räkenskaper för Nykö-
pings fögderi 1365–1367*. Eds Birgitta Fritz & Eva
Odelman. Stockholm 1994.
- Beckman, Bjarne. 1970. Holmger, Filip och Helena. *Per-
sonhistorisk tidskrift* 1970. Stockholm.
- Bengtsson, Herman. 1999. *Den höviska kulturen i Norden.
En konsthistorisk undersökning*. KVHAA:s handlingar,
antikvariska serien 43. Stockholm.
- Berg, Johan. 2003. *Gods och landskap. Jordägande, be-
byggelse och samhälle i Östergötland 1000-1562*. Uni-
versity of Stockholm.
- Berg, Peter & Norberg, Lars. 2013. *Kvarteret Bodarne.
Medeltid. Fornlämning Strängnäs 314:1, Bodarne 3,
Strängnäs stad & socken, Strängnäs kommun, Söder-
manlands län. Arkeologisk förundersökning & särskild
undersökning*. Sörmlands museum, Arkeologiska med-
delanden 2013:10. Nyköping. (Online at samla.raa.se)
- Bergqvist, Johanna. 2013. *Läkare och läkande. Läkekons-
tens professionalisering i Sverige under medeltid och
renässans*. Lund.
- Biller, Thomas & Müller, Christine. 2013. *Die Pfalz Wim-
pen und der Burgenbau in Südwestdeutschland*. For-
schungen zu Burgen und Schlössern 15. Wartburg-Ge-
sellschaft. Petersberg.
- Bitterli-Waldvogel, Thomas. 2006. Archäologische Befun-
de zur Schreibfähigkeit. In Zeune & Hofrichter 2006.
- Blok, Koen. 2014. *De verdwenen Kogge van Modderman:
een kogge-achtig scheepswrak in de bodem van Flevol-
and*. Rijksuniversiteit Groningen.
- Blomberg, Carl Gustaf. 1974. *Bronskanonen från Nykö-
pingshus. Sörmlandsbygden* 1974. Nyköping.
- BM. Malmer, Brita. 1980. *Den senmedeltida penningen i
Sverige. Svenska brakteater med krönt huvud och
krönta bokstäver*. KVHAA. Stockholm.
- Boje Hilligsø Andersen, Charlotte. 2003. *Middelalderens
militære aristokrati belyst ved en analyse af genstands-
materiale fra udvalgte danske borge og voldsteder*. Un-
published PhD thesis. Aarhus University.
- Bonow, Madeleine et al. (eds). 2016. *Biskop Brasks målti-
der. Svensk mat mellan medeltid och renässans*. Stock-
holm.
- Bonow, Madeleine & Svanberg, Ingvar. 2016. Monastiska
fiskdammar i det medeltida Sverige. In Bonow et al.
2016.
- Borg, Kaj (ed.). 1998. *Eketorp. Fortification and settle-
ment on Öland/Sweden. Artefakterna*. KVHAA. Stock-
holm.
- Bourgeois, Luc & Remy, Christian (eds). 2014. *Demeurer,
défendre et paraître. Orientations récentes de
l'archéologie des fortifications et des résidences aris-
tocratiques médiévales entre Loire et Pyrénées. Actes
du colloque de Chauvigny, 14–16 juin 2012*.
Chauvigny.
- Brandel, Sven. 1929. *Bo Jonssons borg vid Bjärka-Säby.
En utredning angående ruinerna på Bosholme*. Stock-
holm.
- Brask. Translations from Bishop Hans Brask's economy
book by Hedda Gunneng in Bonow et al. 2016.
- Brink, Stefan. 2012. *Vikingarnas slavar. Den nordiska
träldomen under yngre järnålder och äldsta medeltid*.
Stockholm.
- Broocman, Carl Fredric. 1760. *Beskrifning öfwer the i Ös-
ter-Göthland befintelige städer, slott, sokne-kyrkor, so-
knar, säterier, öfwer-officersboställen, jernbruk och
prestegårdar, med mera*. Norrköping.
- Buren, Anne van & Wieck, Roger S. 2009. *Illuminating
fashion. Dress in the art of Medieval France and the
Netherlands, 1325–1515*. London & New York.
- Butz, Eva-Maria. 2006. Warten auf den Prinz? Die Er-
forschung weiblicher Lebenswelten auf der Mittelalter-
lichen Burg. In Zeune & Hofrichter 2006.
- Carlsson, Gottfrid. 1915. *Hemming Gadh – en statsman
och prelat från Sturetiden. Biografisk studie*. Uppsala.
- Carlsson, Gottfrid. 1965. *Margareta och Erik av Pom-
mern. Källhänvisningar och kommentarer till Sveriges
historia till våra dagar III:1*. Studier utgivna av Kung-
liga Humanistiska Vetenskapssamfundet i Lund 1963–
64:4. Lund.
- Chronicle of Duke Erik. A verse epic from Medieval
Sweden*. Transl. Erik Carlquist & Peter C. Hogg. Lund
2012.
- Cnattingius, Bengt. 1945. Norsholm, kulturhistoriska stu-
dier kring en gårds öden 1. *Meddelanden från Öster-
götlands och Linköpings stads museum* 1942–44. Lin-
köping.
- Cnattingius, Bengt. 1947. Norsholm, kulturhistoriska stu-
dier kring en gårds öden 2. *Meddelanden från Öster-
götlands och Linköpings stads museum* 1945–47. Lin-
köping.
