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Cover image: Illustration representing a female warrior of high status, based on the material from the Birka Chamber Bj. 581 drawned by Tancredi Valeri (Knauer, 2001).

Are swords for boys and jewellery for girls? Exploring ‘epistemic violence’, sex and gender through a comparative analysis of ‘female warrior graves’ across the world

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Content

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1. Introduction

Archaeology is a field with the potential to use interdisciplinary approaches and throughout its history, archaeology has benefited from other field both from sciences and the humanities. Archaeological research is way broader and more complex that the public sphere might be aware of with multiple subfields, areas, and periods to focus on. One of the most interesting subfields, gender archaeology has steadily since the 1990s made its way into how we study and interpret the archaeological record.

In its origins, archaeology and the archaeological record has been studied by men, inevitably leading to a male-focused approach, and there are many examples of how male centric archaeological knowledge has been (Arnold & Wicker, 2001, p. vii). In its conception, Gender Archaeology focused on bringing feminist approaches into archaeological research and on fighting well-known and accepted concepts such as "man the hunter", bringing women more into the spotlight both in the research but also in scholarship, valuing the work of female archaeologists (Sørensen, 2000, pp. 17-18). As Gender Theory developed and grew, biology also started to provide valuable data on how complex and nuanced sex in humans can be, especially with research by feminist scholars such as Fausto Sterling's work on intersex individuals (Fausto-Sterling, 2020).

Soon enough the value of gender perspectives for a particular subdiscipline of archaeology and osteology was clear for some scholars, who understood sex and gender as another marker that can be study such as race or social statues, and that provides valuable information on identity (Sørensen, 2000). In the late 1990s and early 2000s, works on gender and mortuary analysis emerged, such as Arnold's and Wicker's *Gender and the Archaeology of Death* (2001) or some chapters in Sarah Milledge Nelson's edited volume, *Handbook of Gender in Archaeology* (2006), which contains a chapter discussing gender and burial practices. This interest in the connection between gender, sex, identity, and mortuary practices ultimately led to the publications such as Agarwal and Wesp's ground-breaking edited volume, *Exploring Sex and Gender in Bioarchaeology* (2017), a book that illuminates the ways gender theory, a "humanities" field can complement scientific bioarchaeological research, specifically osteoarchaeological research. Sex estimation in archaeological data aims to assign human remails as biologically male or female based on observable markers. Even if sex

estimation is useful to understand past societies, it is flawed by both assuming gender and a binary division.

Walker and Cook (1997) write that not distinguishing between the concepts of sex and gender in biological anthropology can have an important effect in the discipline. An important point they mention is that anthropology's strength resides in being able to combine biological and cultural data (p. 255). The same can be said for archaeology and osteological data. In anthropological and osteoarchaeological research it has been common to estimate the sex according to the skeletal remains and gender through artifact analysis of the grave goods (Walker & Cook, 1997, p. 256), but studying somethings as personal and complex as gender and identity might not be as straightforward as it seems. Hollimon's suggest that, specifically for grave where this association is not as clear, osteology and bioarchaeology could study activity-induced pathology and musculoskeletal stress markers to try to infer the type of activity the individual performed while alive, since laboured division is often divided by gender and can provide good evidence of ancient gender roles and past societies gender identities (Hollimon, 2006, p. 440).

1.1. Research Problem

Even though osteoarchaeologists nowadays have an understanding of sex and gender being different from each other to the point of this debate being part of undergraduate courses in some institutions, there is still work to be done towards a deeper understanding of the sex/gender system. Archaeological research is still dominated by a firm binary way of thinking, which is impacting how research is conducted, for example, we see issues with skeletal sex estimation due to our understanding of warfare related grave goods used to identify a male individual, and jewellery or textiles meaning for a female A very famous example of this would be the case of Bj. 581, a viking-age burial with an astonishing assemble of weaponry and other military related grave goods. The original excavation team in the 19th century had stablished the burial as containing a male high-ranking military officer (Stolpe, H. 1870–1888 as cited in Hedenstierna-Jonson et al., 2017). Morphological analysis done in more recent times contradicted this sexing of the individual and DNA testing had to be conducted (Hedenstierna-Jonson et al., 2017), with the individual proved to be biologically female. This is not the only

example, research done by gender archaeologists such as Hollimon's work on non-binary identities and two-spirits in Native American funerary practices, proves that this binary thinking can lead to errors in interpretations, even when we try to incorporate non-binary identities into mortuary analysis. Third and fourth gender individuals in Native American societies perform and embody their gender in different ways since puberty, which can sometimes not be very clear on the archaeological record.

There are two important concepts to address for this research: epistemical violence and the concept of incorrigible propositions. The concept of epistemic violence was first introduced by critical theorist Gayatri Chakravorty Spivak in her paper *Can the Subaltern Speak?* (1988) a mayor work in post-colonial theory. In this work, Spivak uses this term when discussing how Europe has used knowledge production and set a narrative to identify the colonies and their people as the Other and silence marginalised groups (p. 280). This concept, even though very extreme in its origins, introduces a very interesting idea, that canon Western knowledge production might have both intentionally and sometimes unintentionally exert violence by producing biased knowledge that ignores minorities, which can be useful when thinking about gender archaeology projects that are disrupting these ideas, such as the work by Hollimon (2006), discussed in this first chapter.

This is very much linked to a term used in Fausto-Sterlings's work *Sexing the Body: Gender Politics and the Construction of Sexuality* (2020). An 'incorrigible proposition' refers to an assumption that prevails in scientific knowledge in disciplines, even if it could be refuted (p. 19).

Interesting approaches to use for this are those that consider the body as not only as material culture, but as a "social construct that is contextually and historically produced" and those that consider that gender is constructed through the use of material objects (Sofaer, 2006, p.xiii; Stig-Sørensen, 2000). According to Sørensen (2000), gender is negotiated through time and is "presented as observed through the ways in which norms, values, rules and other social principles dictate and affect actions and thinking", which also aligns with the way that gender scholar Judith Butler sees gender and sex functioning in society (p. 77; 1990). The material realm and the social are considered by Sørensen (2000) as separate spheres that need to be investigated, specifically when it comes to the role of objects in gender construction, since they're relationship is quite nuanced and complex (p. 77). Studying the body both as a material

object that can negotiate gender and as a product of its specific context could lead to approaches where sex and gender are not only a fixed binary variable that is estimated and used to, for example, divide the population on a necropolis and infer burial patterns, but to gain a better understanding of how that society organised themselves and evolved.

This thesis aims to address these issues and complexities by discussing several case studies: burials were there were dissonances between the grave goods and the sex assigned to the remains, which cause issues in the academic community over the data and its interpretation. My thesis aims to prove whether or not this bias is a recurring phenomenon and what are the ways in which we can move forward by advocating for approaches that do not rely in such fixed binary divisions.

1.2.Research Questions

This thesis aims to explore the connection between our currently understanding of gender, osteological research, and this concept of "epistemic violence" (Spivak, 1988). In order to further explore these complex relationships, the following main question has been defined:

"How are the concepts of sex and gender understood in mortuary archaeology and osteoarchaeological research?"

To further explore this topic, the following sub-questions will be answered. These sub-questions add further nuanced to the topic.

"To what extent are the archaeological context and grave goods used in sex estimation and gender assignment?"

"How has the analysis of DNA played a role in the understanding of sex and gender in osteological research"

"Is there any evidence of bias in scholars' interpretation of sex and gender in mortuary analysis?"

1.3. Approach

To develop the theoretical framework, this thesis will look in depth at academic texts both concerning gender theory and queer studies, but also, scholarly works centred in gender archaeology itself and how gender has been applied to our discipline. There will also be a brief overview and definition of the scientific publications that define the sex estimation methods that will be used to frame each case study.

This thesis will compare several "female warrior" burials, where the skeleton was buried with war-related grave goods. I'm specifically interested in burials where these weapons and iconography have led to a wrong interpretation of the individual's sex. The case studies will be compared through a gender perspective and mainly focus on the different sex estimation's techniques to open a conversation around human bias in osteoarchaeological research. The five case studies are very diverse in terms of geographical location, chronology and cultural elements The aim is not to focus on the grave itself but on what the way research was conducted can tell us about scholar's understanding of sex/gender systems and how we can improve the way we conduct our research.

Successfully integrating Gender theory into archaeological research can provide us with a fantastic tool to explore the role of gender in past societies and, hopefully, reduce, human bias when it comes to skeletal sex estimation and data interpretation. As I hope to demonstrate, Gender Archaeology has raised, and continues to raise, questions around our understanding of sex and gender, which could be useful for osteoarchaeological research and mortuary analysis.

The case studies are the Birka Chamber BJ. 581, a viking-age burial in Sweden dated to 10th century (Hedenstierna-Jonson et al., 2017); the Weapon Grave at Suontaka Vesitoninmäki, Finland, dated to around 1050-1300 AD (Moilanen et al., 2022); the case of La Dama de Baza in Granada, Spain, dated to the 4th century BCE (Presedo, 1973).

