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Innhold

Revisiting the «Egtvedt girl»

SOPHIE BERGERBRANT

Abstract

This article revisits the so-called Egtved girl grave. It discusses the archaeological context of the new scientific results presented in a recent article by Karin Frei and her co-authors (2015), and assesses the available evidence for clues and insights into her possible area of origin. It compares the new strontium isotope results from a wide range of organic remains analysed by Frei et al. (2015) with artefacts found in the grave, and considers whether the artefacts can help us identify her area of origin. In this article it is suggested that she may have originated in south-eastern Sweden or Rogaland in Norway, but strontium isotope baselines for both Norway and Sweden are needed before a more secure conclusion of her area of origin may be drawn.

The so-called «Egtved girl» was discovered in 1921 (Figure 1) (Thomsen 1929). She occupied one of seven well-preserved Bronze Age graves found in Denmark, which are remarkable for having the deceased's complete costumes intact (Broholm and Hald 1935, 1940, Bergerbrant 2007, Randsborg 2011). The oak-log people have become part of Danish culture and many popular books have been written about them (e.g. Glob 1970, Jensen 1998). The young girl buried in Egtved has captured the popular imagination most of all (Hvass 1981, 2000, Poulsen 1990), having even inspired a musical titled *Egtvedspigen* (English: «the Egtved girl») (Bech 2007, Blak 2000) and, based on this, a comic book (Bech 2007). One can say that the female found in Egtved is an important part of the Danish cultural heritage. In the musical and comic strip, the Egtved female is a blonde local girl who falls in love with a dark foreigner (Bech 2007). However, new scientific results have shown that it is the Egtved female that is the foreigner (Frei et al. 2015). In a recent article by Karin Frei et al. (2015), a number of places were named as her possible area of origin, though it was suggested that she came from the Black Forest, if all the strontium isotopes from her hair, costume, and other organic material that had a non-Danish signal are from the same area (Frei et al. 2015). This article does not aim to assess whether the natural scientific results are correct or not, but it does wish to draw attention to the fact that it has been a matter of debate whether it is even possible to obtain reliable strontium isotope results from archaeological samples of hair (von Holstein et al. 2015).[1] Although hair is suitable for modern forensic examination, it has been argued that it is affected by contact with water, i.e. repeated washing (Tipple 2015). Rather than providing a critique of Frei's work, this article examines the archaeological evidence for further clues regarding the Egtved female's possible area of origin. How «foreign» was she?

1. The strontium isotope results presented by Frei et al. (2015) are not questioned here, as the first-named author of their article has had numerous articles published in high profile scientific journals (Frei et al. 2009; 2010; 2015; 2017a).

Figure 1. The Egtved girl. Photo: Robert Fortuna, National Museum of Denmark. Reproduced with permission from the National Museum of Denmark.

Background

In February 1921, Jutlandic farmer Peter Platz was removing the last remains of a Bronze Age mound on his land when he found what he believed was an old oak log, but a neighbour pointed out that it could have been an old burial (Thomsen 1929:165–166, Jensen 1998:10–11). Platz sent a letter to inform the National Museum in Copenhagen of the find. At the museum they tried to postpone the excavation till May, however, the farmer's wish to remove the mound and the exposed state of the oak-log coffin forced Thomas Thomsen to start excavating in March (Jensen 1998:11).

Having dug the coffin free, Thomsen photographed it. He then lifted the lid and saw that it contained well-preserved organic remains. He therefore decided to send the coffin to Copenhagen to be excavated indoors by conservators (Thomsen 1929:169–170, Jensen 1998:11–12).

The deceased had been placed on an oxhide, above which were the remains of shoulder-length hair, clothing and jewellery. Of the deceased individual, only the hair, 29 teeth, and some nails were preserved, though one could see traces of her skin, which disintegrated on contact. The individual had been 159–160 cm tall from head to foot (Thomsen 1929:178–179). The costume was made up of several components: a blouse on the upper body, a sash with a belt-plate attached, a corded skirt, as well as pieces of textile around the feet and leather shoes. The grave also contained a comb and two arm rings, one earring, an awl, some smaller pieces of textile made of wool, a birch-bark box, a small bark vessel that had once contained beer or mead drink, as well as some organic remains and the cremated remains of a child (Thomsen 1929, Broholm and Hald 1935, 1940). The grave has been dendrochronologically dated from a sample with the bark ring preserved to 1370 BC (Christensen 1998:113, 2006, Jensen 1993:189). On the basis of the teeth, the woman was first aged between 18 and 25 years (Broholm and Hald 1940:30), but more recent re-examinations indicate a younger age of 16–18 years (Alexandersen et al. 1983:20, Hvass 1981:21).

The cremated remains of a young child (aged either 8–9 years or 5–6 years, depending on analysis) were placed in a leather bag and in the bark box that was positioned in the waist area of the 16 to 18 year old female inhumation (Thomsen 1929:197, Alexandersen et al. 1983:23). This is not a common practice during the Early Bronze Age, although children were sometimes accompanied by an adult in mound burials (Bergerbrant 2007:107–117).

The new results

Below, the results of the new scientific analysis conducted and published by Frei et al. (2015) are presented and discussed. The new analysis gives us a unique insight into the short term movement of a prehistoric person. The question is: what do the numbers really tell us?

In order to interpret the results, it is helpful to first establish a background understanding of the strontium isotope method. The body absorbs elements such as strontium from what we eat and drink. The strontium in the water we drink and

Sample description	$^{87}Sr/^{86}Sr$ [2 SE]		Sample description	$^{87}Sr/^{86}Sr$ [2 SE]
Soil from Egtved 1	0.70852 [0.00005]		Blouse (warp)	0.71234 [0.00003]
Soil from Egtved 2	0.70874 [0.00002]		Corded skirt (weft)	0.71168 [0.00003]
Tooth M1	0.71187 [0.00002]		Bundle (weft)	0.71551 [0.00004]
Nail, thumb, left side, oldest part	0.71235 [0.00003]		Sash (weft)	0.71277 [0.00004]
Nail, thumb, left side, middle part	0.71240 [0.00002]		Foot wrap, left foot (warp)	0.71319 [0.00004]
Nail, thumb, left side, youngest part	0.71235 [0.00003]		Foot wrap, right foot (warp)	0.71530 [0.00003]
Scalp hair, nearest the roots/skull, 4 cm long	0.71229 [0.00002]		Oxhide hair	0.71324 [0.00004]
Scalp hair, middle part, 4 cm long	0.71028 [0.00003]		Blanket (light weft)	0.71252 [0.00005]
Scalp hair, middle part, 5 cm long	0.71086 [0.00004]		Blanket (dark weft)	0.71372 [0.00003]
Scalp hair, tip ends, 10 cm long	0.71255 [0.00003]		Blanket (warp)	0.71399 [0.00003]
Cremated remains of child	0.71190 [0.00002]		Ox tail hair attached to wool cord	0.70982 [0.00002]
			Ox tail hair detached from wool cord	0.71003 [0.00003]
			Wool cord	0.71044 [0.00004]

Table 1: Results of the strontium isotope analysis from the Egtved female's grave (information sourced Frei et al. 2015).

