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What can graves tell us about gender identity?



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Abstract

How do we find out about people who lived hundreds and even thousands of years ago? Often we look at their graves. What were they buried with? What does this tell us about who they were?

An early medieval grave in Finland has been puzzling archaeologists for a while. The person was buried with a sword, but also jewelry and other objects thought of as feminine. So, for a long time we've thought that it

could be the grave of a powerful woman – a woman with a sword!

This is surprising because usually swords are associated with men. But it's not so straightforward. We wanted to find out who the person really was. We looked carefully at what they were buried with, and worked out their biological sex using ancient DNA. The results made us think that maybe medieval society had different ideas about sex and gender than what we thought.

Introduction

Archaeologists are great at solving puzzles. First, they must dig to find the pieces of the puzzle. Then, they work out how the pieces fit together to build up a picture of the past. But often archaeologists only have some of the puzzle pieces. So, they have to make their best guess using the evidence they do have.

An **early medieval** grave in Finland has been puzzling archaeologists for a while. It's called the Suontaka grave, and it has been dated to between 1050 AD and 1150 AD. That means it is almost 1,000 years old!

The grave contains human remains and several objects – which are clues to who the person in the grave was. **Among the bones there were jewelry and dress accessories, along with two swords** (Figure 1). Based on this, people have interpreted the grave as belonging to a powerful woman warrior. But not everyone agrees. Usually, swords are associated with men.

It's not that straightforward. Really, we can't be sure about someone based on the objects they were buried with. Western society tells us that girls should have long hair and wear pink. Boys should have short hair and like the color blue. But a lot of people don't fit into these **social norms**. And we shouldn't have to!

Biological sex is also more complicated than it might seem. Being male or female is determined by your **sex chromosomes**. But not everyone has XX (female) or XY (male) chromosomes. And people can also self-identify as a **gender** different to their biological sex (for example, they might be **non-binary**). So really, we should be thinking of a **gender spectrum**.

*Please see
Figure 1 on Page 2*

We wanted to find out more about the Suontaka grave.

- Who really was the person who was buried there?

- Do the pieces of the puzzle really tell us about the person, or does how we fit the pieces together tell us more about our social norms?



Figure 1:

The objects found in the Suontaka grave.

- A. bronze-hilted sword
- B. hiltless sword
- C. two oval brooches with textile fragments
- D. twin-spiral chain-bearer
- E. sheathed knife
- F. penannular brooch
- G. sickle

Methods

We carried out the first detailed study of the Suontaka grave. We did this in three steps:

1. We carefully analyzed the paperwork from when the grave was first discovered and dug up back in 1968. What was found, and where?
2. We used microscopes with 100x and 400x magnification to carefully analyze 2-3 spoonfuls of soil, floating it in water. We were looking for tiny textile fibers and animal hairs, which we then identified.

3. We extracted **ancient DNA** (aDNA) from the **bones** (specifically, from a fragment of the thigh bone) and sequenced it. We could then work out what sex chromosomes the person had. **So, what was their biological sex?** We wanted to know how likely it was that our findings were correct, so we used a statistical model to evaluate the uncertainty of our results.

Results

So, what did we find?

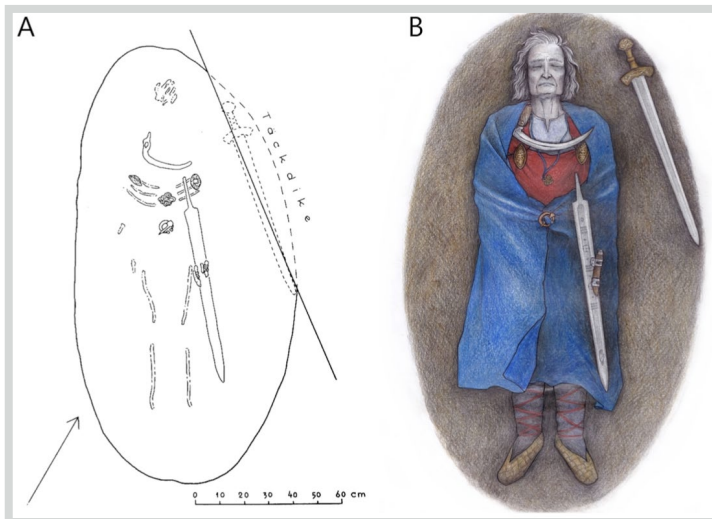
- The grave was only big enough for one person, so there couldn't have been both a man and a woman buried together.
- All the objects, apart from one of the swords, were directly on the person's body when they were buried (Figure 2).
- We found 23 animal hairs and 3 bird feather fragments (Figure 3). 60% of the hairs belonged to sheep – they were wool! One of the hairs came

Which of the grave objects was not placed directly on the person's body when they were buried?

