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The intersections of labour division

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*An intersectional archaeological and osteological
study of labour division, based on the Ljungbacka grave field
in Scania, Sweden.*

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Abstract

This thesis, *The intersections of labour division – an intersectional archaeological and osteological study of labour division, based on the Ljungbacka grave field in Scania, Sweden*, has been written with the intention of exploring new ways to approach, interpret and understand labour division. This has been done by practically applying intersectional theories to the Ljungbacka grave field, Lockarp parish, Scania by analysing the grave goods in correlation with the osteological results, with a focus on not only biological sex, but also on age, corporeality and status.

The questions asked were: is it possible to discern division of labour by looking at a diverse set of posts within a dataset, such as sex, age, skeletal changes and grave goods, focusing on intersectionality?; what types of labour division can be discerned by analysing the Ljungbacka grave field?; and what can an intersectional perspective add to the research regarding labour division?

The results of the analysis show that it is possible to discern division of labour by looking at a diverse posts within a dataset with intersectional perspectives, but that it has its limitations. The main correlation between the labour indicative grave goods and the interred individual, seem to lie not in biological sex, but instead the social status of the interred. This has shown that an intersectional perspective can help researchers disconnect from their own biases regarding the perceived notion of labour being directly connected to biological sex.

Keywords: labour, labour division, intersectionality, queer theory, gender theory, corporeality, sex, gender, Iron Age, Viking Age, Scania.

Master thesis in archaeology, 30hp. Supervisor: Anna Tornberg. Defended and approved 2020-08-20.

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1. Introduction

Labour, one of the main cogs in our society and the foundation for many of our historical breakthroughs and advances, is something that is still under-researched in archaeology. There is a fixed view of labour in our past societies that is too reliant on contemporary ideas of sex, gender and gender roles that continues to be applied to archaeological material, both consciously and sub-consciously. But how do we continue forward? What is the breakthrough of studies regarding labour division?

This thesis intends to explore just that; new ways in which labour division can be approached, interpreted, and understood. Away from the biases of our contemporary society's views on the duality between sex and gender, and its perceived connection to labour.

Is biological sex really the only deciding factor on what type of labour an individual will be expected, able, and allowed to perform?

1.1. Background

The background for this thesis is based on my own interests in sex and gender related questions within archaeology and osteology, born from the many times I have seen an unfulfilled need for raising these perspectives within the field have.

There is a past tradition within archaeology of solely using grave goods when sexing a grave, and sometimes even disregarding or adjusting the osteological sex assessment in order to fit the sex estimation indicated by the grave goods (Svenfelt 2009: 93, 99; Hjørungdal 1991: 70). One such example, and a constant inspirational source for me during my academic years, is The Barum Woman (my translation of *Barumskvinnan*), who at first was deemed to be a biological man based on the grave goods, and got the working title of The Fisherman from Barum (my translation of *Fiskaren från Barum*) in the first scientific paper dedicated to the find (Sten et al 2000: 81-83; Wallebom 2015: 16). The name was later changed to The Bäckaskog Woman (my translation of *Bäckaskogskvinnan*) when she was osteologically estimated to be a biological female, and this name was recently rectified to The Barum Woman due to a history of dispute of her belonging (Wallebom 2015: 13-17).

Another, more recent, example of the same kind of problem is The Birka Woman (my translation of *Birkakvinnan*). The grave of The Birka Woman was filled with grave goods that

are typically connected to male warriors, but the osteological and DNA analyses have, however, confirmed the biological sex to be female (Hedenstierna-Jonson et al. 2017). This sparked a large-scale debate on whether the remains were mixed up with others, or if the grave goods could even be considered to be connected to her at all, and if they instead represented some sort of inheritance (Hedenstierna-Jonson et al. 2017: 5-6). Some even went so far as to say that there is no evidence for female warriors until a biological female with battle wounds has been found. These claims have been addressed by Hedenstierna, with a statement regarding if anyone would have questioned the ‘warrior-ness’ of the grave, had there been a biological male interred in the grave (Hedenstierna-Jonson et al. 2017: 6).

Not long after the debate around The Birka Woman settled down, new finds came into light that would yet again challenge the view of strictly male warriors, namely the battle wounds of Erika The Red – a Viking age individual unearthed in Solør, Norway in the 1900’s. The skeleton was found in a grave full of weapons, and was early on osteologically estimated to be a biological female, however the burial was never accepted as a warrior grave due to the fact that she was osteologically estimated as a biological female (Alberge 2019). Although recently, when a facial reconstruction of the cranium was performed, it was found that the individual has sustained a cranial wound, most likely from a sword (Alberge 2019).

These news were shared across the world on social media, but some people still refused to believe that there were female warriors in the Viking age. The archaeological community has also been very silent on the matter, which is quite opposite of the reaction one would expect, seeing as there finally exists some hard evidence – i.e. battle wounds – speaking for the existence of female warriors in the Viking age.

Interestingly enough, the name she has been given, Erika The Red, is not derived from any of the famous female warriors in the sagas, nor Valkyries, but from a male Viking settler mentioned in the sagas – Erik The Red (my translation of *Erik Röde*). Maybe the connection between biological males and war is still to this day so strong within archaeology, that this is something that is done without any conscious thought on the connotations it gives.

The case with The Barum Woman and The Birka Woman points to some very interesting things: 1. How closely connected archaeologists generally consider the artefacts to be to the biological sex, and 2. That both of these prehistoric individuals seem to have lost their profession/occupation due to the interpretations of modern-day archaeologists. The Birka woman, mostly in the complete disbelief that a biological female would be buried with these

types of grave goods for her own sake; and The Barum Woman in the complete loss of her title as a fisherman and instead just acquiring the title of woman.

These examples showcase why there is a cause to apply gender theories on archaeological and osteological material. Particularly taking into consideration that even though there is substantial evidence that labour division is not strictly binary connected to biological sex, that is still the general basis for interpretation. Going forward, the archaeological and osteological community cannot continue to base their interpretations of the past on contemporary views of male versus female, men versus women, gender roles and labour division. That is why studies like these are of utmost importance.

1.2. Purpose, aim and research questions

The purpose of this thesis is to serve as an example of how one can further explore perceptions and intersections of labour division, as there is still a heavy bias in the interpretations, which are seen as closely connected to biological sex. This study aims to achieve this by focusing on the intersections of labour division in Iron Age Scandinavia, by examining the Iron Age grave field Ljungbacka through intersectional archaeological and osteological analyses.

Taking into consideration that there are multiple factors at play in labour division – such as age, biological sex, gender, corporeality, and social status – this thesis will approach the problem by using intersectional theories to explore extended ways to reach and understand prehistoric labour division. By doing this, this thesis intends to show that there are other ways of exploring labour division than directly linking it to biological sex. With this in mind, these are the questions that this paper will address:

1. Is it possible to discern division of labour by looking at a diverse set of posts within a dataset, such as sex, age, skeletal changes and grave goods, focusing on intersectionality?
2. What types of labour division can be discerned by analysing the Ljungbacka grave field?
3. What can an intersectional perspective add to the research regarding labour division?

1.3. Research history

Science could be said to mirror important contemporary societal debates, and this is also true for the rise of gender science within archaeology, which has its roots in the feminist movements of the 1900's.

Historically within archaeology, division of labour has been analysed through the biased view of our contemporary western societies with a very androcentric point of view, where men have been placed in the public sphere with tasks such as hunting and making technological advances; whereas women on the other hand have been placed in the private sphere, with tasks such as child rearing and other tasks related to the upholding of the household (Karlsson 2017: 39-62). During the 1800's most archaeological research was done by men, which resulted in that the individuals mainly represented in the material were also men. These early times saw a very polarised view of prehistoric men and women, mainly based upon contemporary male and female roles within the society. In the 1900's, however, more female archaeologists started to enter the field of science and with them, more prehistoric women came into the light (Hjørungdal 1992: 35, Arwill-Nordbladh 2003: 23).

Men's labour has, traditionally, been perceived and presented in a way that insinuates, and sometimes even outright points out, specialisation and skill; whereas the labour of women has been perceived and presented in a way that is inherent to the essence of being a woman rather than requiring specialisation and skill. Labour done by women that actually has been regarded as something that requires specialisation and skill – weaving for instance – has instead been downgraded and downplayed to the extent that it is seen as something recreational to do when one has spare time away from caring for the children or cooking, rather than a profession or craft that requires time and skill to master (Karlsson 2017: 39-49, 65).

The debate regarding the insinuation of women's passivity in the labour division of a group or society was something that was debated already in the 1960's when *Man the Hunter* (Lee & DeVore 1968) was released after a conference with the same name. *Man the Hunter* had the intention documenting contemporary hunter-gathering groups and their way of life, before it disappeared (Sterling 2014: 153). Although, as the editors explained, the title of the conference and the publication was meant to include humanity as a whole, and not just men and hunting, the contents of the actual publication was very androcentric and the main focus was, in fact, hunting and its importance to survival (Sterling 2014: 153-154). It very much

bore the mark of its time and the historical presentation of the evolution of man, where the labour of men was seen as the driving force in society.

Due to the time of the release, in the midst of second wave feminism, this publication was met by a lot of criticism on the very androcentric point of view and the fact that men's labour was favoured as important for survival, whilst the labour of women were very under-explored. *Man the Hunter* was later met by three separate publications titled *Woman the Gatherer*, (Hiatt 1974; Slocum 1977; Dahlberg 1981). These publications all bore the mark of the contemporary 1970's feminist movement, where instead of just evening out the androcentric points of view by lifting women in the archaeological record as had been done previously, it became more radicalised and turned towards a more gynocentric point of view, where the labour of women was presented as more important than the labour of men (Sterling 2014: 154-156; Arwill-Nordbladh 2003: 27). These papers all served as a counterbalance to *Man the Hunter*, and were all important for the visibility of women in anthropology and also later, archaeology.

During the 1980's, feminism and gender studies within archaeology tried to step away from the duality and polarisation seen between men and women, and instead tried to focus on aspects of the human experience, such as gender and the intersections of the lived experience based on sex, gender, age, time and space (Arwill-Nordbladh 2003: 48-56). One of the first and also ground-breaking works in archaeology considering gender include Conkey & Spector's *Archaeology and the study of gender* (1984), where they brought up the notion that there are biases in archaeology regarding gender in the interpretations of societies, that are presented as facts (Sterling 2014: 157).

The real upswing of gender science in archaeology came during the 90's, and continued through the millennium shift into the early 2000's. Some of these works include Hjørungdahl's *Det skjulte kjønn. Patriarkal tradisjon og feminisk visjon I arkeologien belyst med fokus på en jernalderskontekst* (1991); and Milledge Nelson's *Gender in Archaeology: Analyzing Power and Prestige* (1997).

From the late 1980' and 1990's gender archaeology, there was also a rise in the archaeology of children and childhood, which later also came to separate children from women and the female sphere, and instead looking at children as their own entities who actively participate and affect their societies and physical environments, and as entities who have their own identities and material culture (Lewis 2007: 1), where one of the more influential works include Moore & Scott (eds.) *Invisible people and processes. Writing*

gender and childhood into European archaeology (1997). One of the newer releases on this subject include Lewis' *The Bioarchaeology of Children. Perspectives from Biological and Forensic Anthropology* (2007).

There is, however, still a large bias in archaeology concerning the labour division of prehistoric societies; as mentioned already in the background chapter, with examples such as The Barum Woman, The Birka Woman, as well as Erika The Red.

Disability studies within archaeology and osteology is something that some researchers tried to push for already in the 80's and 90's, but it is not until recently that it has become more thoroughly explored (Byrnes & Muller 2017: 3-4; Shuttleworth & Meekosha 2017: 20-21). Thanks to the intersectional perspectives recently arisen in the field, the development in archaeology has gone from the study of men, to the study of women and men, and later towards the study of children, and now the study of disability as well. Examples of works exploring ability and disability in prehistory include *Ability and Disability. On bodily Variations and Bodily Possibilities in Viking Age Myth and Image* by Arwill-Nordbladh (2012) in Back Danielsson & Thedéen (eds) *To Tender Gender* (2012); as well as *Bioarchaeology of Impairment and Disability* edited by Byrnes & Muller (2017).

Even though gender archaeology has evolved into a more intersectional perspective throughout the years, there are still some works that centre around labour division, and especially the labour of women, such as *På jakt efter kvinnors arbete. En modell för analys av genus och arbetsdelning på forntida boplatser* by Karlsson (2017). This can be seen as a regression back to the 60's and 70's where women's work needed to be lifted into the light, or it could be seen as an example that this is, very much, something that still needs to be brought into light.

As with the examples brought up in *Ch. 1.1. Background*, archaeology still seems to be stuck in the frame of mind that was prevalent before gender archaeology became its own thing. There seems to not only still be a clear, binary representation of labour division, but also a draw and favouritism towards lifting typically 'male labour' such as fishing, hunting, and warfare, as labour only performed by biological males. This is particularly visible with the way The Barum Woman lost her title as a fisherman when it became clear that she was a biological female, as well as how the doubt still resides regarding warrior women, which is seen by examples such as The Birka Woman, as well as Erika The Red.

1.4. Theory

This thesis rests upon feminist intersectional perspectives with a theoretical framework of gender/queer theory and corporeality as these are all important theoretical starting points when discussing labour division. This, because there might be biological, social, or other factors that may influence what kind of labour a person will be expected, allowed, and able to perform.

Identity is not as straight forward as it may seem. Queer theory especially sees identity as something both taken and received. The broadest sense of identity is whatever categories you are placed in from birth, as well as categories you place yourself in. What is consistent with identity, however, is that it is not something that is inherent to any person. It is linked to societal and cultural norms, structures and values that are transferred to an individual by said society or culture from the time the individual is born. In that sense, identity has the ability to encompass as much or as little about a person as is desired by the society or by the individual itself.

Some of the most common identity categories discussed in archaeology are related to culture, sex, age, and status, which in turn is usually – but not always – connected to mortuary archaeology. Recent additions have been made to also include identities connected to gender, corporeality, and disability.

According to renowned queer theorist Judith Butler, sex and gender can both be considered as being socially constructed (Butler 2007: 205-221). This, because Butler considers the body to be a performative construction which is interpreted differently in different settings. She also argues for that the male and female categories are named and separated by the society, which then also acts as the decision maker regarding which bodily characteristics are considered to suit each category (Butler 2005: 55-85). An example for this could be intersex people who may present with certain outward physical genital characteristics, but other genetic or other inward physical sexual characteristics; which – in case the male/female categories are based on which people can bear children and which cannot, or which people menstruate and which do not – could be a deciding factor in whether this person would be considered male or female.

In this thesis, the choice has been made to make a clear separation between biological sex and gender, this because biological sex in this thesis is referring to the osteologically assessed biological sex, which is based on morphological biological male and female sex

characteristics. These morphological differences are generally seen of as to be connected to reproduction, such as those characters derived from the coxae. There are, however, some sex estimation characters that are also connected to the general robustness difference between biological males and females. This is, of course, part of the source criticism.

Biological sex is not something that is as straight forward as one might think, and besides the osteological assessment of biological sex, there is also the molecular genetic assessment of biological sex, namely via DNA-analyses. This factor is addressed in *Ch. 2.1. Sex, age, gender and gender roles*. However, as already stated, the term ‘biological sex’ in this thesis, is referring to the osteologically assessed biological sex, and not results derived from DNA-analyses.

Queer theory and intersectionality are both deeply rooted in the feminist movement. Queer theory problematises the binary view of sex and gender, as well as the heteronormative way western societies are built, whereas intersectionality considers all of the different intersecting identities that may influence and steer a person’s life and their experience of said life.

Intersectionality builds on feminist perspectives, but the focus lies on the fact that there are hierarchies in society, where different identities give different experiences of the world, and where some identities are more oppressed in society than others. Intersectionality also accounts for the notion that an individual carries several different identities that intersect and that these different identities may give a person privilege and freedom under certain circumstances, and non-privilege in others. These identities can be connected to ethnicity, sex, gender, age, status, corporeality, and other identities a person might carry.

Corporeality, however, is rooted in the lived experience and limitations of the body, which could be considered as closely connected to intersectionality, as intersectionality handles corporeality and disability as an identity that can intersect others. Corporeality also deals with other limitations of the body, such as how height can affect the lived experience – for example how a short person cannot reach the top shelf in the kitchen without a stepping stool. Due to the fact that this thesis deals with labour division, it is important to include both corporeality and intersectionality as theoretical frameworks when interpreting the results, as they explore ways in which a person can be limited by certain parts of their identities and bodily restrictions.

The corporeal experience of an individual is connected to so much more than just impairment and disability. Impairment and disability, as words and concepts, are not necessarily interchangeable. Impairment can be seen as the medical side, whereas disability can be more connected to social aspects, such as how these impairments affect the lived life and how society treats people with different impairments. This makes the meaning of disability specific to each culture, and can vary over time and space (Metzler 2013: 5), in (Shuttleworth & Meekosha 2017: 22).

The notion of disability, however, has an underlying connotation that something is missing. That there is an opposition – a ‘wholeness’ that disabled people are missing. And a kind of ‘othering’ occurs (Campbell 2009: 5), in (Shuttleworth & Meekosha 2017: 25-26). This makes for a clear distinction between disabled and abled, which is one of the dualisms this paper seeks to step away from. This is why the term corporeality, in the meaning of a spectrum of bodily variations, restrictions, and allowances, is used.

As already stated, the term corporeality, in this thesis, includes all types of bodily experiences connected to restrictions and allowances, varying between children’s bodies versus the bodies of adults versus the bodies of elderly people, as well as all kinds of pathological changes that may or may not have been delimitating to the body. Corporeality is an all-encompassing term that does not restrict itself on just the study of disability and impairment, even if this might be one of the bigger factors to take into consideration regarding labour division.

