

# Viking Women: Underdress

By Hilde Thunem (hilde@thunem.priv.no)  
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This article is my attempt to collect archaeological facts, interpretations and reconstructions of the underdress (or "serk" as the Viking poem *Rígsþula* seems to call it), of the Viking woman, in order to make my own best guess of how it looked.

You are of course welcome to draw your own conclusions from the evidence. After all, why should we amateur historians agree when the scholars can't do so :-)

## Facts: Archaeological finds

### Birka

The excavation of Birka was mainly conducted in the 1870s by Hjalmar Stolpe. Although Stolpe made fairly accurate drawings of the different graves, textiles was not considered important at the time, and was omitted from the drawings. The textile fragments were later analysed by Agnes Geijer (in 1938) and reanalysed by [Inga Hägg](#) (in 1974 and 1986). I have not been able to get access to either Geijer's original report or Hägg's 1986 report, so the information below builds on Hägg's 1974 analysis and some later articles written by [her](#) or [Geijer](#).

The material found in Birka is from the 9th and 10th century. According to Hägg's 1974 report, there were 52 female graves in Birka with fragments that probably belonged to a linen serk. Unfortunately the fragments that have been found are small and thus give little information about the cut of the garment.

Det linne som finns kvar i spännbucklorna härrör tillmycket stor del från hängselkjolens linneöglor och mera sällan från särken. Enstaka gånger har särklinnet av en tillfällighet pressats in mot botten av spännbucklan, varvid större stycken kunnat bevaras.

För övrigt återfinns rester av särken i regel på följande ställen: a) mot undersidan av spännbucklornas brätten eller kanter; b) mitt på järnnålen i spännbucklorna, mellan hängselkjolens övre och nedre öglor och på den sida av nålen som varit vänd in mot kroppen - alltså på utsidan; c) emellanåt som det yttersta textillagret på kniv, sax etc., vilket burits utanpå dräkten och vars rost trängt igenom de närmaste textilskikten, dvs från kjolen, och utanpå dessa bundit ett til flera lager av det därunder befintliga plagget, särken.

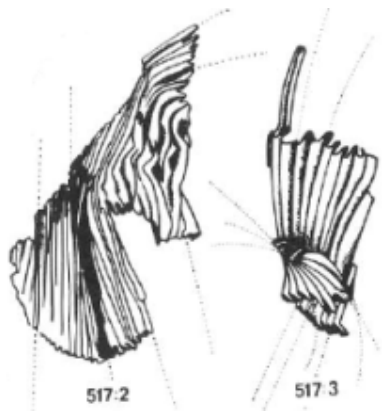
De jämförelsesvis ogynnsamma bevaringsomständigheterna har medverkat til att särken hör till de mindre väl kjända plaggen i Birkas kvinnodräkt.  
*Inga Hägg: Kvinnodräkten i Birka, p 12*

### Plain and pleated linen

Out of the 52 graves containing serk fragments, the majority (31) had fragments of plain linen. The remaining 21 contained linen or traces of linen that had been pleated in a very specific manner, making "standing" pleats with a depth of about 2-3 mm. According to Hägg, the pleating was achieved by gathering the fabric with a needle and thread, and subsequently drawing the thread tight, then moistening the fabric, stretching it and leaving it to dry before removing the thread.

The practice of pleated linen seems to become more common in the 10th century, and only three of the 21 instances of pleated linen are found in 9th century graves.

The grave with the largest remaining pieces of pleated linen in the entire Birka excavation was grave 517. The fragments of linen in this grave appear to have been undyed. There was also a small round brooch placed high upon the chest, but it had no textiles adhering to it.



517. De största sammanhängande styckena goffrerad linneväv i hela birkamaterialet kommer från spännbucklorna i denna grav. Goffrerat linne förekommer även på ena skänkeln til en sax, som låg ungefär i midjehöjd.

Linnet är numera rostfärgat men kan ha varit vitt eller naturfärgat. Vid behandling i EDTA-lösning forsvagas den rostbruna färgen något, men eftersom linnet ligger i direkt kontakt med järnnålen i båda spännbucklorna, är det mycket hårt rostbemat. De goffrerade vecken är täta, jämna och omkring 2 mm djupa. En del veck av sekundär karaktär har dessutom uppstått i graven, när tyget pressats in i spännbucklorna.

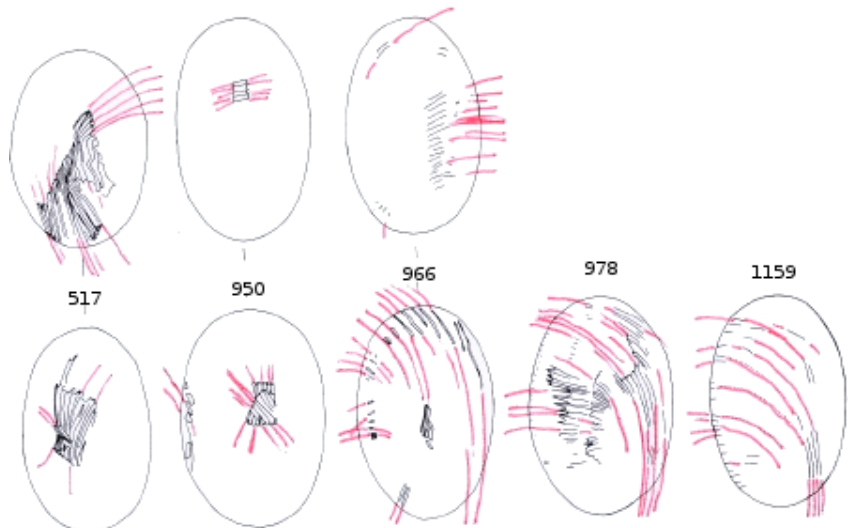
Det är tydligt, att särkinne och hängselöglor inte befinner sig i ursprungligt läge i den ena spännbucklan. Kjolens öglor har förskjutits från nålfästet mot mitten av nålen, och en del av det goffrerade linnet har vikts rakt upp. Spännbucklan har av någon anledning kommit att glida eller vridas något under ett så tidligt stadium av förmultningsprocessen, att öglorna fortfarande satt stadigt fast vid kjolen. Högt uppe på bröstet låg ett litet runt spänne. Det är numera helt utan textilier.

Inga Hägg: *Kvinnodräkten i Birka*, p 15, illustration p 123

When comparing the fragments of pleated linen on tortoise brooches, there seems to be a tendency for the pleats to run in parallel with the needle in the brooch, and then bend towards one side of the brooch.

(Illustration from Inga Hägg: *Kvinnodräkten i Birka*, p 27. Red lines added to emphasize the probable continuation of the pleating.)

Unfortunately, Hjalmar Stolpe did not record which brooch was placed on the left and which on the right side of the body when he was excavating the graves. This means that there is no way of identifying the left-hand and right-hand brooches, and consequently no way to learn whether the bending of the pleats always pointed towards the shoulders, always towards the throat or differed from one serk to another.