the food we eat comes from the bedrock. The strontium isotope ratios ($^{87}Sr/^{86}Sr$) of bedrock differ from location to location based on the age of the bedrock. The ratios do not fractionate (alter) in any quantifiable way (Montgomery 2010). Therefore, the strontium isotope values we measure in prehistoric teeth and bone can help us to understand the geological background of the water and food a prehistoric person consumed. Based on the assumption that in most prehistoric periods both the water and the majority of food would come from local sources, we can use strontium isotope values to ascertain if a person grew up in a geological area that was different from the area where the person was buried (Montgomery 2010). Human teeth are created at different times in the course of a life, and the strontium isotope values do not change after the enamel has been created. The strontium isotope values measured in the different teeth can thus help to identify geological regions where a person lived at different times during an individual's childhood. In contrast, the strontium isotope values in bone change during life, and this material is vulnerable to contamination from the earth after burial (Montgomery 2010). A method for extracting strontium isotope values from hair has been developed by Frei (2010, 2014). Both the standard examination of teeth as well as the more recently developed analysis of hair have been conducted in the study of the Egtved female by Frei et al. (2015), and this is the foundation for the re-evaluation of the Egtved female in this paper. To properly determine if someone is non-local, i.e. did not originate in the area where they were buried, a so-called 'baseline' is required for that region – and for as many other regions as possible as well – to locate a match. Research has shown that baselines are best established using water and plant samples, rather than smaller animals, as was done in earlier studies (Evans et al. 2010, Montgomery 2010, Montgomery and Evans 2013,

Figure 2A: Map showing the published strontium baseline values in Scandinavia. From Blank (in press), reproduced with permission from M. Blank. Figure 2B: Map showing the nearest areas with bioavailable 87Sr/86Sr values that match the strontium isotope values in the Egtved study. Redrawn from Frei et al. 2015.

Frei and Frei 2011). For a more detailed description of this method, which uses strontium isotope analyses to pinpoint origin, see Montgomery (2010).

Tooth

The analyses of the Egtved female's M1 tooth, which represents the period from perinatal to 3–4 years of age, when the enamel of the tooth was formed (Montgomery 2010:330), shows that she was not born in the region where she was buried (Frei et al. 2015:4). Strontium isotope signatures of 0.7110 to 0.7120 can be found in many areas in Europe (Evans et al. 2010, Wahl and Price 2013, Willmes et al. 2014), including parts of Bornholm, Sweden and Norway (Figure 2) (Fornander et al. 2015, Frei and Frei 2013, Price et al. 2015). This indicates that she could have come from a wide variety of regions.

Hair

The hair preserved in the Egtved burial (Thomsen 1929:179) was *c.*23 cm long, which is the hair growth for *c.* 24 months prior to her death (Frei et al. 1015:4, supplement). Hair grows one cm per month on average, and the last month of her life would not be accessible to us as it would not have grown out of the scalp (Williams et al. 2011:128). The hair was divided up into four segments of different lengths. The results produced different strontium isotope signatures indicating that she possibly travelled from an area with a strontium isotope signature of 0.7120 to 0.7130 to an area with a strontium isotope signatue similar to the area where she was buried, and then back to an area with a 0.7120 to 0.7130 strontium isotope signature again. The two middle samples of the hair (see Table 1) indicate a longer stay in a region with an isotope signal similar to the one found in Denmark. This period is likely to have lasted for a minimum of nine months (see table, sample 2 and 3 of the hair) (Frei et al. 2015:4). There are many areas with a strontium isotope signature of 0.7100–0.7110 (Evans et al. 2010, Oleze et al. 2012, Price 2014, Willmes et al. 2014). Considering that many areas of Denmark have a strontium isotope baseline signature around 0.7095–0.7100 (Frei and Frei 2011), there is a strong possibility that she may have spent a longer time in the vicinity of Egtved.

Isotopic analysis of hair can also provide insights into the diet of a prehistoric individual, and thus help us to understand short term variations in diet (Williams et al. 2011). The Egtved female's hair has been analysed for $\delta^{15}N$ and $\delta^{13}C$. The results from the different segments are very similar and show that she has mainly had a terrestrial diet (Frei et al. 2015:4, supplement).[2] Due to the partial sigmodal curve, it has been suggested by Frei et al. (2015: supplement) that there may have been a seasonal variation. The micro-morphological examinations of the hair may also suggest that there were periods of reduced protein intake. The diet analysis covers a period of one to six months prior to her death (Frei et al. 2015: supplement).

Can the diet help us pinpoint an area of origin? The published diet studies relating to Bronze Age Europe indicate that a terrestrial diet seems to have been the most common, though a diet containing C_4 plants, especially millet, seems to be a difference between regions (López-Costas et al. 2015, Montgomery and Jay 2013, Tafuri et al. 2009, Terberger and Heinemeier 2014, Blank in press). Millet was not eaten in northern Europe, although there are results indicating the intake of millet, or another C_4 plant,[3] in the warriors found in Tollensetal, Mecklenburg, Germany (Terberger and Heinemeier 2014:211–212). The consumption of C_4 plants is one of the reasons that the warriors are regarded as the beaten army from outside Scandinavia (Terberger and Heinemeier 2014:213). The Egtved female's diet values can be found in a number of places in Bronze Age Europe. Though it seems to have been more common to have higher $\delta^{15}N$ values than she had. $\delta^{15}N$ values between 8 and 9 (Frei et al. 2015) can be found in individuals in, for example, Scandinavia (Eriksson et al. 2008, Blank in press). Especially interesting is the fact that several Bronze Age individuals from some sites in Öland had values that are similar to Egtved's. It seems significant that these relate to not just one person, but to a number of people with similar values from the same site (Eriksson et al. 2008). This cannot be used to draw any secure conclusions though, as a number of individuals from continental Europe also had similar values (e.g. López-Costas et al. 2015, Tafuri et al. 2009).

Unfortunately, the aDNA analysis of the Egtved female's hair did not yield any ancient human DNA (Frei et al. 2015:supplement). There are therefore no aDNA results that can be used to make comparisons with other Bronze Age aDNA analyses.

Of particular note, though, is the presence of a flower of yarrow, *Achillea millefolium*, placed close to the Egtved female's left knee and the leaf of bracken, *Ptris aquilinum* (Thomsen 1929:179–180). The two plant finds have been used to argue that the burial occurred sometime between June and September (Randsborg and Nybo 1986:164). Assuming that this is correct, and that the burial occurred close to the actual death, it seems likely that the time she spent in Denmark (or at least in an area with a strontium isotope signature around 0.7100) would have been from July[4] (± 2.5 months) to February (± 2 months). She must have travelled shortly prior to her death, most likely in the period from May to August. This means that the journeys were undertaken during the spring or summer on both occasions. Jarrow has long been known as a medicinal plant (Applequist and Moerman 2011), so the inclusion could have to do with illness prior to death,[5] and it might therefore help us understand the reason for the burial as well as the timing of it.

Nails

Three samples were taken from the nails, which provide evidence relating to the last four to six months of her life, excluding the last month of her life. The samples all had similar strontium isotope signals, which in each case was between 0.71235 and 0.71240 (Frei et al. 2015:3). This signature is close to that of the hair section, providing evidence from the last four months of her life (0.71255 see Table 1). This indicates that she had only been in the area where she was buried for a short time before her death, and that she must have travelled within a month before dying.