There is a slight issue of only including impairment and disability, as not all individuals with pathological skeletal changes can be considered impaired or disabled, even if they might have been slightly restricted in ways their bodies can move. By using the term corporeality, the focus is not on disabled versus abled, but rather on a spectrum of bodily variations that restrict *or* allow certain activities. Corporeality, as a term, can therefore be a tool from which one can explore labour division from a more intersectional perspective without using words with heavily connotations towards someone being ‘less than’ someone else.

The corporeal experience of an individual is something that is not necessarily inherent to the physical body and medically induced limitations. Some people are born with certain limitations, but whether all of these can be classified as impairments or disabilities can be highly questioned. Some of the bodily factors that influence a person’s corporeal experience, and thus also labour division, can be strongly influenced by an individual’s social standing as well as age.

A low social standing might show itself as deficiencies, which can weaken the body or stunt development in height. This can in turn affect the way this person will be able to contribute to society in the form of labour. A higher social standing may allow access to higher quality diet, and thus stronger bodies. However, a high social standing can also include lower physical labour, which in turn also affects the corporeal experience since the body is limited in the physical labour it is allowed to perform, which is not connected to bodily factors at all.

The same goes for age, biological sex, gender, as well as pathologies. Some bodies can, and are allowed to perform certain things, and some bodies are restricted in certain things they are allowed to, or can perform. Therefore, these are all factors to consider regarding labour division.

By using the word corporeality as a term to explain bodily experiences, this thesis connects more to the bodily restrictions and allowances, than the exclusive study of disability and impairment, and acknowledges that the bodily abilities vary in all people – not just people with visible traces of bodily restrictions caused by medical issues. This makes for a more inclusive study of how all people are affected by their bodily restrictions; both young and old, healthy and non-healthy, abled and disabled, tall and short, rich and poor; and also how these all can affect labour and labour division.

Seeing as the focus of this thesis is on intersectionality, other than clearly separating biological sex from any other gender category, a big focus lies in intersecting identities. The identities explored and considered encompass age, biological sex, gender, corporeality, and status. As such, the identities a person carries may influence their experience in the world, specifically the type of labour they are expected to, allowed, and able to perform.

1.5. Material

The material consists of the graves from the Ljungbacka grave field in Lockarp parish, Scania, Sweden. The Ljungbacka grave field is an Iron Age grave field, which was excavated at six different times between 1976-1987 and has produced 160 cremation graves and 31 inhumation graves. The grave field is, however, still not fully excavated (Samuelsson 1998: 6).

The following locations/areas have been excavated as part of the Ljungbacka grave field:

- MHM 6029 – Ljungbacka, 1976.
RAÄ Lockarp 12:2-12:3.
- MHM 6031 – Lockarp 8, 1976.
RAÄ Lockarp 12:2-12:3.
- MHM 6185 – Fosie IV, 1979.
RAÄ Lockarp 36:1.
- MHM 6305 – Kv. Bronsskärän,
1980. RAÄ Lockarp 14:1.
- MHM 6826 – Kv. Bronsdolken
11A, 1985-87. RAÄ Lockarp
54:1
- MHM 6832 – Kv. Bronsdolken 7,
1985-87. RAÄ Lockarp 64:1.

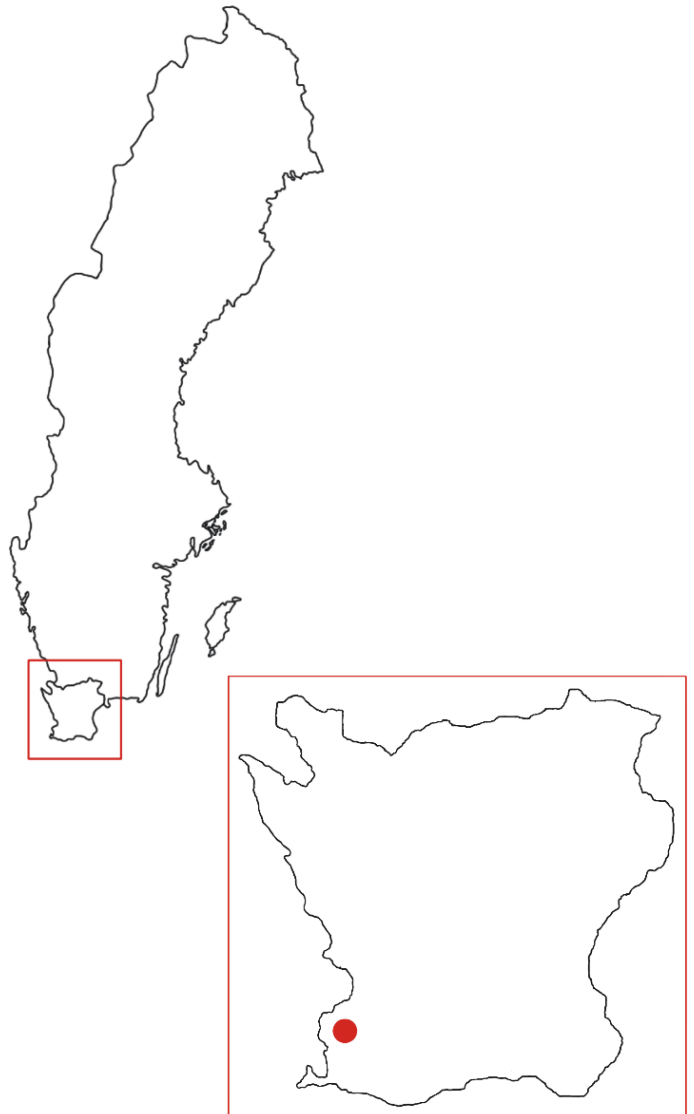


Figure 1. Map of Sweden with Scania magnified. The red dot in the magnified field of Scania corresponds to the location of Lockarp parish. Map made by the author.

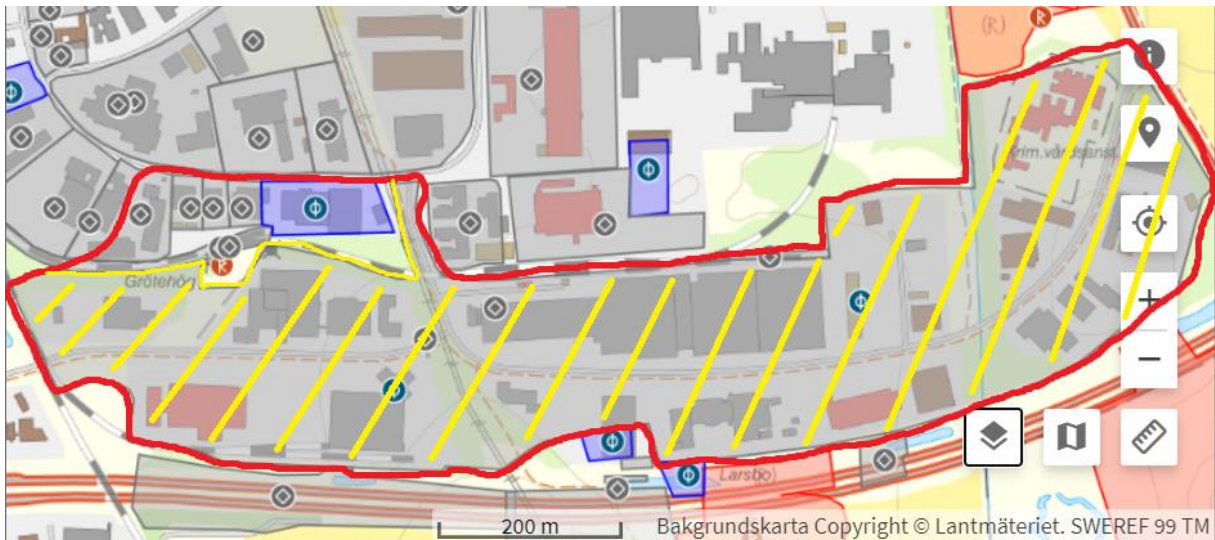


Figure 2. The red circled area on the map corresponds to the area excavated as part of the Ljungbacka grave field. The yellow striped area corresponds with MHM 6185 which is excluded from this analysis. Map retrieved from RAÄ – Fornsök. Modified by the author.

Considering the focus of the paper, only the inhumation graves have been further analysed since they have a higher probability to be fully analysed through osteological means regarding age, biological sex, and health. Due to this selection, the grave with MHM number 6185 has not been included in the analysis, as it solely consists of a cremation burial.

The material analysed consists of archaeological and osteological reports from the following MHM numbers: 6029, 6031, 6305, 6826, and 6832; as well as the Bachelor thesis written by Samuelsson (1998).

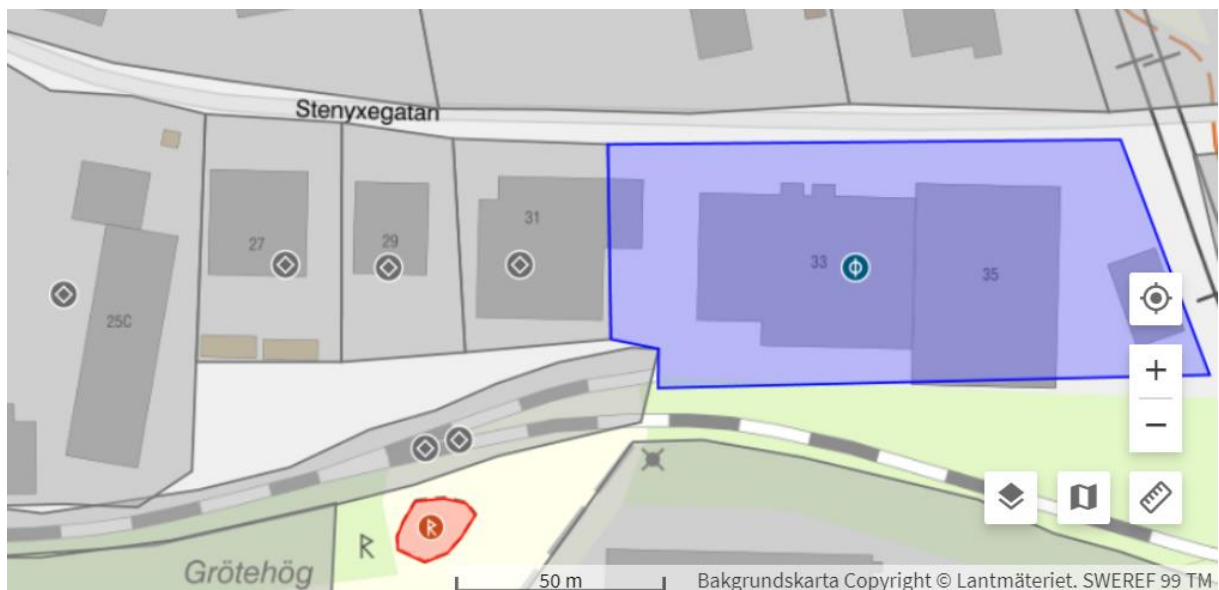


Figure 3. The area depicted corresponds to the excavated area that is included in this analysis. Map retrieved from RAÄ – Fornsök.

Some of these inhumation burials have been completely dissolved due to taphonomic processes, and are thus not useful for the osteological analysis. However, these graves have still been presented in the summarised tables for an overview of the inhumation graves in the grave field.

The archaeological reports are made by Winge (1976), Thulin (1980), and Samuelsson (1989). The osteological reports are made by Persson & Persson (1981) and Nilsson (1989; 1994).

1.6. Method

The method applied to this material is a report analysis of previous archaeological and osteological analyses performed on the material. A review has also been made of Samuelsson's bachelor thesis (1998) on the grave field, as this contains a more summarised dataset. In some situations, the results from the original report and the results from Samuelsson (1998) did not correlate. This has been addressed in each specific case. Due to the missing original archaeological report from excavation MHM 6826, the results from that excavation are taken solely from Samuelsson (1998).

Furthermore, five case studies were further delved into due to the interest sparked because of the nature of the grave goods in correlation with the interred individuals' biological sex, age and pathology. The graves picked for further osteological analysis were grave 18, 23, 25, 26a, 26b and 29 according to Samuelsson's grave numbers (Samuelsson 1998:70).

The graves chosen for further analyses include individuals who stood out from the original reports and Samuelsson's bachelor thesis, as having been buried with non-normative grave goods; such as grave 26a and grave 25 – who were both buried with grave goods generally linked to a different biological sex than the one presented by the osteological analysis. Other graves were chosen regarding status and/or labour indicating grave goods, such as grave 18 and grave 23. Some of these graves have been excavated in levels or contain more than one individual, as is the case with grave 23 and 26a-b. In these cases the relation between the individuals on each level has been addressed and discussed. The final grave, grave 29, was chosen due to the age of the individual, as well as the pathological changes of the skeleton.

Apart from the case studies, information from all of the inhumation burials of the grave field have been collected, analysed, and compiled into tables. This, because the rest of the grave field makes for quantitative data that has been used as a baseline for the grave field in order to see tendencies. The case studies have also been compared and discussed against the baseline and the tendencies shown.

Osteology

In the osteological reports, the focus has been on basic osteological results such as biological sex, age, and health (i.e. the presence or absence of pathologies). Where possible, information regarding height has also been collected, seeing as this might be a factor that limits or allows certain actions. This has served as the foundation for further analyses and has been combined with the results taken from the archaeological reports in order to try to see correlations between the interred individual and the grave goods.

The age categories that has been used are as follows:

Infans (< 3) – *Juvenilis* (3-11) – *Adolescent* (12-17) – *Adultus* (18-35) – *Maturus* (36-50) – *Senilis* (>50). The adults who have not been able to be age estimated more specifically than ‘adult’ have been categorised as ‘I. adult’, for adult of indeterminated age. The children who have not been able to be age estimated more specifically than ‘child’ have been categorised as ‘I. child’, for child of indeterminated age. Some individuals have ended up between two age categories, and are thus categorised as both, for example *maturus/senilis*.

In the tables, the presence of pathologies has been marked with ‘x’, and then further described in written text.

For the author’s own osteological analysis, the following methods have been used:

Morphological sex assessment: *greater sciatic notch*, according to Buikstra & Ubelaker (1994); *nuchal crest*, *mastoid process*, *supra-orbital margin*, *supra orbital ridge/ glabella*, and *mental eminence* according to Ascadi & Nemeskeri (1970) in Buikstra & Ubelaker (1994).

Further morphological sex estimation characters that was intended to be applied were the *ventral arch*, the *subpubic concavity*, and the *ischiopubic ramus ridge*, according to Phenice (1969) in Buikstra & Ubelaker (1994). This was not possible due to the fragmentation of the material.

Metrical sex assessment: *vertical diameter of caput humeri* according to Stewart (1979) in Bass (2005); *transversal diameter of caput humeri* according to Dittrick (1979), combined horizon, in Bass (2005); *vertical diameter of caput femoris* according to Stewart (1979) in Bass (2005); *distal width of femur* (bicondylar width) according to Pearson (1917-1919) in Bass (2005).

All of the sexual dimorphic characters have been graded after the following scheme: *Female* (F) – *Probable female* (F?) – *Unknown* (?) – *Probable male* (M?) – *Male* (M).

Age assessment: *facies auriculares* according to Lovejoy et al (1985) in White, Black & Folkens (2012); *pubic symphysis* according to Brooks & Suchey (1990) in White, Black & Folkens (2012); *tooth wear* according to Brothwell (1981) in White, Black & Folkens (2012).

Archaeology

In the archaeological reports, the focus has been on the grave goods found together with the interred individual. These have been categorised into ten different arbitrary categories and placed into tables in order to make them more comprehensible for this study. The categories are as follows:

1. Knives – an everyday object found in most of the graves, therefore its own category.
2. Metal objects – nails, rivets, tin, and indetermined metal objects.
3. Whetstones – both with and without suspension holes.
4. Buckles and fittings – objects used to fasten items of clothing and leather, such as belt- and strap buckles, belt ends and details, and penannular brooches.
5. Special objects – objects I've deemed to be special in a way that they might imply labour and/or status. These objects consist of riding spurs, axes, fire steel, spindle whorls, keys, and needles.
6. Decoration – objects that have a decorative implication, such as pearls and hair pins.
7. Ceramics – pieces of ceramics, presented in grams.
8. Other – this category includes flint, charcoal, and a fossil. This, because these objects do not correspond to any other category nor do they insinuate any type of status or labour.

9. Unburnt – unburnt bones which have been understood as not being part of the main interred individual. This category consists of indetermined animals and determined animal species. These have been separated by code, which are as follows:
- Animal bones of indetermined species have been marked with A.
 - Animal bones of determined species have been marked according to the following: *Canis familiaris* = C, *Ovis aries* = O, and *Ovis aries/Capra hircus* = O/C.
10. Burnt – burnt bones which have been understood as not being part of the main interred individual. This category consists of burnt human bones, indetermined animals, determined animal species, and completely indetermined bones. These have been separated by code, which are as follows:
- Human bones have been marked with H.
 - Animal bones of indetermined species have been marked with A.
 - Animal bones of determined species have been marked according to the following: *Canis familiaris* = C, *Ovis aries* = O, and *Ovis aries/Capra hircus* = O/C.
 - Should the grave contain burnt bones of completely indetermined character, these have been marked with I.

All of the data has, as previously mentioned, been collected from the archaeological and osteological reports of the grave field, as well as the bachelor thesis made by Samuelsson (1998).

1.7. Source criticism

Before continuing, some statements must be made regarding the material, methods and exhaustivity of this study.

This study will not be a comprehensive study of labour division in Iron Age Scandinavia, seeing as this study only concerns one grave field. However, this thesis will serve as an example for how labour division can be further explored in other materials as well. The grave field is not fully excavated, which makes this study a non-exhaustive representation of the labour division at this location. The same goes for the fact that most graves are cremation graves, which makes the representation even less exhaustive. Still, this thesis provides an example of how labour division can be approached intersectionally within archaeology.