- Coulson, Charles. 2016. Specimens of freedom to crenel-
late by licence. Liddiard, R. (ed.). *Late Medieval
Castles*. Woodbridge.
- Danielsson, Arne. 1992. *Skällviks kyrka*. Linköping.
- Doll, Monika. 2006. Archäozoologische(s) Wissen(s)-
Lücken zu Tieren auf Burgen. In Zeune & Hofrichter
2006.

- DS. *Svenskt diplomatarium / Diplomatarium suecanum*. KVHAA and National Archives. Stockholm 1829 onward. (Online at sok.riksarkivet.se/sdhk)
- Durdík, Thomáš. 2006. Bier und weitere alkoholische Getränke auf den Burgen. In Zeune & Hofrichter 2006.
- Edberg, Rune & Carlsson, Johnny. 2016. Bone skates and young people in Birka and Sigtuna. *Fornvännen* 111. KVHAA. Stockholm. (Online at fornvannen.se)
- Egan, Geoff & Pritchard, Frances. 2002. *Medieval finds from excavations in London*. 3, Dress accessories, c. 1150 – c. 1450. Museum of London. Woodbridge.
- Elton, Stuart F. 2017. *Cloth seals. An illustrated reference guide to the identification of lead seals attached to cloth*. Oxford.
- Ericsson, Alf. 2016. Mjöltnare och sågmästare, vattendrivna kvarnar och sågar. In Bonow et al. 2016.
- Eriksson, Bo. 2011. *Svenska adelns historia*. Stockholm.
- Eriksson, Ulf; Haraldsson, Annika; Olsson, Hans W. & Ohlson, Bengt. 2004. *Borgen på Saxholmen – en medeltidsmiljö i Värmland*. Kristinehamn.
- Ersgård, Lars. 2002. Urban archaeology in Östergötland. Hedvall, Rikard (ed.). *Urban diversity. Archaeology in the Swedish province of Östergötland*. Skrifter / Riksantikvarieämbetet, Arkeologiska undersökningar 45. National Heritage Board. Stockholm.
- Essen, Agneta von. 1994. Ulfåsas bebyggelse under skilda epoker. *Fornvännen* 89. KVHAA. Stockholm. (Online at fornvannen.se)
- Essen, Agneta von. 2002. *Ulfåsa – Ulfs eller Ulvarnas ås?* 2nd ed. Motala.
- Faucherre, Nicolas; Gautier, Delphine & Mouillebouche, Hervé (eds). 2015. *L'Eau autour du Château. Actes des du quatrième colloque international au château de Bellecroix, 17–19 Octobre 2014*. Chagny.
- Feldt, Ann-Charlott. 1994a. *Rapport. Klackeborg 1:1. RAÄ nr 1+6. Järstad sn. Östergötland. Arkeologisk undersökning 1992-04-11 + 06-01--05*. Unpublished archive report. Östergötland County Museum. Linköping.
- Feldt, Ann-Charlott. 1994b. *Preliminär rapport. Klackeborg. Fornlämning nr 1+6. Järstad sn. Mjölby kommun. Östergötland. Arkeologisk undersökning juni 1993*. Unpublished archive report. Östergötland County Museum. Linköping.
- Feldt, Ann-Charlott. 2013. Ex curia nostra Noor – Biskoparnas gårdar vid Norsholm. Blomqvist, C. et al. (eds). *Hans Brask: biskop mellan påvemakt och kungamakt*. Linköping.
- Feldt, Ann-Charlott. 2016a. Linköpings slott. Från biskop Gisles palats till residens, kontor och museum. Alexandersson, K. & Pappmehl-Dufay, Ludvig (eds). *Forn-tid längs ostkusten 4. Blankaholmsseminariet år 2012–2014*. Västerviks museum.
- Feldt, Ann-Charlott. 2016b. Kök, källare och köksavfall på Linköpings medeltida biskopsgård. In Bonow et al. 2016.
- Food and Fodder / F&F / SFSS 1:83 = Gregers Matssons kostbok för Stegeborg 1487–1492*. Alvered, Zeth (ed.). Uppsala 1999.
- Franzén, Gösta. 1937. *Vikbolandets by- och gårdnamn*. Uppsala.
- Friedrich, Reinhard. 2006. Archäologische Zeugnisse zum Alltag auf Mittelalterlichen Burgen. In Zeune & Hofrichter 2006.
- Friedrich, Waltraud. 2006. Hygiene in einer mittelalterlichen Burg zwischen Ideal und Wirklichkeit. In Zeune & Hofrichter 2006.
- Fritz, Birgitta. 1973. *Hus, land och län. Förvaltningen i Sverige 1250–1434, vol. 2*. Stockholm.
- Galster, Georg. 1972. *Unionstidens udmøntninger. Danmark og Norge 1397–1540, Sverige 1363–1521*. Copenhagen.
- Geibig, Alfred. 2006. Waffen im Alltag auf Burgen im 15. und 16. Jahrhundert. In Zeune & Hofrichter 2006.
- Gejrot, Claes. 2014. Påvehov och gårdar. Karsvall, O. & Jupiter, K. (eds). *Medeltida storgårdar. 15 uppsatser om ett tvärvetenskapligt forskningsproblem*. Uppsala.
- Gilchrist, Roberta. 2012. *Medieval life. Archaeology and the life course*. Woodbridge.