This comparative approach will be based in three sex estimation parameters: bone morphology, grave goods and ancient DNA, which will allow for complete picture of the complex relationship between sex, gender and identity in past societies, but it will

also shine a light on scholarly practices in mortuary analysis and hopefully open a path towards a deeper understanding of how these concepts relate to each other.

1.4.Thesis outline

The second chapter of the thesis will present the background information necessary to have a comprehensive understanding of gender theory, the concepts of sex and the sex/gender system. Gender Theory and Queer Theory can be complicated and daunting, especially if the reader of this thesis is not familiar with this discipline. Due to this, this background chapter will focus mainly on the definitions that are relevant for gender archaeology and in the evolution of gender archaeology itself, rather than getting lost in the complexities of gender theory. There will also be a brief overview of the evolution of sex estimation methods in osteological and osteoarchaeological research. Moreover, there will be special attention to how biological sex has been related to gender.

The third chapter will present each case study in depth, I will dive on the context and available data for each case study, with a focus on the sex estimation methods employed and the subsequent interpretations of the researchers concerning gender. I will briefly introduce the methods used in each burial as well. Due to the complexity of the cases how the context and the results are so interconnected to each other, there will not a separate results chapters and the results will be introduced alongside the in-depth explanation of the burials.

The fifth chapter will discuss the ramifications and interpretations of my data, place them into the broader context of gender archaeology both in European and American context and discuss the limitations of this study

The final chapter will be the conclusion, where I will answer the research questions and debate the possibilities for future research and further exploration of this topic.

2. Background

Before diving into the different burials that are going to be compared it is necessary to give a comprehensive overview of what we talk about when we talk about Gender Archaeology. Gender Archaeology has is origins in 1960s feminist critique and the development of Women, Gender and Queer Stories. It is very easy to get lost in a sea of theoretical frameworks and epistemologies so this chapter will focus on three topics that are deemed more important for this thesis: the origins of Gender Studies as an academic discipline, the development of Gender Archaeology and how Gender Archaeology nourishes mortuary analysis and osteoarchaeological research.

2.1. Feminism and the origins of Gender Studies

Simone de Beauvoir once famously said: "One is not born, but becomes a woman" (2011, p. 293)

This famous statement from the philosopher's work *The Second Sex* came at a time where feminism was evolving from its conception. Second Wave Feminism in the 1960s had an interest in statements like these and what they meant for the future of activism. The idea that there were certain roles assigned by society to the category of woman and that these roles where socially constructed and not biologically fixed was at the heart of the feminist movement. This idea of sex and gender being two separate categories led to the development of scholarly fields that would address these issues, such as Woman Studies, Gender Studies and Queer Studies. (Dr. Looi van Kessel, personal communication, September 12, 2022).

Feminist Critique and academics defended that society had gone from an understanding of one-sex model that viewed female bodies as a sort of lesser male body to an understanding as the two sexes being different from each other after the Enlightenment (Laqueur, 1990). This understanding of female and male as both meaning sex and gender meant that science became very interested in the scientific production of sex and how to prove this binary system. Sanz studies how science has tried to prove this fixed binary and has studies what she calls "scientific production of sex". She argues that although traditionally biology presents research in the West in the biological sciences as "a smooth progression in identifying different variables to determine sex, feminist

critiques […] have revealed that this history has been discontinued and contextually dependent" (Sanz, 2017, p. 2). Scientist have looked for evidence of this fixed sex binary through anatomical sex, gonadal sex (testes/ovaries), hormonal sex, chromosomal sex, genetic sex and even brain and genomic sex but nature refuses the binary Sanz overviews how knowledge production of sex, even if scientist were looking for biological evidence of fixed binary identities, nature complicated things. One example would intersex conditions, which were studied along with the development of chromosomal sex testing and studies (Sanz, 2017, 2017, pp. 7-9). Nonetheless as Sanz points out, even if science can prove the existence of absence of a binary, knowledge production and science will assume and defend this binary: "the definition of sex as a binary […] has stubbornly remained at the core of scientific research on sex" (2017, p. 19).

There is a value and a power in challenging this type of thinking and knowledge production. Gender and queer perspectives can be very valuable for fields of knowledge that deal with humanity's past and its complexity. Societies throughout history have been shaped by social construct and structures, one of them being the sex/gender system. Studying sex and gender can be as valuable as studying other aspects such as class or identity.

2.2. Gender Archaeology

Archaeology being a traditionally male-dominated field has only very recently adopted Gender Theory and feminist critique into its discourse. Gender Archaeology also had its origins in Second Wave Feminism in the 1960s. At this time, there was a growing concern over the lack of women scholars in the discipline as well as the lack of archaeological studies focused on the contribution of past women. Early works dealing with this were published in the late 60s and early 70s such as *Women in academic life.* In her book Stig-Sørensen (2000) explains that the early stages of the field focused on subverting women's passive roles, both as producers of knowledge but also in the assumptions archaeology and prehistory studies were bringing to the conversation, such as "pottery production, when ascribed to women was consistently considered a domestic activity, while it became a craft or industry if associated with men" (p. 17).

The change from a female critique archaeology to a more engendered discipline came a decade later. As mentioned before, the distinction between gender and sex had started appearing across disciplines, and the concept of gender was first introduced in archaeology with a paper from 1984 published by Conkey and Spector named *Archaeology and the Study of Gender* (1984). After two decades, questions exclusively focused on women in the past were not enough. As Nelson (1997) points out, there is no possibility for us to know whether or not past societies had the same gender hierarchy and binary system that we have today. Exploring gender in the past by using our gender system as template was a too simplistic approach (p. 16). Gender is more complex than just looking at men and women.

> […] because the categories of male and female themselves need to be re-examined. It may be "obvious" to us what is male and female within our own cultural context, yet we must be careful not to extend these categories to other cultures. (Nelson, 1997, p. 17)

This argument opens the possibilities for very interesting research. Gender should not be used just as a sub-discipline driven by feminist interventions. It can be a very powerful tool to explore past societies, as we know through both the archaeology and ethnographical date some indigenous communities have cases of third and fourth genders such as the Native American Two-Spirits (Hollimon, 2006); other indigenous populations have systems where gender does not play a role in a way that is familiar to us, such as Yoruban non-gendered egalitarism (Ayioka & Wakoko, 2018). Looking at the categories of "male" and "female" through the fixed lens of Western concepts of gender ignores lived experiences and realities. Stig-Sørensen (2000) makes a very interesting remark when she establishes that the people, we study are after all "engendered individuals whose activities are going to be inevitably influenced by the identity they embody" (p. 9)

There is a necessity for an engendered archaeology, to understand gender rather than as a subdiscipline that women are interested in as powerful framework that completes our understanding of societies similarly to how concepts of ancestry or class have been used previously. In one of the pioneer works of feminist archaeology, scholar Rosemary Joyce (2008) discusses that there has been an assumption that past societies have functioned in similar ways as our current modern society. Thus, there has been a projection of current modern-day understandings of western ideas of a binary gender

system into past societies that might have been organized in a different way (pp. 21-22). This idea of how the framework we use to understand reality affects our interpretations is linked to the concept of 'incorrigible propositions' that we have mentioned previously. a term used in Fausto-Sterlings's work *Sexing the Body: Gender Politics and the Construction of Sexuality* (2020). Could the current fixed two-sex model (female and male) be our 'incorrigible proposition'?

2.3. Sex and Gender in Mortuary Archaeology and Osteoarchaeology

2.3.1. Mortuary analysis and sex and gender

Once gender archaeology started making its way into the archaeological scientific discourse, it was a matter of time until feminist archaeologists that were engendering the discipline started being interested in mortuary analysis and osteoarchaeological research. Throughout the 1980s and 1990s works in engendered mortuary analysis were published by both British (Lucy 1997; Pader 1982; Stoodley 1999, as cited in Arnold, 2006) and Scandinavian scholars (Dommasnes 1982; Gibbs 1987)

Traditionally grave goods have been used to hypothesized about sex, gender and gender roles in mortuary analysis. According to Susan Stratton (2016), this is due to sex being one "the most accessible differential in a burial population", far easier and less elusive than other differences such as social rank or economic roles (p. 855). It is then a rutinary part of mortuary analysis to use grave goods and body position to classify graves according to sex when studying necropolis, specifically in European prehistory. Stratton studies the case of the Cemetery of Durankulak in Bulgaria to look at this traditional way of analysing sex in mortuary analysis and whether or not this could be problematic. The cemetery was discovered in 1974 and excavated until 1997 and it contains around 1200 burials (Stratton, 2016, pp. 856-857). Stratton highlights the fact that initial analysis of the distribution of the grave goods only accounts for the individuals that were sexed with confidence and excluded those whose sex remain indeterminate. This caught her attention since it seemed like there was a strong correlation between sex and burial position (Stratton, 2016, p. 858). Males were buried in an extended position and females crouched (Stratton and Boric, 2012 as cited in Stratton, 2016, p. 858). The

burials that were not confidently sexed consisted of possible males, based on morphological analysis and grave goods, that were in a crouched position; and possible females in an extended positions (Stratton, 2016, p. 859). Stratton goes on to propose an alternative way of looking at this necropolis but what is interesting is how traditional, binary-fixed ways of understanding sex in mortuary analysis will not always present the full scope of possibilities and the complexities of past societies.