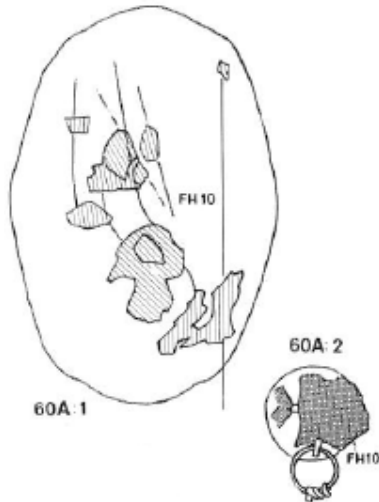
## Colour

Analysis of the linen fragments from the serk indicates that the majority of them were originally left undyed and are currently discoloured by rust or by the decomposition of the body in the grave. There are some exceptions though.

One of these exceptions is grave 60 A. This grave has a "tortoise" brooch with fragments of linen that are believed to have belonged to a serk. The fragments are attached to the "tortoise" brooch by corrosion, but seem not to have been pierced by its needle (which is consistent with the garment being a serk). They are currently blue and do not lose their colour when being treated by a solution that dissolves some of the metal corrosion salts, indicating that the linen might originally have been dyed blue.

A round brooch was found with fragments of the same linen fabric pinned inside in a manner consistent with the

closing of a slit connected to a keyhole neckline. There were also linen fragments on a pair of scissors. None of the fragments were pleated.



**60 A.** Från graven kommer linne av tre olika typer, FH 8, FH 10 og FH 11\*. Både FH 10 och FH 11 är blåfärgade. Vid behandling av den ena spännbucklans textilfragment i oxidlösande EDTA forblev den blå färgen opåverkad av lösningen, vilket kan tyda på att linnet också ursprungligen haft denna färg.

FH 10 finns på flera stället i botnen av spännbucklan samt över nål och nålfäste. Tråddriktningen sneddar mot spännets längdaxel. Tyget tycks inte någonstans vara genomstunget av nålen, men textilpartiet kring nålfästet är hårt bundet i korrosion och det är inte möjligt att t.ex. vika undan de övre skikten för att kontrollera detta förhållande och studera underliggande lager. De utgörs dock med största sannolikhet av en eller flera öglor från kjolen. En sådan linneögla är synlig upptil kring nålhållaren i samma spänne. Det är alltså uppenbart att dessa linnerester härrör från särken.

FH 10 finns vidare på saxen, där linne från särken emellanåt kan utgöra ett eller flera av de fastrostade textiliernas yttre lager, utanpå eventuella lämningar av kjolen. Interessant är, att FH 10 även återfinns på baksidan av ett litet rundt spänne. Två vikta kanter av linnet möts utan överlappning bakom nålen, som sticker igenom tyget på båda sidor. Framsidan av samma spänne finns avbildad på en äldre teckning. Av teckningen framgår, att det tidigare måste ha funnits en större yta bevarad av linnet samt att dess tråddriktning överensstämmer med den hos spännbucklornas särklinnerester.

Kvinnan i denna grav har alltså under hängselkjolen haft en slät, kanske blå, särk av linne med sprund i halsöppningen, som hölls samman med ett litet rundt spänne.

*Inga Hägg: Kvinnodräkten i Birka, p 14, illustration, p 121*

\*Numbered in Agnes Geijers' report Birka III. Textiles made from flax or hemp cannot be identified as one or the other by the naked eye, thus the use of FH to signify "Flax or Hemp".

The other grave (762) has been identified as a child's grave and lacks the "tortoise" brooches. A fragment of linen with a folded edge is pinned to a little round brooch. The needle in the brooch pierces the fragment in two places, one of them close to the folded edge, a position that indicates that the brooch once held together the slit in a keyhole opening. The grave also contains a knife with what appears to be the same linen fabric attached.

The linen on the brooch is heavily rust coloured, but treatment with a rust dissolving solution does not remove the colour, and thus may indicate that the linen originally was dyed in a reddish colour.

**762.** Linnet på spännets baksida är numera starkt rostfärgat. Om även detta från början varit rött har inta kunne fastställas vid behandling av fragmentet i rostlösande EDTA. En del rost kunde lakas ur det, utan att den kraftig brunröda färgen försvagades. Det är alltså möjligt, att linnet på kniven och på spännets baksida kommer från ett och samma plagg. Linnet på spännet är genomstunget av nålen på två ställen, det ena invid en fällkant, som ligger tillbaka över nålfästet. Spännet har alltså hållit samman ett loddrätt sprund i tyget.

*Inga Hägg: Kvinnodräkten i Birka, p 16*

Although it is not from a serk, the fragment of a blue linen aprondress (hereafter termed smokkr) in grave [563](#) confirms that the Vikings at Birka had access to blue linen. This fragment has been decorated with a red twined string, and the appearance of blue and red on the same fragment, which thus has been exposed to the same discoloration, shows that the colours must be original instead of a result of metal corrosion.

### Other construction details

Both grave 60 A, and grave 762 above contain small round brooches with fragments from the slit of a keyhole opening. Other graves that contain the same kind of evidence for a keyhole opening are grave 554 and 644. In all of the examples the folded edge of the slit seems to be narrow, about 4 mm. While almost all fragments of the serk is linen (or hemp, the two fibres are hard to tell apart by the naked eye), 644 contains the fragment of a keyhole slit that seems to have had its edge bound by a very fine linen weave, or possibly silk.

**644 B.** Två vikkantar av ovanligt fin, ljus linneväv (eller eventuellt siden?) på baksidan av ett litet runt spänne. Fällvikningen är ca 4 mm bred. Kanterna har hållits samman i en lodrät, sprundliknande öppning av den nu försvunna spännånalen. Även ett trästycke (?), mot vilket spännet legat pressat i graven, har rester av sprundet.  
*Inga Hägg: Kvinnodräkten i Birka, p 16*

While there is no definitive knowledge of the length of the serk, fragments that are believed to belong to a serk has been found attached to metal scissors lying at the hip of the body in the grave. One example of this is grave number 791 that contained fragments of a pleated linen serk.

**791.** Rikligt med goffrerad linneväv från särken på en sax, som låg vid kvinnans högra höft i graven. Ett litet runt spänne högt uppe på bröstkorgen bör ha hört till ett sprund i särken.  
*Inga Hägg: Kvinnodräkten i Birka, p 16*

There is little evidence regarding sleeves. In four graves (901, 980, 1062 and 1159) a metal artefact (scissors or key) with pleated linen fragments attached are lying close to the arm of the body. It is possible that the linen on these artefacts come from the sleeve of the serk. In grave 1062 the pleats on the linen lies *horizontally* across the scissors, and there is no traces of linen on the tortoise brooches.

**1062.** En järnsax från graven har ena sidan täckt av goffrerad linneväv, vars veck tvärs över skänklarna. Linnet torde komma från särken, som däremot inte lämnat några spår i spännbucklorna. I graven fanns två saxer av järn, den ena till höger och den andra till vänster om den döda. Den högra saxen är numera försvunnen, medan den bevarade med linneresterna låg tillsammans med en pincett längs vänster arm. Det goffrade linnet skulle alltså kunna härröra från en ärm.  
*Inga Hägg: Kvinnodräkten i Birka, p 17*

Finally, one of the graves (nr 987) has evidence that *might* indicate that some kind of undergarment occasionally was worn under the serk. The serk from this grave was pleated, but there is a linen fragment that is plain and less finely woven that comes from a layer under the serk.