- Gillingstam, Hans. 2009. *Det svenska riksrådets världsliga medlemmar under medeltiden*. Stockholm.
- Gossler, Norbert. 2009. Materielle Kultur und soziale Differenz. Beobachtungen am archäologischen Fundstoff aus mittelalterlichen Burgen. Clemens, L. & Schmitt, S. (eds). *Zur Sozial- und Kulturgeschichte der mittelalterlichen Burg. Archäologie und Geschichte*. Trier.
- Gustafsson, Ny Björn. 2016. Från kogg till grotta. Ett oväntat fynd från Stora Karlsö. *Fornvännen* 111. KVHAA. Stockholm. (Online at fornvannen.se)
- Gustafsson Gillbrand, Patrik. 2013. *Mellan staden och borgen. Fornlämning Nyköping 231:1, Slottsvakten 1, Nikolai socken, Nyköpings stad och kommun, Södermanlands län. Särskild undersökning*. Arkeologiska meddelanden 2013:05. Sörmlands museum. Nyköping. (Online at samla.raa.se)
- Gustafsson Gillbrand, Patrik. 2016. Stallbacken som blev Slottsvakten. Resultat från en arkeologisk undersökning inom kvarteret Slottsvakten i Nyköping. Alexandersson, K. & Pappmehl-Dufay, Ludvig (eds). *Forn-tid längs ostkusten 4. Blankaholmsseminariet år 2012–2014*. Västerviks museum.
- Gustavsson, Rudolf. 2014a. *Osteologisk analys av djurben från det medeltida Landsjö borg i Kimstad sn, Östergötland*. In Rundkvist & Aines 2015 on archive.org
- Gustavsson, Rudolf. 2014b. *Osteologisk analys av djurben från Stensö borg i Östra Husby sn, Östergötland*. In Rundkvist 2015 on archive.org
- Gustavsson, Rudolf. 2016. *Osteologisk analys. Benmaterial från 2015 års arkeologiska undersökning vid Stensö borg i Östra husby socken, Östergötland*. SAU rapport 2016:5 O. Uppsala. In Rundkvist et al. 2016 on archive.org
- Hadley, Dawn & Hemer, Katie (eds). 2014. *Medieval childhood: archaeological approaches*. Oxford.
- Hadorph, Johan. 1687. *Biärköa rätten, thet är then äldsta stadz lag i Sweriges rjke etc*. Stockholm.
- Haljak, Gunnar. 2014. *Classical örtugs from Gotland*. Tallinn.
- Hammarström, Ingrid. 1956. *Finansförvaltning och varuhandel 1504–1540. Studier i de yngre Sturarnas och Gustav Vasas statshushållning*. Uppsala.
- Hansson, Martin. 1999. *Agundaborg och Källarholmen. Två medeltida "borgar" i Småland. Rapport över arkeologisk undersökning av RAÄ 39, Agunnaryd socken*

- och Raä 40, Ryssby socken, Ljungby kommun, Kronobergs län. Dept of Archaeology, report series 68. University of Lund.
- Hansson, Martin. 2000. Jarlens residens. Gammal och ny arkeologi på Hultaby borg. Dept of Archaeology, report series 73. University of Lund.
- Hansson, Martin. 2001. *Huvudgårdar och herravälden – en studie av småländsk medeltid*. Lund.
- Hansson, Martin. 2006. *Aristocratic landscape. The spatial ideology of the Medieval aristocracy*. Lund.
- Hansson, Martin. 2011. *Medeltida borgar – maktens hus i Norden*. Lund.
- Harrison, Dick. 2002. *Karl Knutsson – en biografi*. Lund.
- Harrison, Dick. 2003. *Jarlens sekel. En berättelse om 1200-talets Sverige*. 2nd ed. Stockholm.
- Harrison, Dick. 2012. *En medeltida storstad. Historien om Söderköping*. Stockholm.
- Hartola, Marja. 2016. Finska gäddor. En delikatess på biskop Brasks bord. In Bonow et al. 2016.
- Hedvall, Rikard. 2002. Ett byggnadsverk 'till värn och tröst'. Hedvall, Rikard et al. (eds). *Arkeologi i Vadstena. Nya resultat med utgångspunkt i undersökningarna i stadsdelen Sanden*. Riksantikvarieämbetet, Arkeologiska undersökningar, skrifter 46. Stockholm.
- Hedvall, Rikard. 2008. Skänninge under sen vikingatid och tidig medeltid. Andersson, H. et al. (eds). *De første 200 årene. Nytt blick på 27 skandinaviske middelalderbyer*. Bergen.
- Hedvall, Rikard & Lindeblad, Karin. 2007. *Det medeltida Östergötland. En arkeologisk guidebok*. Lund.
- Helmfrid, Björn. 1989. *Ringstadholmsoperationen 1955 i pressens belysning*. Föreningen Gamla Norrköping.
- Herdick, Michael. 2006. Herrschaftssitze und handwerklich-gewerbliche Produktion. In Zeune & Hofrichter 2006.
- Herdick, Michael. 2015. *Ökonomie der Eliten. Eine Studie zur Interpretation wirtschaftsarchäologischer Funde und Befunde von mittelalterlichen Herrschaftssitzen*. Monographien des RGZM 124. Mainz.
- Herrman, Christofer. 2001. Die "Hausordnung" der Burg Heilsberg um 1470. Skaarup, J. et al. (eds). *Castella Maris Baltici V*. Rudkøbing.