Firstly, it must be stated that not all identities can be observed through osteological and/or archaeological means. Identities are constantly changing, and it is impossible to reach all of them by observing the limited data procured and produced by archaeological and osteological methods.

A comment must also be made on the reality that even though the archaeology of graves rely on the foundation that grave goods belong to, and represent, the interred individual, this is not something that can be confirmed with a hundred percent certainty. Grave goods can, in theory, likewise represent the bereaved family or the society at large, which have been acknowledged by archaeologists for some time, amongst them Petré (1993: 150). However, this theory has not been applied in this thesis, as the whole foundation of this study lies on the grave goods in relation to the individuals in the graves. Because of this, the grave goods are interpreted as belonging to, and representing the individuals in the grave.

Another issue with the grave goods themselves that must be taken into consideration, is the process of taphonomy. Due to taphonomic processes, the grave goods represented in the grave may not represent the entirety of the grave goods the interred individuals were given at the time of burial. This makes for an unknown number of lost artifacts that might have represented different identities connected to the interred individuals, from which some of the artefacts might have been connected to labour division. It is, of course, impossible to draw any conclusions regarding the hypothetical previous existence of lost artefacts and their representativity of the individual. Yet, the statement must be made.

This brings us to another point; namely that the categories of this thesis are arbitrary and made to fit the material as well as the questions and the intent of the thesis. For all interpretations regarding the categorisation of grave goods, choices have been made regarding the interpretations of which objects can be considered connected to labour, and which cannot. These categories are moulded to fit the material and questions asked, and are, of course, not universally applicable interpretations.

Other than that, as mentioned earlier, the results from the original archaeological reports and the results found in Samuelsson's bachelor's thesis (1998) do not always correlate. This is a major source problem, considering that some of the results found in Samuelsson changes the way some of the graves might be interpreted. However, Samuelsson was an active archaeologist and had participated in several of these excavations, as well as been a project leader for at least one of them, when he wrote his thesis. So, to fully disregard the results found in his thesis would be unwise, as these could easily be later interpretations of the finds. Thus, in the cases where the results differ, it has been included but explicitly stated.

Apart from the comments on the archaeological part of this thesis, there are also comments to be made on the osteological restrictions, problems, and methods.

There are restrictions of interpreting health and corporeality through osteological means, such as finding pains and delimitating diseases/impairments that do not manifest on the skeleton cannot be observed. This is true also for sicknesses that progress quickly with death as a result. Health could also be measured by looking at the ages of the interred individuals, where lower ages of the individuals in the graves indicate a non-healthy group of people. Thus, solely looking for skeletal changes – such as arthrosis or signs of trauma – to mark degrading health, produces a limited and biased interpretation of the health of the individuals in the observed material (Byrnes 2017: 211). Another issue with analysing the skeletal changes due to health or labour is that while some studies show that musculoskeletal markers (MSM) can give an indication for hard labour, there are also studies that show how similar changes can occur due to ageing, diseases, biological sex, and genetics (Henderson & Nikita 2016: 805-806), there is thus no absolute certainty regarding hard or repetitive labour and its effects on the skeleton.

Some osteological methods are based on morphological differences between biological males and females, connected to reproduction, such as the pelvis. Others are based on differences in robustness between biological males and biological females. The flaws of the

osteological methods are mostly connected to the subjectivity of the morphological methods, and the population variations of the material for the metric methods.

In this thesis most of the data relies on other osteologists' work, which makes for a critical aspect in itself. Especially considering difference between the type of methods used in the late 70's when most of these reports were produced, and methods that are used today. Some of these early analyses are very subjective and based on robustness, or other characters that cannot be considered as being a fair estimation to the age or sex.

There are also some comments that must be made on the author's choice of methods for sex- and age assessment. The choice has been made to include both morphological and metrical methods for sex assessment in order to get a more reliable dataset, seeing as morphological estimations are highly subjective, whilst metric assessments have their delimitations on the applicability to different populations. With a greater number of estimated characters, a more secure sex assessment can be made.

Even though the subject of intersex people is briefly touched upon within the archaeological and osteological material in *Ch 2.1. Sex, age, gender and gender roles*, the methods applied to this thesis is not something that can be used to correctly assess whether or not an individual has been intersex or not. This makes all of the estimations completely binary, when talking about biological sex, which, of course, is an issue. However, this is not an issue that this study will attempt to solve, but there is hope that future research will be more inclusive in that regard.

The skeletal characteristics utilised for age estimation are applied in the following order, according to descending importance: facies auriculares, pubic symphysis, and tooth wear. Facies auriculares is one of the better methods to apply, since it is not seen as heavily affected by culture, nor is it one of the most fragile parts of the skeleton, and will have a decent grade of preservation. There is, however, the factor that even if this character is not generally seen as heavily affected by culture, hard labour have been shown to affect the area. The pubic symphysis is a good method to apply, but is often not applicable due to fragmentation. Tooth wear is identified as the least reliable method for age estimation, as it is heavily connected to food intake as well as societal and cultural practice. However, tooth wear is often one of the most applicable methods of ageing a skeleton due to better preservation of teeth in relation to other skeletal elements.

And last, but not least, all interpretations and choices made in archaeology and osteology are inherently biased from our own society and the experiences we have from it, my own included. This is not something one can separate oneself from, but there is of course a need to be aware of ones owns biases.

None of the case studies were chosen randomly, but instead carefully chosen after reading the osteological and archaeological reports. The reason for the selection of graves to use as case studies varies, but what they all have in common is the fact that they are interesting to discuss through the framework of this thesis – intersectionality, and the questions asked. They are interesting because the graves chosen all have some sort of factor to them, be it age, pathology and corporeality, status- or labour indicating objects, or non-normative grave goods (as seen by the general population of archaeologists), that have caught my eye and interested me further.

The factors that made me choose these specific case studies, have caught my interest due to my own interests in gender archaeology, and the fact that some of them go against the general notions of which objects belong to which people. It is important to challenge our notions of what is seen as correct, and thus I was looking for examples that could challenge or strengthen these views.

2. Intersections of the human experience in relation to labour division

The human experience is not a collective one, but entirely subjective. These subjective experiences are dependent on several factors which will provide opportunities and/or limitations to the life an individual will be able to lead, as well as to what types of labour the individual will be able to, and allowed to, perform. Some of these factors, and how they might interact with division of labour will be presented below.

2.1. Sex, age, gender and gender roles

Sex and gender

Gender is something that is hard to define, both in our contemporary society, as well as an application on prehistoric and historic societies. Gender has for a long time been seen as being a direct social representation of the male and female biological sexes, with preconceived notions of gender roles. That is to say, how biological males and females look like, act, and also what type of labour they can perform (Arwill-Nordbladh 2003: 35; Strömberg 2015: 55-57).

In our contemporary western society, gender is often something that is applied to an individual as soon as the biological sex is revealed through ultrasound or through the birth of the child (Strömberg 2015: 46). Either a person is born as biological male and is from the start pushed into a gendered world where biological male means specific colours, specific clothing, specific toys and specific interest – the world of ‘men’; or a person is born as a biological female and pushed into the gendered world of ‘women’, which is the complete opposite of the world of men (Strömberg 2015: 46; 55-57). The division between the biological sexes and its correlation to gender is generally seen as binary in our contemporary society, although there has been recent changes in our society where more and more people acknowledge a more diverse spectrum of sex and gender. However, the notion that sex-gender is a binary duality, is very simplified and insinuates that not only is gender binary, but also biological sex, and that these always exist in relation to one another.

But what does gender really constitute? Gender can be seen as categories into which we sort people. Since profession/occupation or status is one of the main categories used when sorting people, it could also technically be constituted as a gender. By looking at older

Swedish gravestones for example, it is quite usual for the profession/occupation or social standing being stated on the gravestone. For example: shoemaker, and wife. In this context, 'wife' should be seen equally as much of an occupation or social standing as shoemaker, as this was probably the main role of the individual. In this case, with a theoretical non-knowledge about it, it would be important to understand what the title 'wife' itself meant within the society of the individual, with factors such as when, and during which social circumstances, one would acquire such a title; what type of labour was connected to it; if one could lose the title; and what changes this would have on the labour being performed.

By assuming biological sex is binary, the archaeological and osteological fields are not acknowledging that intersex people exist. It is, however, extremely hard to reach these individuals in the material. Even when genetically testing for biological sex, generally only the chromosomal set-up for XX or XY is tested for, which will indicate either male or female. This makes intersex people invisible even in the genetic material. There are, in fact, a multitude of ways in which the human X and Y chromosomes can arrange themselves outside of the XX or XY compositions, such as XO, XXY or XXX, which in itself is indicative of there not being only two biological sexes. Furthermore, intersex people can have the reproductive set-up of one biological sex, but share the same genetic set-up as a different biological sex; for example a person with the chromosomal set-up of XX can have the reproductive organs of XY, and vice versa (Geller 2017: 77-82; Kaneshiro 2017). This is decided by the SRY-gene, which is generally not the one being analysed when making analyses on aDNA. Usually the genetic sex assessment on archaeological material is made of the X and Y chromosomes, but there are some studies that are using the SRY-gene as well (Skoglund et al 2013: 4477; Bauer et al 2013: 583-586).

There is thus no evidence to biological sex being binary, and if the question is what type of reproduction organs the individual had, rather their chromosomal set-up, the more reliable option would be to test for the SRY-gene. Genetic sexing and the importance we tie to it implies that biological sex is the only true identity of the interred, and thus we are creating a sex-gender dualism by genetics (Geller 2017: 80).

Children and elderly people

When children started to become a separate entity of exploration within archaeology, it became clear that they exist within their own sphere. Some parts of the identity of children overlap with those of the adults around them, but within labour division, children would not have been able to nor be expected to perform the same kind of labour as adults. Children's bodies and cognitive functions are not developed enough to handle the workload of the adult world, and as they grow, so do their skills and world views. Even in the cases of children performing 'adult labour', there would have been a learning element within this, where the quality of the work cannot have been expected to be up to par with the more experienced work of the adults.

Baxter puts it in the way that the roles of children can have been multiple, and existed in many different labour related spheres (Baxter 2005: 80). There is, however, nothing that indicates that children's labour is inherently gendered according to a male/female dualism.

One should also account for the notion that the tasks assigned to children will have changed during their upbringing (Willemark 1997: 54). But where is the line drawn of when a child is considered too young to aid in any way regarding labour, to be introduced into the labour sphere by training in specific labour tasks, and later to be able to handle heavier tasks or considered skilful enough to participate in labour without having to be watched by adults?

Lewis suggests that a child is old enough to contribute to the household doing minor chores around the age of five (Lewis 2007: 6-8). There are some studies and theories where it is considered that children start learning specific skills regarding labour, around the age of 6 and should be seen as specialised and able to work independently by the age of 9 – as is hypothesised and analysed though pottery, by Botwid (Botwid 2017: 57-66). It is thus not improbable to discuss children's labour through grave goods, in the same way one discusses adult labour through grave goods.

There are ethnological and archaeological studies that explore and show how the gender, and societal treatment, of children changes as they grow. Within the contemporary !Kung society in Africa, children are genderless in the way they are brought up, until they enter puberty (Lesick 1997: 35). In archaeological sources, there are some examples that indicate that this might have been how some historic and prehistoric societies in the western world has viewed children as well. There are for example studies of both Middle Neolithic societies on Gotland, as well as medieval Holy Row, Suffolk, that show how gender specific grave goods

are introduced in the mortuary practices at around the age of twelve (Gilchrist 1997: 47-49; Welinder 1997: 74-75). Even in bronze age Yugoslavia there are evidence for all children being buried with grave goods usually connected to biological females, up until the age of 17 where biological males started receiving grave goods exclusively connected to biological males (Rega 1997: 235).

There is thus, some evidence that children might have not been a part of the adult sphere until puberty, and that they have been considered their own gender, or genderless, through at least some part of our history.

Usually, when discussing labour connected to age, it is only the children who are brought up, but the elderly would most likely have had different labour as well. Both due to their knowledge, their age and the pathologies that usually come from both continuous mechanical work as well as with age. Age will bear its mark on bodily abilities to perform labour, whether it is children, or elderly people.

2.2. Social status and family relations

Not only is the biological sex, gender and age important for how labour will be divided within a society, but so is also the social status and family relations of the individual.

Family, social groups and the society were all important aspects in the lives of Viking age people, as their identities were to some extent connected to their affiliation to a family, a group or a society (Brink 2008: 50). Both Clover (1986) Karlsson (2017) bring up the importance of understanding and seeing both social status and family relations when considering the division of labour between individuals, as the social status (as well as sex and gender) will dictate what type of labour will be expected to be performed.

On top of social status, sex, gender and age; the structure of a household, the close family, and surrounding circumstances will also steer how specific individuals will grow up, and what type of role they are expected to fill, as well as what type of labour they are expected to perform.

Clover (1986) presents how in an Icelandic law called the ‘Baugatal’ there is leeway for daughters to become sons in all aspects but the physical body, under certain circumstances. This law applies to brotherless daughters of slain men, and demands that the daughter will, *as a son*, accept or decline the wergild – blood money – for her father’s death (Clover 1986: 46).

This is a privilege and wealth she loses to her husband when she weds (Clover 1986: 46). Clover theorises that this law also speaks of inheritance rights, since it mentions that the *wergild* is divided with the main part to the child of the slain, and then distributed down the line of kinship, with smaller and smaller parts the further down the kinship line you go (Clover 1986: 47). Theoretically this would mean that in the absence of male heirs, the full inheritance, as well as the responsibility to revenge any blood feud of the family, would also go to the daughter – which would make her a forced warrior, as well as wealthy (Clover 1986: 47-48).

In this instance, gender is something that is fleeting, and that can change due to certain circumstances. It has to do with both biological sex, family relations as well as status.

Thralls, servants, or slaves. Not only do these categories insinuate some sort of hierarchy and agency in their life situation, but categorising all servants under one category is slightly problematic, as it is known that they did not make up a homogenous group (Brink 2008: 53). Some thralls worked closely to the animals and lands, as herders or farmers. Other thralls had special tasks, as seen by the word ‘*deigja*’ – the one who makes bread. There is also a theory that the word ‘*bryti*’ might originally refer to a thrall who is supervisor over the other thralls (Brink 2008: 53), which would indicate a certain status.

There is a general consensus that slaves, or thralls, were usually taken during raids or war, but there are some instances where this is not the case. According to Brink, the old Swedish words ‘*fostri*’ and ‘*fostra*’, masculine and feminine respectively, might refer to slaves born and raised within a household (Brink 2008: 53). There is also the fact that free men could give themselves as servants to work for other people in order to get out of poverty, or to settle a debt (Brink 2008: 54), and slaves could also become free men (Brink 2008: 49).

So in other words, slaves, thralls and servants cannot be counted as one group. As well as there was a hierarchy between the free men and women in the Viking age society, there was also a hierarchy amongst the servants. This hierarchy would probably decide their social status, as well as what type of labour they were expected and allowed to perform.

3. Analysis and results

In this chapter, a separation is made between the presentation of the grave field as a whole, and the case studies. This, because the grave field as a whole is serving as a base for interpreting the case studies regarding normative burial practices at this location, such as what grave goods are most common and to whom they belong, as well as the age and health of the population buried here.

The grave field and the results from the excavations are presented first, separated by their MHM-numbers. The results are summarised in text, with a more detailed table attached under each MHM-number. In the tables, the grave goods are sorted according to the previously mentioned arbitrary categories in order to understand the material in a broader perspective (for detailed description of each category, see *Ch. 1.6 Method*). Some of the results regarding age and biological sex have been corrected according to the results acquired from my revision of the grave field. This is stated in each table. For the results from the original osteological reports, see *Appendix 1. Catalogue*.

Going into the case studies, these are treated as separate units where an osteological analysis of the skeletons chosen for further review is performed. The case studies contain details about the sex assessment, the age assessment as well as the pathological changes to the skeleton of every individual. As the case studies are treated as separate, there is also an interpretation of the graves beneath the osteological analysis for each case, where a comparison and interpretation is made of the osteological results and the grave goods. Further discussion regarding the case studies in relation to each other and the rest of the grave field is found in *Ch. 4. Discussion*.

After the presentation of the separate excavations and their results, as well as the results from the case studies, there is a summarising chapter where an easy overview can be found regarding the demographic (age and biological sex), the preservation (presence of skeletons vs absence of skeletons), and the division (percentages regarding age and sex division as well as a division between absence or presence of labour and/or status indicative grave goods) of the Ljungbacka grave field (see *Ch. 3.7. Results and analysis summary*). The results found in *Ch. 3.7. Results and analysis summary* are corrected according to the results acquired from my revision of the grave field.

The grave numbers presented below correspond with the ones found in Samuelsson (1998), however, the original grave numbers will be presented alongside Samuelsson's numbers in each table.

For a catalogue with full information of the grave goods, as well as the results from the original osteological analysis, see *Appendix 1 – Catalogue*.

For full information on the results obtained from the author's osteological analysis of the case studies, see *Appendix 2 – Osteological analysis of case studies*.

3.1. The Ljungbacka grave field

MHM 6305

This excavation only produced one inhumation burial, *Grave 1*, but the grave in question did not contain any skeleton, most likely due to taphonomic processes. A spindle whorl was part of the grave goods, however.

(No table attached, seeing as this excavation only resulted in one grave with a single object).

MHM 6826

According to the documents, the official report from this excavation (MHM 6826) is missing, but the finds are published in Samuelsson (1998). Thus, the information presented here is retrieved from Samuelsson (1998).

Most common grave goods in these graves are knives. Only one grave contained more than one knife. None of the graves contained grave goods that fall under the category 'special objects'. Only two of the graves, grave 2 and 5, contained fragments of skeletons – grave 2, a young adult; and grave 5, a child of indetermined age. The osteological report is not clear as to how many individuals are present in grave 5, since only one of the many tooth fragments, an incisor, is explicitly stated as being from a child. The rest of the graves only had skeletal colourations, where grave 6 is described as having a skeletal colouration of adult size.