**987.** Över och kring nål och hängselöglor i ena spännbucklan, mycket veckrik, sannolikt goffrerad linneväv från särken. Över det goffrade stycket, ett mindre stycke slätt, grovt linne, vilket bör komma från ett plagg eller annat textilsnitt, som burits under särken och närmast kroppen. Högt uppe på bröstet, ett litet runt spänne.  
*Inga Hägg: Kvinnodräkten i Birka, p 17*

## Haithabu

The other major excavation of Viking clothing was in Haithabu in Schleswig-Holstein, Germany. The textile material is from the 10th century and was analysed by Inga Hägg, who wrote [reports](#) in German, with short summaries in Swedish. Unfortunately my German is too poor (it is my third language) to enable me to easily skim through the reports, which means that I might not have found all the relevant information about the serk.

Most of the finds at Haithabu come from the harbour and consist of used clothing which was coated with tar and used as ship's caulking. In addition to the harbour finds, Inga Hägg also [analysed](#) the textile remains from the settlement and graveyard of Haithabu. This provides additional information about what the Viking inhabitants of the town were wearing.

The textile material from the settlement and the harbour is very similar, with the same garment types being found and the proportion of the different weaves being roughly the same. The graves on the other hand, differ from this by generally having textiles of higher quality, and a much larger proportion of tabby weave (73% instead of the 25% in the harbour and settlement). According to Hägg, the differences could indicate that the content in the graves reflect beliefs and social standing, while the textiles from the settlement and harbour may give a truer picture of what people was wearing every day.

The garments at Haithabu show evidence of advanced tailoring techniques, where instead of just combining geometric shapes, several of the pieces have been cut in shapes that closely follow the body. Some of these patterns are similar to what is found in later medieval garments, but the Haithabu garments seems to have had a

tighter fit than e.g. the clothing from Herjolfsnes.

Hedebydräkten, såväl den manliga som den kvinnliga, är produkter av avancerad tilskärarkonst, som för länge sedan lämnat de "primära klädfornernas" stadium. Snittmönstren är nära besläktade med den hög- och senmedeltida dräktens snittmönster, sådan det är känt framför allt genom fynden från Herjolfsnes.

*Inga Hägg: Die Textilfunde aus dem Hafen von Haithabu, p 212*

Medan t.ex. de grönländska plaggen hade en icke ringa vidd, även i livet - de kunde utan vidare dras på över huvudet - är hedebyplaggen påfallande trånga och följer tätt kroppens former. Snäva dräkter som dessa måste förutsättas ha haft diverse sprund och öppningar för att överhuvudet taget kunna sättas på. Det snäva snittet förutsätter också ett bruk av slitsar som måste ha varit nödvändiga för många rörelser, som t.ex. då man satt ned eller sprang.

*Inga Hägg: Die Textilfunde aus dem Hafen von Haithabu p 215*

## The settlement

As usual, it is difficult to identify which fragments may stem from the serk. There are some fairly large fragments of linen however, that might be from a serk (fragments S31 A-K). Although several pieces have survived, including some seams, there is not enough left to make a conclusive identification of the garment. Knowledge of the cut of early medieval garments - especially of linen garments - is very limited so the only thing Hägg is prepared to say is that S31 probably was an inner garment (because it is made from linen), and possibly was a tunic or serk. Because the fragments were found at the excavation of the settlement, and not in a grave, we do not know whether the garment belonged to a man or a woman.

Regardless of the uncertainty surrounding the find, the evidence of serks is sufficiently limited as to make these fragments of interest. The fragments are made of a fine tabby structured linen weave similar to the linen in the Viborg shirt.



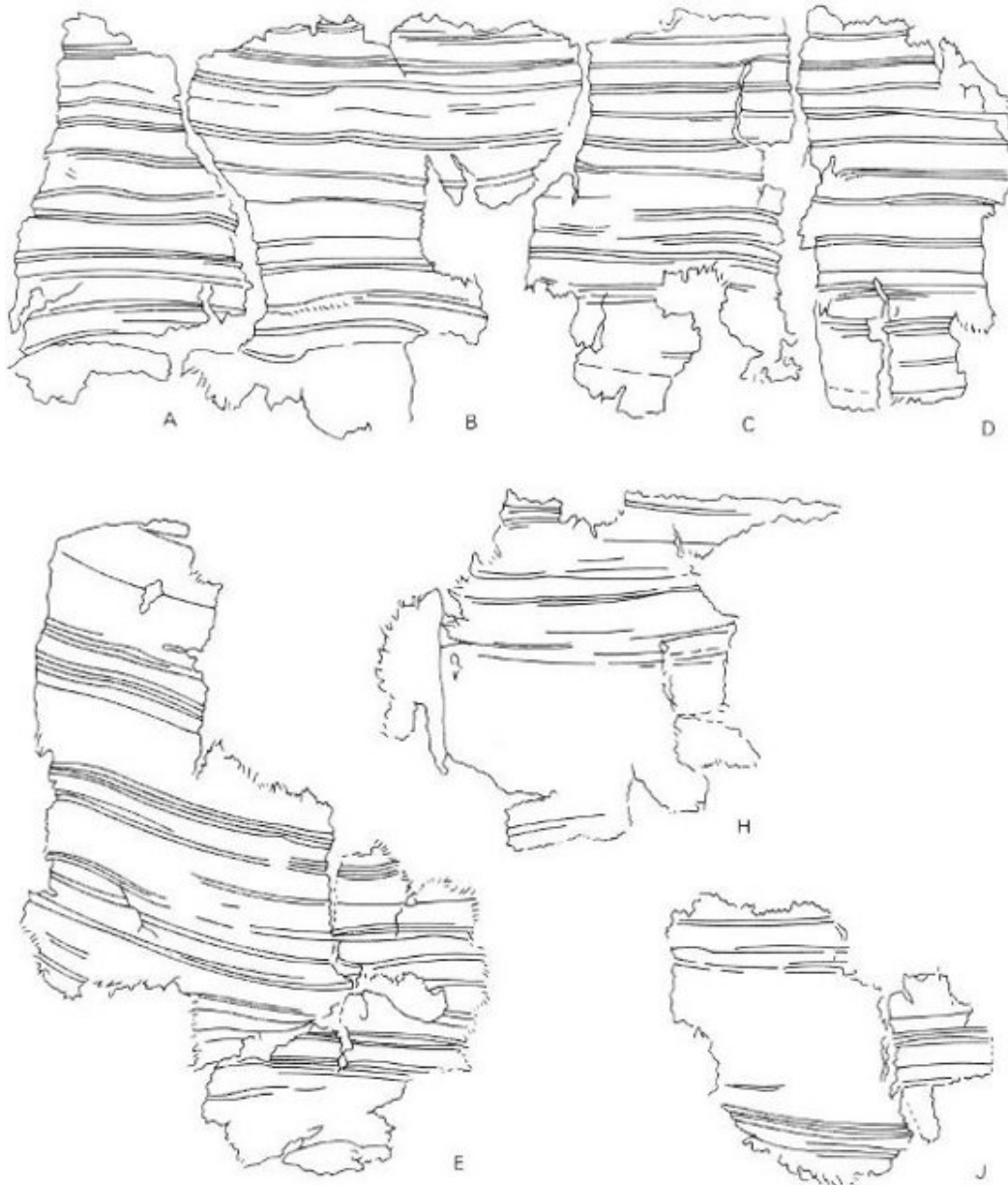
Från bopplatsen kommer i övrigt bara tre fragment med garn av lin: ganska stora delar av en särk(?) av fin strukturmönstrad tuskaftsväv av samma slag som i Viborg-skjortan <...>

*Inga Hägg: Textilfunde aus der Siedlung und aus den Gräbern von Haithabu, p 275, illustration p 67*

Only fragments remain of the original garment, and the relative position of these can only be determined in a few cases.