- Hjörd, B. 2001. *Stegeholm i Västervik*. Västervik.
- HSH 19. *Handlingar rörande Skandinaviens historia* 19. Stockholm 1834. (Online at runeberg.org/hrsh)
- Hurst, John G.; Neal, David S. & van Beuningen, H.J.E. 1986. *Pottery produced and traded in north-west Europe 1350–1650*. Rotterdam papers VI. Rotterdam.
- Højmark Søvsø, Mette. 2004. *Middelalderlige ringspænder i det nuværende Danmark. Typologi og datering, fundforhold og kontekster, funktion og symbolik. Speciale i middelalderarkologi*. University of Aarhus.
- Hörfors, Olle. 1996. *Ett riktigt bottennapp. Svärdet från Norsholm*. Småskrifter från läns museets arkeologer 1. Linköping.
- Jahreborn, Max. 2017. *Konserveringsrapporter över föremål från Gamlegården, Ulvåsa, Ekebyborna sn, Östergötland*. Oxider AB. Kalmar. (Online at archive.org)
- Jansson, Sven B.F. 1950. Några nyligen uppdagade runstenar. *Fornvännen* 45. KVHAA. Stockholm. (Online at fornvarnen.se)
- Johnson, Matthew. 2002. *Behind the castle gate. From Medieval to Renaissance*. London.
- Karlskrönikan. *Svenska Medeltidens Rim-Krönikor 2. Nya eller Karls-Krönikan. Början af Unions-Striderna samt Karl Knutssons Regering. 1389–1452*. Ed. G.E. Klemming. SFSS 17. Stockholm 1866. (Online at sprakdata.gu.se, archive.org)
- Karlsson, Catarina. 2015. Förlorat järn. Det medeltida jordbrukets behov och förbrukning av järn och stål. Uppsala. (Online at pub.epsilon.slu.se/11435)
- Karlsson, Emma. 2015. *Schakt i Stegeborgs slottsruin. RAÄ 222, Skällviks socken, Söderköpings kommun, Östergötlands län. Arkeologisk förundersökning. Östergötlands museum, Rapport 2015:20. Linköping*. (Online at samla.raa.se)
- Kellerman, Gösta. 1935. *Jakob Ulvsson och den svenska kyrkan. 1. Under äldre Sturetiden 1470–97*. Stockholm.
- Klemming, Gustaf Edvard (ed.). 1881–82. *Medeltids dikter och rim*. Stockholm. (Online at archive.org)
- KLNM. *Kulturhistoriskt lexikon för nordisk medeltid från vikingatid till reformationstid*. Malmö 1956–78.
- Koksvik Lund, Guro. 2013. Spill i middelalderens bysamfunn. En arkeologisk analyse av spillmateriale fra Bergen. Øye, I. (ed.). *Small things forgotten. Locks and keys & board games*. Bergen.
- Krauskopf, Christoph. 2006. Das Alltagsleben im Spiegel schriftlicher und archäologischer Zeugnisse – eine kritische Analyse. In Zeune & Hofrichter 2006.
- Kuylenstierna, Alexis. 1912. Kimstad socken i Östergötland. *Svenska Turistföreningens Årsskrift* 1912. Stockholm.
- Kühtreiber, Thomas. 2006. Ernährung auf Mittelalterliche Burgen und ihre wirtschaftlichen Grundlagen. In Zeune & Hofrichter 2006.
- Lamm, Carl Johan. 1929–30. *Mittelalterliche Gläser und Steinschnittarbeiten aus dem nahen Osten*. Berlin.
- Lamm, Carl Johan. 1941. *Oriental glass of Mediaeval date found in Sweden and the early history of lustre-painting*. KVHAA:s Handlingar 50:1. Stockholm.
- Larsson, Lars-Olof. 1986. *Småländsk medeltid*. Malmö.
- Lemmer, Manfred. 2006. Ernährung auf Burgen nach dem Zeugnis literarischer Quellen. In Zeune & Hofrichter 2006.
- Lepiksaar, Johannes. 1979. Djurrester från den senmedeltida biskopsborgen i Husaby. *Västergötlands Fornminnesförenings Tidskrift* 1979–80. Skara.
- Linna, Jette. 2016. *Urban consumption. Tracing urbanity in the archaeological record of Aarhus c. AD 800–1800*. Moesgård. Højbjerg.
- Lindeblad, Karin. 1997. Undersökningarna vid Munkeboda sommaren 1997. *Borgbrevet* 1997:2. Stockholm.
- Lindeblad, Karin. 1998. Munkeboda. En presentation av en pågående borgundersökning i Östergötland. *META* 1998:2. Lund.
- Lindeblad, Karin & Nielsen, Ann-Lili (eds). 1997. *Kungens gods i Borg. Om utgrävningarna vid Borgs säteri. Arkeologisk slutundersökning, Borgs säteri 6702, RAÄ 276, Borgs socken, Norrköpings kommun, Östergötland. Rapport UV Linköping 1997:12*. Linköping.
- Lindén, David. 2013. Motpolen – Biskop Brasks företrädare Hemming Gadh. Blomqvist, Christina et al. (eds). *Hans Brask. Biskop mellan påvemakt och kungamakt*. Linköping.

- Linderson, Hans & Hansson, Anton. 2017. *Dendrokronologisk analys av arkeologiska prover från fiskdamm, kv Eddan, Linköping*. Report 2017:37. Laboratory for Wood Anatomy and Dendrochronology, University of Lund.