2. δ15N hair segment a 8.4; segment b 8.7; segment c 8.8 and segment d 8.5. δ13C hair segment a -21.2; segment b -21.6; segment c -21.7 and segment d -21.7. C:N 3.7; 3.9; 3.8 and 3.8.

3. C3 and C4 are the two basic plant photosynthesis pathways. The different types can be identified through carbon isotope analysis. The C4 photosynthesis is suitable in higher temperatures and lower water availability than C3. C3 is therefore more common in temperate Europe. Millet is one C4 plant that can be found from the Late Neolithic and Bronze Age in some parts of Europe (Montgomery and Jay 2013:190).

4. Based on setting the time of death in the middle of the period June to September, and that the last month of her life is not traceable in the material.

5. Yarrow has been known to be used to treat wounds and infectious diseases for millennia, known from texts by e.g. Pliny the Elder (Applequist and Moerman 2011).

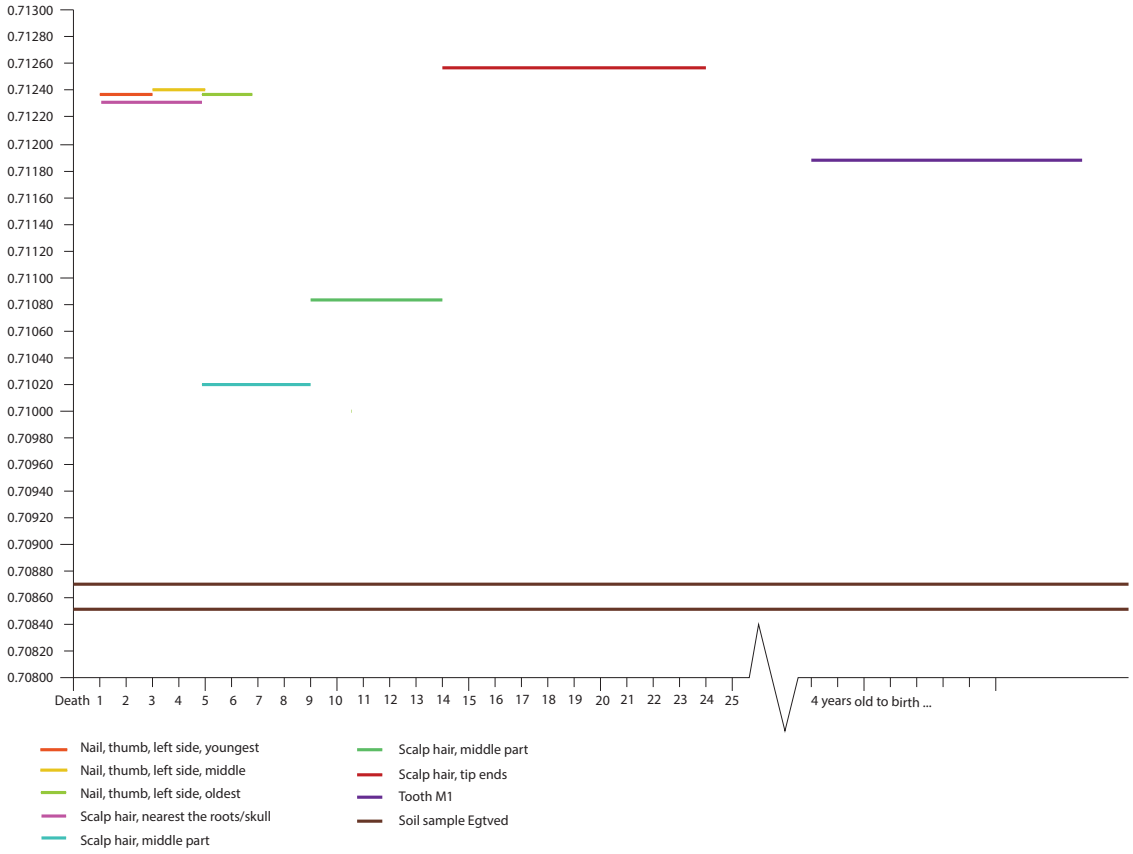

Figure 3. A graph showing the timeline for the different strontium isotope values from the human material. Zero is the time of death. Made by Rich Potter based on the isotope analysis published in Frei et al. (2015).

Child

The *pars petrosa* bone has been shown to preserve the strontium signal from close to birth, even in cremations (Harvig et al. 2014). The *pars petrosal* bone of the cremated child was sampled and produced a strontium isotope value of 0.71190. (Frei et al. 2015: 3). This signature shows that both the child and the Egtved female probably came from the same area, as it is very similar to the M1 result from the Egtved female. The cremated bones of the child have previously been radiocarbon dated. The result on two separate samples combined is 3127 ± 20 BP[6] (Hornstrup et al. 2012:14, 48, Olsen et al. 2013), giving a date 1445–1378 BC.[7] Hornstrup et al. (2012:14) argues that there is a discrepancy between the dendrochronological age of the coffin 1370 BC (Christensen 1998:113, 2006) and the cremated bones of 73±26 C14 years (Olsen et al. 2013). They rule out that diet was the reason for the discrepancy between the different dates, as the $\delta^{13}C$ values were -23.05 and -23.69, and it was interpreted as a mainly terrestrial diet with only a minor intake of fresh water food. They argue that the reason for the difference is due instead to the old wood effect (Hornstrup et al. 2012:16–17, Olsen et al. 2013). A possible «old wood» effect on the radiocarbon results on cremated bones is a phenomenon that has been debated (e.g. Hüls et al. 2010, Olsen et al. 2013, Zazzo et al. 2009, 2012). An older date may possibly be argued for if old fuel, wood or coal were used in the cremation (Zazzo et al. 2012:863). As charcoal, sand and ashes were found with the cremated bones it has been argued that it is more likely that the cremation occurred close to the Egtved female's funeral (Hornstrup et al. 2012:15, Olsen et al. 2013:32), hence old wood must have been used. The time relationship between the cremation of the young child and the burial of the Egtved female seems at this point impossible to solve as we have no idea if old wood was used in the cremation. A re-examination of the dendrochronological timeline may also be needed before any kind of valid conclusion can be drawn.

6. AAR-8789 3128±28 BP, AAR-13976 3126±29BP, combined 3126±20BP (0.0≤3.8 A) (Hornstrup et al. 2012:48)

7. Calibrated with Oxcal 4.3 with two sigma (75.8% probability) or 1343–1307 BC (19.6% probability). With one sigma 1431-1394 BC (61.3% probability).

Human evidence taken together

Although strontium isotope signatures from the Egtved female's M1 tooth (0.71187) and the child's *pars petrosal* bone indicate that both individuals came from the same area, it is difficult to understand how they were related both socially and in time. If they were mother and child, the Egtved female had to bear her child between the ages 11–13 if the last made estimation of her age is correct (Alexandersen et al. 1983:29), which makes it unlikely, but not impossible, that it was her child. At this point it is difficult to say whether it was a blood relative or a social relationship of some other kind. It seems likely that the Egtved female did not grow up on Jutland, though there are a few areas in Denmark outside Bornholm with a baseline above 0.7110 (Frei and Frei 2011:331–333). There are many parts of Europe with a strontium baseline around 0.7110–0.7120 (see sections discussing the different values of the strontium values).