Comparing the patterns made by the structured weave in the different fragments, and matching areas with similar thread ratios, brings us a bit further in reconstructing the original fabric surface.

There are similarities between fragments A, B, C and D, and between these and fragment E. The thread pattern of fragments E and J is also similar, while H has a more uniform structure with coarser threads. Unfortunately this method cannot give the exact position of the pieces in relation to each other. Still, laying the fragments with similar structured weave pattern side by side results in a piece of fabric roughly 40 cm wide and 17 cm long, a remarkable size for a linen clothing piece.



*Inga Hägg: Textilfunde aus der Siedlung und aus den Gräbern von Haithabu, p 42*

There are several seams on the fragments. Fragment H has two fell seams running at right angles to each other, and both A and B are composed of a large and a small section joined by a seam. The small sections are fixed in pleats/small wrinkles by the seams, with the warp running transverse to the warp in the smooth sections.

### The graves

Only 1% (16 graves) of the examined graves at Haithabu graveyard contains "tortoise" brooches. Whether this is an indication that the traditional dress with serk and smokkr is less in use, or simply an indication that burial customs have changed is anybody's guess. It is mainly these graves that Hägg uses when looking for traces of the serk.

Särken under hängselkjolen var av mycket fin, tvåbindig väv, för det mesta omönstrad och slät (jfr [182-185/1960](#)) men i några fall blå med fin rutmönstring (27/1963). Det finns också spår efter en goffrad särk (5/1964) av utomordentlig hög kvalitet. Emellanåt sitter ett litet runt spänne i särkens halsöppning (188/1960) men ännu vanligare saknas spänne.

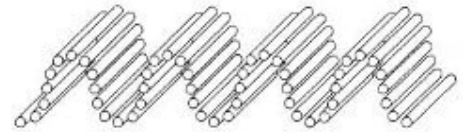
*Inga Hägg: Textilfunde aus der Siedlung und aus den Gräbern von Haithabu, p 227*

She states that the Haithabu serk was made of very fine tabby woven cloth. It was usually plain and undyed, as shown in e.g. the grave complex [182-185/1960](#), where a woman's burial with two "tortoise" brooches contained small fragments of a fine linen tabby (z17 F/10mm x z12 F/10mm) from the serk.

There are some exceptions though.

One of the graves (**5/1964**) contained pleated linen of exceptionally high quality, which probably belonged to a pleated serk. The pleats had mostly

been crumpled and fixated in rust with several layers of fabric on top of each other, but there is one fragment where seven parallel, wavy pleats, with a depth of about 2 mm can be observed.



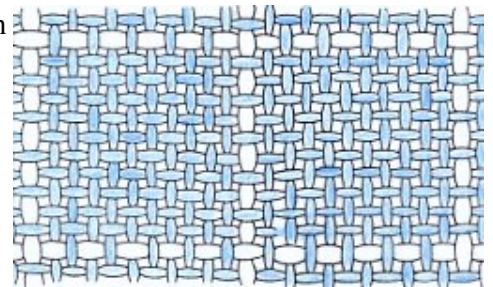
The pleating is very fine, and seems to have been created by making a fold at every sixth thread of the cloth (see figure).

*Inga Hägg: Textilfunde aus der Siedlung und aus den Gräbern von Haithabu, illustrations p 209*

As far as I know, this is the only evidence that a pleated serk were used outside of Birka. I found no mention in the report as to whether Hägg believes that the pleated serk was imported (like in Birka) or made in Haithabu itself, but as long as we only have one find, it is impossible to say whether the pleated serk was common in Haithabu or not.

There is also evidence that the serk could be made from plaid fabric.

In grave **27/1963** there were fragments of linen cloth that had been woven in a plaid pattern with small blue squares surrounded by a white border. The linen fabric had one white pattern thread (z-spun) for every tenth blue thread (z-spun) in both directions. The resulting blue checks were 4 mm wide in either direction.



Bei der Leinwand aus Grab 27/1963 wechseln je zehn blaue z-gedrehte Fäden mit einem weißen z-gedrehten Faden in beiden Richtungen ab. Die dadurch gebildeten Karos sind in Richtung der Schußfäden 4 mm breit ebenso wohl in der anderen Richtung. Dieser Stoff dürfte von einem Gewand, wahrscheinlich einem Hemd, stammen.

*Inga Hägg: Textilfunde aus der Siedlung und aus den Gräbern von Haithabu, p 212, ill p 213 (blue added)*

These fragments have been preserved on a bronze ring used to fasten a whetstone. According to Hägg the rest of the grave goods (bead string and amulet holder) indicate a female burial. The chequered linen belonged to the garment laid directly under the whetstone - probably either the smokkr or the serk - but as there are no "tortoise" brooches in the grave, she interprets it as a serk.

The grave **159/1960** also contains traces of plaid linen. This is a girl's grave, with "tortoise" brooches, a knife and a square brooch placed between the "tortoise" brooches. A fabric loop was found fastened to the square brooch, indicating that it once held together an outer garment. Underneath there were traces of a tabby woven garment (probably a smokkr) and a very fine, chequered bluish linen cloth (probably the serk).

Just like the plaid fabric in grave 27/1963, the blue background appears to be divided into squares by a pattern thread of a different colour. In this case the pattern thread is red (s-spun). Unfortunately, the number of blue threads between the red threads cannot be determined, because the surface of the best-preserved fragment is partially covered by corrosion and body wax.

Um das material eines hemdes handelt es sich bei der Leinwand aus grab 159/160. Auf dem blauen Grund zeichnen sich s-gedrehte, rote Fäden ab, die das Gewebe in beiden Richtungen in kleine Karos unterteilen. Die Anzahl der blauen Fäden

zwischen den roten läßt sich nicht feststellen, da die Oberfläche des am besten erhaltenen Fragmentes teilweise von Korrosion und Körperwachs bedeckt ist.

*Inga Hägg: Textilfunde aus der Siedlung und aus den Gräbern von Haithabu, p 212*

While the colour of the pattern threads differs from each other, the two plaid linen fabrics seem to have a similar weaving density and similar ratios between the warp and weft, and are probably a special type of fabric of very high quality.

In some graves (e.g. grave **188/1960**) there was a small brooch close to the throat - probably closing the slit in a keyhole neckline, but more often than not there was no brooch - indicating a different neckline.

## The harbour

The clothing fragments from the Haithabu harbour are generally better preserved and larger than fragments found in graves. The drawback is that it is harder to interpret which garment each fragment belongs to when we don't have the information that a layer in the grave or position on the body gives.

Linen fabric seems to not have been used as caulking, or if it was, it hasn't survived in the harbour. However, there are woollen tabby fragments that probably belonged to several undertunics. These undertunics appear to have been pieced together from several pieces cut to fit the body, with the addition of gores to achieve extra width. The finds indicate that an overtunic of similar design existed, but it was usually made from twill instead of tabby.