- Lindkvist, Thomas & Myrdal, Janke. 2003. *Trälar. Ofria i agrarsamhället från vikingatid till medeltid*. Stockholm.
- Ljung, Sven. 1965. *Norrköpings historia intill 1658. Norrköpings historia 1*. Norrköping.
- LL. Lagerqvist, L.O. 1970. *Svenska mynt under vikingatid och medeltid samt gotländska mynt*. Stockholm.
- Lovén, Christian. 1995. *Ulvåsa under medeltid och Vasatid. Fornvännen 90*. KVHAA. Stockholm.
- Lovén, Christian. 1999. *Borgar och befästningar i det medeltida Sverige*. Stockholm.
- Lundberg, Erik B. 1955. *Stegeborgs slottsruin. Översikt av resultaten från undersökningarna 1948–1952. Meddelanden från Östergötlands och Linköpings stads museum 1954–55*. Linköping.
- Lundberg, Erik B. 1964. *Stegeborgs slott*. KVHAA. Stockholm.
- Lundberg, Erik J. 1932. *En herrgårdsbyggnad från femtonhundratalet och dess medeltida fränder. Arkeologiska studier tillägnade HKH kronprins Gustaf Adolf*. Stockholm.
- Lundberg, Gösta. 1978. *Stegeborg under medeltiden. Bidrag till dess historia 1287–1520*. Söderköping.
- Lundqvist, Lars; Lindeblad, Karin & Nielsen, Ann-Lili. 1996. *Slöinge och Borg. Stormansgårdar i öst och väst*. Skrifter/Riksantikvarieämbetet, Arkeologiska undersökningar 18. National Heritage Board. Stockholm.
- Lönnroth, Erik. 1949. *De äkta Folkungarnas program. En annan uppfattning. Essayer*. Stockholm.
- M-B. Mansfeld-Büllner, Harald V. 1887, 1954, 1974. *Afbildningar af samtliga hidtil kendte Danske Mønter fra Tidsrummet 1241–1377*. Rev. utg. av J.C. Holm. Copenhagen.
- Magnell, Ola. 2015. *Djurhållning, jakt, fågelfångst och fiske. Stibéus, M. (ed.). Kalmar slott – bebyggelse och fynd från 1100–1800-talen. Småland, Kalmar kommun och stad, Kalmar slott, RAÄ 53. Särskild arkeologisk undersökning och förundersökning 2013 och 2014*. Statens historiska museer, rapport 2015:54. Linköping. (Online at smla.raa.se)
- Magnell, Ola. 2016. *Slaktavfall, råttor och pälsar. Osteologisk analys av djurben från Slottsholmen 1, Västerviks stad, RAÄ 94. Palm, V. & Ring, C. (eds). Arkeologi på Slottsholmen. Arkeologiska undersökningar 2014–15. Slottsholmen 1 och Västervik 4:7, 4:28 och 3:5 i Västerviks stad, Kalmar län, Småland*. Arkeologisk rapport 2016:10. Kalmar museum. (Online at smla.raa.se)
- Magnus, Olaus. 1909–51. *Historia om de nordiska folken*. Ed. John Granlund. Uppsala. (Online at litteraturbanken.se)
- Malmer, Brita & Wiséhn, Ian. 1982. *Myntfynd från Östergötland. Sveriges mynthistoria. Landskapsinventeringen 1*. Stockholm. (Online at sml.myntkabinettet.se)
- Mandelgren, Nils Månsson. 1866. *Samlingar till svenska konst- och odlingshistorien 1*. Stockholm. (Online at rara.ub.umu.se)
- Marciniak-Kajzer, Anna. 2016. *Archaeology on Medieval knights' manor houses in Poland*. University of Łódź.
- Mattisson, Ann-Christin. 1980. *Aempnisholm, lokalisering av en medeltida sätesgård. Namn och Bygd 1980*. Uppsala.
- Mattisson, Ann-Christin. 1986. *Medeltida nordiska borg- och sätesgårdarnamn på -holm*. Nomina Germanica 17. Uppsala.
- Menander, Hanna & Stibéus, Magnus. 2006. *Dominikan-konvent och stormansbebyggelse. Delrapport av arkeologisk undersökning i Skänninge år 2006*. Unpublished archive report. National Heritage Board. Linköping.
- Meyer, Werner. 2006. *Herr und Knecht, Herrin und Magd*. In Zeune & Hofrichter 2006.
- Modén, Eva. 2004. *Linköpings slott 900 år. Kulten – makten – människan: arkeologi i Östergötland*. Östergötland 2004. Linköping.
- Modén, Eva & Feldt, Ann-Charlott. 2004. *Linköpings slotts nya byggnadshistoria. Linköpings stad och kommun. Byggnadsarkeologisk undersökning*. Rapport 2004:35. Östergötlands länsmuseum.
- Morrison, Susan S. 2016. *Medieval woman's companion. Women's lives in the European Middle Ages*. Oxford.
- Myrdal, Janke. 1987. *Gårdsräkenskaper från 1400- och 1500-tal*. Jonsson, U. & Söderberg, J. (eds). *Från vida fält. Festskrift till Rolf Adamson 25.10 1987*. Stockholm.
- Myrdal, Janke. 2001. *Stegeborgs ängar från senmedeltid till 1600-tal*. Elg, M. et al. (eds). *Plats, landskap, karta. En väntlas till Ulf Sporrang*. University of Stockholm.