The Egtved female's early childhood seems to have been spent in one area. The next period of her life for which we have information is when she was 14 to 16, i.e. two years before her death. For that point in time, the strontium signature is 0.71255 (Frei et al. 2015). It is very difficult to assess when the possible move might have occurred. If the child's death was close to the Egtved female's death (as assumed by e.g., Hornstrup et al. 2012) then this move probably occurred after she was 11 to 13 years old. Based on the age, a female seems to have been viewed as an adult in the Bronze Age at around 14 years of age (Neugebauer -Maresch and Neugebauer 1988:30, Siemoneit 1996:353), and based on the ages of some of the so-called foreign women[8] (Jockenhövel 1991, Bergerbrant 2007:119), it is possible that this move was connected to a marriage, but there are other equally valid alternate explanations, such as being connected to a move for an apprenticeship, i.e. to learn or to teach new skills, or to gain status, or due to some personal tragedy, or even a case of wanderlust. Whether this move was within a smaller or larger geographical zone is impossible to say. Her third probable journey lasting about nine months occurred when she was around 15 to 17 years old. If she died close in time to her funeral, the journey would have occurred in the spring or summer; the return journey, which probably took her back to the place she left, occurred nine months later, i.e. again in the spring or summer. She must have spent at least four months (according to the hair and nails) in her second location and travelled to Egtved very soon before her death (Fig. 3).

Based on her strontium isotope values, it is very difficult to understand why her remains were buried in the central grave in Egtved.

The dress

The Egtved female was dressed in a blouse that had the same shape as the two other complete Bronze Age blouses found in Borum Eshøj and Skrydstrup graves. (Broholm and Hald 1940). Below the blouse she had a sash with a belt-plate fastened to it and a tassel at one end. On the lower part of her body she was clothed in a corded skirt that reached to her knees. She was covered by a piece of textile with the measurements of 245 × 165/190 cm (Broholm and Hald 1948:34–36, Thomsen 1929). Also found were a plain wool cord that had probably held back her hair, and pieces of cloth that have been interpreted as possible socks or foot wrappers (Alexandersen et al. 1983:37, Broholm and Hald 1940). Textiles around the feet are also known from other Early Bronze Age oak-log coffins (Broholm and Hald 1940).

The corded skirt in the burial was considered «indecent» and created a furore when it was first excavated, and some early reconstructions showed the corded skirt worn on top of a long skirt (Lomborg 1971:22–23). The Egtved skirt is now generally seen as having been worn hanging from the hips (Alexandersen et al. 1983:35, Hansen 1978:139, Hvass 1981:30).

The strontium isotope result from the corded skirt is very similar to the strontium signature of the M1 tooth and the child's *pars petrosal* bone result of 0.71168 (Frei et al. 2015). Remains of a corded skirt have been found in the child's grave in Trindhøj, Grave C (Bergerbrant 2014:83–84, Fossøy and Bergerbrant 2013:27), showing that children also used corded skirts. One could speculate that the corded skirt may have been made for her in her area of origin and it could be a piece of costume that was intended for her to grow into with age, or just to show her network. The blouse (0.71234) and the sash (0.71277) produced signatures that are similar to those the Egtved female had *c.* 24 to 15 months before her death and from *c.* 5 months to one month before her death (Frei et al. 2015). In contrast, the

8. So-called *'Fremde Frau'* or Foreign women is the name given to Bronze Age burials were the deceased individual is buried in the complete outfit from another region than the one they are buried in (Jockenhövel 1991:29).

results are higher for the textiles used for the foot wrap and the blanket, with the exception of one sample from the blanket with a value 0.71252 (Frei et al. 2015). It is possible that the textiles used for the two foot wraps derive from different textiles, or that they come from textiles that are woven with fibres that are from many different areas. The two foot wraps are just small pieces of textiles, both tabby and with s-spun yarn in both directions (Broholm and Hald 1940), they could therefore be from the same cloth but need not necessarily be from the same piece. Analysis of Bronze Age textiles from Denmark has shown that *c*. 75 % of the analysed wool has a non-local signature (Frei et al. 2017a), indicating that either the textiles or the wool was traded to Denmark. The analysed samples from the blanket indicate that it either came from an area with varied geology or that some of the wool was traded to the region in which it was made. The interpretation in the Frei et al. (2015) publication is that it was made in an area with varied geology, i.e. the Black Forest. The contemporary Anatolian texts demonstrate that there was wool trade across wide regions in the Near Eastern Bronze Age (Michel 2014, Wisti Lassen 2010, 2014). Wool has been an important commodity in many historical periods (Moeller 1976, Munro 2003). The varied strontium isotope signals in the blanket seem to support the claim that trading in wool and/or textiles was practised in Europe in the Bronze Age.[9] The only value from wool that could be local to the Egtved region and that produced a result similar to those for the female *c*. 5–14 months before her death, is derived from the wool cord with the oxtail hair attached (Frei et al. 2015). The corded skirts are normally seen as a Scandinavian piece of costume worn during the Bronze Age (see discussion below), and therefore the strontium isotope value may indicate a Scandinavian origin rather than a more exotic place farther away.

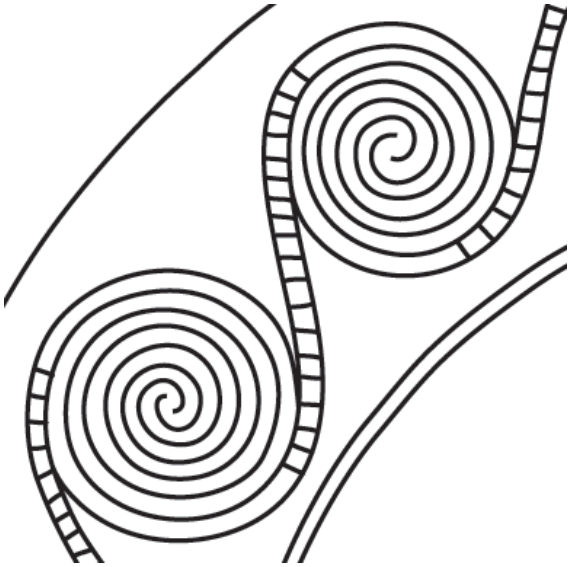

Figure 4. Part of the belt-plate, showing the ornamentation, based on a number of pictures of the belt-plate in the Egtved female burial. Drawing by Rich Potter.