One of the most comprehensive and complete works on the multiples ways that gender can be used for archaeological research is Sarah Milledge Nelson's *A Handbook of Gender in Archaeology* (2006). This edited volume presents the research of several archaeologists that have been enriched by a gender perspective. Several chapters discuss mortuary analysis and funerary archaeology like Bettina Arnold's *Gender and Archaeological Mortuary Analysis* (2006). Arnold (2006) argues that gender has been used as a tool for categorizing past societies and "is one of the most frequently encountered forms of mortuary differentiation and can be expressed in a wide range of ways". Factors such as where the burial is placed within the necropolis or the position of the body and, of course grave goods have been very frequently connected to gender, specifically when bone preservation is not good enough to allow for skeletal analysis (p. 137; 140). A very important point that Arnold brings to the conversation is that graves and their configurations might be misleading. They are a powerful tool to infer into ancient cultural practices, but they do not necessary represent the individual's true identity but, perhaps, more an idealized identity. This in line with Parker Pearson's famous statement: "the dead do not bury themselves" (1999, p. 5). Furthermore, there might cultures whose gender was not differentiated in a clear manner like ours (Crass 2001; Weglian 2001). Sarah Tarlow (1999) aptly illustrates the complexity of archaeological work and mortuary archaeology specifically:

> "[…] the mortuary context tells us that the individual seen by archaeologists represents not only a woman, as constructed by the gender ideologies of her time, but specifically a *dead* woman, going to her grave. Thus, the artefacts accompanying her are not just associated with the idea of femininity, but are the objects appropriate to her transition from the living to the dead"
>
> (Tarlow, 1999, p. 178)

Burials can indeed give us information about gender, identity and status but archaeologists need to be aware of the fact that grave goods and other potential markers of gender, such as burial position and location might not give us a straightforward answer on how this person embodied gender while being alive. Arnold (2006) points out the contradiction of burials having not necessarily giving us information on the deceased living identity, and the fact that graves are still one of our best set of data to get to know a culture (p. 137). Still, even though there are limitations, it is important to consider burials are one our best sets of data to understand gender, identity and other social categories of populations, since as Sørensen discusses death rituals tend to highlight ideal versions of these social categories and where identities can be renegotiated (2000, p. 85; 92).

Another important work in this area is *Gender and the Archaeology of Death* by Arnold and Wicker (2001), which is one of the earliest works on the relationship between a gender framework and mortuary analysis. This edited volume explores the ways in which gender perspectives can benefit archaeological research surrounding dead and the deceased. It deals with mortuary analysis in several regions but also topics such as power imbalance or infanticide. It also discusses a topic relevant to this thesis: the relationship between weaponry, warrior identity and women, but also a couple of chapters on topics we have briefly touched upon already, such as the complexity of the relationship between grave goods and gender (Crass, 2001; Weglian, 2001). This work is revolutionary because it is the first volumed to directly address in its integrity how gender theory can be an important tool for mortuary analysis, and it dives deeps in the problematic or relaying exclusive on grave goods or the existence of cultures with different gender systems that the western female/male opposition (Crass, 2001; Weglian, 2001).

Finally, recently in 2017, S. C. Agarwal and J. K. Wesp edited a volume titled *Exploring Sex and Gender in Bioarchaeology.* This volume is trying to adapt to the recent questioning bioarchaeologists are doing of traditional methodological approached to sex estimation in hopes to bring a more nuanced perspective (Agarwal & Wesp, 2017, p. vii-viii). The book addresses which theoretical approaches could be used when studying sex and gender in past societies, but also focuses on how bioarchaeology can inform the gendered identity but also health or disease. It contains a wide variety of chapters dealing with topics such as: nonbinary genders in mortuary analysis (Hollimon,

2017), DNA testing and sex determination (Geller, 2017), but also how we can look at violence through a gender lens (Novak, 2017), researching bone loss from a gender perspective (Agarwal, 2017), or looking at sex and gender differences in tooth wear and dental disease (Lukacs, 2017). This book is worth mentioning because biological sex estimation has its limitations, as it will be explored in the next subheading, and it is important to have ground-breaking work by feminist bioarchaeologists and osteoarchaeologist that are trying to fill the gap in our knowledge.

2.3.2. Biological sex estimation and gender interpretations

Estimating sex is one of the most important data that can be obtained from skeletal remains, along with age or paleopathology which can indicate many factors of the populations living conditions and stress markers. When estimating sex, osteoarchaeologists will look at the markers of biological differences between the male and female sex (R. Schats, personal communication, April 24, 2022).

Sex estimation based on the remains is one of the most important parts of mortuary analysis, but this can be problematic as traditionally it has led to inferring gender and gender roles, which is separate from sex, furthermore it often assumes that sex operates as fixed binary, which is not the case (Sanz, 2016).

When studying a skeleton to try and infer sex the most reliable part of the body is the pelvis followed by the skull and lastly the long bones (Ferembach et al., 1980, p. 512). For the long bones normally, male bones tend to be more robust and female more gracile as men tend to be slighter bigger than females in size. Nonetheless this is not always reliable as there is both individual variations but also variations in populations of different ethnicities. Sex estimation on the basis of morphological markers are studied in a continuum with scores ranging from Female, Probably Female, Indeterminate, Probably Male and Male (R. Schats, personal communication, April 24, 2022). This means than individuals that fit in the “indeterminate” category tend to cause some problems for archaeologist (Henderson, 1989). Furthermore, a study by Weiss (1972) proved that there is a tendency towards bias in sexing with a higher chance of sexing individuals as males when the skeletal remains are ambiguous (p. 245; p. 247).

For the skull, there are several markers that you can score and should be scored on a continuum to, as said before, account for individuals that might be in the middle. The mandible also has several markers that are scored, but in general male mandibles will be more marked and squared than female (R. Schats, personal communication, April 24, 2022). Again, there are limitations, there are male individuals with more gracile individuals and the opposite: Dutch females tend to have more masculine mandibles that are often scored as male even when the pelvis cored female (Maal et al., 1997).

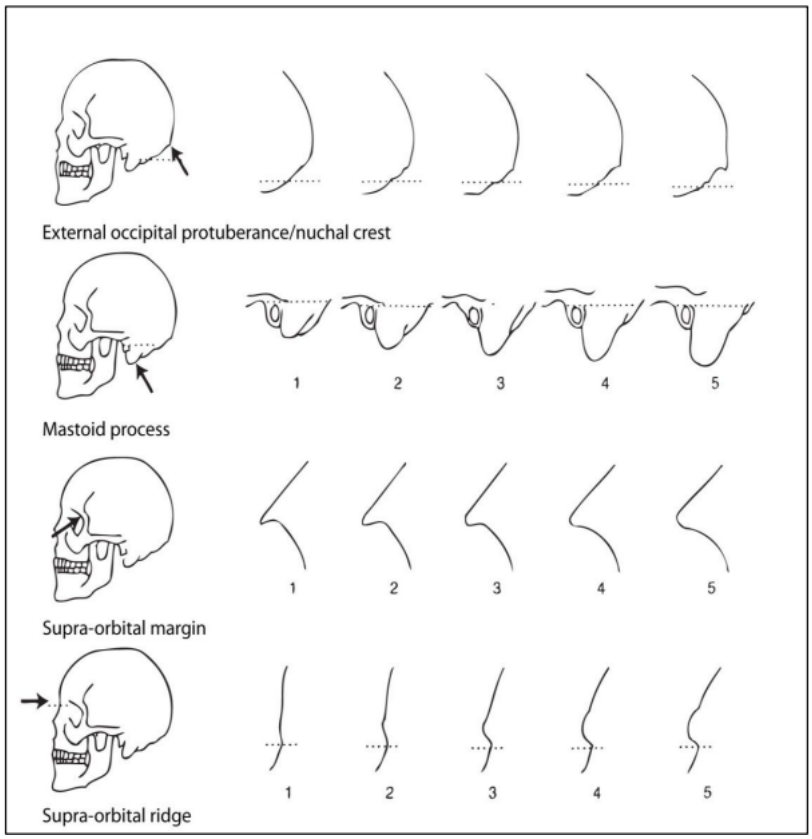

Figure 1. Scoring of the skull, based on Buikstra & Ubelaker. Extracted from the class notes from Dr. Schats

The pelvis also has several traits and markers that can be scored. We will be dealing with standard methods such as Buikstra & Ubelaker (1994), Phenice (1969), Lovejoy et al. (1985) or WEA (1980), depending on what method was used for each of the case studies

Since bone preservation varies according to climate conditions there are other ways to estimate sex:

Grave goods

As we have mentioned in the previous chapters grave goods have been used as a powerful tool to infer gender in burial practices. Grave goods have been associated with one of the binary sexes and modern gender (female/male), which weaponry associated with male and jewellery and textiles associated with females. As we have explained we need to be very cautious with this, as grave goods in past cultures might not have a straightforward binary association or past cultures might have had a different gender system that is less fixed and more fluid that we might be unaware of. As Sørensen points out, even if a society consider swords a masculine item, the presence of one in a burial might not necessarily be related to the individual per se but might be a commentary on masculinity (2000, p. 132). The objects a person is buried with might have a more complicated relationship with the person and might represent an idealized identity or might be related to a death ritual rather than to that person's identity when they were alive (Sørensen, 2000, p. 85).