Undertunikan var av tuskaftat ylle och tillskuren på samma sätt som de grönländska kjortelplaggen, dvs i separata, efter kroppens former avpassade stofflängder. Den fick ökad vidd i nederdelen genom infallade kilstycken. Övertunikan hade i princip samma snitt.

*Inga Hägg: Die Textilfunde aus dem Hafen von Haithabu, p 213*

Redan vid systematiseringen av fyndmaterialet visade sig, att de olika textilfunktionerna i överraskande hög grad motsvaras av bestämda bindingstyper. Så var t.ex. undertunikan eller skjortan/särken vävd i tuskaft, enkel diagonalkypert användes i såväl mans- som kvinnodräktens overtunika.

*Inga Hägg: Die Textilfunde aus dem Hafen von Haithabu, p 215*

Påfallande är det dock att de dräkter som nu kunnat påvisas i Hedeby i sig måste vara ganska kompletta med ett tiotal plagg i mans- och åtminstone fyra i kvinnodräkten. Linneplaggen, som man ju måste räkna med har funnits, har av allt att döma inte varit mycket annorlunda i formen eller i placeringen i dräkten utan huvudsakligen avvikit ifråga om materialet.

*Inga Hägg: Die Textilfunde aus dem Hafen von Haithabu, p 218*

According to Hägg the under- and overtunic worn by women were floor length, and so are what we would call dresses. There may conceivably have been some kind of linen undergarment worn even closer to the body than the woollen undertunic/dress, but since Hägg believes that the linen garments from Haithabu were probably constructed in the same way as their woollen counterparts, the undertunic should provide a good starting point for interpreting the Haithabu serk.

Several fragments from the undertunic have been found in the harbour, all made from woollen tabby. Most of them are from relatively coarse fabrics, but there are two finely woven fragments (fragment 18 and 55 A) as well.

Two samples that have been analysed show traces of dye extracted from walnut shells, and Hägg believe that all the undertunic fragments were dyed. Along with its aesthetic function, the walnut dye also has an antibacterial effect; a clear benefit for garments worn close to the body.

According to Hägg, even the coarser weaves could not have been inferior material, seeing as they were dyed, and that they show no traces of having been mended before they were used as caulking.





There are two fragments of the shoulder parts (fragments 72 C and 73) that might belong to the front and back of the same tunic, or to related garments.

Fragment **72C** is part of the shoulder of a tunic made of coarse cloth in tabby weave. The fragment is 28 cm long and 29 cm wide. The original edges remain in some places, but are very worn. Traces of a seam remain at the upper edge, where it would have stitched together the front and back of the garment.

Even when taking into consideration that the edge has frayed later, the neckline appears to have been wide and deep. The armholes, however, seems to have tightly enclosed the upper arm and shoulder.

It is possible that the frayed bottom might have been an edge originally, and so would have been stitched to a second fabric piece. It is also uncertain whether the frayed edge that runs along the centre of the body might have been an original edge and seam.

Just like 72C, fragment **73** is part of the shoulder of a tunic made of coarse cloth in tabby weave. The fragment is 28 cm long and 24 cm wide. This fragment is, overall, less well preserved than 72C. Due to the edges being worn, the pattern can be interpreted only in general terms. It is therefore not possible to conclude on whether they are from the same tunic or not.

The original shape of the neck opening is uncertain. In addition, fragment 73 has a wider shoulder piece and sharper curvature of the armhole than 72C. The fabric quality of the two pieces is almost identical, however, the thread setting differs somewhat.

The type of tunic demonstrated by 72C and 73 would have had rounded necklines and sharply curved armholes. The wide necklines would explain why, unlike Birka, very few brooches are found in a position close to the neck in the Haithabu graves.

The pieces that made up the tunic seems to have been fairly large (neither 72C nor 73 is pieced together from several fabric pieces), and the tunic had a front and back that was connected by shoulder seams. The circumference of the garment may have been reduced with the use of darts.



Der Zuschneiderest (Fragment 8), die Schulterteile (Fragmente 72 C, 73) und das Stück mit den Abnähern (Fragment 40) sind deutlich miteinander verwandt. Sie gehören alle zu einem Gewand mit einfachen, großflächigen Musterteilen, die nach dem Körper gemodelt sind.

Vorder- und Rückseite waren durch Schulternähte miteinander verbunden. Die Halsöffnung war rund, die Ärmelöffnungen waren tief geschnitten. Der Umfang ist mit Abnähern verringert worden.

*Inga Hägg: Die Textilfunde aus dem Hafen von Haithabu, p 50, illustrations p 48*

There is another group of fragments that seems to come from a somewhat different tunic type. One (fragment 18) runs from the shoulder to the waist of a very narrow-cut tunic, another (fragment 55A) is from the lower part of a similarly close-cut garment. These pieces consist of ribbon-like strips that are sewn together along the sides. Both of these fragments have been cut off (or torn) at the waist, and Hägg believe that this type of tunic came in two

parts, an upper part with a lower "skirt" sewn to it.

Dieser Gruppe stehen einige andere Fragmente gegenüber. Das eine (Fragment 18) stellt den Abschnitt von der Taille bis zur Schulter eines sehr eng geschnittenen Gewandes dar, ein anderes (Fragment 55 A) stammt vom Unterteil eines gleichfalls sehr eng geschnittenen Kleidungsstückes. Die Musterteile bestehen hier aus bandartigen Streifen, die seitlich miteinander vernäht sind. Außerdem haben die beiden Fragmente noch gemeinsam, daß sie an der Taille abgeschnitten sind. Dieses Hemd war also zweiteilig, wobei einem Oberteil ein unterer Schurzteil angenäht war.

*Inga Hägg: Die Textilfunde aus dem Hafen von Haithabu, p 50, ill. p 43, 46, 59*

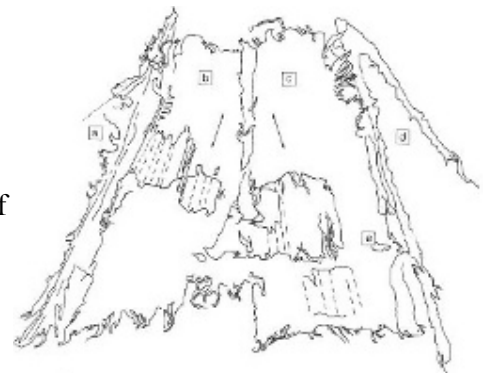
Fragment **18** is from the front or back piece of a tightly fitted tunic of fine woollen fabric. It is dyed, with a height of 39 cm and a width of 15 cm. The fragment consists of two different pieces that are sewn together by a vertical seam, and it appears to have been torn or cut at roughly the waist level.



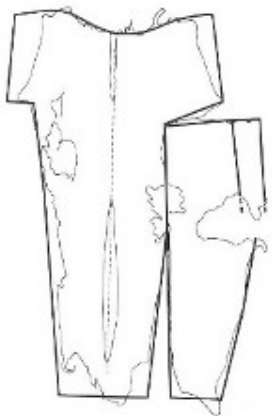
As mentioned above, fragment **55A** is from the bottom of a tunic. The fragment is about 31 cm long, 16 cm wide at the top and 37 cm wide at the bottom. It is torn at the bottom edge, and cut off or torn at waist level.