Oxtail hair

The oxtail hair related to the wool cord had strontium isotope signatures of 0.70982 and 0.71003, whereas the oxhide she was lying on had a strontium isotope signature of 0.71324 (Frei et al. 2015). The oxtail hair has a similar strontium isotope signature to that of the wool cord it is attached to, strengthening the likelihood that the wool cord possibly was made in present day Denmark, i.e. near the place of burial, though not at the same site as indicated by the strontium isotope signals from the soil (0.70852 and 0.70874). The wool cord has been interpreted as some sort of sanitary towel (Randsborg 2011:82–83). It was found in a birch-bark box, and was 2.45 m long. In the middle, it had a section of 8–9 cm, which had a large numbers of knots. In three other parts of the cord there were also knots, and the end knots were tied around a cattle tail hair (Thomsen 1929:181–182). This is an object that is difficult to interpret. The interpretation as a sanitary towel is difficult to grasp, especially as it was found in the birch bark-box next to her head (Thomsen 1929:176–178). Considering the large number of knots and the oxtail hair it is possible that it was used in healing rituals or as a praying cord. In the box was also some of the cremated child remains and mainly sheets of heather (Thomsen 1929:178). In traditional Swedish medicine, heather (*Calluna vulgaris*) was used for inflammation in the kidney and the urinary tract (Tunón et al. 1995). Taken together with all the archaeobotanical evidence, and if the cord was made close to her death, it might indicate some kind of healing rituals, though no secure evidence can be found for this.

The strontium isotope signature for the oxhide shows that it is likely to have been from cattle that grazed outside Denmark, excluding

9. For further discussion about the possibility of wool or textile trade in Bronze Age Scandinavia see Bergerbrant in press.

Bornholm. The signature is similar to some of the results on the wool.

Cattle dominate the South Scandinavian Bronze Age faunal assemblage (Nyegaard 1996:148), which makes it reasonable to argue that the cowtail hair and oxhide should be local, though the strontium isotope results on the oxhide seem to indicate otherwise. Holst and Rasmussen (2013) have argued that the Early Bronze Age organisation included long-distance cattle herding, their model focusing on western Jutland. The differences between the oxtail hairs connected to the cord might be an indication of cattle herding, but the differences between the results could be due to a variety of factors. The oxhide does not seem to be evidence of long-distance cattle herding on Jutland, as that would involve improbable distances even for long-distance herding. However, it could be evidence for long-distance herding elsewhere in Scandinavia, so that it may have been brought with the Egtved female to Egtved. There are no published studies on cattle herding using strontium analysis from any other South Scandinavian Bronze Age region, however, research on Middle Neolithic cattle in Falbygden, Västergötland has shown that only four out of 21 analysed cattle teeth had a strontium isotope signature that securely showed that they could be local, at least 60% of the analysed teeth showed signs of grazing outside Falbygden (Sjögren and Price 2013). Then again, the strontium isotope signature of one of the samples in the foot wrap is very similar to the oxhide, which could indicate an even more complicated structure.

The archaeological material

It has long been the custom in traditional archaeology to use artefacts as a way to pinpoint the origin of deceased individuals (e.g. Jöckenhövel 1991, Wels-Weyrauch 1989a) or to track prehistoric connections (e.g. Thrane 1975, Kristiansen and Larsen 2005). Below, the artefacts associated with the Egtved grave will be examined. Previous work on the burial has assumed that the deceased was of local origin (e.g. Alexandersen et al. 1983, Bergerbrant 2007, Broholm and Hald 1940, Hvass 1981, Thomsen 1929). In the discussion that follows, the artefacts will be analysed in an attempt to see whether they can help us understand and elucidate her area of origin.

A number of studies have shown the importance of detailed stylistic studies of artefacts to see combinations and identify possible workshops (e.g. Rønne 1987a, 1987b, Herner 1987, 1989, Nørgaard 2014, 2015). Nørgaard's (2014, 2015) investigations have shown that detailed studies can isolate workshops and artefacts, and while most artefacts from a workshop cluster in one region, some are found outside this region. This study will be less advanced than Nørgaard's (2014, 2015) close detailed studies. She has unfortunately so far only focused on northern German and Danish material, leaving out the Swedish and Norwegian material (Nørgaard 2014, 2015). Though Herner (1987, 1989) has undertaken studies on the Swedish material, no one has conducted a larger study of the Norwegian material in this way. The present analysis is based on the research of Herner (1987, 1989), Rønne (1987a, 1987b), and Nørgaard (2014, 2015), as well as an examination of the artefacts in the volumes by Aner and Kersten on the northern German and Danish material (1973, 1976, 1977, 1978, 1979, 1981, 1984, 1986, 1990, 1991, 1993, Aner et al. 2001, 2005, 2008, 2011, 2014) and Oldeberg's (1974) catalogue of Swedish material. The objects are therefore only studied through others' observations.

Belt-plate

The belt-plate is generally seen as a typically Scandinavian artefact (Kersten 1936:11), though three Late Bronze Age hanging bowls are found outside the Nordic area (Thrane 1975:226), and one Period II belt plate has been found in Västerbotten (Oldeberg 1974:386), i.e. outside the classical Nordic Bronze Age region. The round disk is part of the standard costume elsewhere, too, such as in the Lüneburg Heath (Laux 1971, Bergerbrant 2007:80–91), though the examples here lack the central protrusion that is typical for a Period II or III belt-plate (Laux 1971). The belt-plate found in the grave is 14.5 cm in diameter, and it has just a small protrusion of 1.4 cm in the middle of the plate. It has two bands of concentric spiral decoration, and individual spirals are connected with two lines that are connected with a number of small lines (Figure 4). Close to the protrusion, between the spiral bands and at the outer edge of the plate, are

bands with different types of geometric motifs (Thomsen 1929:181–182).

The spirals are double with lines in-between (Fig. 4, Aner and Kersten 1990:Taf. 15), and belong to Herner's (1989:24) type group AI:1f. In Herner's study she records seven different artefacts with this stylistic trait in her Table 9[10] (Herner 1989:110). Three are found in Scania, one in Blekinge, one in Småland, one on Öland and one in Rogaland (Herner 1989:52–88). In Herner's (1987) study this stylistic trait has a strong tendency in the region of south-eastern (modern day) Sweden. I have not been able to find this stylistic trait in any other study (Rønne 1987a, Nørgaard 2014, 2015, 2017), indicating that the stylistic trait might be a rare one. All seven of the above examples are found on artefacts that are dated to Period II, three are on neck-collars, two on belt-plates and two on daggers or swords (Herner 1987:52–88). Both south-eastern Scania and Rogaland have strontium isotope baseline values (Price et al. 2015) that are in accordance with the Egtved female's M1 values. Many of the strontium isotope values found in the new analysis of the Egtved female can be found in different parts of Scania (Fig. 2), (Bergerbrant et al. 2017, Blank in press), but the lack of a complete baseline for Scania and for Rogaland means that this connection must remain only hypothetical for the moment.

The only example of this stylistic trait that, to my knowledge, appears in the volumes by Aner and Kersten (1973, 1976, 1977, 1978, 1979, 1981, 1984, 1986, 1990, 1991, 1993, Aner et al. 2001, 2005, 2008, 2011, 2014) is the belt-plate in the Egtved burial. This may be due to the size and detail of the drawings, and more objects in other areas could exist. Unfortunately, the drawings in Oldeberg (1974) are not detailed enough to allow for comparisons with the other decoration. However, some of the other ornamentation seems similar to that found on the neck-collar from Ingelstorp, Scania (Oldeberg 1974: cat nr. 351, SHM 9822:786). In order to determine whether these artefacts with Herner's trait AI:1f derive from one workshop (see Nørgaard 2015) much more work and detailed studies are needed, and all stylistic traits need to be studied. This, however, is beyond the scope of this study. It can only be said that the spiral is connected with double lines with lines in-between, pointing to a south-eastern Swedish connection.