Table 1. The archaeological and osteological results from MHM 6826

MHM 6826						
Grave Number (Samuelsson)	2	3	4	5	6	
Original grave number	252	255	273A	285	303	
MHM	6826	6826	6826	6826	6826	
Plane	4	-	-	-	-	
Osteology:						
Biological sex	-	-	-	-	-	
Age	Adolescent/adult	-	-	I. child	-	
Length (cm)	-	-	-	-	-	
Pathology	-	-	-	-	-	
Individuals	1	-	-	≥1	-	
Archaeology:						
Knives	1	2	-	-	1	
Metal objects	-	-	-	1	-	
Whetstones	-	-	-	-	-	
Buckles and fittings	-	-	-	-	-	
Special objects	-	-	-	-	-	
Decoration	-	-	-	-	-	
Ceramics (g)	5	9	-	3	-	
Other	-	-	-	-	-	
Unburnt	-	-	-	-	-	
Burnt	H, I	A, H, I	-	H, I	H, I	
Notes	misc. fragm.	no skeleton	no skeleton	tooth frag.	no skeleton	

MHM 6832

The most common grave goods in these graves are knives, where one grave was equipped with more than one. Only one of the graves contained what have been deemed to fall under the category ‘special objects’. Most of these graves did not contain any skeletons, and of those who did contain some fragments, only three graves could give any osteological results. One of the graves, grave 16, did contain burnt tail- and toe bones from a dog. Grave 7 contained an adult of indetermined age, and a child around 6 years of age, according to Nilsson (1989).

Table 2. The archaeological and osteological results from MHM 6832

MHM 6832						
Grave Number (Samuelsson)	7	8	9	10	11	12
Original grave number	1	2	3	4	5	6
MHM	6832	6832	6832	6832	6832	6832
Plane	-	-	-	-	-	-
Osteology:						
Biological sex	-	-	-	-	-	-
Age	Juvenilis + l. adult	-	-	-	-	l. adult
Length (cm)	-	-	-	-	-	-
Pathology	-	-	-	-	-	-
Individuals	2	1	-	-	-	1
Archaeology:						
Knives	-	1	1	1	-	1
Metal objects	-	-	1	1	-	1
Whetstones	-	1	-	-	-	-
Buckles and fittings	-	-	-	-	-	-
Special objects	1	-	-	-	-	-
Decoration	-	-	-	-	-	-
Ceramics (g)	-	-	-	-	-	-
Other	-	fossil	charcoal	flint	-	col. of bowl
Unburnt	-	-	-	-	-	-
Burnt	-	-	-	-	-	-
Notes	misc fragm.	skull frag.	no skeleton	no skeleton	indet. fragm.	misc fragm.

Table 3. Continuation of the archaeological and osteological results from MHM 6832

MHM 6832					
Grave Number (Samuelsson)	13	14	15	16	17
Original grave number	7	8	9	10	11
MHM	6832	6832	6832	6832	6832
Plane	-	-	-	-	-
Osteology:					
Biological sex	-	-	-	-	-
Age	-	-	-	-	l. adult
Length (cm)	-	-	-	-	-
Pathology	-	-	-	-	-
Individuals	-	-	-	-	1
Archaeology:					
Knives	2	-	1	1	-
Metal objects	-	-	-	1	1
Whetstones	-	-	-	-	-
Buckles and fittings	1	-	-	-	-
Special objects	-	-	-	-	-
Decoration	-	-	-	-	-
Ceramics (g)	-	-	-	-	1
Other	flint	flint	flint + charc.	flint + charc.	-
Unburnt	-	-	-	-	-
Burnt	-	-	-	C	I
Notes	no skeleton	no skeleton	no skeleton	no skeleton	tooth enamel

MHM 6029

Almost all of the graves contained knives, where grave 21 contained two knives, and grave 22 might also have contained two knives, as Samuelsson (1998) states that the grave contains one knife and one clasp knife (Samuelsson 1998: 22). The clasp knife could therefore be a later interpretation of the metal object in grave 22. The only grave that contained any actual remains, and also the only grave that contained what have been categorised as special objects, is grave 18, which will be reviewed more thoroughly as a case study (see *Ch. 3.2 Case study 1*).

Table 4. The archaeological and osteological results from MHM 6029.

MHM 6029							
Grave Number (Samuelsson)	18	18	19	20	21	21	22
Original grave number	14	14	19	20	21	21	28
MHM	6029	6029	6029	6029	6029	6029	6029
Plane	1A-C	2	-	-	-	-	-
Osteology:							
Biological sex	-	M	-	-	-	-	-
Age	-	Adultus	-	-	Adultus	Adultus	l. adult
Length (cm)	-	-	-	-	-	-	-
Pathology	-	-	-	-	-	-	-
Individuals	-	1	1	-	1/(2-3)	1/(2-3)	1
Archaeology:							
Knives	-	1	1	-	2	-	1
Metal objects	1	3	-	2	1	-	1*
Whetstones	-	1	-	-	1	-	-
Buckles and fittings	-	-	-	-	1	-	-
Special objects	-	2	-	-	-	-	-
Decoration	-	1	-	-	-	-	-
Ceramics (g)	-	-	32*	-	405*	-	-
Other	-	-	-	-	-	-	-
Unburnt	-	O	-	-	-	-	-
Burnt	A, H*, I	-	H, I	H, I	I	-	I
Notes	*disturbance	-	tooth enamel *acc. to Sam.		skull 1 *acc. to Sam.	skull 3	tooth enamel *clasp knife?

MHM 6031

Seven out of seventeen graves from this excavation had a knife as part of the grave goods, which means that this is the only excavation where graves with knives are not in the majority, although, this is also the excavation that produced most grave goods that fall in the special objects category. This is also the excavation that has produced most well-preserved graves, and thus also the excavation where osteological analyses have been most successful in age and biological sex estimation as well as examining the skeletons for any type of pathology.

This excavation contained quite a few older individuals, with most individuals are ranging between *maturus* and *senilis*. The biological sex division is quite equal, with seven biological males and five biological females.

Table 5. The archaeological and osteological results from MHM 6031.

MHM 6031						
Grave Number (Samuelsson)	23	23	24	24	25	26*
Original grave number	1	1	2	2	3	4
MHM	6031	6031	6031	6031	6031	6031
Plane	1	2	1	2	-	Fill?
Osteology:						
Biological sex	-	?*	-	M	F	M
Age	-	Adultus*	I. adult	Maturus/senilis	Adultus	Senilis
Length (cm)	-	-	-	-	-	-
Pathology	-	-	-	-	-	x
Individuals	1-2/(2-3)	1/(2-3)	1/(≥2)	1/(≥2)	1	1
Archaeology:						
Knives	1	1	-	-	-	-
Metal objects	1	1	1-2	-	1*	-
Whetstones	1	-	-	-	-	-
Buckles and fittings	-	2-4	-	-	2**	-
Special objects	-	2	-	-	-	-
Decoration	-	-	-	-	-	-
Ceramics (g)	-	-	-	-	-	-
Other	-	-	-	-	-	-
Unburnt	-	O/C	-	-	-	-
Burnt	-	C, H	H, I	-	-	-
Notes	total 2-3 ind	total 2-3 ind *my revision			*knife? acc. to Sam. **acc. to Sam.	*not official nr.

Table 7. Continuation of the archaeological and osteological results from MHM 6031.

MHM 6031					
Grave Number (Samuelsson)	26*	26a	26a	26b	27
Original grave number	4ö	4a	4b	4c	5
MHM	6031	6031	6031	6031	6031
Plane	Fill?	1	1	2	-
Osteology:					
Biological sex	-	F*	M	F	F?
Age	Maturus + senilis	Maturus/senilis*	I. adult	Maturus/senilis	Maturus/senilis
Length (cm)	-	167	169	154	-
Pathology	-	x	-	x	-
Individuals	≥2	1/(2)	1/(2)	1	1
Archaeology:					
Knives	-	1	-	1	1
Metal objects	-	-	1	1	1
Whetstones	-	1	-	1	-
Buckles and fittings	-	-	-	-	-
Special objects	-	1-2**	-	2*	-
Decoration	-	-	1	1	-
Ceramics (g)	-	-	-	-	-
Other	-	-	-	bone object**	-
Unburnt	-	-	-	-	-
Burnt	-	H	H	-	A
Notes	*not official nr.	*my revision		*1 iron needle, hairpin?	
		**keys acc. to Sam.		acc. to Sam.	
				**needle? acc. to Sam.	

Table 6. Continuation of the archaeological and osteological results from MHM 6031.

MHM 6031						
Grave Number (Samuelsson)	28	28	29	29	30	31
Original grave number	6	6	7	7	8	9
MHM	6031	6031	6031	6031	6031	6031
Plane	Fill	-	Fill	-	-	-
Osteology:						
Biological sex	M?	M	-	F	F?	-
Age	I. adult	Senilis*	-	Senilis	Adultus	-
Length (cm)	-	170	-	-	-	-
Pathology	-	x	-	x	-	-
Individuals	1	1	-	1	1	-
Archaeology:						
Knives	-	1	-	1	-	-
Metal objects	-	1	2	-	2	-
Whetstones	-	1	-	-	-	-
Buckles and fittings	-	-	-	-	-	-
Special objects	-	-	-	-	-	-
Decoration	-	-	-	-	1	-
Ceramics (g)	-	10	-	-	-	-
Other	-	-	-	-	-	-
Unburnt	-	A	-	-	O/C	-
Burnt	-	A, C, H, I, O/C	-	-	C, H, I	-
Notes		*My revision				no skeleton
		**acc. to Sam.				

3.2. Case study 1.

MHM 6029, Grave 18.

This grave was excavated in two planes. Plane 1 contained burnt bones, and will not be reviewed here. For further information see *Appendix 1 – Catalogue*. Plane 2, in which the remains of an inhumation burial was found, contained the following objects: two iron objects, one iron axe, one iron knife, one whetstone, one fire steel, one pearl of bronze tin, one fragment of bronze tin, and a concentration of animal bones.

Author's osteological analysis:

The skeleton is very fragmented. The only part that could give an indication for biological sex was the distal width of the femur, which was not complete. This gave an indication for M?, but due to fragmentation, the full measurement might have been significantly higher and thus maybe given an indication for M. It is hard to say just how much the measurement differs from what the complete bone would have measured but it does *at least* indicate for M?. No other absolute certain sex characteristics were observed, due to the fragmentation of both the skull and the pelvis. The only skeletal remains that could be used for an age estimation were the teeth, which were barely worn at all, and indicated an age between 17-25, thus corresponding with the age group *adultus*.

Other observed characteristics: Looking at the bones, especially the diaphysis of the humerus, they gave a gracile impression, with the exception of the cranial bones which were very thick, ranging up to 8.3 millimetres.

Interpretation:

Osteologically, not much can be said about this individual due to the fragmentation of the skeleton. No more information has been brought to light than was already stated by Persson & Persson (see *Appendix 1 - Catalogue*). This is a young adult individual with quite rich grave goods, and since no pathologies or other skeletal changes could be observed, it is impossible to say anything about the wear and tear of the body due to labour. Another factor that needs to be

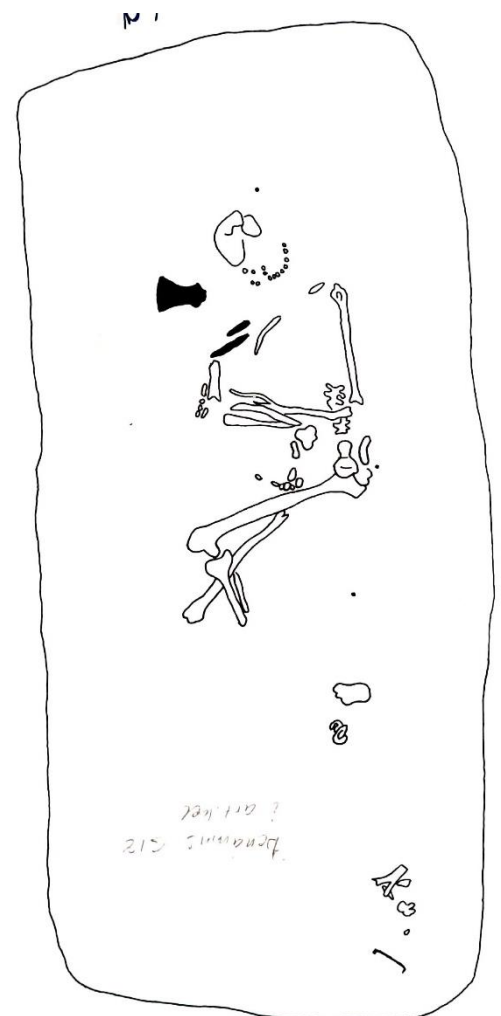


Figure 4. Grave 18 (Samuelsson 1998), plane 2.

accounted for is that since this individual was young at their time of death, it is possible that labour indicative changes would not have manifested until later in life.

What we do have, however, is a very young individual with status and/or labour indicating grave goods. This person had a whole life in front of them, and the young age of death indicates a non-healthy life. Young people do usually not just die without cause, and with the absence of any trauma related injuries or skeletal changes, it is more likely that this individual died of a disease with relatively quick onset of symptoms and death. The individual could, theoretically, also have died from a long-term sickness that do not leave any skeletal traces. This is, however, less likely if we look at the objects in the grave.

The axe in the grave could be interpreted in two ways. Either its 1 – a labour indicating grave good, or 2 – a status indicating grave good. Samuelsson brings up that even if the size of the axe indicates a work tool type of hand axe, and not generally an axe used for battle, there is a tradition in Viking age Gotland, for example, where young men who are mature and old enough to participate in military operations receive a hand axe as a type of status symbol (Samuelsson 1998: 22; Trotzig 1985). Samuelsson also adds that the light weight of the axe indicates its use as a symbol of status rather than a functional tool or weapon (Samuelsson 1998: 22).

However, should the object be ascribed the meaning of labour, it would probably not have been given to a young individual with a long term deadly sickness, as that person probably would not have been able to perform that type of labour for any extended time of their young adulthood. The same could be said if the object should be ascribed the meaning of a symbolic status object connected to a sort of ‘rite of passage’. It would not have been given to a long-term sickly young person. This adds to the interpretation that this individual’s death was relatively sudden, and the inclusion of the axe in the grave is either as a symbol of what would have been had the individual lived, or an indication for activities the individual was already taking part in.

Other than the axe, the grave did contain other status indicating grave goods as well. This grave is the only grave amongst the inhumation burials that contained a fire steel as part of the grave goods. It is also the only grave that contains an actual concentration of animal bones. The fact that this grave is the only one containing these specific grave goods, is an indication for a separation of this individual from the rest of the individuals buried on this grave field.

This person probably had some sort of higher status, and an important function to fill, or was expected to fill later in life, that was cut short.

3.3. Case study 2.

MHM 6031, Grave 23.

This grave was excavated and separated into two planes. The original report states that there is an insecurity regarding whether or not the iron knife and the whetstone from plane 1 can be seen as being part of the upper individual, since the objects were found slightly beneath the border between the grave's top and lower filling, but also notes that the objects are too high up in relation to the objects in plane 2.

Plane 1 contained the remains of an individual buried on the level 36.03-36.20 m.a.s.l. and the following objects have been connected to the individual: one iron knife, one iron object and one whetstone.

Plane 2 contained the remains of an individual buried on level 35.84-36.04 m.a.s.l. and the following objects have been connected to the individual: one animal tooth, one iron knife, two iron spurs, one double buckle, two single buckles *or* another double buckle, a buckle like object, and burnt bones.

According to Samuelsson (1998) there is also another iron knife connected to the grave. He has not specified which plane, however.

Author's osteological analysis:

In general the remains from this grave are extremely fragmented, and only some of the fragments are specifically marked as plane 2. The rest of the fragments, which are not specifically marked as belonging to either plane, most likely belong to Plane 1 and will be treated as such below.

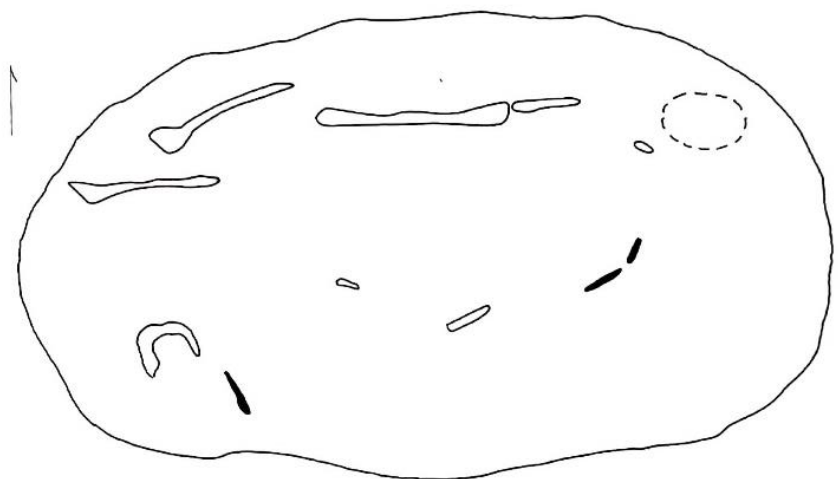


Figure 5. Grave 23 (Samuelsson 1998), plane 1.

Plane 1 consisted of an assortment of bones of which some can be identified as long bone fragments belonging to humerus, femur, fibula, and maybe radius/ulna and tibia. The state of fragmentation was severe. Some cranial bones could also be identified, amongst them a pars petrosa dx. The only information that could be derived from these bones, is that they belonged to an adult individual.

Plane 2 consisted of very fragmented bones as well. All of the bones marked specifically to this plane also had an additional marking where the anatomical position was mentioned, like 'right foot', 'right femur' etcetera. The fragmentation of some of these indicate that this division was made in the field, as the fragments are way too small and without characters, to the point that an osteologist would never have been able to make that assessment in the lab afterwards.