Ancient DNA analysis

Sequencing DNA from ancient humans can provide with valuable information on fields such as human origins and early human migrations. Ancient DNA is collected from bones but due to preservation issues it can be degraded and be difficult to collect. The best preservation conditions can be found in skeleton preserved in very cold climates (Downes, 2021, p. 287). Ancient DNA can be sequenced to extract the chromosomal sex of the individual and obtained information of whether the person carried XX, XY chromosomes or any of the variations encompassed by the term intersex, thus helping archaeologists better understand and complicate the relationship between grave goods, sex and gender.

3. Case studies

This thesis aims to explore the research problem and answer the questions by performing a comparative analysis of several burials, contested with regards to sex and gender interpretations. The following graves contain grave goods that have been associated to the male sex/gender due to its relation to warfare and military activities, but the sex of skeletal remains does not correspond with the male biological sex. The graves will be analysed paying special attention to the three sex estimation approaches discussed in the previous chapter: grave good analysis, morphological analysis, and ancient DNA.

3.1.The Birka Chamber Bj. 581, Sweden

The Birka Chamber Bj. 581 might be the clearest example of how western understandings of gender and scholarly bias can potentially affect interpretation of archaeological data. This burial was discovered during the 18th century when excavating the settlement of Birka, an 8th century commercial trade centre located in modern-day Sweden on an island named Björcö located in Lake Mälaren in the south-eastern part of the country (Fig. 1). Birka was a place of multicultural exchange evidenced by an extensive contact network that lasted until late 10th century (Encyclopædia Britannica Online, 2023, Birka entry; Hedenstierna-Jonson, 2014, p. 90; Hedenstierna- Jonson et al. 2017, p. 853). As Hedenstierna-Jonson describes Birka was a fortified settlement where military presence was abundant among the civilian population (2009, p. 161). It has also been established that due to the settlement being such an important trade port, the population became urban and had distinct set of cultural practices that differentiate them from other parts of the region (Hedenstierna-Jonson, 2014, p. 91; Hedenstierna-Jonson et al., 2017, p. 853). Birka yielded around 3000 burials of which 1100 were excavated, which makes it one of the largest Viking world burial sites (Hedenstierna-Jonson, 2017, p. 853).

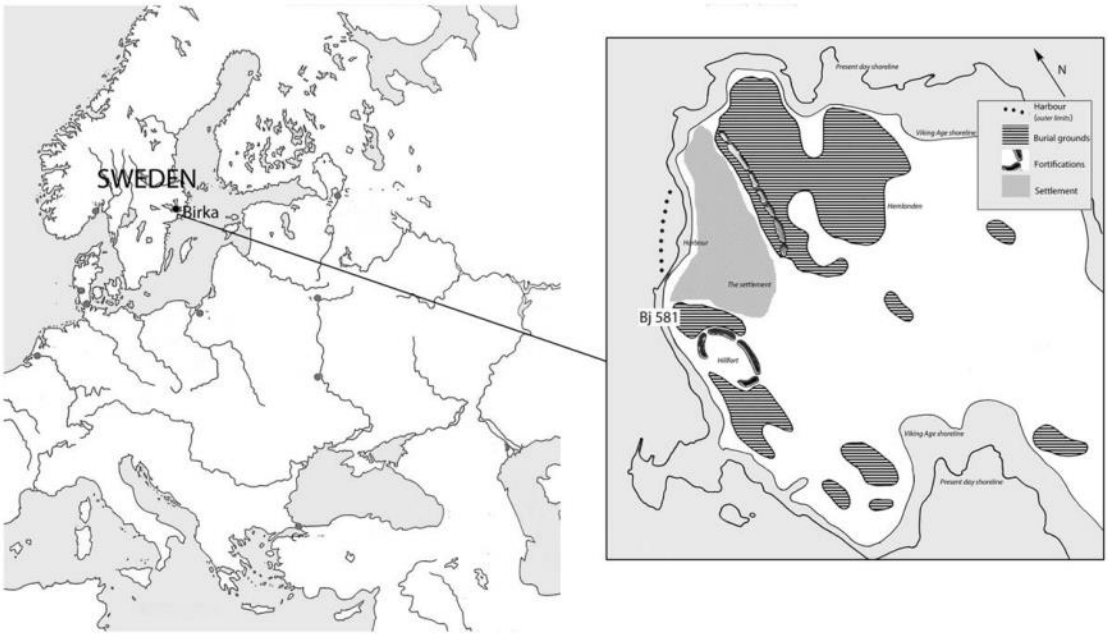

Figure 2. Map of the location of Birka and the burial Bj. 581 (Hedenstierna-Jonson, 2017, p. 853).

The burial that is the focus for this thesis, Birka Chamber Bj. 581 caught everyone's attention from the beginning since it contained an impressive assortment of military equipment: swords, battle knifes, two horses: one mare, one stallion, shields, arrows, etc. The skeleton was also buried with a set of dice and other gaming pieces (Fig. 2), which have been linked to high-ranking officers with strategy skills (Whittaker, 2006, pp. 105-106). Bj. 581 was oriented in such a way that the burial would have views of the water, this has been interpreted as indicating that the individual was important (Hedenstierna-Jonson et al., 2017b, p. 2). The individual was initially identified as male due to the association of warrior grave goods and warrior identity with maleness and masculinity (Arbman, 1941 as cited in Hedenstierna-Jonson et al., 2017, p. 855). In 2016, Anna Kjellström, a researcher at Stockholm University performed a full osteological analysis of individual Bj. 581 for her research that she presented at the 17th Viking Congress on the population on the Mälaren Valley (2016).

For the osteological analysis, Kjëlstrom used standard methods such as Buikstra & Ubelaker (1994). The skeletal remains preserved were most of the long bones in the upper and lower body, almost the entire spine, part of the sacrum and the pelvis, the lower mandible and one phalange from the left foot (Price et al. 2019b, p. 10). All the preserved bones presented with complete epiphyseal fusion; the epiphysis is the name given to the caps present at the end of the long bones. Each epiphysis has a known age

range of when they fused to the long bone, making them useful for age estimation (White & Folkne, 2005, p. 373). Kjëlstrom established that the auricular surface, an ear-shaped feature where the sacrum articulates with the pelvis, of the left ilium could be categorized to phase 3 of the auricular surface methods described by Lovejoy et al. (1985), which suggests that the individual would have been between 30 and 40 years old at the time of death. For the sex estimation, the researchers studied the morphology of the pelvis, including the breadth of the greater sciatic notch which appear to be wide, amore female trait. Additionally, there was also a preauricular sulcus visible, a feature in the form a groove which is more likely to occur in females. Furthermore, Kjëlstrom assessed the mandible, which did not present any mental eminence (the chin) projection, a more masculine trait. The surviving long bones were "thin, slender, and gracile" (Price et al., 2019b, p. 14-15). To make sure that this assessment was correct Kjëlstrom invited other scholars to do a blind examination of the remains, and they came to the same conclusion: the individual in the Bj. 581 was of the female sex (Price et al., 2019b, p. 15).

Thus, the osteological analysis questioned the sex estimation done by the original excavation team. Due to the possibility of the individual being female and the potential interpretational implications this would have, as there had never been a female-sexed individual buried which such an assemblage, DNA testing was done by a team of scholars from several institutions in Sweden ((Hedenstierna-Jonson et al., 2017).

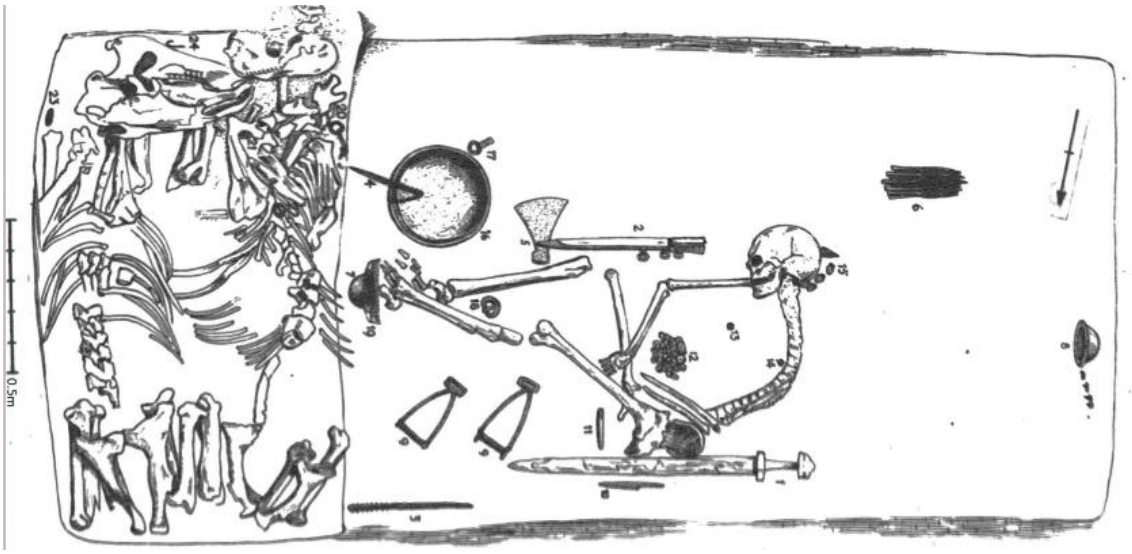

Figure 3. Drawing of the Birka Chamber Bj. 581 based on the original excavation sketches, drawn by Harald Olson (Price et al., 2019, p. 185).