Arm-rings

The arm-ring worn on the left arm is made of 5.5 mm thick bronze rod, has open ends and is described as having no ornamentation (Thomsen 1929:182). Many similar arm-rings can be found in Scandinavia (e.g. Aner and Kersten 1977, 1990, 1995, Aner et al. 2011, 2014, Oldeberg 1974) and in many European areas, for example, Mecklenburg (Scubart 1972), Lower Saxony (Laux 2015), Hessen (Richer 1970), and Schweiz (Pászthory 1985). It appears that this type of ring does not contribute to our understanding of possible areas of origin for the Egtved female. The fact that the arm-ring type is essentially ubiquitous, and the fact that many areas have similar strontium isotope values, makes it impossible to use this artefact type as part of the discussion on the origin of the Egtved female.

On the right arm the Egtved female wore a broad ring with simple hooks that connect at the ends, Broholm's (1943:116) arm-ring type f. Most examples of this type of broad ring in Scandinavia have either a straight end or spirals (Aner and Kersten 1973, 1976, 1977, 1978, 1979, 1981, 1984, 1986, 1990, 1991, 1993, Aner et al. 2001, 2005, 2008, 2011, 2014). It seems plausible that the arm-ring may have once had spiral-ends, and that they broke at some point. However, there is no indication of the arm-ring ends having been broken in either Thomsen (1929:182) or in Aner and Kersten (1990: cat nr 4357A).

I have not traced any arm-rings in Scandinavia or Europe that might be regarded as parallels to the Egtved burial example. Arm-rings with similar ends typically have spiral terminals (e.g. Laux 2015, Pászthory 1985, Pirling et al. 1980, Richer 1970) rather than the simple ends that hook together as in the Egtved burial. Arm rings with spiral ends are common in Europe, though they generally tend to be smaller than the Egtved arm-ring (cf. arm-rings in Blajer 1984, Laux 2015) or else with a much wider diameter, serving as ankle rings (e.g. Pirling et al. 1980). Broad arm-rings are found in south-eastern Sweden, but there is nothing comparable in Oldeberg's (1974) catalogue. The Egtved arm-ring does not seem to be a typical Scandinavian artefact, and points to a possible area of origin that is outside Scandinavia. I have not yet located an area where this type of arm-ring is prevalent, thus at present,

10. There seems to be a mistake in Herners`s Table 9 as it shows three cases of this stylistic trait found in Bornholm, one in Scania, one in Småland, one on Öland, and one in Rogaland, but according to the catalogue none were found in Bornholm, three were found in Scania, one in Blekinge and the rest as above. It seems likely that the numbering of the first two got placed in the wrong regions by mistake.

though distinctive, it does not contribute to our understanding of her possible area of origin. Thomsen (1929:182) connects the decoration on the arm-ring to a similar design made up of small lines on the belt-plate, connecting the two objects through echoes within their decoration. This type of decoration is common on objects in Europe as well (see e.g. Laux 2015, Pászthory 1985, Pirling et al. 1980, Richer 1970).

Earring

A small bronze ring was found to the left of the head, where the hair was. The ring, measuring 9 × 12 mm, has been interpreted as a small earring (Thomsen 1929:180). Broholm (1943:116) recorded only seven finds of small earrings in his catalogue for Period II. It is therefore seen as a rare object where Scandinavian graves are concerned, although, as he points out, small earrings, such as the one from Egtved, could have been easily overlooked in early excavations. Small rings in the vicinity of the hair are not unusual in many European regions from the Early Bronze Age and later. For example, such rings are known from European Early Bronze Age graves such as Franzhausen (Neugebauer and Neugebauer 1997) and, contemporary with the Egtved female, the Lüneburg Culture (Laux 1971). Therefore, the small earring does not seem to elucidate her area of origin.

The comb

In total, there are 32 combs dating to the Early Bronze Age and 15 dating to the Late Bronze Age (Aner and Kersten 1973, 1976, 1977, 1978, 1979, 1981, 1984, 1986, 1990, 1991, 1993, Aner et al. 2001, 2005, 2008, 2011, 2014, Oldeberg 1974). Of these 12 are made of horn. Most of the horn combs are from the oak-log coffin graves on Jutland (Broholm 1944:122, Aner and Kersten 1973, 1976, 1977, 1978, 1979, 1981, 1984, 1986, 1990, 1991, 1993, Aner et al. 2001, 2005, 2008, 2011, 2014, Oldeberg 1974), indicating that horn combs would have been a common object with which to be buried. There are 12 combs that are similar in type to the one found in Egtved from the Early Bronze Age and three from the Late Bronze Age (Broholm 1944: 122, Aner and Kersten 1973, 1976, 1977, 1978, 1979, 1981, 1984, 1986, 1990, 1991, 1993, Aner et al. 2001, 2005, 2008, 2011, 2014, Oldeberg 1974). The combs are made from both horn and bronze. In the Early Bronze Age they are found on Jutland, Zealand, Scania and there is one in a hoard from Ditchmarchen (Broholm 1944:122, Aner and Kersten 1973, 1976, 1977, 1978, 1979, 1981, 1984, 1986, 1990, 1991, 1993, Aner et al. 2001, 2005, 2008, 2011, 2014, Oldeberg 1974). The Scanian examples are both made of bronze (Oldeberg 1974: cat nr 551.762). The type of comb found in the Egtved female's grave is the most common type (Broholm 1944:122, Aner and Kersten 1973, 1976, 1977, 1978, 1979, 1981, 1984, 1986, 1990, 1991, 1993, Aner et al. 2001, 2005, 2008, 2011, 2014, Oldeberg 1974), and it can even be found in pictograms on Late Bronze Age urns (Kneisel 2012:186, Tafel 40). The comb appears to be complete (Thomsen 1929:Fig. 11) in contrast to, for example, the horn comb in the Nybøl grave, which seems to have been heavily used (Bergerbrant et al. 2013). The comb may therefore have been made specifically for the funeral. Though this type seems to be found mainly on Jutland, it is likely that the comb type was common all over Scandinavia, and the comb either points to the area of her burial, or possibly to a general south Scandinavian identity.

The awl

According to Broholm (1944:123) awls are unusual in female graves and more common in male-burials during Period II of the Nordic Bronze Age. There are few studies on awls, but it was a common tool in most of Bronze Age Europe, and it existed in most periods (Baudou 1960:44, Bergerbrant 2007:36, Hachmann 1957:52–55, Harding 2000, Kneisel 2012:63). To my knowledge, there are no major typological studies made of bronze awls from the Early Bronze Age. Whether awls were mainly connected to females or to males seems to vary according to time and location (Broholm 1944:123, Harding 2000:80). At present, the awl cannot help us understand the Egtved burial, although an analysis of the wooden shaft could prove interesting and informative.