- Myrdal, Janke & Bäärnhielm, Göran. 1994. *Kvinnor, barn & fester i medeltida mirakelberättelser*. Skaraborg County Museum.
- Mäsalu, A. 2001. *Weapons in Otepää castle in 1396*. Skaarup, J. et al. (eds). *Castella Maris Baltici V*. Rudkøbing.
- Neuding Skoog, Martin. In press. *I Rikets tjänst – krig, stat och samhälle i Sverige 1450–1550*. University of Stockholm.
- Nilsson, Lena. 2017a. *Osteologisk analys av djurben från Landsjö borg 2015, Kimstad sn, Östergötland*. (Online at archive.org)
- Nilsson, Lena. 2017b. *Osteologisk analys av djurben från Skällviks borg 2016, Skällviks sn, Östergötland*. In Rundkvist & Aines 2018b on archive.org
- Norberg, Lars. 2010. *Huset vid Kilakastalen. Situne Dei 2010*. Sigtuna.
- Norberg, Lars. 2013. *En tredjedel av Nyköping. Om 2012 års undersökning vid Kilakastalen. Situne Dei 2013*. Sigtuna.
- Nordberg, Michael. 1995. *I kung Magnus tid. Norden under Magnus Eriksson 1317–1374*. Stockholm.
- Nordén, Arthur. 1922. *Saga och sägen i Bråbygden*. Norrköping.
- Nordén, Arthur. 1929. *Östergötlands järnålder 1:1. Ringsstad och Bråbygden*. Stockholm.
- Nyberg, Petter. 2011. *Linköpings slott. Osteologisk analys av djurben*. Östergötland County Museum, in-house report. Linköping.
- Oertzen, Otto. 1904. *Die Mecklenburgischen Münzen des Grossherzoglichen Münzkabinetts. II. Teil: Die Wittenpennige*. Schwerin.

- Olson, Carina. 1997. *Matrester och slaktavfall från Linköpings slott. Raä 148. Östergötland. Osteologisk rapport*. Östergötland County Museum, in-house report. Linköping.
- Olsson, Martin. 1932. En grupp runda kastaler från romansk tid på Sveriges östkust. *Fornvännen* 27. KVHAA. Stockholm. (Online at fornvannen.se)
- Orduna, Jette R. 1995. *Middelalderlige klædeplomber. Blyplomber fra klæde importeret til Danmark indtil 1600*. Aarhus.
- Palm, Veronica & Ring, Cecilia. 2016. *Arkeologi på Slottsholmen. Arkeologiska undersökningar 2014–15. Slottsholmen 1 och Västervik 4:7, 4:28 och 3:5 i Västerviks stad, Kalmar län, Småland*. Arkeologisk rapport 2016:10. Kalmar museum. (Online at samla.raa.se)
- Palm, Veronica (ed.). 2017. *Dhet ruinerade Schlottet Stegeholm*. Tjustbygden 2016. Västervik.
- Pers, Anders & Sjödin, Lars (eds). 1932. *Gamla papper angående Mora socken. 2, Arvid Siggessons brevväxling*. Västerås.
- Persson, Mats. 2004. *Hackås kyrka*, 3rd ed. Jämtlands kyrkor 27. Östersund.
- Pipping, Rolf. 1926. *Kommentar till Erikskrönikan*. Helsinki.
- Rahmqvist, Sigge. 1996. *Sätsgård och gods: de medeltida frälsegodsens framväxt mot bakgrund av Upplands bebyggelsehistoria*. Uppsala.
- Rannsakingar II. Olsson, I. et al. (eds). 1969. *Rannsakingar efter antikviteter vol. 2. Södermanland, Närke, Värmland, Västergötland, Östergötland, Gotland*. KVHAA. Stockholm.
- Ray, Anthony. 2000. *Spanish pottery 1248–1898*. Victoria and Albert Museum. London.
- Regner, Elisabet. 2017. Bön med band av stenar. Arkeologiska perspektiv på radbandsbruk under senmedeltiden. *Fornvännen* 112. KVHAA. Stockholm. (Online at fornvannen.se)
- Retsö, Dag. 2009. *Länsförvaltningen i Sverige 1434–1520*. Stockholm Studies in Economic History 56. Stockholm.
- Rundkvist, Martin. 2003a. Baggensstaket under vikingatiden. *Nackaboken* 39. Nacka municipality.
- Rundkvist, Martin. 2003b. *Barshalder 2. Studies of Late Iron Age Gotland*. University of Stockholm.
- Rundkvist, Martin. 2011. *Mead-halls of the Eastern Geats. Elite settlements and political geography AD 375–1000 in Östergötland, Sweden*. KVHAA:s Handlingar, Antikvariska Serien 49. Stockholm.
- Rundkvist, Martin. 2015. *Stensöborg 2014. Excavations in 2014 at Stensö castle in Östra Husby parish, Östergötland, Sweden*. (Online at archive.org)
- Rundkvist, Martin. 2017. *Rapport över metallsökeri på Gamlegården-Brittås vid Ulvåsa i Ekebyborna socken (Raä 63:1), Östergötland*. Unpublished report in ATA and other archives.