The teeth consisted of a few premolar crowns, as well as one molar crown and one molar with both crown and root. The molar with both root and crown indicated an age between 25-35 due to tooth wear.

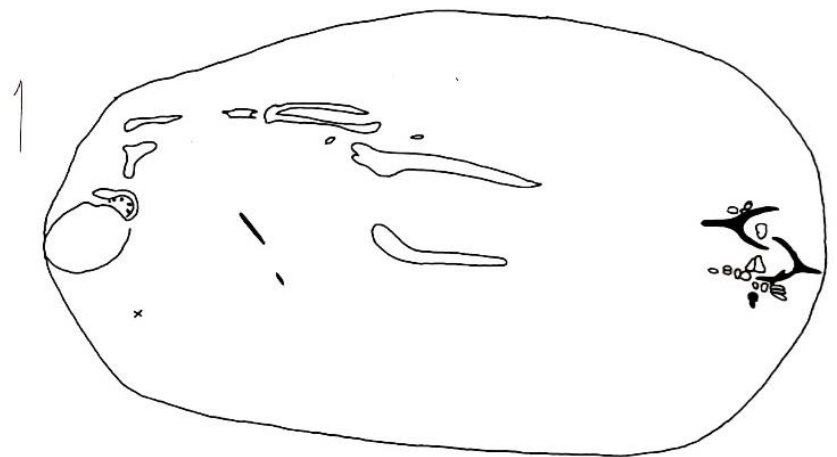


Figure 6. Grave 23 (Samuelsson 1998), plane 2.

The cranium was fragmented to the state that the only partially observable character for sex estimation was the left supraorbital ridge/glabella, which only gave an indication for ?, which is unknown biological sex.

The grave also contained a tooth from Ovis/Capra which, most likely, is the tooth mentioned in the original osteological report (see Appendix 1).

Interpretation:

First thing to note about this grave is that it is one of the richest graves on the grave field, and that it contains at least two individuals which were lying with only a thin filling separating them in the grave. The amount of filling between the two individuals is not at all significant, but since there is a clear separation between the individuals on the grave drawings (see figure 5 and figure 6), as well as the way it is described that there is enough space to make the interpretation that the objects found in plane 1 are too high up to belong to plane 2,

it is hard to make a direct ‘master-slave’ connection between the two individuals. Had the individuals been buried together, they would’ve most likely been buried in such a way that the separation would not have been distinguished at all, and the bones would most likely have been intermingled to some extent, which it seems like is not the case at all. What is even more interesting concerning the individual on plane 1, is the note made by Nilsson (1994), that if the removed skull belonged to the individual in the grave, it would have been positioned between the feet, which would indicate a beheading. This is not a common burial practice, and must have had some sort of significance in the burial – a punishment or some sort of sacrifice. Price brings up the point that human sacrifice usually carry diagnostic injuries, like bound hands or feet, broken necks, or even stabbing and decapitation (Price 2008: 266); which, in case the missing skull did belong to the individual in plane 1, it would be easier to interpret the individual buried as such a human sacrifice.

Whether or not these individuals can be seen as being connected to each other or not, it is clear that the individual in plane 2 could be considered as being of a higher social standing than most individuals on this grave field. Seeing as this individual was buried with riding spurs, it clearly insinuates that this individual had some sort of connection to horses, most likely as a rider. Considering the age of the individual, 25-35 years old, it is likely that this was some sort of profession. The grave has been classified as a rider-grave (Samuelsson 1998: 43).

As Ahlström Arcini & Price points out, “the use of horses did not begin until near the end of the Viking Age, chiefly by the elite” (Ahlström Arcini & Price 2018: 61). This would indicate that the individual buried with the riding spurs was probably an individual of very high status, who spent a lot of their time on horseback. Usually, rider graves are connected to biological males, but due to the fragmentation of the skeleton, it is extremely hard, if not impossible, to estimate a biological sex with osteological methods. If one should want to do further analysis on this grav field, a DNA analysis would be of interest on this individual.

Due to the fact that there is uncertainty as to whether or not the skull on in *plane 1* did belong to the other remains on that plane or not, it is hard to decipher whether or not the individual should be considered a secondary burial, or as a slave/thrall/servant executed and laid with their master in the grave. Considering the labour- and status goods found in *plane 2* it is not far fetched to assume that that was the case, but then again, the circumstances of the burial regarding the two individuals does not provide conclusive evidence for that interpretation.

3.4. Case study 3.

MHM 6031, Grave 25.

This grave contained one iron object, according to the original archaeological report. However, according to Samuelsson (1998) the grave contains one iron knife, and two belt details in bronze which apparently were situated between and under the finger bones of the individual (Samuelsson 1998: 18). The iron knife could be a later interpretation of the iron object described in the original report, but Samuelsson does not state where he acquired the information regarding the two belt details, as they were not mentioned in the original report.

Author's osteological analysis:

The skeleton is well preserved. The observed characters for biological sex gives an indication for F?. Age estimation of the teeth indicates an age between 25-35. No pathologies were observed.

Other than that, there were bones marked as “left shoulder area with collarbone’ which contained animal bones – the distal part of a humerus from *Ovis/capra* or *Sus scrofa*, as well as a fragment that looked like a radius from an animal in the size of *Ovis/capra*, however without reference material, it was hard to tell with absolute certainty.

Interpretation:

This grave is highly interesting, especially considering that two new objects have been connected to this individual after the official report was written. The reason for including this grave as part of the case studies, is connected to those specific grave goods, as the belt details are of an unusual find in graves – especially in graves that contain biological females (Samuelsson 1998: 18-19).

This individual is osteologically assessed to be a relatively young biological female, with no skeletal pathologies. This indicates that the individual died due to the quick onset of a disease, or deadly trauma that did not leave any marks on the skeleton. What is certain is that

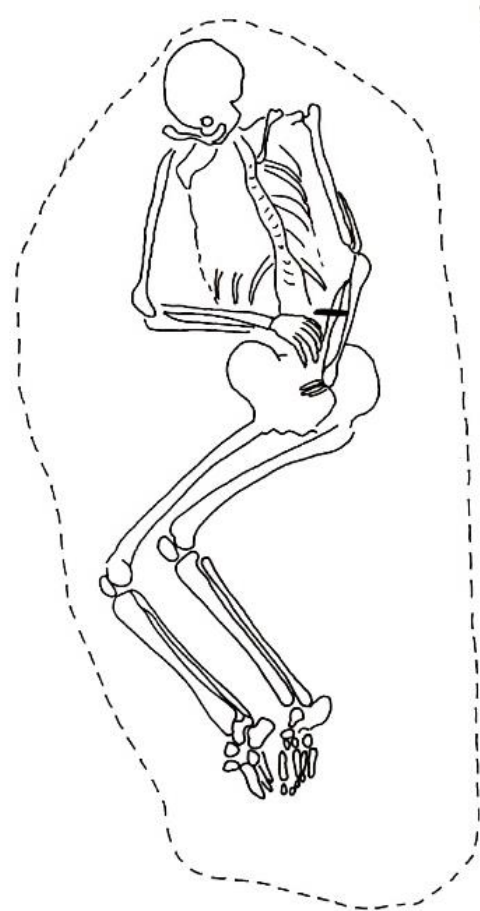


Figure 7. Grave 25 (Samuelsson 1998).

should this individual have died due to disease; it would not have been a disease that leaves immediate skeletal changes. There is of course the possibility of the course of a disease being drawn out but without skeletal manifestation. It does, however, seem unlikely in this case.

The objects connected to this individual are not as straight forward as most of the objects in the other case studies. As already mentioned, the original report only accounts for an indetermined iron object in the grave, which is clearly visible on the grave illustration as lying across the individual's lower left arm (see figure 7). Samuelsson, however, accounts for an iron knife and two belt details in the grave which are not mentioned in the original report.

From this, it is easy to draw the conclusion that the iron knife is a later interpretation of the indetermined iron object. It is, however, very unclear whether or not the belt details Samuelsson mentions were actually part of the grave, seeing as there is absolutely nothing in either the original archaeological report or the grave illustration that indicates for there being belt details in the grave. This, of course, makes it very hard to discuss these objects in relation to the individual, with any degree of certainty.

However, should we assume that these objects were in fact part of the grave, but were failed to be mentioned in the original archaeological report, these belt details could be an indication for a higher status. Samuelsson mentions that these types of belt details are generally connected to a certain type of clothing typically found on biological males of a certain status, and most often linked to Denmark and around the coast of Germany (Samuelsson 1998: 19). What is interesting is that he also mentions that these objects are usually part of chamber graves with rich grave goods (Samuelsson 1998: 19), which is not the case here as this is not a chamber grave, nor does it have any rich grave goods.

There is no osteological information that can aid in the interpretation of these grave goods. But it seems reasonable that this is the grave of a biological female, with gender-nonconforming grave goods, that might be connected to a type of clothing typically found on biological males of a higher status. No further interpretation is possible.

3.5. Case study 4.

MHM 6031, Grave 26a and 26b

This grave contains the remains of several individuals; 4, 4ö, 4a, 4b and 4c. 4 and 4ö are considered to be a disturbance layer and are part of the fill (for further information, see *Appendix 1 - Catalogue*). The remaining individuals have been split into grave 26a, which contains the remains of skeleton 4a and 4b; and Grave 26b, which contains the remains of skeleton 4c. Grave 26b was found below grave 26a.

Skeleton 4a was on the level 35.79-36.07 m.a.s.l. and the following objects have been connected to the individual: one iron object, one iron knife, one whetstone with a suspension hole. Noted in the original archaeological report is that the skeleton is positioned in a way where the skull and the lower legs are elevated above the rest of the body which indicates a too small of a grave (Winge 1976).

Skeleton 4b was on the level 35.77-35.99 m.a.s.l. and the following objects have been connected to the disturbed layer where the fragments of skeleton 4b laid: one iron object, one iron ring.

According to Samuelsson (1998), grave 26a as a whole contains one iron key and another *eventual* iron key, as well as burnt human bones. This is, however, not stated in the original report. The key could be a reinterpretation of the iron object described to be near skeleton 4a.

Note from the author: Looking at the drawing of the grave (figure 8), it seems clear that the object to the left of the skeletons right elbow is the key that Samuelsson mentions. This is thus presented as a special object in the table (see table 6).

Skeleton 4c was on the level 35.70-35.77 m.a.s.l. and the following objects have been connected to the individual: one iron knife, one iron object, one whetstone, one spindle whorl, one iron needle, one white glass pear, one bone object.

According to Samuelsson (1998) the iron needle might be a hair pin, and the bone object might be a bone needle.

Author's osteological analysis:

Grave 26a

Skeleton 4a: Slightly deformed cranium due to taphonomy. The teeth are very worn, as well as heavily affected by buccal and mesial caries in the root directly under the crown on the remaining molars. Moreover, the individual has suffered extensive tooth loss *intra vitam*

with complete healing of the mandibula. The mandibular alveoli indicate that the remaining teeth before post-mortem tooth loss have been very shallow, and not far from falling out. These are all symptoms of chronic periodontitis (Baxarias & Herrerín 2008: Dental pathology: 2; 4)

The observed characters for biological sex gives an indication for F?, which is completely opposite of the original sex estimation made by Persson & Persson (see *Appendix 1 - Catalogue*). The skull is extremely feminine, but the long bones are quite robust. Age estimation of the facies auriculares as well as tooth wear give an indication for 45+, placing the individual in the age group *maturus/senilis*. Other pathologies observed, aside from the previously mentioned caries, consisted of slight osteophyte build-up and lipping on thorax- and lumbar vertebrae, as well as osteophyte build-up, lipping, and quite extensive cranial and caudal pitting of the cervical vertebrae body. Complete ankylosis of L5 and os sacrum. This indicate chronic rheumatoid arthritis. A non-healed cut above the left eyebrow is indicative of a sharp force trauma sustained perimortem.

Skeleton 4b: The remains consists of tibia, fibula and part of dx pelvis. The greater sciatic notch is broken in a way that no sex estimation can be made. The size of the bones indicates an adult of indetermined age, but no other character to further assess age was present. Thus nothing more can be said about this skeleton.

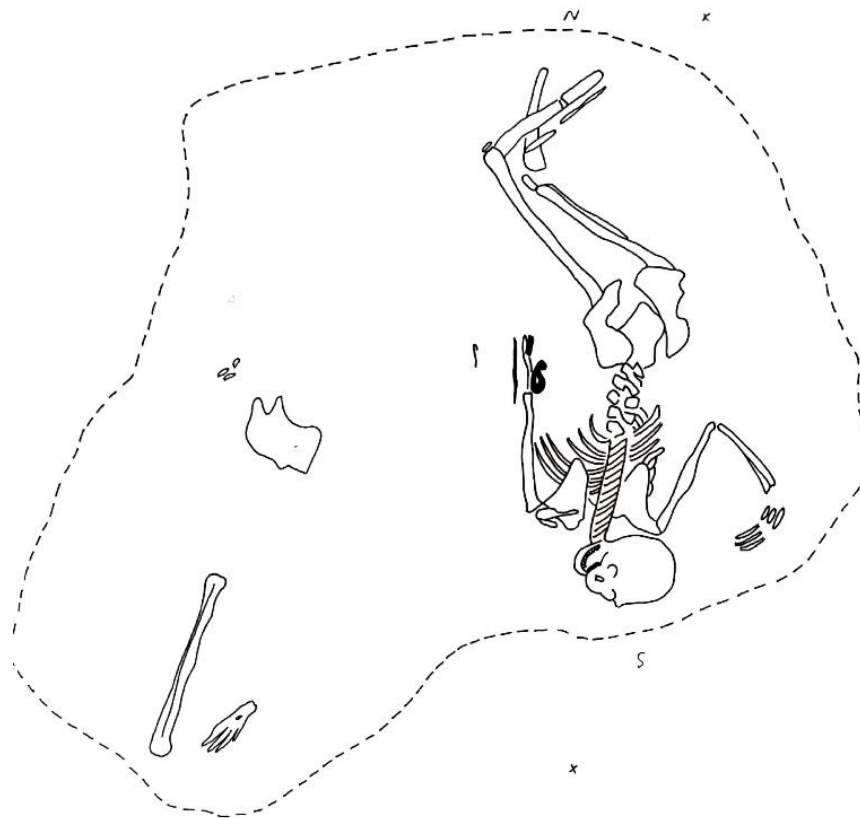


Figure 8. Grave 26a (Samuelsson 1998), plane 1. Skeleton 4a (articulated) and Skeleton 4b (scattered remains).

Grave 26b

Skeleton 4c: Extremely gracile skeleton. All sexual dimorphic characters are very feminine, and a combined result indicates for F, a biological female. *Facies auriculares* indicates an age of 50-55 years old, whilst the pubic symphysis indicate an age of 48 years old, this places the individual in the age group *maturus/senilis*.

Pathologies observed are osteophyte build-up and lipping on the thorax vertebrae, with increased frequency and severity in the lower thorax vertebrae. The individual has suffered extensive tooth loss *intra vitam* of both the maxilla and the mandibula with complete healing of the bone, and is affected by buccal caries in the root directly under the crown of the remaining mandibular molar, sin. The remaining teeth are shallowly buried in the alveoli. These are symptoms of chronic periodontitis (Baxarias & Herrerín 2008: Dental pathology: 2; 4).

Some phalanges show slight enthesophytes, which according to Baxarias and Herrerín (2008) could indicate frequent work with the hands and the use of tools (Baxarias & Herrerín 2008: Enthesopathies: 17)

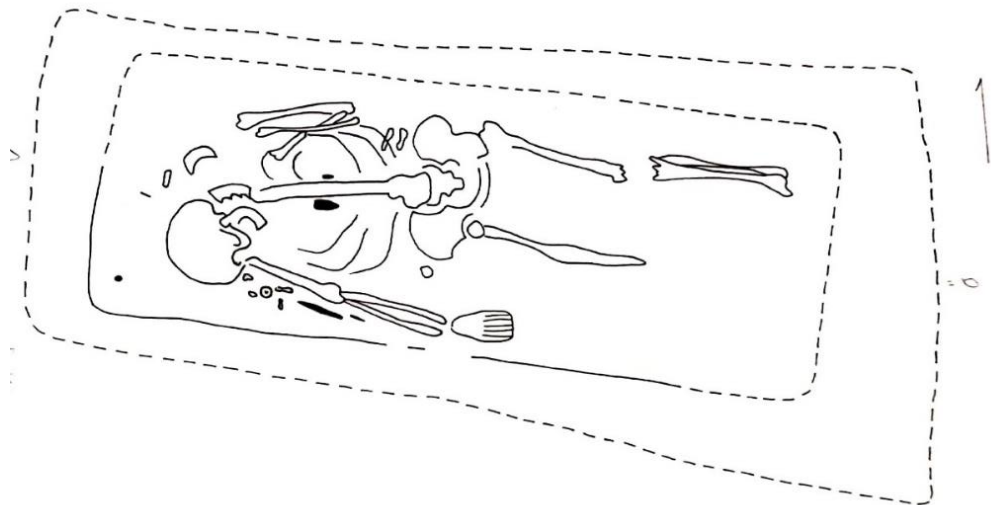


Figure 9. Grave 26b (Samuelsson 1998), plane 2. Skeleton 4C

Interpretation:

This grave as a whole, including the individuals in the fill marked as 4 and 4ö (see MHM 6031), is quite complicated in many ways. Not only are we dealing with multiple individuals spatially very close to one another, as well as a disturbance of the grave. We are also dealing with an individual whose biological sex has been assessed differently by the author of this thesis, and the osteologists who performed the original osteological analysis (see skeleton 4a). The circumstances around the death and burial of this individual is also something that is highly contradictive on several planes, as will be discussed below. This in relation to the individual at the bottom of the grave (see skeleton 4c) and the rich grave goods connected to that individual, makes for interesting basis for interpretation.