The dress

The costume that the Egtved female wore has been discussed in many places (e.g. Alexandersen 1983, Bergerbrant 2007, Fossøy and Bergerbrant 2013, Randsborg 2011, Thomsen 1929). The Scandinavian Early Bronze Age textiles are generally regarded as technically similar, e.g. thread count, yarn diameter etc. (Bender Jørgensen 1986, Franzén et al. 2010, Mannering et al. 2012). There are three preserved examples

of the wool blouse (Broholm and Hald 1940, Bergerbrant 2007). The wool blouse could be seen as a Scandinavian tradition based on old leather clothing (Broholm and Hald 1940, Hägg 1996a). The blouse is a tailored garment (Broholm and Hald 1940), there is no evidence of tailored garments in Central Europe (Bender Jørgensen 1992, Grömer 2010), though in the Hallstatt salt mines there are small textile fragments dating to the Bronze Age that are stitched together (Rösel-Mautendorfer 2013). There are indications that both long-sleeved and short-sleeved blouses existed in the Bronze Age, in the Lüneburg Culture (Ehlers 1998, Hägg 1986b), making it difficult to rule out that the blouse was a commonly used piece of clothing in the European Bronze Age. The costume in Central Europe has been interpreted as different from that in Scandinavia due to the two pins placed on the chest in female graves (e.g. Wels-Weyrauch 1989b, Hägg 1996a). It has been argued that the so-called 'peplos-type' dress[11] was used in Central Europe during the Middle Bronze Age (Hägg 1996a).

It has been argued that the corded skirt has a long history all the way back to the Palaeolithic (Barber 1991:255–259, 1999:20–29). Its usage seems to have died out during the Bronze Age in Scandinavia, as there is no evidence of the skirt type in the Iron Age (Mannering et al. 2012). There are examples of corded skirts made of plant fibres in Robenhausen, Switzerland (Hägg 1996a:140–143), but there is no evidence for the use of corded skirts elsewhere in Europe during the Bronze Age (CinBa database). The only other more or less contemporary corded skirt is found in the Tamarin Basin, China (Mallery and Mair 2000:213), indicating that the corded skirt in Europe was a Nordic Bronze Age phenomenon and that it had gone out of use earlier in other parts of Europe. The remains of corded skirts are found in many parts of southern Scandinavia (Bergerbrant 2014), showing that it was a commonly used piece of clothing in Scandinavia during the Early Bronze Age (1500–1100 BC).

As all the different pieces of costume, except for the corded skirt, can be found in the other well-preserved oak-log coffin graves (Broholm and Hald 1940, Bergerbrant 2007), and the remains of corded skirts can be found in many Bronze Age burials (Bergerbant 2014), this indicates that the Egtved female was clothed in a typical South Scandinavian outfit of the Early Bronze Age.

Summary of the artefacts

Due to the fact that only parts of Europe have a good strontium isotope baseline it is impossible to conduct a thorough comparison between the artefacts and the strontium isotope values from different regions. The awl, earring and the two arm-rings are examples of objects that are found as grave goods in a number of Scandinavia and European graves, and therefore they do not help us in narrowing down the possible areas of origin for the Egtved female. The costume, belt-plate and the comb, on the other hand, seem to be characteristic Scandinavian objects, thus indicating a possible Scandinavian origin. The only possible indication of a South Scandinavian region is the spiral decoration AI:1f type (Herner 1987) that is found on the belt-plate. This points to a south-eastern Swedish (eastern Scania, Blekinge, Småland or Öland) or Rogaland origin. A more detailed study of the ornamentation and workshop is needed for both the Swedish and the Norwegian material before more secure conclusions can be reached.

Discussion

Frei et al. (2015:5) use the strontium isotope results in connection with the archaeological evidence to propose that the Egtved female came from the Black Forest area. However, there is no archaeological evidence presented in the article to support this, although some of the other areas that were indicated as possible areas for her origin (Frei et al. 2015) are possible candidates based on the archaeological evidence. The only archaeological evidence discussed relates to the distribution of the octagonal hilted swords and their possible connection with a male alliance system (Frei et al. 2015:supplement). The connection is made with the Black Forest, despite the fact that there are no recorded octagonal hilted swords on the map from the Black Forest region (Frei et al. 2015: supplement Fig. S1). I have not been able to find any information about contemporary graves in the Black Forest region. The nearby Schwäbischen Alb area has produced simple arm-rings, similar to the one Egtved wore on her

11. The European peplos-type clothing may be compared with that from Classical Greece, i.e. 'folded down from the neck and belted. Secured at the shoulder with pins, it was sleeveless and sometimes worn over a chiton' (Pedley 1998:173).

left arm, as well as small earrings and arm-rings similar to the one worn on the left arm, except these have straight ends (Pirling et al. 1980). These artefacts can be found in many European regions (see above), some of which have strontium isotope values (Wahl and Price 2013, Willmes et al. 2014) that are similar to some of the ones found in connection with the Egtved woman. The Schwäbischen Alb area has also produced finds of ankle-rings with chains connecting the two rings in female burials (Sørensen 1997, Wels-Weyrauch 1989b), indicating an interest in limiting female mobility, rather than encouraging it. The view on females may have been very different in the neighbouring Black Forest area. Olson (2014) has shown that there are differences in women's rights to own property, such as between the two Mycenaean cities Pylos and Knossos, demonstrating that the view on gender could vary widely even within a small area. The lack of archaeological Bronze Age material from the Black Forest makes it unlikely that she originated from that region.

The complete costumes found in Denmark (Broholm and Hald 1940) show that we have two different female costumes (Sørensen 1991, 1997, Bergerbrant 2007). That these costumes coexisted and were not distinct fashion trends can be seen in the style of the accompanying artefacts, i.e. both Borum Eshøj[12] and Egtved have Period II objects in the grave (Aner and Kersten 1990:39–41, Aner et al. 2014:210–223). Also, the radiocarbon date[13] of the Skrydstrup female (Frei et al. 2017b), as well as the evidence of corded skirts found in the bronze tubes with textile fragments in them, as well as their placement on the body, existed throughout both Period II and III (Bergerbrant 2005, 2014). There is, in other words, clear evidence that both types of costumes was used in both Period II and III. The first interpretation for the two different outfits for women from the Middle Scandinavian Bronze Age came from the Egtved mound excavator, Thomas Thomsen (1929). He proposed three possible interpretations: the first was that the Egtved funeral had occurred during the summer, and therefore the difference in dress could be explained as relating to the seasons (a summer dress and a winter dress). The second one was that she had been a temple dancer involved in erotic rituals, this is partly a reflection of the prevailing attitude of the time, which viewed the skirt as indecent. His third hypothesis was that the difference between the clothing is one of age, where the long skirt was the clothing of older females, while younger females wore the corded skirt. The excavator's conclusion was that either seasonality or age was the explanation behind the existence of two different kinds of skirts (Thomsen 1929:195–196, for detailed discussion about the corded skirts, see Fossøyand Bergerbrant 2013, Bergerbrant 2014). Eskildsen and Lomborg (1976) argued that a woman sacrificed her hair and gave her long skirt to her new husband at marriage, and hence argued that the Egtved female's short hair and corded skirt were signs of her marriage status. This could easily be connected to the new strontium isotope results suggesting that she moved very soon before her death. It is possible that she moved to Jutland to get married, had her new marital corded skirt with her from her region of origin, got married and had her hair cut. However, compared with other European areas, reaching an adult status and possibly getting married between the age 16 to 18 seems rather late, as the evidence in Europe indicates that girls reached adult status around the age of 14 (Neugebauer-Maresch and Neugebauer 1988:30, Siemoneit 1996:353).[14]