- Rundkvist, Martin & Aines, Ethan. 2015. *Landsjö 2014. Excavations in 2014 at Landsjö castle in Kimstad parish, Östergötland, Sweden*. (Online at archive.org)
- Rundkvist, Martin & Aines, Ethan (eds). 2018a. *Excavations in 2016 at the Mesolithic settlement and Medieval fortified site of Birgittas udde at Ulvåsa in Ekebyborna parish, Östergötland, Sweden*. (Online at archive.org)
- Rundkvist, Martin & Aines, Ethan (eds). 2018b. *Excavations in 2016 in Skällvik Castle, Östergötland, Sweden*. (Online at archive.org)
- Rundkvist, Martin; Aines, Ethan & Eriksson, Mats G. 2016a. *Stensöborg 2015. Excavations in 2015 at Stensö Castle in Östra Husby Parish, Östergötland, Sweden*. (Online at archive.org)
- Rundkvist, Martin; Aines, Ethan & Eriksson, Mats G. 2016b. *Landsjö 2015. Excavations in 2015 at Landsjö Castle in Kimstad Parish, Östergötland, Sweden*. (Online at archive.org)
- Rundkvist, Martin & Heijne, Cecilia von. 2017. Magnus Erikssons mynt från Skällviks borg i Östergötland. *Nordisk Numismatisk Unions Medlemsblad* 2017:4. Stockholm.
- Räf, Erika. 2010. *Arkeologisk utredning etapp 2 och förundersökning. Boplatslämningar och en skålgrop på södra Himmelstalundsfältet. RAÄ 270 och 128, Borg 11:1, Borg socken, Norrköpings kommun, Östergötlands län*. Östergötlands museum, avdelningen för arkeologi, rapport 2010:107. Linköping.
- SBL. *Svenskt Biografiskt Lexikon*. Stockholm. (Online at sok.riksarkivet.se/sbl)
- Schacktavelslek med Äktenskapsvisan*. Ed. Per-Axel Wiktorsson 2016. Runica et mediævalia, Editiones 9. Stockholm.
- Schmidt Wikborg, Emelie. 2006. *Från gård och grund uppå Sommaränge skog. Medeltida bebyggelselämningar i Viksta socken, Uppland. Rapport del 2 för undersökningar vid Sommaränge skog, RAÄ 211, Viksta sn, Uppland. De historiska lämningarna*. SAU skrifter 15. Uppsala.
- Schnell, Jan-Bertil. 2001. *Palatset som blev en borg: Husaby biskopsborg på Kinnekulle*. Skara.
- Schück, Herman. 1959. *Ecclesia Lincopensis. Studier om Linköpingskyrkan under medeltiden och Gustav Vasa*. Stockholm.
- SDHK. *Svenskt Diplomatariums huvudkartotek*. (Online at sok.riksarkivet.se/sdhk)
- SFSS 1:82 = *Gregers Matssons räkenskaper*. Alvered, Zeth (ed.). Uppsala 1996.
- Siebmacher, Johann. 1974. *Grosses Wappenbuch, Bd. 6. Wappen der Städte und Märkte in Deutschland und den angrenzenden Ländern*. Neustadt an der Aisch.
- Sigurdson, Julia & Zachrisson, Sune. 2012. *Aplagårdar och klosterliljor. 800 år kring Vadstena klostrets historia*. Skellefteå.
- Sigvallius, Berit. 1995. *Saxholmen. Osteologisk analys av benmaterialet från Saxholmens borg, Ölme socken, Värmland*. Rapportserie från Osteologiska enheten, Statens historiska museum 1995:9. Stockholm.
- Smith, William. 1934. *Äldre svenskt tullväsen*. Stockholm.
- SRS. *Scriptores rerum Svecicarum medii aevi*. Stockholm 1818–76, facsimile edition Graz 1968. (Vol. 1 online at archive.org)
- Starbäck, Carl. 1866. *Berättelser ur svenska historien 5, Kalmare-Unionen I*. Stockholm.
- Sten, Sabine. 1988. Kosthållning och pälsjakt – osteologins vittnesbörd. Mogren, M. & Svensson, K. (eds). *Bondeplågårens borg. Om och kring undersökningen av fogdefästet Borganäs i Dalarna*. National Heritage Board. Stockholm.

- Sten, Sabine. 1992a. *Hushållssopor – djurbenen på Faxeholm. Osteologisk undersökning av en medeltida borg i Söderhamn, Hälsingland*. Rapportserie från Osteologiska enheten, Statens historiska museum 1992:9. Stockholm.
- Sten, Sabine. 1992b. Mat och djurhållning på medeltida borgar och kungsgårdar. Andersson, S. et al. (eds). *Borgar från forntid och medeltid i Västsverige*. Göteborg.
- Stibéus, Magnus. 2012. *Biskopsholmen i Skänninge – skiftesverkskonstruktioner från 1270*. UV Rapport 2012:192. National Heritage Board. Linköping.
- Stibéus, Magnus. 2013. Biskopens gårdar i Skänninge. Hedvall, Rikard et al. (eds). *Borgare, bröder och bönder. Arkeologiska perspektiv på Skänninges äldre historia*. National Heritage Board. Stockholm.
- Styffe, Carl Gustaf (ed.). 1870. *Bidrag till Skandinaviens historia ur utländska arkiver. Del 3, Sverige under Karl Knutsson och Kristiern af Oldenburg, 1448–1470*. Stockholm. (Online at runeberg.org)
- Styffe, Carl Gustaf (ed.). 1875. *Bidrag till Skandinaviens historia ur utländska arkiver. Del 4, Sverige i Sten Sture den äldres tid, 1470–1503*. Stockholm. (Online at runeberg.org)
- Svenskt Ortnamnslexikon*. 2nd ed. Ed. Mats Wahlberg. Uppsala 2016.