The fragment is pieced together from five separate pieces; a tiny fragment, two four-sided pieces that widens towards the bottom, flanked by two gores (which demonstrates that gores were used to widen these garments).

Hägg believe that the top of the fragment would have covered a quarter of the waist of the wearer. With that in mind, if we extrapolate the lines of the gores and other pieces downward, the resulting pattern indicates that the tunic would have a total circumference of about 2 meters at knee height. Hägg believes that it is unlikely that this particular tunic was any longer, because of the sharply increasing diameter caused by the pattern. This fits with the contemporary illustrations of male tunics reaching to the knee.



While the differences between the overtunic and the serk may be larger than the undertunic, it is still worthwhile to consider a couple of the following overtunic fragments.



There is a long sleeve (fragment **57**) from the harbour. It demonstrates that at least the sleeves of the overtunic had a fitted shape that followed the curved armholes of the tunic body. A linen sleeve might have had a less close fit (the fabric is less stretchy than wool, so an exact copy would make it difficult to move your arms). However, the woollen sleeve fragments demonstrate that a different cut than a purely geometrical shape was in use.

Also from the harbour, there were two long strips (30 cm and 81 cm long respectively) of woollen twill that have been dyed and fulled (fragment **6A** and **6B**). The longest of the strips exhibited a slight curving, and have stitches used to fasten a lining, and stitches that may have fastened a trim. Hägg interprets the strips as the bottom edge of a garment, and believe that they come from a floor length overtunic. If this interpretation is correct, this is rare archaeological evidence of a women's garment reaching below the hip (even if it is not the serk).

There is also a relevant fragment of the overtunic in the material found at the settlement. Fragment **S29** is a woollen twill gore, 43 cm long and 19 cm wide at its widest. It is torn at the bottom, so the original length is unknown, but show traces of having been folded (ca 15 mm) in along the sides and stitched to neighbouring pattern pieces on either side. By existing, this fragment confirms that gores were used in Haithabu tunics, as

indicated by fragment 55A of the harbour material, and conversely can have been used in the serk.

## Pskov

A woman's grave from the mid-10th or early 11th century was excavated in 2006 in Pskov by Elena A. Yakoleva. Later, Elena S. Zubkova, Olga V. Orfinskaya and Kirill A. Mikhailov published a [report](#) on the finds in 2010. As English is not the first language of the authors or me, some of the details in the report are hard to interpret. Any errors in the summary are (as usual) my fault only.

The grave had been plundered and no traces of a body remained. However, a block of soil was recovered from under the floor of the grave, containing several textile fragments, two "tortoise" brooches and the remains of the base of a birch-bark container reinforced by wood.

In all probability, the textiles had been stored inside this container before being placed in the grave. This had protected the textiles from the deterioration of the body, and allowed more than usual of the surface of the garments to be in contact with the preservative metal of the brooches. On the other hand, there was no information to be gleaned from the position of the fragments in relation to the body, something which makes it harder to determine what garment(s) they belonged to.

The report mentions that there were 11 fragments of thin blue linen tabby and silk (unfortunately it doesn't list them). Although the linen was heavily degraded and mostly present as a black crust, the archaeologists were able to determine that it had originally been folded in several layers and made up the main bulk of the fabric inside the container.

The silk fragments were covered on the reverse side by a thin layer of degraded linen, with the exception of the tucked in edges and connecting seams. Together with traces of sewing threads, this strongly indicated that all the silk parts originally were sewn onto linen as decoration.

After examining the fragments, Zubkova, Orfinskaya and Mikhailov concluded that they had come from two separate linen garments faced with silk; a serk and a smokkr or smokkr-like garment. In the following I will concentrate on the fragments that may have come from a serk.

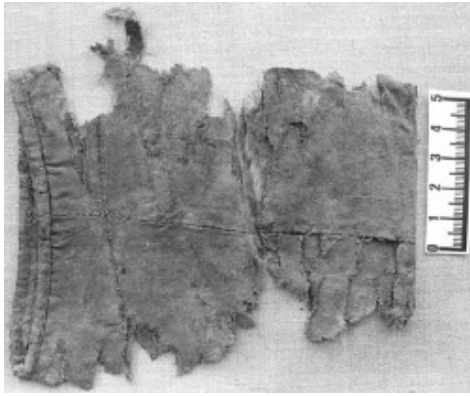
A fairly large fragment of the neckline of the serk had been preserved in the grave. To my knowledge, this is the largest remaining piece of a serk neckline that has been found.

After the complete disassembling of the block of soil with the remains of textiles, 11 elements of clothing made of linen and silk textiles were identified. Their careful examination allowed us to suggest the presence of an ensemble of a female garment consisting only of two articles. These two were both sewn from thin blue linen.

The first is an underdress to which details nos. 3, 5, 7 and 10 may be related. The two latter are the remains of a collar, which was turned inside out along the edge of its neck, cut out and gathered in fine pleats. In front, there was an upright slit in the middle. The folds were fixed with a thin band, which pulled together the edges of the collar.

*Elena S. Zubkova, Olga V. Orfinskaya and Kirill A. Mikhailov: Studies of the Textiles from the 2006 Excavation in Pskov, p 297, photographs from p 292, 296 drawing from p 295*

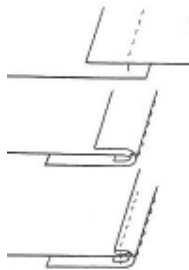
The wording in the report is ambiguous, but I believe that "fixed with a thin band, which pulled together the edges of the collar" can mean either that the pleats were stitched to the band (and the end of the bands tied together to close the slit?) or that the band acts as a drawstring, tightening a large opening. Since a large opening tightened by a drawstring wouldn't need a slit in order to let the head through, the first alternative is probably the most likely one. The report refers to *two* fragments (detail no 7 and 10) that are remains from the neckline of the dress. Detail no 7 is the fragment in the photograph, but no further description or photo is presented of detail no. 10.



The grave also contained two fragments of silk cuffs, made from a red-violet silk samite (these are the detail no 3 and 5 mentioned above). The length of the complete cuff was 12.5 cm

and the width near the wrist would have been 10 cm when folded. The lower hems of the cuffs were trimmed with a narrow band of cloth while the upper edges were rolled inside out. The cuffs would have been sewn onto the linen sleeves of the serk, and still carry traces of degraded linen on their reverse side.

The trimming was achieved by laying a 3 cm wide piece of samite onto the right side of the piece that is trimmed, overlapping it 1 cm from the edge and then stitching it in place with running stitch. The hem of the trimming piece is then folded over to the reverse side, while the opposite edge is tucked in and fixed in place on the front side with back stitch, creating a trim ca 0.5 cm wide.



In addition there were some 4.5 cm wide reddish-violet samite strips. These had been trimmed at one side by the same method that was used to create the trim for cuffs. The reverse side of these strips was covered by remains of linen, indicating that they probably had been sewn onto the hem of a linen garment. If so, this is one of the few instances of evidence we have for decoration of the bottom of a Viking Age garment.