The individuals who will be further discussed below, both separately and in relation to each other, are skeleton 4a and skeleton 4c. This, because the skeletal elements that are

connected to skeleton 4b are decently preserved but few, and there is therefore some uncertainty as to whether skeleton 4b should be seen as a primary interred individual, or as a later disturbance of the grave.

Grave 26a, skeleton 4a, is an individual who has been buried prone on their stomach, which, is generally an unusual burial practice (Price 2008: 262) that is seen as a non-respectful way of burying people (Ahlström Arcini & Price 2018: 36-37). There are some grave fields where this sort of burial is more common (Ahlström Arcini & Price 2018: 36-37), but adding the prone position to the fact that the elevation of the cranium and lower limbs indicate a too small of a grave, there seems to be a general lack of respect and haphazardness towards the burial of the individual. This is, however, directly contradicted by the presence of several grave goods, including everyday objects such as a knife and a whetstone, as well as *at least* one key. Being buried with grave goods does indicate some sort of respect for the deceased, and the key connected to the individual is linked to a certain status that some biological females held during the Viking age. Not only did the key symbolise a power over the house and hierarchical order, it also gave the bearer a control over the household's storage and food supply, which would also give the bearer economic power (Santos 2019: 14)

Samuelsson argues, with support from the original osteological analysis, that this individual might have been intentionally killed and placed in the grave as a grave good – a slave – to the individual in 26b (i.e. skeleton 4c) (Samuelsson 1998: 15; Persson & Persson 1981). The intentional killing is supported by the osteological data, which reveals a non-healed sharp force trauma found on the cranium (Persson & Persson 1981). However, if skeleton 4a should be interpreted as a servant in relation to skeleton 4c, and should be interpreted as part of the grave goods, why is the individual not more carefully taken care of? Why is the individual not placed carefully and respectfully in the grave?

By deliberately killing a person and carelessly throwing them in a too small of a grave, as a gift for another individual, does that not translate as a degradation of the main interred individual, i.e. the one of higher status? And how does the key fit into all of this? A key is a status symbol in itself, for freedom and power (Santos 2019: 14). Why would an individual with their own freedom and power be executed and sacrificed as a slave?

One possible solution to this issue has recently come to light through a large-scale study on the presence of diverse variola virus (smallpox) in past societies, where this specific individual was part of the sample. As is shown by the study itself, the individual named skeleton 4a (or VK108 in the study), is shown to be a carrier of the virus (Mühlemann et al

2020a). This could mean that the dissonance between the sloppy burial, and the labour- and/or status indicative grave goods found with the individual – a key – could be explained by a fear of the disease. This, combined with what I have interpreted as an intentional killing, based on the cut above the left eyebrow, would indicate that this person was executed. Interestingly enough, a DNA analysis was performed on the individual as part of the study, which showed that the biological sex corresponds with the results from the osteological analysis in this thesis (Mühlemann et al 2020b); namely that skeleton 4a is a biological woman, and not a biological male, as the original analysis made by Persson & Persson (1981) showed.

Moving on to *Grave 26b, skeleton 4c*, there are some interesting finds that makes the relation between skeleton 4a and skeleton 4c even more interesting. The individual buried in grave 26b was buried with a lot of objects, all ranging from everyday objects such as knives, to objects such as decorations in the form of a glass pearl and an iron needle that Samuelsson (1998) interprets as a hair pin; to labour indicative objects such as a spindle whorl and a bone object that might have been a bone needle, according to Samuelsson (1998).

The grave goods in relation to the individual is highly interesting, as the osteological analysis showed enthesophytes on the phalanges, which could be connected to the frequent use of tools, and working with the hands. This, in correlation with the labour indicative grave goods – the spindle whorl, and the possible bone needle, would support a life of constantly using one's hands for work. Spinning threads is a type of labour that demands minute hand movements, which is the type of constant repetitiveness of movement that would cause such changes to the phalanges.

Now, these two individuals are both older biological females, with similar symptoms of chronic periodontitis. Both of them have pathological changes to their spine. Both individuals are buried with grave goods that indicate a certain status. Only one of them (skeleton 4c) have direct labour indicative grave goods (bone needle and a spindle whorl), and show some skeletal changes that may be caused by labour, i.e. the enthesophytes on the phalanges. If skeleton 4a acted as a servant for skeleton 4c, one would expect there to be more signs of labour with that individual, instead of the reversed, as we are now seeing.

Whether or not these individuals were buried at the same time, they do have quite a lot in common, but also things that separate them. The biggest mystery is the connection between these two individuals, as well as the contradictory way the burial of skeleton 4a is executed.

3.6. Case study 5.

MHM 6031, Grave 29.

This grave contained the following objects: two iron rivets (in the fill), and one iron knife.

Author's osteological analysis:

Relatively well-preserved skeleton, with the exception of the cranium which is quite fragmented. All molars and premolars in the mandibula have been lost *intra vitam*. Combined sexual dimorphic characters indicate F?, however the cranium is very feminine. *Facies auriculares* indicate an age of 60+, which places the individual in the age group *senilis*. Pathologies observed are some minute osteophyte build up on a few *caput costae* on the joints towards the thorax vertebrae; osteophyte build up with severe lipping on the lumbar vertebrae both cranially and caudally. This is indication for osteoarthritis.

Since scapulae acromion is heavily affected by pathological changes with osteophytes and pitting of both the acromioclavicular joint as well as on what looks like a false joint of the acromion towards the sub-acromial space where the bursa would have been. The clavícula is affected in a matching way on the *facies articularis acromialis*. Interesting to note is also that the acromion is angled very narrowly towards the humerus – this could either insinuate a deformity of the acromion, or an enlargement of the glenohumeral joint. The glenohumeral joint is affected by osteophytes, but due to the fragmentation of the scapula it is unclear whether or not the glenohumeral joint was enlarged to the extent to cause the acromion to be perceived as being too close to the joint. However, no eburnation is observed anywhere on the scapulae which indicates that the cartilage of the joints would not have been completely gone, and the bones in the shoulder would not have been in direct contact.

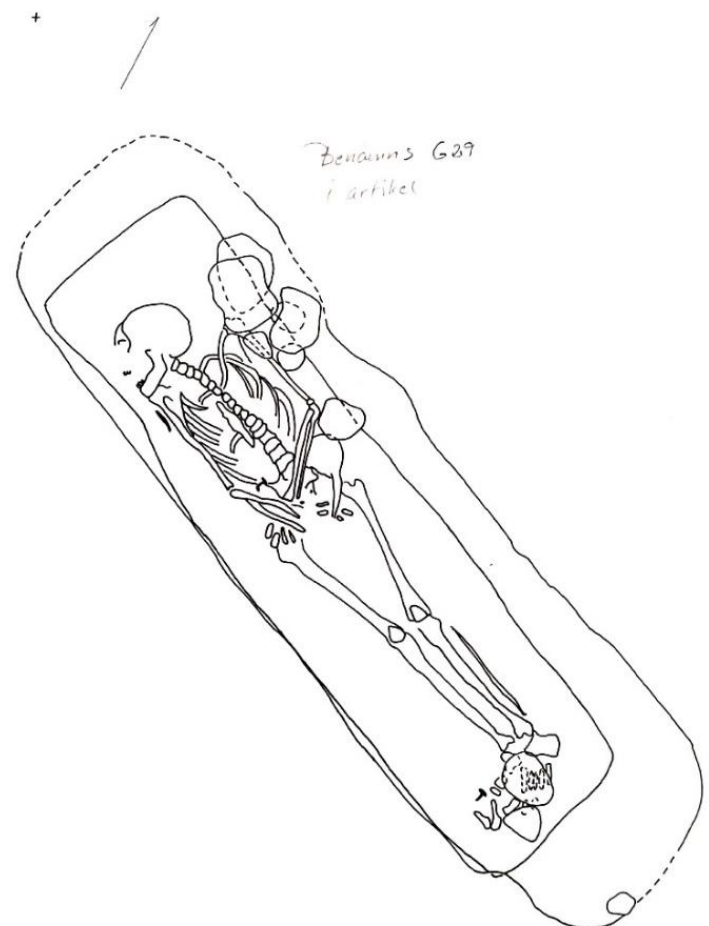


Figure 10. Grave 29 (Samuelsson 1998).

What is clear is that this individual would have suffered severe shoulder pain and would not have been able to lift the left arm to any great extent. Sadly, caput humeri was absent, and could not be examined. Interestingly enough the cristae tuberculi majoris; labium laterale (the muscle attachment for pectoralis major) as well as crista tuberculi minoris; labium mediale (the muscle attachment for teres major) were clearly marked on both humeri, especially tuberculi majoris; labium laterale – which indicate strong chest muscles.

These kinds of pathological changes are more common with old age, but the pathological changes in relation to the fact that the marked muscle relief on the humerus indicates activity of the pectoral muscles, may indicate that this might at least be partially caused by over-exertion. Maybe this individual would have used the upper arm and chest muscles to an extent to cause severe stress on the shoulder joints which in turn may have played a factor in the disfigurement and arthritis of the shoulder.

The phalanges of both hands have been affected by enthesophytes, which, according to Baxarias and Herrerín (2008) could indicate frequent work with the hands and the use of tools (Baxarias & Herrerín 2008: Enthesopathies: 17).

Interpretation:

In this grave we have a very gracile elderly biological female with osteoarthritis in both the spine and, at least, the left shoulder, which definitely could be connected to the individual's age. However, the muscle relief of the humerus as well as the enthesophytes of the phalanges indicate a working life. Over exertion of the body from heavy lifting and continuous strenuous work would affect the body's joints in a similar way that is expressed in this individual's skeleton. The combination of heavy labour and a high age may be what has caused this severe joint deformation of the shoulder, as well as the osteoarthritis in the back, and the enthesophytes of the hands. However, this individual will probably not have been able to lift the arms to a great extent during the last years of life.

What is interesting is that this individual is also the only individual of the case studies that do not have either status indicating or labour indicating grave goods. This grave is, in fact one of the poorer ones on the grave field, with only an iron knife as a grave good. This, in correlation with the pathological age- and labour indicating changes of the skeleton, makes for quite an interesting question: where are the labour indicating grave goods?

What we need to consider is that this individual, as already stated, would probably not have been able to perform the same labour as they did before these skeletal changes occurred.

And that the more the years passed, these skeletal changes would have become worse. Especially if this individual continued to work with the same vigour as before.

Maybe this individual was not actively performing any specific labour around the years of their death, and that this could be the reason for no labour indicating grave goods in the grave. A knife in the grave is something most of the graves on this grave field had, and this insinuates that this object was highly personal. But can we really say that objects correlating to work are personal? Should they not be seen as tools, solely used for labour? In that case, the absence of labour indicative grave goods can maybe be directly connected to the fact that this person probably was not very active as a worker in the years close to their death.

Another reasonable explanation for the lack of labour indicative grave goods, is that this was not an individual who held a high-status labour position. Maybe this individual is an individual that represent the majority of people during the iron age: a farmer

3.7. Result and analysis summary

As can be seen by the tables below, the minimum number of individuals in inhumation graves on the grave field counts up to at least 42 individuals (see table 9). This number is reached by excluding the disturbances caused by secondary cremation burials (for example grave 18, plane 1a-c), but including inhumation graves where the skeleton is gone due to taphonomic causes.

Table 8, shows an overview of the amount of grave goods of each category connected to biological sex, whereas table 10 and table 11 go into more detail about how many individuals of each age and biological received what is categorised as ‘special objects’, and how many individuals did not receive ‘special objects’.

By looking at table 9, it is possible to see the division of biological sex and age on the grave field, where it is clear that just over 40% (17 individuals) of the graves on the grave field had no skeletons, or only contained a few fragments where nothing could be said of either biological sex or age. The distribution of biological sex on the grave field is quite equal, with five biological males and four biological females; one probable biological male and two probable biological females; and one individual of indetermined biological sex.

Table 8. Shows number of quantifiable objects in the graves connected to each biological sex. Children below the age of adolescent have been categorised as Child (<12). N/A stands for graves with no skeletons as well as graves containing only fragments of bone without any information regarding age or biological sex.

Objects	M	M?	?	F?	F	Child (<12)	N/A	Total
Knives	2	-	1	1	3	-	18	25
Metal objects	5	-	1	3	2	1	14-15	26-27
Whetstones	2	-	-	-	2	-	3	7
Buckles and fittings	-	-	2-4	-	2	-	2	6-8
Special objects	2	-	2	-	3-4	0-1	1-2	9-10
Decoration	2	-	-	1	1	-	-	4
Ceramics (g)	10	-	-	-	-	3	452	475

Table 9. Shows the number of individuals in each age and biological sex category. Individuals below the age of adolescent **have** been categorised as N/A biological sex, as no certain sexual dimorphic characters arise in individuals before puberty. N/A also includes graves with no skeletons as well as graves containing only fragments of bone without information on biological sex. % age of total shows the percentage of individuals of each age group that is present on the grave field. % sex of total shows the percentage of individuals of each biological sex that is present on the grave field. No adolescent individuals were found in the grave field. The results in the table are corrected according to my revisions of age and sex on some of the individuals (see Appendix 1 - Catalogue for information regarding which individuals).

Osteology	M	M?	?	F?	F	N/A	Total	% age of total
Infans								
Juvenilis						1	1	2,4%
I. Child						1	1	2,4%
Adolescent							0	0,0%
Adol/adult.						1	1	2,4%
Adultus	1		1	1	1	2	6	14,3%
I. Adult	1	1				5	7	16,7%
Maturus						1	1	2,4%
Senilis	2				1	1	4	9,5%
Matur/Sen.	1			1	2		4	9,5%
N/A						17	17	40,5%
Total	5	1	1	2	4	29	42	
% sex of total	11,9%	2,4%	2,4%	4,8%	9,5%	69,0%	100,0%	

By looking at table 10 one can see the distribution of special objects in the graves. It is clear that not nearly everyone received labour- or status indicative grave goods, as only ca 14% of the population on this grave field had what could be categorised as 'special objects'. It is also clear that no biological females under the age of 36 has received labour- or status indicative grave goods, whereas no biological male above the age of 35 has received labour- or status indicative grave goods (see table 10).

Table 11 shows the distribution of graves where no special objects were found. Looking at the results, it becomes clear that just over 85% of the individuals on the grave field did not receive any labour- or status indicative grave goods (see table 11).

Table 10. Shows the number of individuals in each age and biological sex category that received 'special objects'. % of total age shows how many percent of the total amount of individuals of each age group received 'special objects'. % of total sex shows how many percent of the total amount of individuals of each biological sex received 'special objects'. The uncertainty of Juvenilis N/A and I. Adult N/A has to do with the individuals being buried together in grave 7, and it is impossible to say to whom the special object belonged (see MHM 6832, Grave 7). The results in the table are corrected according to my revisions of age and sex on some of the individuals (see Appendix 1 – Catalogue for information regarding which individuals).

Special objects	M	M?	?	F?	F	N/A		Sum	% of total age
Infans									
Juvenilis						0-1		0-1	0,0 - 100,0%
I. Child								0	0,0%
Adolescent								0	0,0%
Adol/adult.								0	0,0%
Adultus	1		1					2	33,3%
I. Adult						0-1		0-1	0,0 - 20,0%
Maturus								0	0,0%
Senilis								0	0,0%
Matur/Sen.					2			2	50,0%
N/A						1		1	5,9%
Sum	1	0	1	0	2	2		6	
% of total sex	20,0%	0,0%	100,0%	0,0%	50,0%	6,9%		14,3%	

Table 11. Shows the number of individuals in each age and biological sex category that did not receive 'special objects'. % of total age shows how many percent of the total amount of individuals of each age group that did not receive 'special objects'. % of total sex shows how many percent of the total amount of individuals of each biological sex that did not receive 'special objects'. The uncertainty of Juvenilis - N/A and I. Adult - N/A has to do with the individuals being buried together in grave 7, and it is impossible to say to whom the special object belonged (see MHM 6832, Grave 7). The results in the table are corrected according to my revisions of age and sex on some of the individuals (see Appendix 1 - Catalogue for information regarding which individuals).

No special obj.	M	M?	?	F?	F	N/A		Sum	% of total age
Infans									
Juvenilis						0-1		0-1	0,0 - 100,0%
I. Child						1		1	100,0%
Adolescent								0	0,0%
Adol/adult.						1		1	100,0%
Adultus				1	1	2		4	66,7%
I. Adult	1	1				4-5		4-5	80,0 - 100,0%
Maturus						1		1	100,0%
Senilis	2				1	1		4	100,0%
Matur/Sen.	1			1				2	50,0%
N/A						16		16	94,1%
Sum	4	1	0	2	2	27		36	
% of total sex	80,0%	100,0%	0,0%	100,0%	50,0%	93,1%		85,7%	

4. Discussion

This thesis has had the intention of serving as an example of how one can further explore labour division in new ways from the context of grave fields. This, because graves usually contain objects that can be seen as being connected to the interred individual, which makes them appropriate material for studying social aspects of a society, such as labour division.

In order to do this, this thesis sought to answer three main questions; whether it is possible to discern labour division by looking at a diverse set of data with an intersectional perspective; what types of labour division could be discerned by analysing the Ljungbacka grave field; and what an intersectional perspective can add to the research of labour division.

Most of the problems encountered during the writing of this thesis can be connected to discrepancies in the data. As has already been stated several times, one of the main sources of information has been retrieved from a bachelor's thesis by Samuelsson (1998), and on several occasions his results have not been concurrent with the results from the original reports. This is why, in the tables, the results presented are the results from the original reports, with a few exceptions where a later interpretation of the grave goods seems reasonable. Samuelsson's interpretations should not go completely ignored, seeing as he was an active archaeologist at the time, and also lead one of the excavations.

Other than that, there has also been an issue regarding the questions asked in this thesis, and the state of the material. Most of the excavations of this grave field did not produce well preserved graves, which is an important factor in this study, seeing as it combines archaeological and osteological data. Without skeletons, the osteological data is out of the equation, which makes it impossible to further discuss the graves according to the questions asked and the theories used.