The samples were collected from the left canine and the left humerus and were performed in the aDNA facilities from the University of Stockholm (Hedenstierna-Jonson et al., 2017b, p. 4). According to the original publication, the sex was assigned by looking at the "ration of sequences aligning to the two sex chromosomes, X and Y", based on Skoglund et al. work from 2013 on the accurate way to use aDNA for sex identification (Hedenstierna-Jonson et al., 2017 p. 855). The results of the ancient DNA analysis showed that the individual carried XX chromosomes (Hedenstierna-Jonson et al., 2017, p. 857). More in-depth information on the procedures and results of the aDNA analysis can be found in the supplementary material published by the team alongside the original publication see (Hedenstierna-Jonson et al., 2017b). The team did not change the original interpretation of the individual being a warrior, their reasoning being that even though we should be careful with interpreting grave goods, the interpretation should not change drastically just because the biological sex changed.

This research was met with some criticism. Professor of Viking Studies Judith Jesch from the University of Nottingham, for example, commented on the article on her personal blog after the Birka Chamber Bj. 581 publication was met with attention on social media. She comments that for a publication that mentions the figure of female warriors in text, there is a lack of authors in the paper with an expertise in language and written text. She believes that the authors pushed a narrative of a "high-ranking military officer" even if the evidence did not fully support it and claims "all this seems to me to move rather quickly from evidence to speculation which is presented as fact". She mentions that the authors dismissed the implications of some of the data, such as the lack of weapon-related injury, that would support this high-status warrior hypothesis, or the fact that the osteological collection of Birka has suffered from cataloguing issues. (Jesch, 2017).

After the attention this publication attracted not only in the academic world, but also on other news outlet, and given the backlash, the team published a follow-up article with supplementary material in 2019 defending their results and engaging in a more in-depth conversation on the interpretations and implications of the results (Price et al., 2019). They first addressed the issue of whether or not the original interpretation from Stopel's team was that of a high-status warrior, which had been put in question by scholars' such as Jesch (2017). Price and his team mention that Stopel's original excavation reports already discussed how unusual Bj. 581 is compared to other graves found in Birka

(Stolpe 1870-1888; 1879 as cited in Prince et al., 2019, p. 184). Furthermore, they reiterate not only how extraordinary the amount of weaponry and armour was, but the lack of any domestic objects in the burial chamber and the fact that an analysis of the clothing by a textile expert argues that the individual would have been a calvary commander (Price et al. 2019, p. 184; Hägg, 2002, p. 204 as cited in Prince et al., 2019, p. 184). They provide references to works of Viking scholarship where the interpretation of Bj. 581 as a high-status warrior has been discussed and studied extensively and how the assumption of the individual being male has been maintained since the original excavation report due not only to the number of weapons, but also the absence of female-aligned grave goods such as jewellery and that this assumption would have probably stayed in there were no skeletal remains (Prince et al., 2019, p. 188-189).

After the results were published, as we have mentioned, there were some criticism and scepticism, including whether or not the team had the rights remains, whether Bj. 581 could have been a double burial or what were the evidence supporting the claim of a warrior's status for the individual? (Price et al, 2019, p. 189: 2019b, p. 6). In the complementary material attached to the 2019 publication they review in depth the evidence that proves that they had the correct remains (Price et al, 2019b, pp. 6-12) and there was no evidence of a second body (Price et al, 2019b, pp. 12-14).

3.2. The Weapon Grave at Suontaka Vesitorninmäki, Finland

The early medieval Finnish Weapon Grave at Suontaka Vesitorninmäki has been interpreted for years as a woman buried with two swords, due to the fact that the burial contained jewellery and other elements that implied the individual was buried with feminine clothes (Moilanen et al., 2022, p. 42). The popular interpretation of this grave had been used to promote the roles of female empowered figures in the past, such as an exhibition in the National Museum of Finland, that ran from 1995 to 2016 (Erä-Esko et al., 1995 as cited in Moilanen et al. 2022, p. 43). In 2022, a team presented the first in depth study of the grave that looked at the grave's original context, the grave goods, the fibres in the soil and conducted ancient DNA analysis (Moilanen et al., 2022).

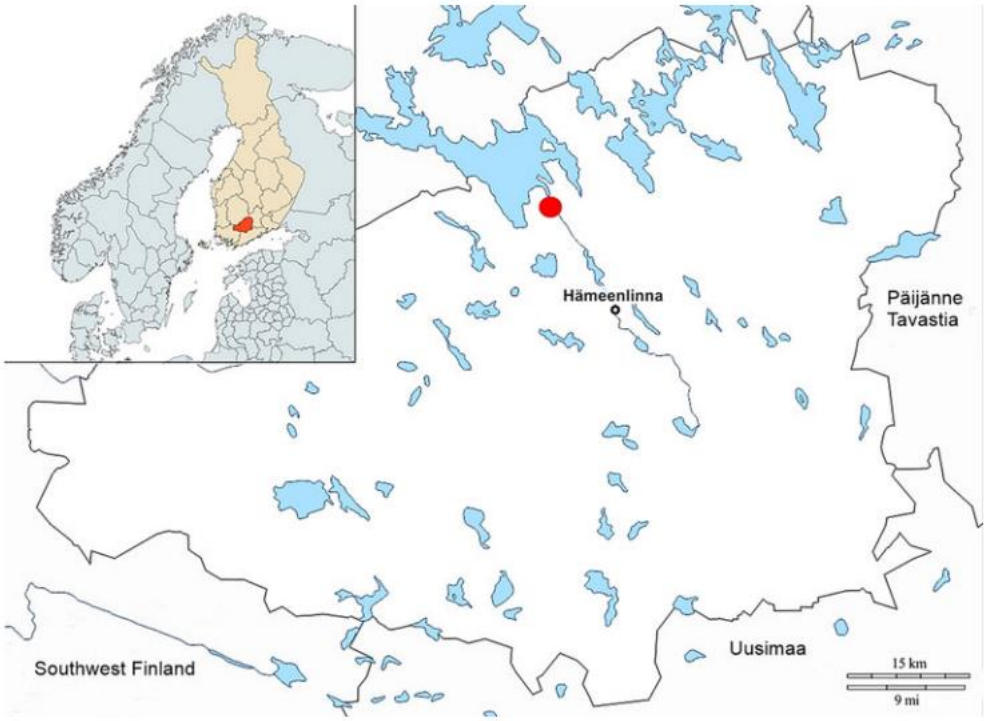

Figure 4. Map of the location of the Suontaka Vesitorninmäki burial (Moilanen et al. 2022, p. 43).

The burial dates back to the late 11th to early 12th AD and these dates were supported by radiocarbon dating (Moilanen et al., 2022, p. 45). The burial contained a bronze-hilted sword, a sword blade missing the hilt, a sheathed knife, two oval brooches, a smaller penannular brooch and a sickle (Figure 3).

Figure 5. Objects found at the Sountaka Vesitoruninmäki grave, currently at the National Museum of Finland © Finnish Heritage Agency (Moilanean et al., 2022, p. 46).

The original excavation report indicated that the hilted sword was found in a patch of dark soil in a pit on top of the body and the rest of the artifacts, this has been hypothesized as the sword being located in the grave fill and maybe not connected to the burial (Moilanen et al. p. 2022, p. 45). Due to the position of the sword some scholars have suggested a double-burial hypothesis (Nylén, 1973, p. 165, as cited in Moilanen et al., 2022, p. 46). Nonetheless, the original reports disprove this possibility due to the lack of discoloration that would prove a second decomposition layer and the size of the pit being suitable for only one individual (Moilanen et al., 2022. p. 46). The surviving bones were heavily decomposed so the study of the bone morphology normally used to estimate sex could not be carried out. The research team used a gender-informed perspective, specifically taking into consideration the associations between grave goods such as weapons and male identity. They mentioned the fact that this grave is special since normally for this period and region graves containing female-sexed individuals with weapons lack jewellery and items connected to femininity (Simniskytė, 2007; Price et al. 2017, 2019). Therefore, the DNA analysis was deemed particularly important.