## Minor finds

Vegetable fibres tend to deteriorate in the graves, but in some cases it may leave a black crust on other cloth fragments, showing that linen cloth (or in some cases hemp or nettle) probably was present. This is the case in [Kaupang grave C27997 C](#) and the [Oseberg grave](#), both analysed by Anne Stine Ingstad. Unfortunately, there is no way of knowing whether the origin of the black crust was linen, nettle or hemp, and if it came from a serk or some other garment.

## Adwick-le-Street

Even in the cases where linen does survive in the grave, it is usually as very small fragments. The grave at Adwick-le-Street provides a good example of this.

In January 2001, a grave was found in South Yorkshire with grave goods typical of a female Scandinavian burial of the Viking Period. Penelope Walton Rogers [reported](#) on the artifacts in the grave, including the textiles. The design and condition of the "tortoise" brooches in the grave suggest a date for the burial at the end of the 9th century. Isotope analysis of teeth from the skeleton indicates an origin for the woman in either Norway or

possibly north-eastern Scotland.

The grave contained fragments of a garment that had been worn beneath the smokkr. The report gives no details regarding the shape of the fragments.

On both brooches the uppermost layer is a flat area of relatively coarse textile which must represent the innermost garment as worn. The textile is woven in tabby (plain weave), from Z-spun yarn, with thread-counts of 12x9 per cm on [brooch 1] and 14x9 per cm on [brooch 2]. There are further traces of a similar textile on one face of the knife AF, where it lay against the upper arm of the body. The fibre is a fully processed plant fibre, either low-grade flax or hemp. <...> The loops and the coarser inner garment are likely to have been a natural white.

*Greg Speed and Penelope Walton Rogers: A Burial of a Viking Woman at Adwick-le-Street, p 75-76*

Walton Rogers interprets the garment to be a serk, although one of much coarser quality than the ones worn at Birka.

## **Køstrup**

A small graveyard in Køstrup, Fyn in Denmark was excavated in 1980-1981. Of the fifteen graves that were found, only one is of interest to the textile enthusiasts, namely grave ACQ. According to [Charlotta Lindblom](#) the non-textile grave goods indicate that the grave is from the 10th century.

The initial analysis of the textiles in the grave was carried out in 1981 by Henriette Wielandt. While I haven't been able to get access to her report, [Liisa Rasmussen and Bjarne Lønborg](#) have written about their examination of the textile remains in 1993. [Charlotte Rimstad](#) mentions the find (in 1998) and gives a summary of Wielandt's analysis.

The Køstrup find is interesting because some of its possible serk fragments are found in an unusual position.

Most of the textiles were found inside or on top of the tortoise brooches. There were three pieces of linen tabby. One of them was found *inmost* in the left brooch, underneath the fragments of the woollen smokkr. One lay on top of the left brooch, and the last fragment was found within the right brooch. According to Lønborg the linen tabby was woven with [20-28/16-18](#) threads per cm.

The placement of linen underneath the woollen fragments inside the left brooch is unusual, and Wielandt and Lønborg interpret it very differently. Wielandt proposes that there was a linen garment *on top* of the woollen smokkr. She believes that there were two smokkr: a blue woollen smokkr worn next to the body, and a linen smokkr worn on the outside. She suggests that the linen on top of the left brooch may come from the smokkr or from a shawl.

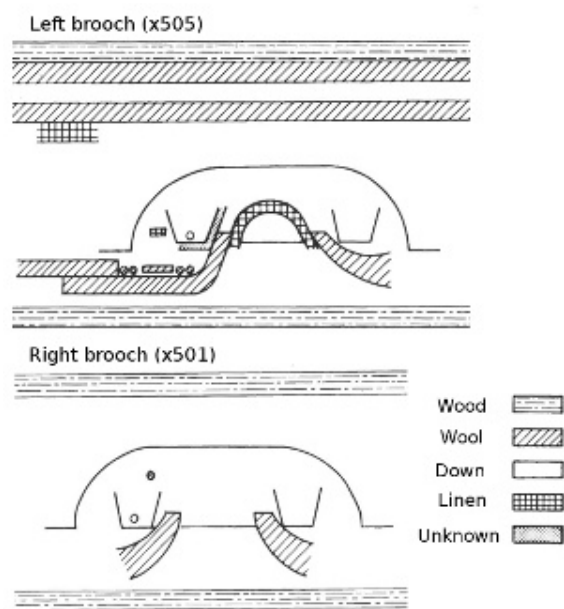
Resultatet af Wielandts analyse fører til følgende tolkning af dragten: Kvinden har været iført en *indre stropkjole* af uld med brede stropper. Sømmen og pyntebåndet har siddet i midten foran, mens gauffreringen har været i siden for at give vidde. Herover har hun haft en *ydre stropkjole* af hør med smalle stropper, og oven på selve spænderne har hun haft endnu et hør-lag, måske fra stropkjolen eller fra et slag.

*Charlotte Rimstad: Vikinger i uld og guld, p 18,19*

Lønborg on the other hand, proposes that there was an undyed linen underdress (serk) worn *inside* a blue woollen smokkr. It is true that the stratigraphy inside the left brooch (where the wool is closer to the body than the linen) works against this interpretation. His explanation is that the needle of the brooch was stuck through the serk, resulting in a piece of serk linen being pushed into the brooch. The woollen fragments of the smokkr were then folded on top of it during the decomposition. He suggests that the linen on top of the brooch is from a duvet or a cloak of some kind.

(One should be very careful applying our modern day "common sense" to dress codes from the past. However, I personally find it very unlikely that the dyed woollen smokkr should have been hidden beneath a plain and less costly linen smokkr, and so I am in agreement with Lønborg in his interpretation).

*Illustration (slightly modified) from Liisa Rasmussen and Bjarne Lønborg: Dragtrester i grav ACQ, Køstrup, p 176*



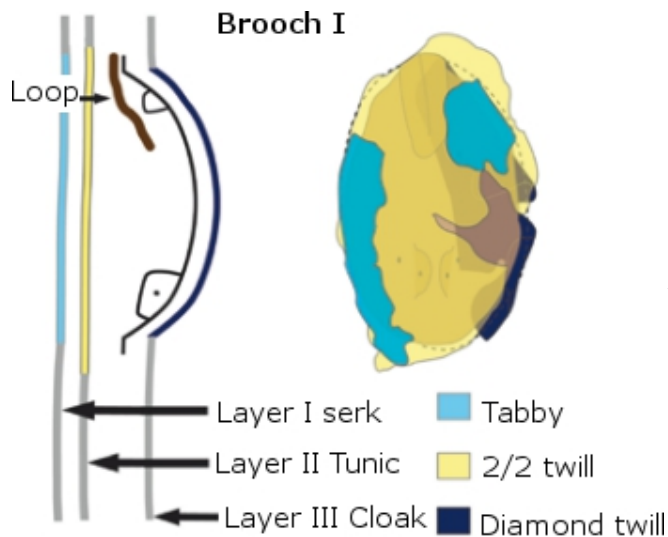
While piercing the serk with the brooches isn't normal practice, evidence of it has been found other places than Køstrup. Inga Hägg remarks in her analysis of the Haithabu graves that while unusual, there were two graves where this had happened. She suggests that the purpose of the arrangement was to keep the brooches stable when the dead women were carried to their graves, fully dressed and on display.