- Svensson, Eva. 2008. *The Medieval household. Daily life in castles and farmsteads. Scandinavian examples in their European context*. Turnhout.
- Söderberg, Johan. 2015. Oceanic thirst? Food consumption in Mediaeval Sweden. *Scandinavian Economic History Review* 63:2. London. (Online at tandfonline.com)
- Tagesson, Göran. 1991. *Rapport. Arkeologisk undersökning. Kungsbro. Vreta klostern socken. Linköpings kommun. Östergötland*. 1990. Unpublished archive report. Östergötland County Museum. Linköping.
- Tagesson, Göran. 1992. *Rapport. Kungsbro. Vreta klostern socken. Linköpings kommun. Östergötland. Arkeologisk undersökning 1991*. Unpublished archive report. Östergötland County Museum. Linköping.
- Tagesson, Göran. 1993. *Rapport. Kungsbro. Fornlämning nr 160. Vreta klostern socken. Linköpings kommun. Östergötland. Arkeologisk undersökning juni 1992*. Unpublished archive report. Östergötland County Museum. Linköping.
- Tagesson, Göran. 1994. *Rapport. Kungsbro. Fornlämning nr 160. Vreta klostern socken. Linköpings kommun. Östergötland. Arkeologisk undersökning 1993–1994*. Unpublished archive report. Östergötland County Museum. Linköping.
- Tagesson, Göran. 2001. *Kungsbro. Arkeologisk undersökning. Vreta kloster socken, Linköpings kommun, Östergötlands län. Östergötland County Museum, unpublished archive report 2001:20*. Linköping.
- Tagesson, Göran. 2004. Vreta och Bro. Stormän och biskopar i en östgötabyggd. *Kulten – makten – människan: arkeologi i Östergötland*. Östergötland 2004. Linköping.
- Tegnér, Göran. 1989. *Guldspännet från Motala ström. Östergyllen. Meddelanden från Östergötlands länsmuseum 1989*. Linköping.
- Ternström, Clas. 1997. *Stensø – en borganläggning i Östergötland och förhållandena kring denna*. C-uppsats. Lund.
- Ternström, Clas. 2004. *Munkeboda – biskoparnas liv och leverne. Kulten – makten – människan: arkeologi i Östergötland*. Östergötland 2004. Linköping.
- Terävä, Elina. 2015. Armed life in Medieval Raseborg. Historical sources and archaeological finds related to weapons and armoury in and around the castle. *Finskt Museum 2013–2015*. Helsinki.
- Thordeman, Bengt; Nørlund, Poul & Ingelmark, Bo E. 1939–40. *Armour from the Battle of Wisby, 1361*. KVHAA. Stockholm.
- Thoresen, Hans. 1945. Utgrävnings- och restaureringsarbetena på Stegeborgs slottsruin 1943 och 1944. *Östergötlands Fornminnes- och Museiförenings Meddelanden 1942–44*. Linköping.
- Vermeersch, Jeroen & Haneca, Kristof. 2014. Construction features of Doel 1, a 14th-century cog found in Flanders. *International Journal of Nautical Archaeology* 2014. London.
- VKJ. *Vadstena klosterns två äldsta jordeböcker*. Ed. Anna Larsson. SFSS 245. Uppsala 1971.
- Volk, Otto. 2006. Der Alltag auf Burgen im Spiegel der mittelalterlichen Rechnungsüberlieferung. In Zeune & Hofrichter 2006.
- Vretemark, Maria. 1997. *Från ben till boskap. Kosthåll och djurhushållning med utgångspunkt i medeltida benmaterial från Skara*. Skara.
- Vretemark, Maria. 2006. *Osteologisk analys av benmaterial från Borgholm, Borgs socken på Öland*. Rapport 2006:7. Västergötlands museum. Skara.
- Vretemark, Maria. 2010. *Osteologisk analys av djurben från Borgholm, Borgs socken på Öland*. Rapport 2010:16. Västergötlands museum. Skara.
- Vretemark, Maria & Sten, Sabine. 2008. Djur och människor i Gråborg. Tegnér, G. (ed.). *Gråborg på Öland – om en borg, ett kapell och en by*. KVHAA. Stockholm.
- Wachtmeister, Alarik & Wachtmeister, Ingegerd. 1986. *Jordfynd från Nyköping*. Nyköping.
- Wartburg-Gesellschaft (eds). 2016. *Die Burg in der Ebene. Forschungen zu Burgen und Schlössern 17*. Eisenach.
- Wennberg, Axel. 1947. *Lantbebyggelsen i nordöstra Östergötland 1600–1875*. Lund.
- Woolgar, Christopher. 1999. *The great household in Late Medieval England*. Yale University Press.
- Zeune, Joachim & Hofrichter, Hartmut (eds). 2006. *Alltag auf Burgen im Mittelalter. Wissenschaftliches Kolloquium des Wissenschaftlichen Beirats der Deutschen Burgenvereinigung, Passau 2005*. Braubach.
- ÄSF. *Äldre svenska frälsesläkter 1–5*. Riddarhuset. Stockholm 1957–2013.
- ÖgL. *Östgötalagen och Upplandslagen*. Eds Elias Wessén & Åke Holmbäck. Stockholm 1933.