The grave field as a whole

As the results showed, there was one instance where there was no presence of any individual in the grave, but there was the presence of labour indicative grave goods: namely grave 1. Grave 1 contained both an iron knife, as well as a spindle whorl. Due to the absence of a skeleton in this single grave, it is hard to say anything about the grave goods related to a certain individual. Considering the presence of a spindle whorl, a traditional interpretation of this grave would have insinuated a female burial. However, this is an exceptionally normative binary view on labour division and its relation to biological sex. And since the report states that not even skeleton colouration was seen, there is not even information that can insinuate a possible age of the interred based on the size of the colouration.

Using the previously stated premise that the grave goods belong to, and represent the interred individual, there is of course some room to interpret the object as being connected to the individual. Seeing as spindle whorls are objects that can be connected to a certain type of labour, namely that of textile production, it could be speculated that the interred individual had some sort of connection to either that type of labour, or a social category of people buried with spindle whorls. But without further information, nothing more can be said about this grave.

Both grave 5 and grave 7 contained children, although the graves differ quite a lot. The remains of grave 5 consisted of tooth fragments, where only one of the teeth, an incisor, was specifically marked as belonging to a child, whereas the rest of the teeth – premolars and molars – were not stated as to whether they were permanent or deciduous, which, in theory the grave could contain either a child ranging between the ages of 1-12 years old, or the grave contains at least two individuals, where one is a young child, and the other is an older individual.

However, since Nilsson (1994) only explicitly states that there is a child in the grave, that is the only confirmed data to work from, and is thus the basis for further interpretation. Since this individual was not buried with any labour indicating grave goods, as far as the archaeological data indicates, it is probable to assume that the child was not of an age where labour, and especially not specialised labour, is expected to be performed. The small amount of ceramics (3 grams) in the grave could technically be a part of the filling, and the fragment of the iron object gives no basis for further interpretation, thus these objects are dismissible in a labour division context.

Grave 7, on the other hand is a double burial of an adult of indetermined age, and a child around six years of age. This grave also differs on another account, namely that it contains a spindle whorl, an object which in this thesis is deemed to be labour- or status indicative. However, seeing as the only remaining fragments in this grave were some teeth and skull fragments, the osteological analysis performed by Nilsson (1989) was not able to provide any information regarding biological sex or pathologies. This makes it hard to further connect the spindle whorl to either of the individuals in the grave, from an intersectional perspective on labour division.

The presence of a spindle whorl in grave 7 was, in the original archaeological report, seen as maybe indicative for a female burial (Samuelsson 1989). Due to the fact that the grave contains both an adult and a child, this hypothesis would, according to traditional interpretations, be strengthened as an interpretation for the grave containing a biological female, as children and biological females generally are seen as connected. There are, however, instances where men and children are as common in burials as women and children (Ahlström Arcini & Price 2018: 87), as well as some instances where biological males are buried with spindle whorls (Samuelsson 1998: 24). Due to this, and the fact that nothing can be said osteologically about these individuals, it would be a stretch to make an interpretation of the interred individual's biological sex based on objects in the grave or the combination of adult and child, as objects can refer to other aspects of a person's identity and children can be buried with either biological sex. It may very well be that spindle whorls generally are laid in graves of biological females, but to make that interpretation without an osteological analysis to back it up would be unwise.

There are some theories about whether children could be considered to be a part of society until a certain age. And looking at these two graves containing children, it might be, as already stated, that the child in grave 5 did not receive any grave goods due to their age, and not being part of the laboured society. The same could, theoretically be said about the child in grave 7. Even if there is no certainty as to whether the spindle whorl was laid with the adult or the child, or maybe as a gift for them both, it is easier in general to assume that the adult is the recipient of the labour indicative grave good; and that the child was not initiated in the world textile production. However, if we acknowledge the study performed by Botwid (2017), a child around the age of 6 should be able to not only perform labour, but to actually start learning a specialisation (Botwid 2017: 57-66). This could mean that the child in *grave 7* was

a textile worker in training, and that this might be the reason for the spindle whorl in the grave.

Concerning age- and labour division on the grave field, there was a distinction between labour- and/or status indicative grave goods between biological males and biological females. As table 10 showed, no biological male above the age of 35 received labour- or status indicative grave goods, whereas no biological females under the age of 36 received labour- or status indicative grave goods. However, since the sample is so small (only one biological male, and two biological females) it is unreasonable to draw any conclusions from those results

Grave 22 is one of the non-case graves that slightly stands out from the rest. The original archaeological report accounts for one metal object, and one knife in the grave. Samuelsson, however, makes the interpretation that the grave contains two knives, where one of them is a clasp knife (Samuelsson 1998: 22). Knives of this type are uncommon in Scandinavia (Samuelsson 1998: 22), which could indicate either status or maybe even a non-local individual. Seeing as there are not any other archaeological finds in the grave except for these objects, it is hard to make a further interpretation regarding status, especially seeing as the osteological analysis only could give an indication for an adult of indetermined age with no information regarding biological sex or pathologies.

One of the poorest graves on the grave field is grave 17. This grave had a skeletal colouration in the earth which was stated as being the size of an adult. The tooth fragments found in the grave also confirmed that the interred individual was an adult of indetermined age. Regarding the grave goods in this grave, none of them are categorised as “special objects”, i.e. objects that have interpreted as having some sort of connotation towards social status or labour. The grave is one of the few graves without even as much as a knife, and since the ceramics in the grave only consisted of one gram, it is very likely that this is only a piece that was in the filling of the grave, and that the individual was buried without any grave goods at all. The indetermined metal object could have been an object that indicated some sort of labour or social status, but due to taphonomy, it is impossible to say. Making an interpretation solely from the data collected, this grave looks like one of the poorer ones on the grave field.

The case studies in relation to the other graves

The case studies consisted of grave 18, 23, 25, 26a and b, as well as grave 29. Looking at the tendencies on the grave field, it becomes clear that the graves were not filled to the brim with grave goods for the dead. Only some exceptions can be seen. And even though, as previously mentioned, the absence of grave goods doesn't mean there were none, these exceptions should be seen as discrepancies intentionally made due to specific circumstances – which should be clear when looking at the compositions of the grave goods in these graves.

Looking at case study 1 and case study 2, they obviously stand out in the characters of grave goods given to them in the graves. Both of them contained not only an abundance of grave goods, but also grave goods that indicate both labour and status, where both are to some extent connected to war, i.e. the axe in case study 1, and the riding spurs in case study 2. Case study 3, on the other hand, is a grave that only presents status, without any sort of labour indicative grave goods. The fact that these types of belt details are mostly found in Denmark and around the coast of Germany, might insinuate that this individual was a non-local on visitation, and thus did not perform any type of labour at the location.

Case study 4 has shown to be one of the more complex graves on the grave field, but the new results regarding the diverse variola virus in past societies performed by Mühlemann et al. (2020a) would make it easier to interpret the complex relation between the burials of skeleton 4a and 4c. As previously stated, keys in general are seen as status goods – this would indicate that this individual was an individual of high status, that most likely performed labour connected to being the master/mistress of a home. However, the grave and its dimensions, as well as the position of the interred, indicate a very disrespectful burial which is not compatible with high status and power. This, whilst skeleton 4c – who was buried below skeleton 4a – had plentiful and rich grave goods, as well as was laid in a respectful manner, carry objects in the grave that can be directly linked to textile production. The individual also show skeletal changes that could be labour related, in both the spine and the hands.

These recent findings, in correlation with the analysis performed in this thesis, completely dispute the idea that skeleton 4a would have been buried as a slave for skeleton 4c. There is nothing tangible in either the burial itself, the grave goods, or the individuals themselves that indicate any sort of master-slave relation. However, as already stated, slaves/thralls have hierarchies as well, and if the rest of the circumstances were more indicative for a master-slave burial, it would have been easier to interpret it as such.

As briefly discussed earlier, especially considering case study 5, grave 29, I cannot help to wonder whether labour indicative grave goods are connected to present active and/or future labour, or if they should be considered personal objects. Theoretically, if a person dies whilst still being able to perform labour, and the burial ritual of the time includes sending objects with the deceased to be used in the afterlife, is it not reasonable to assume that this individual would be expected to have use of these objects even in death? And thus, is it not reasonable to assume that people who are not able to perform labour in life, would not be expected to have use of those kinds of objects in death, and would therefore not have received those kinds of objects?

Having a specialisation in any type of work and having representation of these skills in the grave can also be seen as a status symbol, so the fact that some of these graves did not have grave goods that implicate a use within an occupation or status, might also be seen as people of lower status who could not afford to bring such goods to their graves (Ahlström Arcini & Price 2018: 49). The cost of equipment may, however, not apply to simpler tools such as spindle whorls for example, as they would probably not have been that expensive to make, and may even have been an object that often needed replacing due to breakage.

It is quite interesting that the individual with the most pathological changes of the skeleton, correlating to age and maybe even physical labour, is the individual with absolutely no labour indicative grave goods (see case study 5, grave 29). According to me, it is quite clear that this person has worked quite a lot with their hands and upper body, which should also be mirrored in the grave goods, especially if we're working under the impression that grave goods are directly linked to the life of an individual.

Case study 5, grave 29, is a great example of why we need more intersectional studies in archaeology and osteology regarding labour division. By just looking at the grave goods, there would have been no indications whatsoever regarding any type of labour of grave 29. But by combining archaeological data with osteological data, especially with focus on age and pathology, it opens up for a new interpretation of the grave.

There seems to be a general theme that the grave goods are not solely linked to either labour or status, but that both of them are usually combined; as can be seen in case study 1, 2, as well as case study 4. All of the individuals in these case studies carry objects that both insinuate higher status, as well as some type of labour connected to that status. However, only one of the individuals, case study 4 - skeleton 4c, carry skeletal changes that might be connected to labour. This has to do with both status and age, as skeletal changes become more

prominent with age and the frequent use of one's body. Interestingly enough, the one individual amongst the case studies that did not have any sort of labour indicative grave goods, case study 5 - grave 29, was also the one individual with the highest age and the most skeletal changes.

The types of labour discovered by this thesis are connected to mostly higher status professions that require a certain amount of skill; like that of a warrior, a rider, and those of textile production. What is not so easy to find, is the labour that the general public performed. People during the Viking age were mostly farmers (Ahlström Arcini & Price 2018: 34), and since a lot of people farmed, it might not be something that may have counted as a profession, but rather their way of life, which might be why we don't have grave goods connected to that of a farmer in this grave field. A skilled rider, warrior or textile worker might get something in their graves that represent that skill and the training that has gone into that skill, but a farmer would most likely not get a plow buried with them.

Farmers with bigger lands and more wealth probably had servants to help them cultivate the land. However, it is likely that when the farmers died, they did not take any of their servants or possessions with them to the grave, as they would have no need for them, and that the thralls therefore continued to cultivate the land for the next owner.

Should case study 5 - skeleton 29, the one individual with severe changes to the skeleton that could be linked to both labour and age, be interpreted as a farmer? It is very hard to say, since we do not have any actual objects connected to labour in the grave. This highlights an issue with labour centred works in mortuary archaeology; the labour of the general population is hard, if not impossible, to find. And thus, labour division studies are stuck examining the division of labour between those of slightly higher status, or those with specialisations within their occupation.

The next step forward would be to try to find other ways of reaching the labour division of the general public. Until we have data where we can examine this, we cannot really speak of labour division at all, since most of it is connected to specific individuals with specific tasks and skills, and not the society as a whole.

5. Conclusion

In conclusion, the intersectional study of the Ljungbacka grave field has produced results that indicate that labour related grave goods might be more connected to higher social and economic status, rather than the general labour of the middle- and lower-class people.

This means that it is possible to discern labour division by looking at a diverse set of data through an intersectional lens, but that it has its problems. It is clear that the approach requires osteological and archaeological material that is not extremely affected by taphonomic processes, as these processes destroy evidence both on the skeleton, as well as maybe even grave goods. However, if all of the factors are favourable, and the grave field contains fairly preserved graves and grave goods, the application of this approach increases exponentially.

Due to taphonomic reasons, most of the skeletons of the grave field did not contain substantial amount of skeletal remains for an osteological analysis, and this has absolutely had an effect on how thoroughly the grave field could be analysed intersectionally. There were however some graves that were very interesting regarding labour and labour division. One of these was the individual in grave 29, who had no labour indicating grave goods in the grave, but still presented changes of the skeleton connected to repeated movements of especially the hands and upper body. This would indicate that in order to find labour in the material, there is a need for graves with good preservation where the osteological and archaeological results are clear.

The labour division that could be seen through this analysis were those of warriors, riders, and textile workers. Due to the fragmentation of the material, not much could be said about how age might have affected the labour of this particular location, but one of the main factors the laboured graves had in common, was the factor of higher social status.

In this thesis, biological sex was one of the factors considered during interpretation. It was, however, not the main factor, nor a factor that held any more importance than the other factors considered. With this intersectional perspective, where all factors hold equal amount of weight, it is harder to fall into the age-old biases regarding labour division.

An intersectional perspective is the way forward in interpreting any sort of archaeological data. There are too many variables that shape how societies function, and how each member of a society functions within it. There is never a 'be all end all' interpretation mould.

Intersectional perspectives needs to be more consciously applied, and applied to a much greater extent. We need to step away from the cemented binary view of societal categorisation that is so soundly based on our own perceptions of male and female labour division, and acknowledge that there are more to societal structure and function than the separation of the biological sexes. We need to acknowledge that sex, gender, status, profession, age, and corporeality are all factors that play a role in the structure of a society, and thus also labour division.

As stated, some of the results in this thesis are in direct opposition to the original osteological analyses; for example the biological sex of grave 26b, skeleton 4a; as well as the skeletal changes of grave 29. This could be the result of difference in methodology when examining the remains, but it could also be a case of ‘seek and ye shall find’; that is, that it might be the result of a bias connected to what we are looking for. A bias is, however, not always bad. If we do not look for other ways to explore, understand and explain labour division, other than looking at the biological sex of the interred and grave goods, how will we ever find the division of labour that is not solely linked to biological sex? Therefore, it is important to apply similar approaches when exploring labour division in prehistoric societies.

Labour is divided between members of a society, families or even within occupation specialisation groups. A common denominator is that most people would probably have done their best to do their part, and the most important thing we need to understand is that even if the archaeological and osteological data show that most labour might have had a division based on biological sex, it is not true for all instances; and that there are many other factors that play a part in labour division.

A noble biological female will probably not perform the same tasks as a non-noble biological female. A disabled biological male will probably not perform the same task as an able-bodied biological male. A child will probably not perform the same tasks as an adult, regardless of biological sex. An elderly person will probably not perform the same labour as a younger individual. However, there is a problem in that it is hard to reach the labour division of the general public, such as those who kept animals and cultivated lands, as these tools rarely (if ever?) follow the dead into the grave.

Even though the Ljungbacka grave field was not the most suitable grave field for this type of study, there are grave fields around the world that could benefit from a more intersectional approach to the interpretation of the results, especially when interpreting labour division.

Labour and labour division should never be seen as fixed, and *especially not* fixed on just a single part of the human experience and identity – i.e. biological sex. There are too many other factors at play that determines what kind of labour a person, regardless of biological sex, will be able, and allowed, to perform.

Acknowledgements:

Dedicated to The Barum Woman, as she continues to inspire my research. One can only hope that she gets her title of occupation restored to her. The Fisherman from Barum is a better descriptor of her and her life, is it not?

Special thanks to Yvonne Magnusson, Malmö Muséer, for aiding me in acquiring the archival material, as well as access to the skeletal material; Tomas Lindell, Malmö Muséer, for so graciously receiving me when it was time for analysis; and Anna Tornberg, Lund University, for keeping me on track during this turbulent time of thesis writing.

On a more personal note, I would like to send my thoughts and regards to my late grandmother and grandfather. They were always interested in my choice of career and were so proud of me when I got my bachelor's degree. They would be ecstatic over my accomplishments. As is, of course, the rest of my family. Special thanks to my mother for verbally supporting me through almost every day of thesis writing, even when going through her own hardships.

A special thanks also goes out to Maya Habari, for never ending support, and for always being my designated proof-reader.

The last thanks goes out to myself, for never giving up on my dreams. Not a single word would have been written had it not been for my own resolution to follow my heart.

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7. Appendix

7.1. Appendix 1 – Catalogue

As stated in *Ch. 1.5 Material* and *Ch. 1.6 Method*, all information presented below is gathered from original archaeological and osteological reports, as well as from the bachelor thesis made by Samuelsson (1998). In some cases, the author has made comments on the osteological results, this will be stated.

MHM 6305

Archaeological reports: Thulin (1980)

Osteological reports: -

Osteological reports on burnt bones: Nilsson (1994)

Grave 1 contained the following objects: one iron knife, and one spindle whorl, flint, and burnt bones.

According to Samuelsson (1998), this grave is disturbed by fire pit burial 255 under the same MHM number. This is supported by Nilsson's report on burnt bones (1994).

Osteology: no skeleton.

MHM 6826

Archaeological reports: According to the documents, the official report from this excavation (MHM 6826) is missing, but the finds are published in Samuelsson (1998). Thus, the information presented here, below MHM 6826, is retrieved from Samuelsson (1998).

Osteological reports: Nilsson (1994)

Grave 2 contained the following objects: one iron knife, ceramics 5g, and burnt bones. Note: the grave is disturbed by fire pit burial 150a and 150b.

Osteology: teeth and skull fragments. Young adult (Nilsson 1994).

Grave 3 contained the following objects: two iron knives, ceramics 9g, and burnt bones.

Osteology: no skeleton.

Grave 4 contained the following objects: no finds. Note: the grave is disturbed by fire pit burial 155.

Osteology: no skeleton.

Grave 5 contained the following objects: one fragment of iron object, ceramics 3g, and burnt bones.