Kristiansen and Larsson (2005:298, 351) have interpreted the difference in the outfits in terms of role or function: the ritual clothing for a priestess, (i.e. the Egtved outfit) and the clothing of the married woman (i.e. the Skrydstrup dress, see Broholm and Hald 1939). The relation between the belt-plate and the sun cult, as well as the different limitations in physical movement implied by the two different outfits, is stressed by Kristiansen and Larsson. However, the belt-plate is present in the Borum Eshøj burial (Boye 1896 [1986]:61) as well, and the only unique

12. The coffins for the two males in the mound are dendrochronologically dated to Borum Eshøj grave A c. 1348 (youngest tree ring 1359) and Borum Eshøj grave B to c. 1344 (youngest tree ring 1365) (Christensen 2006:172). Barrows that have more than one preserved oak-log coffin have generally a small time span between the different coffins indicating that they all were buried close in time (Christensen 2006, Holst 2013b:75–77). Though the woman in Borum Eshøj might be a secondary burial in the mound (Holst 2013b:80) it is unlikely that the time difference is large, indicating a difference between the Borum Eshøj woman and the Egtved burial being no more than 50 years.

13. Date of a piece of untreated wool 2900 ±80 BP, K-3873/X4586 (Stærmose Nielsen 1989:61), piece of her hair 3009±29 BP, AAR:25433 (Frei et al. 2017b:11) both giving a possible late Period II date but more likely a Period III date.

14. The age of when females are seen as adults is based on the age when one can see that they have a complete adult outfit, i.e. the earliest age a female had all the bronze artefacts available in a culture (Neugebauer-Maresch and Neugebauer 1988, Simoniet 1996).

artefact type associated with the corded skirts is the bronze tubes (Bergerbrant 2014). Kristiansen's and Larsson's hypothesis is similar to Thomsen's (1929:195–196) rejected idea of a temple dancer, and one can think of many other reasons for the difference in dress. Randsborg (2011) put forward arguments that were similar to those of Kristiansen and Larsson (2005). For a detailed discussion on the meaning of corded skirts see Bergerbrant 2014. The strontium isotope signatures can be interpreted in terms that support Kristiansen and Larsson hypothesis. The fact that we can see that the Egtved female probably travelled within different regions during the last two years of her life could be seen as supporting the idea of a person with a special ritual role who may have travelled to perform rituals across the South Scandinavian regions. It could also possibly explain why she was buried in a mound burial in Egtved despite seeming to have no clear ties to the area. The possible reason(s) for her travel are many. For example, it could be the one assumed in the Frei et al. article (2015), i.e. that she travelled to get married as a pawn in male networks, or it could be for other reasons as well, such as travelling to visit relatives, to learn a new skill, or to teach a skill, or in the capacity of a special role. I have previously argued that the corded skirt was probably used as an everyday form of attire and as a dress used in rituals (Bergerbrant 2014). The knowledge we have gleaned about the Egtved female is very detailed, and so far we have only the Skrydstrup woman to compare it with (Frei et al. 2017b). According to the strontium isotope analysis of her hair and M1 and M3 teeth (Frei et al. 2017b), only one journey is visible for us. It seems that she moved from her area of origin, an area with strontium isotope signal 0.71326,[15] showing us that she did not come from the same area as Egtved, though the signal is similar to the one found in the oxhide hair (0.71324) in the Egtved burial. The Skrydstrup woman probably moved to the Skrydstrup area sometime between the ages of 13 to 14 (Frei et al. 2017b). This is the age when, in the continental Bronze Age material, one may be regarded as an adult (Neugebauer-Maresch and Neugebauer 1988, Siemoneit 1996), and in the Frei et al. (2017b:15) article this is called the 'age of marriage-ability'. This description is misleading since it rests on a contemporary Western male bias that women are only seen as adults once they become wives and mothers. At this point we simply do not have enough information about social relations in the Bronze Age to conclude what defined adulthood for females in the Bronze Age.

With only two examples analysed in detail, it is difficult to know what should be regarded as the norm. Is the Egtved female, with her evidence for multiple journeys, a unique case, or was it the norm for a Bronze Age individual to travel on a yearly basis? Or is Skrydstrup the norm showing that more than one journey is rare in the Bronze Age? To many, common sense might say that the Skrydstrup woman was more typical, but is this based on anything other than our view of historical farmers?

The main evidence in clothing and artefacts indicates that the Egtved female originated in the Nordic region (see above), though other areas cannot be excluded. Though it has not been possible to find any evidence pointing to the Black Forest, and there is only scant evidence for a possible origin in other European areas, these cannot be excluded. With only a few baseline samples for Sweden and Norway (Price et al. 2015), but once taken together with the archaeological evidence presented herein, there are indications that point to either south-eastern Sweden or the Rogaland area, in Norway. Without a proper baseline for southern Sweden or southern Norway, it is difficult to draw any definite conclusions beyond this. The archaeological evidence discussed in this article points to south-east Sweden or Rogaland, although the close ties to south-eastern Sweden (e.g. Oldeberg 1933) and the wide range of strontium isotope signatures on Bornholm (Frei and Frei 2013) must make Bornholm a strong candidate as well. If the authors of Frei et al. (2015) are correct in their interpretation that all strontium isotope analyses are from the same region, Bornholm must be seen as a much stronger candidate than the Black Forest, as all the values can be found in Bornholm and the archaeological records are similar. These suggestions (south-eastern Sweden, Rogaland and Bornholm) are in accordance with the regions identified as possible areas of origin in Frei et al. (2015). Both southern Norway and south-eastern Sweden are named as possible regions in the article, though for some reason they were not explored.

In order to advance the argument of her area of origin and to achieve a better understanding of both Egtved and the journeys of other individuals in the Bronze Age, good strontium baselines for both Sweden and Norway are greatly needed.

15. M1 0.71375 2SE 0.00004, M3 0.71523 2SE 0.00003 (Frei et al. 2017b:9)

Detailed studies of the artefacts, such as Nørgaard's (2014, 2015), including analyses of artefact styles to locate workshops, are also essential to future work in this area. At the moment, it can only be concluded that the Black Forest seems an unlikely candidate for the area of origin of the Egtved female, and that other areas in the Nordic region seem more plausible, such as south-eastern Sweden or Rogaland. Further studies will show if it is possible to get any closer to actually pinpointing a possible area of origin.

Conclusions

This article has revisited the Egtved burial in order to examine whether it is possible to suggest a likely area of origin for the Egtved female based on the published evidence. The article discusses the archaeological material in relation to the new results, but it does not question the strontium isotope values presented in Frei et al. (2015) as this is beyond the author's area of expertise. It has shown that the Black Forest, though favoured by Frei et al., seems an unlikely candidate, and that either south-eastern Sweden or Rogaland are more plausible, though at present, without more concrete evidence, other European areas cannot be excluded. There is potential for strontium isotope analysis to further elucidate the question, but baselines still need to be established for many parts of Europe, especially Norway and Sweden, and only then will it be possible to assess the values more comprehensively, in a wider framework. Detailed artefact analyses of the decoration on a number of artefacts also have the potential to make a significant contribution to the discussion and interpretation, and the results of such studies are eagerly awaited. Until such time, the inferences presented here must be regarded as preliminary and subject to revision.

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