For the DNA analysis, material was extracted from one of the heavily decomposed femur fragments that was lifted. The chromosome studied of the aDNA extracted yielded some interesting results: the individual carried XXY chromosomes, as such it could be concluded that the individual in the Suontake Vesitorninmäki grave was intersex. Males with XXY chromosomes sometimes present female characteristics such as breast growth and certain studies point out that these individuals could be more feminine and sensitive (Moilanen et al., 2022, p. 50; Visootsak & Graham, 2006). It is necessary to clarify that intersex is a modern medical category that might not reflect on what the gender of this individual had been in the past, this will be mentioned in depth in the discussion chapter.

Moilanen and her team theorize that the bronze-hilted sword might have not been part of the original burial as it was found in the upper layers. They suggest it could have been placed there generations later as it was not uncommon to do saw and hide objects for ritual purposes (Wessman, 2010, p. 97). The hitless sword definitely belonged to the burial as it was placed directly on top of the body, the sword presented no signed of wear or damage, plus the handle was removed. The research team considers that since swords that were place in such close proximity to the body could be interpreted as symbols of identity (Sayer et al., 2019), that maybe this disablement of the sword might have made it less violent and more genderless (Moilanen et al., 2022, p. 50). The fibres suggest that the burial was very elaborate as it might have contained bedding and clothing made of fur (Moilanen et al., 2022, p. 51). The team was very aware of the complexity of interpreting this burial and chose to only very tentatively discuss the individual's gender identity. What is clear to them, is that this is "the first case of chromosomal aneuploidy from a context which has been puzzling archaeologists as an atypical combination of mixed-gender attributes", but this does not mean that the intersex condition of the individual is the reason for this burial assemblage since, as they clarify, chromosomal sex differs from a person's gender identity (Molanen et al., 2022, p. 51).

Molanen points out that if the individual lived until puberty, where their intersex's physical traits would have become visible, then this might have led to the individual taking a more gender neutral or "non-binary" role. Their chromosomal sex might not have defined their gender identity but as Judith Butler explains in here ground-breaking work, gender roles and gender identity are dependent of the society that shapes them,

which often relies in sexual characteristics to stablish and define these roles (Butler, 1988; 1999). It could be possible that the individual at Suntoaka could display a less clear masculinity, specifically if we consider the female clothes they were buried in since clothes and other objects of decoration reflect identity and can communicate gender (Stig-Sørensen, 2000, p. 128). What seems to be clear is regardless of the individual's lived gender identity, they were a valued member of society, considering the care and effort put into the burial (Molanen et al., 2022, p. 52).

Contrary to what happened when the results of the Birka Chamber reached the public discourse, there does not seem to be any backlash surrounding these results, although the article was published very recently in February of 2022, so it might be too early to fully assess the implications and the impact of this data. Nonetheless, it is interesting to illustrate that the in-depth study of the grave done by Molanen and her team has been referenced in a recent article from May of 2023 which explores the identification of non-binary individuals in prehistoric European burials (Pape & Ialongo, 2023).

3.3. La Dama de Baza, Spain

This burial was found in 1971 in Baza, a city in the southern province of Granada. Excavations at Baza yielded an important necropolis from the local Iberian prehistorical peoples: the necropolis of Cerro del Santuario, containing more than 170 burials, although it still not fully excavated so there could be more. The necropolis has been dated to the 4th century BCE and was in use for around 100 years (Lacuesta Contreras, 2006, p. 131; Adroher & Lopez, 1992). Excavations started in 1967 by professor Presedo after the area was flattened with excavators to allow for the plantation of almond trees (Lacuesta Contreras, 2006, p. 132). The necropolis of Cerro del Santuario is one out of three necropolises linked to an iberian, settlement named *oppidum de basti*. Cerro de Santuario is dated to what is called Época Plena del Período Ibérico (High/Full Age of the Iberian Period) where you can see some urban complexity and fortification in these *oppida,* plus there is first evidence of great necropolis (González Miguel, 2012, pp. 118-119).

Figure 6. Map showing the location of the city of Baza, the area where the necropolis was found © Google Maps.

The burial chamber was square and around two metres long on each side and was excavated into the soil. In it, there was a statue of what seems to be a woman, sitting down on a throne, holding a bird on her left hand, while her right hand is positioned on her right thigh. The statue weights around 800 kg., had a height of around 1.30 metres and a width of 1.03 metres and it is made out of limestone and painted (Presedo, 1973, p. 187-188). The sculpture turned out to be an urn that contained the cremated remains of one individual, the opening of the urn could be found on the right side of the throne (Presedo, 1973, p. 190).

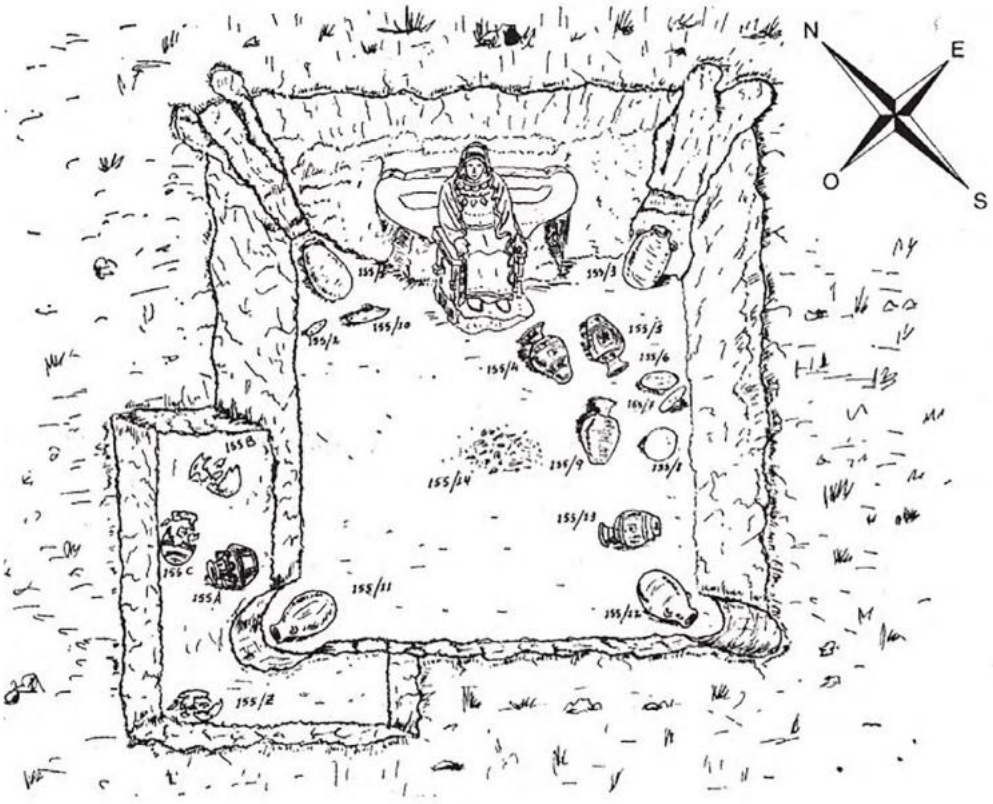

Figure 7. Sketch of the burial chamber containing the statue and the grave goods (Presedo, 1973).

The grave goods consisted of four amphorae with an ovoid shape, decorated with paint that were placed in the four corners of the chamber (Adroher Auroux, 2022, p. 44). These four round cavities in the corners of the chambers (Fig. 4) have been theorized to have originally contained wooden posts that would have held a sort of roof that has degraded over time (Caballero Cobos & Blánquez Pérez, 2022, p. 28). Two ceramic plates were found lying to the right of the statue's feet, near the opening of the urn and it has been theorized that could been used to cover the opening (Adroher Auroux, 2022, p. 48). The chamber also contained four painted urns (Adroher Auroux, 2022, p. 49-50), several metal objects, including weaponry and armoury and a belt. The burial has tentatively been connected to a burial chamber nearby, number 176. This burial containing a male individual had very rich grave goods deposited in it, including greek-style pottery, and is also formed by a great square chamber with four round corners containing amphorae in its cavities (Chapa Brunet & Izquierdo Peraile, 2011, p. 71)

Figure 8. Dama de Baza. © Santiago Rezalón. Museo Arqueológico Nacional

The metal objects were very poorly preserved and most of the weaponry appeared to have been intentionally burned at the funerary pile and the blade of at least one of these swords might have been bended before depositing in the funerary chamber (Quesada Sanz, 2010, p. 164; Presedo, 1973). The weaponry assortment that was present in the centre of the chamber contained four curved-bladed swords named *falcatas* (Quesada Sanz, 2010, p. 150). Presedo's original report also mentions the existence of a dagger and some pieces of a horse-riding mouthpiece, but Quesada is unsure about these pieces (2010, p. 151). Furthermore, two or three daggers were deposited along with the swords (Quesada Sanz, 2010, p. 151).