Osteology: tooth fragments of which at least one belongs to a child of indetermined age.

Grave 6 contained the following objects: one iron knife, and burnt bones. Note: the grave is disturbed by fire pit burials 116-120. The skeletal colouration in the grave was in the size of an adult.

Osteology: no skeleton.

MHM 6832

Archaeological reports: Samuelsson (1989)

Osteological reports: Nilsson (1989)

Grave 7 contained the following objects: one spindle whorl.

Osteology: Teeth, skull fragments, long bone fragments. One child and one adult, the child around 6 years old, and the adult of indetermined age (Nilsson 1989).

Grave 8 contained the following objects: one iron knife, one whetstone, and one fossil. According to Samuelsson (1998) the whetstone has a suspension hole.

Osteology: skull fragments (Nilsson 1989).

Grave 9 contained the following objects: one iron knife, one iron object, and charcoal. According to Samuelsson (1998) the iron object might be a nail head.

Osteology: no skeleton.

Grave 10 contained the following objects: one iron knife with partly conserved wooden handle, one iron nail(?), and flint.

Osteology: no skeleton.

Grave 11 contained the following objects: no finds.

Osteology: indetermined bone fragments (Nilsson 1989).

Grave 12 contained the following objects: one iron knife, one iron object, and the colouration of a wooden bowl.

Osteology: patella, rib fragments, and long bone fragments. Adult of indetermined age (Nilsson 1989).

Grave 13 contained the following objects: one buckle, two iron knives, and flint.

Osteology: no skeleton.

Grave 14 contained the following objects: no finds, except some flint.

Osteology: no skeleton.

Grave 15 contained the following objects: one iron knife, charcoal and flint.

Osteology: no skeleton.

Grave 16 contained the following objects: one iron knife, one iron fragment, burnt bones, charcoal, and flint.

Osteology: no skeleton.

Grave 17 contained the following objects: one iron fragment, ceramics 1g, and burnt bones.

Osteology: tooth enamel. Adult (Nilsson 1989).

MHM 6029

Archaeological reports: Winge (1976)

Osteological reports: Persson & Persson (1981), and some revisions made by Nilsson (1994).

Osteological report on burnt bones: Nilsson (1994)

Grave 18 contained the following objects:

Plane 1a: burnt bones, 9g.

Plane 1b: burnt bones, 35g.

Plane 1c: one iron object, and burnt bones, 60g.

Plane 2: Two iron objects, one iron axe, one iron knife, one whetstone, one fire steel, one pearl of bronze tin, one fragment of bronze tin, and a concentration of animal bones.

According to Samuelsson (1998) the axe had a partly preserved wooden handle, with an imbedded iron nail. He also accounts for two more iron nails which are not accounted for in the original report. Samuelsson also notes that the grave is disturbed by firepit 195a-b. This is not explicitly stated in the original report, but might explain the burnt bones in plane 1.

Nilsson's osteological report (1994) on the burnt bones of the grave corresponds with the amount of burnt bones in plane one, and these have been marked as fire pit burials 195a-b by Samuelsson (1998).

Osteology: Male, 19-20 years old. No pathologies. Gracile stature. (Persson & Persson 1981).

(For more information, see *Ch. 3.2 Case study 1*).

Grave 19 contained the following objects: one iron knife, and ceramics.

According to Samuelsson the ceramics weighed in at 32g. He also stated that the grave contained 10,7g burnt bones, where 3,1g were human. This is not stated in the original archaeological report, but the osteological analysis by Nilsson (1994) confirms the presence of the burnt bones.

Osteology: Pieces of tooth enamel. Nothing more can be said (Persson & Persson 1981).

Grave 20 contained the following objects: two iron objects, and burnt bones.

According to Samuelsson (1998) the grave contained two iron nails, 20g ceramics and ca 5g burnt bones, where 0,8g of those were human. The ceramics are not accounted for in the original report. Regarding the iron nails, Samuelsson might be referring to the two iron objects of the original report, but he does not state so.

Osteology: no report on the primary individual.

Grave 21 contained the following objects: one penannular bronze brooch, one clay pot, one whetstone, two iron knives, one iron object, and burnt bones.

According to Samuelsson (1998) the grave also contained one iron nail. He also added that the whetstone had a suspension hole. He adds in his catalogue that the ceramics (the clay pot) weighs 405g.

Osteology:

Skull 1. Persson & Persson (1981) first stated that they examined skull 3, but Nilsson stated after her revision that they examined skull 1 (1994). Thus, the osteological results for skull 1 estimated the age of the individual to be between 18-25. No biological sex could be estimated.

Skull 3. Nilsson's revision (1994). An individual around 25 year of age. No biological sex could be estimated.

The grave also contained indetermined burnt bones.

Note from the author: Neither Persson & Persson (1981), nor Nilsson (1994) mentions any skull 2, but seeing as the examined skulls are named skull 1 and skull 3, it is possible that there might have been a skull 2. This makes it unclear as to how many individuals are, or have been, actually present in the grave. Thus, in the table, the total number of individuals are stated as being 2-3 (see table 4).

Grave 22 contained the following objects: one iron knife, one iron object, and burnt bones.

According to Samuelsson (1998) the knife had a partly preserved wooden handle. He also states that there is another knife in the grave – a clasp knife. He might be referring to the iron object mentioned in the original report, seeing as Samuelsson does not name any un-identified iron objects. Thus, the clasp knife could be a re-interpretation of the iron object. He does, however, not state where he got this information.

Osteology: tooth enamel from an adult or subadult (>20 y/o). Nothing more can be said (Persson & Persson 1981).

MHM 6031

Archaeological reports: Winge (1976)

Osteological reports: Primarily made by Persson & Persson (1981), but some revisions and comments have been made by Nilsson (1994). This will be stated.

Osteological report on burnt bones: Nilsson (1994)

Grave 23 contained the following objects:

Plane 1: one iron knife, one iron object, and one whetstone.

According to Samuelsson (1998), the whetstone has a suspension hole.

Plane 2: One animal tooth, one iron knife, one iron object, two iron spurs, one double buckle, two single buckles *or* another double buckle, a buckle-like object, and burnt bones.

Osteology:

Plane 1: One or two individuals, depending on if the removed skull belongs to the present individual or not. Should the skull belong to the individual, it would have been placed between the feet (Nilsson 1994). Note: During the excavation, a skull was

immediately removed and is missing. The remaining skeleton consists of a femur and a humerus.

Plane 2: Indication for male, but no certain characters have been observed. 30-40 years old (Persson & Persson 1981).

(For more information, see *Ch. 3.3 Case study 2*).

Grave 24 contained the following objects:

Plane 1: one, or two iron objects. The reports states “(another) iron object’ but does not account for a first one.

According to Samuelsson (1998) one of the iron objects might be a knife. He also adds that the grave contained burnt bones, which is not stated in the original report. Burnt bones from this grave are, however, analysed by Nilsson (1994).

Osteology: There are discrepancies regarding how many individuals are in this grave.

Both Persson & Persson (1981), as well as Nilsson (1994) has done osteological analysis on the material. Persson & Persson seems to have analysed the interred individual in Plane 2 of the grave, whilst Nilsson has accounted for Plane 1 in her revision as well. Nilsson states that according to the drawings of the grave, Plane 1 seems contain at least one individual. However, due to the fragmentation of the bones in plane 1, it is impossible to decipher just how many individuals are present. The grave as a whole (plane 1 + 2) does, however, contain at least two individuals.

Plane 1 consists of bones from an adult of indetermined age (Nilsson 1994).

Plane 2 consists of bones from a middle-aged biological male (Persson & Persson 1981; Nilsson 1994).

Grave 25 contained the following objects: one iron object.

According to Samuelsson (1998) the grave contains one iron knife, and two belt details in bronze which apparently were situated between and under the finger bones of the individual (Samuelsson 1998: 18). The iron knife could be a later interpretation of the iron object described in the original report, but Samuelsson does not state where he acquired the information regarding the two belt details, as they were not mentioned in the original report.

Osteology: Female, 25-30 years old. No pathologies, not even caries (Persson & Persson 1981).

(For more information, see *Ch. 3.4 Case study 3*).

Grave 26 is what I have named the overlying layers found in grave 26. Samuelsson (1998) split grave 26 (original grave number 4) into 26a and 26b. The osteological report has split grave 26 (original grave number 4) into 4, 4ö, 4a, 4b, and 4c. Grave 26a (below) contains the remains called 4a and 4b, whilst grave 26b (below) contains the remains of 4c. Thus, the choice has been made to present 4 and 4ö under the name grave 26, which is not the official name in any of the documents. No artefacts are connected to either 4 or 4ö. The individuals presented here are most likely part of the fill, and thus not part of the main interred individuals (26a and 26b).

Osteology: The remains of individual 4 is described in the osteological report as very fragmented, but the identifiable fragments were estimated to belong to a biological male. A tooth and the wear pattern on it indicated a 50-60-year-old individual. The tooth also had caries (Persson & Persson 1981).

The remains of 4ö, are described as small fragments that are hard to interpret. However, according to the osteological reports, the remains in 4ö seems to belong to at least 2 individuals, one middle aged individual, and one older individual. This is based on the difference in tooth wear. 4ö also contained a piece of ossified thyroid (Persson & Persson 1981).

Note from the author: The ossified thyroid in 4ö strengthens the interpretation that one of the individuals was senilis, since the ossification of the thyroid happens with old age (Gowland 2016: 518). However, since the only evidence for a second individual is one single tooth with not as much tooth wear as the other teeth found, does not, according to me, rule out that the remains under 4ö might be the remains of a single individual. There is also nothing, according to me, from reading the reports that indicates that the remains of 4ö cannot be connected to the remains of 4.

Grave 26a contained the following objects:

Skeleton 4a: one iron object, one iron knife, one whetstone with a suspension hole.

Close to skeleton 4b: one iron object, and one iron ring.

According to Samuelsson (1998), grave 26a as a whole contains one iron key and another *eventual* iron key, as well as burnt human bones. This is, however, not stated in the original report. The key could be a reinterpretation of the iron object described to be near skeleton 4a. The burnt bones are confirmed by Nilsson's osteological analysis (1994).

Note from the author: Looking at the drawing of the grave (figure 8), it seems clear that the object to the left of the skeletons right elbow is the key that Samuelsson mentions. This is thus presented as a special object in the table (see table 6).

Osteology:

Skeleton 4a: Male, 50-60 years old. Length 167 cm. Healthy but worn teeth.

Pathologies: Ankylosis promontorium – not caused by spondylosis but by inflammation, ex tuberculosis. Eventual cut wound in the brown bone (Persson & Persson 1981).

Skeleton 4b: Male. Adult of indetermined age. Length 169 cm (Persson & Persson 1981).

Note from the author: The osteological sex estimation made of skeleton 4a by the author is not in agreement with the original osteological estimation made by Persson & Persson. This has also been tested by DNA, where the results came back as biological female (Mühlemann et al. 2020b).

Persson & Persson also evaluated the teeth to be healthy, but worn, which is also in direct opposition to the author's own results – that the teeth are heavily affected by caries.

(For more information, see *Ch. 3.5 Case study 4*).

Grave 26b contained the following objects: one iron knife, one iron object, one whetstone, one spindle whorl, one iron needle, one white glass pear, one bone object. According to Samuelsson (1998) the iron needle might be a hair pin, and the bone object might be a bone needle.

Osteology:

Skeleton 4c: Female, 45-55 years old. Extensive tooth loss intra vitam – maybe caused by a deficiency. Osteophyte build-up on the lower thorax vertebrae – most likely caused by spinal disc herniation, but not to an extent to cause disability (Persson & Persson 1981).

(For more information, see *Ch. 3.5 Case study 4*).

Grave 27 contained the following objects: one iron knife, and one iron object. According to Samuelsson there was also a minute amount of burnt bones. This is supported by the osteological analysis performed by Nilsson (1994).

Osteology: Female (?), middle aged. The remains look mangled, most likely from heavy pressure of above ground machinery (Persson & Persson 1981).

Grave 28 contained the following objects: one iron knife, one iron object, one whetstone, and burnt bones.

According to Samuelsson (1998) there was an additional iron object, as well as 10g ceramics in the grave. This was not accounted for in the original report. Samuelsson also added that the whetstone had a suspension hole.

Osteology: According to the osteological report, there are two individuals in grave 28, where one of them was located in the fill. The individual in the fill consists of a male(?), over 20 years old.

The main interred individual of grave 28 consists of a gracile built male, with the length 170 cm, and according to Persson & Persson's analysis of the sutures and tooth wear pattern, the individual is 35-40 years of age (Persson & Persson 1989).

The following pathologies have been recorded: a healed fissure on the medial part of left femurs diaphysis - the bone has probably not been completely fractured, but merely sustained a stress fracture, or hairline fracture. There is also a considerable amount of osteophyte build-up in the thorax and lumbar vertebrae. On top of that the individual has tooth loss intra vitam (Persson & Persson 1989).

Note from the author: The main interred individual of this grave was at first osteologically assessed to be between 35-40 years of age, but due to the presence of an ossified thyroid in the grave, the individual is significantly older (Gowland 2016: 518) – which puts the individual in the age group senilis, rather than maturus. This is adjusted in the table (see table 7), but marked with an asterisk for clarification.

Grave 29 contained the following objects: two iron rivets (in the fill), and one iron knife.

Osteology: Female, 70+ years old. Length 168.6 cm (age corrected), 171 cm (not corrected). Pathologies: Severe osteophyte formation on lumbar vertebrae, most likely spondylosis deformans. Strongly deformed fossa articularis scapulae, most likely arthritis deformans or other severe joint disease. Shallow subcircular recess, ca 6 cm in diameter, laterally on right ilium, probably pathological – maybe a tumour in the soft tissue. Tooth loss intra vitam of all premolars and molars of the mandibula, maybe pathological but could also be because of high age (Persson & Persson 1981). Other: Gracile stature. Muscle relief barely marked. Has most likely not performed bodily labour to a great extent. (Persson & Persson 1981)

(For more information, see *Ch. 3.6 Case study 5*).

Grave 30 contained the following objects: two iron objects, and a pearl. According to Samuelsson (1998) the grave also contained burnt bones, which was not accounted for in the original report. The presence of burnt bones is supported by Nilsson (1994)

Osteology: Some opposing results, but more leaning towards female, thus female?, 25-30 years of age. The osteological material contains tooth fragments of Ovis/Capra as well (Persson & Persson 1989).

Grave 31 contained the following objects: no finds.

Osteology: no skeleton.

7.2. Appendix 2 – Osteological analysis of case studies

Grave Number (Samuelsson)	18	23	23	25
Original grave number	14	1	1	3
MHM	6029	6031	6031	6031
Plane	2	1	2	-
SEX ESTIMATION				
Dens axis DSD/DTD				10.7/11.5
Greater sciatic notch	-	-	-	sin:-, dx: 2 (F?)
Nuchal crest	-	-	-	-
Mastoid process	-	-	-	sin: 2, dx: 1 (F?)
Supra-orbital margin	-	-	-	2 (F?)
Supra-orbital ridge/glabella	-	-	3 (?)	1 (F)
Mental eminence	-	-	-	2 (F?)
Humerus, vert diam, caput	-	-	-	dx: 43.3 (F)
Humerus, transv diam, caput	-	-	-	-
Femur, vert diam, caput	-	-	-	sin: 46.5, dx: 46.95 (M)
Femur, distal width	76.85* (M?)	-	-	-
Biological sex	M?	-	?	F?
AGE ESTIMATION				
Facies auricularis	-	-	-	-
Pubic symphysis	-	-	-	-
Tooth wear	17-25	-	25-35	25-35
Other	-	-	-	-
Age group	Adolescent/adult	l. adult	Adult	Adult
PATHOLOGY				
Karies	-	-	-	-
Osteophytes	-	-	-	-
Eburnation	-	-	-	-
NOTES				
	very fragmented		extremely fragmented	relatively well preserved
	thick skull frag		tooth - ovis/capra	animal bones (ovis?)
	* not complete			

Grave Number (Samuelsson)	26a	26a	26b	29
Original grave number	4a	4b	4c	7
MHM	6031	6031	6031	6031
Plane	1	1	2	-
SEX ESTIMATION				
Dens axis DSD/DTD			11.28/10.5	11.22/10.17
Greater sciatic notch	dx: 2*, sin 2 (F?)	-	dx:2, sin:2 (F?)	dx:1-2, sin:2* (F?)
Nuchal crest	-	-	1 (F)	1 (F)
Mastoid process	dx: 2-3, sin: 2-3 (F?)	-	dx:1, sin:2 (F?)	dx: 2, sin:2(F?)
Supra-orbital margin	dx: 2, sin: 3 (F?)	-	dx:2, sin:2 (F?)	-
Supra-orbital ridge/glabella	dx: 1, sin: 1 (F)	-	1 (F)	-
Mental eminence	2 (F?)	-	2 (F?)	1 (F)
Humerus, vert diam, caput	sin: 46.3 (?)	-	dx: 38.5, sin:37.3 (F)	-
Humerus, transv diam, caput	sin: 41.1 (F)	-	dx: 37.7, sin: 36.2 (F)	-
Femur, vert diam, caput	sin: 48.9 (M)	-	dx: 42.09, sin: 41.8 (F)	dx:45.3, sin: 43.15 (F?-?)
Femur, distal width		-	-	dx: 76*, sin:75.15* (M?)
Biological sex	F?	-	F	F?
AGE ESTIMATION				
Facies auricularis	45+	-	50-55	60+
Pubic symphysis	-	-	48.1	-
Tooth wear	45+	-	-	-
Other		-	-	-
Age group	Maturus/Senilis	I. adult	Maturus/senilis	Senilis
PATHOLOGY				
Karies	X	-	X	-
Osteophytes	X	-	X	X
Eburnation	-	-	-	-
NOTES				
	robust female		very very gracile	* not complete
	* not complete			