Figure 2:

Suontaka grave images

- A.** A plan of the discovered items
- B.** An artist's reconstruction of the burial, showing the position of objects on the body; drawing by Veronika Paschenko



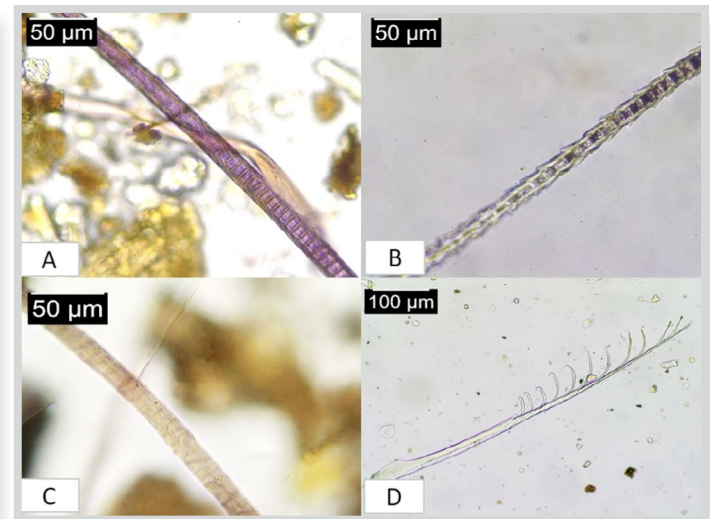
from a furry animal like a red fox, or rabbit. Maybe the grave contained wool and fur clothing and feather bedding.

- It was hard to find ancient DNA. But we did have just enough to work out what sex the person was! And we found an interesting result. **The Suontaka person almost certainly didn't have XX (female) or XY (male) sex chromosomes. Instead, it looks to us like they had XXY chromosomes!** This would mean they were a biological male with **Klinefelter syndrome**.

Figure 3:

Examples of identified animal hairs from the soil sample

- A.** rabbit or hare
- B.** red fox or other furry mammal
- C.** sheep
- D.** feather from a bird



Discussion

What do you think of when you hear the word "girl" or "boy"? Your ideas are influenced by social norms. When we try to picture the past, we must think about what the social norms then may have been. We shouldn't let the picture we build be affected by what society thinks in the present.

The person in the Suontaka grave in Finland wore clothes that modern society thinks were "feminine".

They were most likely a biological male with Klinefelter syndrome. This means that they might have had more "feminine" physical characteristics. However, they were also buried with items we usually consider "masculine". **So, maybe the person wasn't thought of as strictly "manly" or "feminine". Maybe they identified as somewhere else on the gender spectrum.**

It was an elaborate burial, which makes us think that

the person was well-respected. The items in the grave seem to show that their community acknowledged both masculine and feminine aspects of their identity. It could be that non-binary people were valued in Early Medieval society. Or maybe the person belonged to a wealthy and well-connected family. This could be why

they were given more freedom in expressing their gender identity.

We should always remember that biological sex and gender are different things. We shouldn't assume a person's sex based on what they look like or how they act. This is true for now, and also for the past!

Conclusion

The world can be a tough place for people whose gender identity is different from their biological sex. But everyone should be able to express their gender identity however they feel.

We should all work towards building a more accepting society. Let's make sure we:

- Respect everyone! Don't make assumptions about someone's gender identity.
- Make sure you use people's names and pronouns (she/he/they/ze/ey) as they ask. Tell people your pronouns, too! This helps to create an inclusive world.
- Be a friend or ally to gender non-binary people! Kindness goes a long way.

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Glossary of Key Terms

Ancient DNA – DNA from ancient organic material, like old bones and teeth. Often the material is degraded, so it's hard to get a lot of DNA from it.

Biological sex – The physical differences between people who are male, female, or intersex (having physical characteristics that are both). A person typically has their sex assigned at birth based on their genitalia, but we also define biological sex by chromosomes: XX (female) or XY (male).

Early medieval period (or the early middle ages) – in Finland, this was from the 10th century (1000 AD) to around 1250 AD.

Gender – Based on society's expectations of a biological "male" or "female", how you're supposed to look or act depending on your biological sex. But a person can self-identify as any gender, or no gender. It's not as simple as "male" or "female". See below:

Gender spectrum – The range of different genders a person can identify as, from male to female. For example, "cisgender" means your biological sex and your gender identity is the same. "Transgender" means that your biological sex and gender identity are different. Maybe you're a biological male who identifies as a female, or vice versa. "Non-binary" includes everyone who is anywhere along the range of possibilities.

Klinefelter syndrome – A genetic condition where a baby boy is born with an extra X chromosome (so, they have XXY sex chromosomes). It occurs in about 1 in 500-600 biological male births. It can sometimes give the person more "feminine" physical characteristics, which are more noticeable after puberty. Sometimes it doesn't affect the person's physical characteristics at all.

Non-binary – A person who doesn't identify only with male or female genders. This includes people who identify equally with masculine and feminine characteristics and behaviors; people who identify more with masculine or more with feminine but still with both; genderfluid people, whose gender may change over time; and also agender people, who don't identify with any gender.

Sex chromosomes – What defines your biological sex. They're part of your DNA. Biological females have XX chromosomes, and biological males have XY. Some people are born with extra or missing sex chromosomes. Sometimes (but very rarely) people with XY chromosomes can grow up looking physically like females, and people with XX looking like males.

Social norms – Rules of behavior in society. They're not written down; instead, they're beliefs and attitudes associated with certain social groups. These can be very different across places and times. We think of only women wearing high heels and tights, but in the 1700s it was normal for men to do so! Having long hair is "only for women" in some places, but in the Sikh culture, both men and women never cut their hair.

Check your understanding

1 What is the difference between biological sex and gender?

2 Why is it tricky to tell what a person was like simply based on what they were buried with?

3 How did we work out the Suontaka person's likely biological sex?

4 Can you think of examples of social norms in your society? Think outside of the boxes of "male" and "female" or "boy" and "girl"! Why should we challenge social norms?

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