Original interpretations of the burial established that the individual was probably a male warrior that have been buried in some sort of ritual, Presedo references this male warrior throughout the entirety of his original report (1973). Analysis of the remains both in the 1980s and in the 2010s revealed that the remains contradicted this original interpretation (Reverte, 1980 in Quesada Sanz, 2010, p. 160). Accessing the original report from Reverte (1980) has not been possible. Nonetheless, in 2007 an in-depth study of the burial was presented at an international conference organised by the spanish National Archaeological Museums. These results were later collected in an edited volume named *La Dama de Baza: Un viaje femenino al más allá* (2010), including a chapter covering the paleoanthropological analysis of the cremated remains (Trancho Gayo & Robledo Sanz, 2010). The author makes an interesting point where he discusses that cremated remains have tend to be understudy and ignored from the archaeological data, seen as less "valuable" than skeletal remains. Adding to this, there has throughout

the course of archaeologist's development as a field, there have been issues with dealing with bioarchaeological data in Spanish archaeology due to the difficulty of finding physical and forensic anthropologists willing to do archaeological fieldwork. Nonetheless, cremated remains can be analysed to potentially infer age, sex and other markers. (Trancho Gayo & Robledo Sanz, 2010, pp. 119-120).

The remains were analysed in at the National Archaeological Museum in Madrid in May of 2005 (Trancho Gayo & Robledo-Sanz, 2010, p. 121). One of the first factors the team tried to explore is how the remains were handled after death, reaching the conclusion that the body was cremated shortly after death, based on the fragmentation and discoloration of the bone pieces that were recovered since the bones present ruptures in a way that is consistent with the type of pressure that the bone is exposed to when is covered by flesh, rather than directly exposed to the fire (Trancho Gayo & Robledo Sanz, 2010, p. 122). Once this result was obtained, the team tried to assess whether the remains belonged to one or multiple individuals. In order to do this, they assessed and tried to identify all of the bone fragments that were recovered to see if there is any duplication of bones or if there are any changes in robustness that might indicate more than individual presents. Following these procedures, the remains were confirmed to belong to a single individual (Trancho Gayo & Robledo Sanz, 2010, p. 123-124).

The recovered bone fragments allowed the team to estimate the age and sex of the individual. For the age estimation, Trancho Gayo and Robledo Sanz (2010) identified fragments of the roots of a permanent third molar, furthermore, there was epiphysial fusion in some of the bones of the hands that were recovered among the ashes. The vertebrae rings were completely fused to the body. Finally, they analysed a partially complete tooth that was identified as a superior third molar. All this evidence led to the hypothesis that the remains belonged to someone that was at least 20-25 years old at the time of death, but we the very few diagnostic fragments is not clear how much older than that (p. 125). When it came to the sex estimation the team analysed the morphology of the fragments and noticed the bones being less robust and gracile, which is commonly associated to the female sex. This slenderness was noticed not only on the fragments from the cranium and the long bones but also in areas of muscle insertion (Trancho Gayo & Robledo Sanz, 2010, p. 125-126). Then they took measurements of the proximal phalange of finger number V of the hand and compared to the known

values for that bone in both the male and female series of a known anatomical collection named the Hamman Todd collection. Due to the kwon reduction of bone size when exposed to fire the values were corrected to ensure maximum accuracy. The values led Trango Gayo and Robledo Sanz (2010) to agree with the original analysis from 1980: the individual was sexed as female.

These results led to some criticism and backlash over whether or not they could be accepted and about whether or not the burial's interpretation should be reconsidered since the first time it was proposed in the 1980s (Quesada Sanz, 2010, p. 160). Accessing these original articles from the 1980s that commented the results has not been possible but Quesada Sanz reviews and discusses the implications of the conversation around this data. He mentions how the controversy opened the possibility for very attractive and more radical thinking around the relation between weaponry, burials, sex and gender, but very quickly some scholar's questions how accurately Reverte's original studied of the remained had been and how ethical and accurate Reverte's work was in general, since some scholars doubted his ability to always estimate sex and age, no matter the state of preservation (Campillo, 1995, p. 325 as cited in Quesada Sanz, 2010, p. 160). In this debate, Quesada defends the accuracy of using grave goods to estimate sex, especially considering that bone preservation is not always good enough for analysis (Quesada Sanz, 2010, pp. 160-161). He points out that the known data about Iberian cultural associated weaponry with the male gender and that normally, cultures where weapons are associated with women will have some sort of source (iconographic or literature texts) that will hint at this association and weaponry in a female burial must be considered exceptional and symbolic (Quesada Sanz, 2010, p. 162). Furthermore, scholars that have studied the grave still contemplate the possibility that the weapons were not connected to the individual buried and were not part of the grave good assemblage but as an offer to the statue, if we consider that this represents a female divinity with warrior attributes (Olmos, 1986 as cited in Quesada Sanz, 2010, p. 162; Cabrera & de Griñó 1986 as cited in Quesada Sanz, 2010, p. 162).

4. Discussion

In this chapter I will discuss the interpretations and implications of our three case studies and connect them to the gender theory discussed in the background chapter. These three cases might seem like just exceptions to the rules and representing anomalies, but it is interesting to study them in depth and aim to illuminate the ways in which archaeological research can be improved. All cases illustrate different ways in which biases and dominant ways of knowledge production interact with each other in complex ways.

4.1. Birka Chamber Bj. 581

Birka Bj. 581 remained as a male warrior in the collective minds of the archaeological community for more than a hundred years and it is very interesting to see the type of association regarding traditional gender roles in our societies that the challenging of this interpretation led to backlash. The previous chapter presented an example of one scholar that was sceptical about the results (Jesch, 2017), but she was not the only one. It is very telling of the type of fixed ideas and concepts of sex/gender, gender roles and the way current understanding of gender operate and relate to material objects, that the original team had to defend their results to both the academic world and the public sphere. Even more considering that the bones were suspected to be biologically female by another scholars' work from the 1970s (Vilkans, 1975, p. 54 as cited in Price et al., 2019b, p. 14), but during that period Birka's osteological collection was suspected to have some cataloguing issues and this hypothesis was not deemed as relevant. In the additional material released along the second publication they specify that the bones were individually numbered with the grave's number, so even if they were catalogued in an incorrect way, there was no possibility that the analysis done in the 1970s and the analysis conducted now was performed in the wrong individual (Price et al, 2019b, pp. 6-7).

One point that they rise in their second publication where they defend their results is that the results do not mean that they individual would have been gendered as a woman, we cannot know whether or not she might have adopted more traditionally manly roles, whether they individual lived as non-binary or genderfluid identity. They mention that a

transgender reading, which was suggested to them after the original results were published is also not applicable. This is due to these terms being modern, Western concepts that are important to us, but might have not existed in the past What it is important to keep is in mind is that the truth of this individuals' lived identity might have being more complex and might exist in a spectrum of gender configuration that is not familiar to us (Prince et al., 2019, p. 191-192). As we have exposed in this thesis, ethnographical and archaeological data has proved that there is evidence of societies with different sex/gender systems that are unfamiliar to the Western Eurocentric modern understanding of gender roles.

Another interesting aspect of the scepticism was that some scholars questioned the warrior interpretation, a hypothesis that had never been in questioned before (Jesch, 2017; Edberg, 2019). Price and his team reiterate the warrior interpretation is supported by evidence: the burial containing a great assortment of weaponry and war related clothing, the burial chamber was located nearby other burials that contained weapons and the individual was buried outside of a fortress that contained weaponry (Price et al. 2019, p. 192). The following quote greatly illustrates the frustration of the research team:

> To those who do take issue, however, we suggest that it is not supportable to react only now, when the individual has been shown to be female, without explaining why neither the warrior interpretations nor any supposed source-critical factors were a problem when the person in Bj. 581 was believed to be male.
>
> (Price et al. 2019, p. 192)

This specifically interested when we take into account that historical accounts and archaeological evidence of women and female-identified individuals performing warrior activities, participating in warfare and other traditional "manly" roles exist. Recent research has, for example, challenged the assumption of the man-the-hunter hypothesis and has presented evidence of female hunters in Early Holocene burial practices in the Americas, suggesting the existence of nongendered practice (Haas et al., 2020). Furthermore, there are numerous studies regarding the phenomenon of the Scynthia Amazons in Euroasia and recent evidence supports of female burial with weapons and battles wound suggest that they might have been real (Guliaev, 2003).

I tentatively propose that this bias due to the influence of the gender system we live might be more prominent in Western scholarship and Eurocentric knowledge production and might be also more prominent in male scholars. To support this, I want to mention the work of archaeologists Anahit Khudaverdyan and her team, who have extensively researched the phenomenon of female warriors in Late Bronze and Iron Age Armenia. Khudaverdyan and her team published a complete analysis of a burial sexed as female that was found in the necropolis of Bover I. The individual had an arrowhead embedded into the remains and contained grave goods associated with the female gender (jewelery set), furthermore the individual had sustained traumatic lesions that can be associated to war activities since they were cause by acute and projectile force trauma (Khudaverdyan et al., 2019, p. 121-122). It is interesting how the narrative surrounding this research has been so different from a case like Birka, the idea that this individual could not have been a warrior was not contemplated and questioned in the way Birka was.

4.2.The Weapon Grave at Suontaka Vesitorninmäki

Suoantaka is a different case since the individual was born with an intersex condition. As explained before this condition might have made the individual present as a more "feminine" man, although I use these labels carefully since it is impossible for us to know the individual's gendered identity when they were alive. There are multiple accounts of men and male presenting people in early medieval Scandinavian societies that cross-dressed as part of their shamanistic and rituals roles, being accepted into society (Schnurbein, 2003; Solli, 2008). This burial resembles a grave excavated in Vivallen, Sweden, dating back to the twelfth century. The burial contained an individual sexed as male buried with feminine clothing and male grave goods that has been interpreted as a gender-mixing shaman (Zachrisson, 1997, pp. 148–149 as cited in Moilanen et al., 2022, p. 52). On the other hands, scholars have theorized that men with female roles in Scandinavian were mistreated (Hedeager, 2011, pp. 127-128). This does not seem the case with the Suoantaka burial where the individual was buried with care and laid to rest in comfort. Moilanen and the research team suggest that this burial is different from other cross-dressing individuals, not only due to the intersex condition but the fact that they were local, where normally these 'males' buried with feminine clothes are normally interpreted as strangers (Hedeager, 2011, pp. 126-127; Moilanen et

al., 2022, p. 53). One of the interpretations given in the paper is that the individual could have lived as a non-binary person that was accepted in the community, here is were I slightly disagree with the authors, the idea of non-binary identities is enticing but this term is specific to our current society and context, even if it is totally possible that gender non-conforming people existed in the past, or that past society had different gender configurations. We should keep these identities in mind when we interpret our data, but we need to be very carefully of imposing our current language and labels into past societies that remain partially unknown to us.

I have not been able to find any similar study of an intersex individual in the archaeological record, but there is plenty of historical accounts of 'hermaphrodites' and gender ambiguous individuals in the historical record, such as the accounts of the Sicilian historian Diodorus, where he described an individual with ambiguous genitalia (Markantes, et al., 2015). It would be interest however to keep intersex conditions and gender non-confirming people in our minds when conducting osteological research. As mentioned before, skeletal sexing based on morphological analysis is conducted on a continuum and indeterminate individuals could be explained by cases as this. Keeping this in mind might be useful to avoid the exclusion of indeterminate individuals from the analysis of cemeteries and necropolis, such as what happened in the case presented by Stratton (2016).

4.3. La Dama de Baza

I felt like it was relevant to present a case where there were no skeletal remains, complete or incomplete, and analysis had to be done relying on the burial contents and in this case, the analysis of cremated remains. I also felt like it was important to have a case study that was from the Mediterranean to see if these types of cases occurred in other areas and not only in Northern European archaeology. When reading about La Dama de Baza if was very interesting to see how the original analysis of the cremated remains was questioned, due to my limitations I was not able to access the articles from the 1980s, but it is very cleared that Reverte's results and even Reverte's ethics and ability to conduct the research was met with scepticism (Campillo, 1995, p. 325 as cited in Quesada Sanz, 2010, p. 160).

Furthermore, it was surprising to see the sudden changes of the interpretations once the results were published. The original report by Presedo stablished that the statue could

have represent a goddess or goddess like figure that would have represented life after death, possibly a Punic or Hellenised figure (Bendala Galán, 2010, p. 172). This divinity would have protected the deceased, who Presedo considered that had to be a male individual due to the presence of the weapons. Quoting his original report, the weapons must have belonged "al guerrero incinerado dentro de la estatua" (to the warrior cremated inside the statue) (Presedo, 1982, p. 202 as cited in Bendala Galán, p. 172). Presedo repeated several times that he was so sure of the grave belonging to a bastetani (Iberian) warrior (Presedo, 1982, p. 319 as cited in Bendala Galán, p. 172). The moment the cremated remains were estimated to be female the entire language around the burial changes, at no point any of the researcher consider that the cremated individual could have any relation to warfare. Scholars debated whether the woman buried would have been a weaver, whose roles would have been emphasized by the divinity statue, projecting the individual's aristocracy condition into the divine realm (Cabrea & Griñó, 1986). Other scholars from the 1980s, tried to explain the presence of the weapons now that the individual is biologically female: Blech considers that they are symbolic, a manifestation of the aristocratic role of the deceased (1986 as cited in Bendala Galán, p. 173), on the other hand Olmos considers that a warriors might have offered his weapons to stablish a ritualistic connection between himself and the goddess (1986, p. 185 as cited in Bendala Galán, p. 173). A no point these scholars contemplated maintaining the original hypothesis that Presedo was so sure of, the body was female, and female have no relation to masculine related activities such as warfare. It is true that all of these interpretations were done in the 1980s, where patriarchal ideas of gender roles were more fixed than nowadays, but Bendala Galán's interpretation from 2010 also does not consider a connection between the weapon and the individual buried. For him, the statue and the burial represent and idolized and divinised aristocrat and that is the only possibility.

5. Conclusion

When researching for this thesis it was easy to be frustrated around the language used when discussing cases so unique at this one. It is not easy to see how hypothesis that seem to be supported by evidence are discarded the moment the biological sex of the individual changes, to see how ingrained our ideas of strict binary gender roles are in our minds. I reviewed these three unique graves hoping that it will illuminate complex issues about how we relate to such personal topics of identity and gender, to help me do that I posted several research questions that I will try to answer in this chapter.

"To what extent are the archaeological context and grave goods use in sex estimation and gender assignment?"

Grave goods have been and still are a vital tool to estimate sex both when human remain preservation is not ideal, but also even if it is. Now this is not necessarily an issue in itself, grave good analysis can be used in combination with other methods to try and get a full picture of the individual's identity, but we should not rely exclusively on them and keep in mind the points discussed in chapter 2, where it is discussed, that individuals do not bury themselves and these objects might not represent the individual's lived identity. They are still important and should be researched, as Stig-Sørensen (2000) point out, we need to be aware of our limitation when studying past people's identity, and when studying gender in archaeology, the only aspect we can research is "the ways in which gender construction and the living of gender involve and affect material things" (p. 203). We just need to include the remains itself in these "material things" that we study, rather than relying in just one material aspects of the burial.

"How has the analysis of DNA played a role in the understanding sex and gender in osteological research?"

DNA has allowed for a better understanding of sex and gender in osteological research, not only does it allow, when available, to corroborate the results of other sex estimation methods, but it has painted a more complex picture of burials. As we have seen in the case of Suontaka (chapter 2), this burial would have probably been identified either as a woman with weaponry, some sort of female warrior or as a cross-dressing shamanist.

The DNA analysis opened the conversation for other possibilities outside of the binary gender system.

"Is there any evidence of bias in scholars´ interpretation of sex and gender in mortuary analysis?"

The issue discussed in this thesis is very complex and I understand my own limitations. I do not expect to change the way mortuary analysis is conducted nor do I think I can, hopefully this work contributes to open a conversation. The case studies provide evidence that preconceived ideas of sex and gender affect the way we approach research, every scholar is going to approach data with inherent bias, the issue is whether they are aware of it and will try to ensure that it does not affect their interpretations. As mentioned in chapter 1, Fausto-Sterling (2020) discussed the term "incorrigible propositions", these assumptions that remain in our collective minds. I believe I have proved that associating objects with certain current gender roles prevalent in our society is our "incorrigible proposition", a biased that we cannot seem to separate from.

Prince and his team called for archaeologists and scholars in general to be aware of the type of assumptions we make. What is the type of connections that we make between these deceased individuals and the goods that they were buried? What are our perceptions of gender? (Prince et al., 2019, p. 194).

"How are the concepts of sex and gender understood in mortuary archaeology and osteological research?"

Even if there is an understanding of sex and gender being separated concepts, there is still a considerable amount of work to do. There is a necessity for archaeologists to fully embrace sex and gender as not only different but both not a binary and something that is based in context and can changed throughout an individual. Furthermore, traditionally sex and gender in mortuary analysis has been studied as a factor that it is estimated and then used as another data to separate individuals in a necropolis, for example, but it does not seem to go further than that. Gender and sex need to be fully incorporate into archaeological research in the way that economic class and status is, as a complex system that is constantly created in a particular context, that evolves and that plays a vital role in how society configurate themselves.

These case study offer a hopeful view to the feature in which we move towards a more engendered archaeology in which the constant negotiation of gender and identity form a major part of nuance archaeology research, but in other to do that, we need to learn to let our own personal biases go. I would like to conclude with a valuable quote: "[…] we also need to examine ourselves as scholars—our own biased and prejudices—asking what we are prepared to find acceptable in the past, and why" (Price et al., 2019, p. 194).

6. Abstract

Sex estimation is one of the most important parts of osteological research and mortuary analysis. Since its origins it has remained fixed in binary ideas of our modern gender roles and female/male fixed binary identities. This potentially leads to bias, especially when often sex is estimated based on the associated grave goods the individual was buried with. This thesis aims to explore whether it is true there are bias in the way we approach mortuary analysis, in order to do that a comparative analysis was conducted of graves were the individual was buried with swords and other male associated grave goods, which lead to the original excavation team to estimate the sex as male. These burials where later on revisited and different estimation methods proved that the individual did not belong to the male sex. The thesis aims to analyse these case studies through the lens of gender theory and Gender archaeology in order to explore more nuanced ways of conducting sex estimation that will minimize the bias that is brought into the field.

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