Som exempel på egenheter som har med gravskicket att göra, kan slutningen nämnas två kvinnograver. Här hade spännbucklornas nålar trätts genom framstycket till underliggande plagg, dvs särken (...). På så sätt hölls spännen med pärlsnoddar och annat på plats i dräkten trots att den döda befann sig i liggande ställning. Detta arrangemang är onödigt om det var meningen att den döda bare skulle placeras liggande i graven men inte om hon bars dit påklädd och synlig för alla.  
*Inga Hägg: Textilfunde aus der Siedlung und aus den Gräbern von Haithabu, p.278*

If so, the Køstrup fragments are not merely examples of a linen serk, but is an example of a phenomenon that is fairly rare among the examined graves from the Viking Age.

### Grave B 4864 at Hyrt in Voss, Hordaland

In 2011 [Hana Lukešová](#) describes a methodology for registering and interpreting the textile remains preserved in the many tortoise brooches stored by the museum. In her article she uses three graves from the west of Norway as examples when explaining her method. Unfortunately, the graves were excavated late in the 19th century or early in the 20th and the details are lacking. Also, some of the textile fragments were removed from the brooches in order to preserve them, without recording their original position. Lukešová positions them by using old photographs of the brooches with the textiles (where they exist) and the splotches made by the metal in shape of the different brooches.



One of the graves examined by Lukešová is grave B 4864 from Hyrt. The grave contained two "tortoise" brooches and the remains of a third brooch. When examining the textiles, Lukešová found several fragments of a blue tabby with vegetable fibres (thus probably linen) closest to the body. She proposes that they belong to a blue serk.

*Illustration: Hana Lukešová: Fragmenter av kvinnedrakter fra vikingtiden, p 158, English text added by me.*

## Eura

Because of its differences from the Scandinavian clothing tradition, evidence from Finnish finds is usually not a good direct source for the recreation of Viking clothing. Still, the reconstruction of the underdress from a grave in Luistiari in Eura is one of the popular alternatives used by people recreating Viking serks, and so knowing what was *actually found* by the archaeologists can be helpful when deciding on whether to use this reconstruction.

The current finds seem to indicate that the Finns wore woollen undergarments. In graves excavated in both Kaukola and Perniö, the innermost garment of the women was made of wool. In Eura, over 500 graves have been excavated. The most well-known grave belonged to a woman who had died in the early part of the 11th century (grave 56). Her grave did not contain any larger pieces of fabric, but there were fragments in many different places. The grave is described in a report by [Pirkko-Liisa Lehtosalo-Hilander](#).

Inside the bracelets on her arms was a dark blue plain-weave woollen cloth, and under the shoulder brooches and a central brooch and chains, greenish four-shaft twill was found. A similar material but of a lighter shade of green was found in connection with the spiral ornaments of a Finnish apron. So apparently there had been blue sleeves, a green dress encircling the trunk and a light green apron.

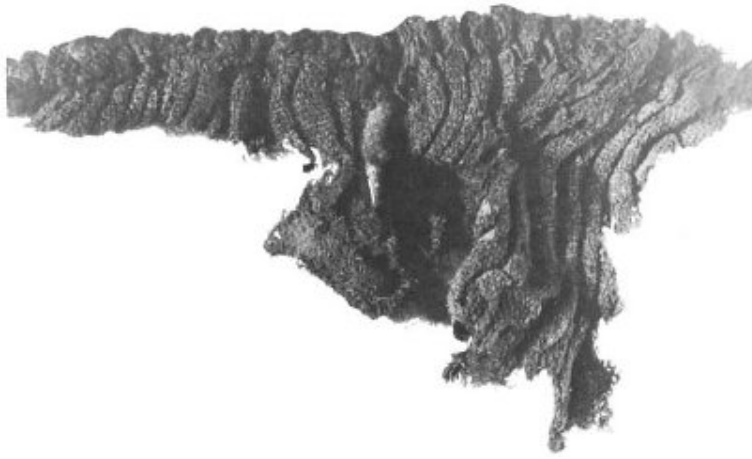
The dark blue fabric was not found elsewhere in the grave, thus the sleeves could not have belonged to an outer garment, because in that case there would have been traces of the blue fabric on the surfaces of the metal artefacts. It is possible that the garment which covered the body had sleeves of a different material or that the costume had had detachable sleeves. However, the archaeologists considered it more probable, that the woman was dressed in an undergarment with long sleeves.

## Vangsnes

This find was originally interpreted to be a serk, but has recently been suggested to come from a smokkr instead. I have included a summary of the original report, so that you can make your own decision as to how the evidence should be read.

A woman's grave at Vangsnes in Norway (B 5625) contained several fragments of a tabby wool. Three of the fragments were pleated (2-3 mm deep pleats). The rest of the fragments are plain, but it is uncertain if this is because the pleating has disappeared in the grave, or if only part of the garment was pleated.

Tre fragmenter av et toskafststoff, B 5625 Vangsnes, er plisserte. Plisseringen er jevn og regelmessig og tilsvarer helt den



Agnes Geijer har beskrevet fra Birka. Foldene er tre mm dype, og de framstår i tversnitt som en sammenpresset bølgelinje (Geijer 1938, 16). <...> De øvrige fragmentene av toskaftstoffet fra B5625 Vangsnes viser ikke spor av plissering. Om dette kommer av bevaringsforholdene, eller om bare en del av stoffet opprinnelig var plissert, er vanskelig å avgjøre.

*Inger Marie Holm-Olsen: Noen gravfunn fra vestlandet som kaster lys over vikingtidens kvinneklær, p 201, illustration p 202*

In 1976 Inger Marie Holm-Olsen [reports](#) on the find in her article on textile material from Western Norway. At the time she writes her report, there appears to be no reports on similar pleated woollen fragments, so she proposes that the fragments in grave B 5625 may possibly be from a woollen serk, mirroring the pleated serks from Birka.

Underkjolen er det i vestlandsmaterialet bare usikre spor etter. Det eneste i materialet som kanskje kan tolkes som rester etter et slikt plagg, er det plisserte stoffet fra B 5625 Vangsnes. Er dette restene av en underkjole, adskiller den seg fra underkjolene i Birka ved at den er i ull.

*Inger Marie Holm-Olsen: Noen gravfunn fra vestlandet som kaster lys over vikingtidens kvinneklær, p 203*

Some years after Holm-Olsen's report came out, the discovery of pleated wool at grave C in [Kaupang](#) and [Køstrup](#) was reported on. The pleated fragments from both these graves are interpreted to be part of a smokkr, *not* a serk. Based on these finds, [Thor Ewing](#) proposes that the Vangsnes find should also be interpreted as a smokkr.

If the pleated tabby at Vangsnes was from the serk, it is reasonable to expect the grave to also yield less deteriorated fragments from the smokkr, as it is closer to the preserving metal in the brooches than the serk. Unfortunately, because Holm-Olsen was summarizing the finds from several graves in her article, she gave no further details as to whether grave B 5625 yielded other fabrics in addition to the woollen tabby. However, if there were significant amounts of a different fabric, I would expect her to have mentioned it when interpreting the pleated fragments. Also, the Køstrup smokkr is pleated only between the brooches at the front. This supports an interpretation of the mix of pleated and plain tabby fragments from grave B 5625 Vangsnes as a partially pleated smokkr.

Thus I agree with Ewing that these fragments are likely to have come from a pleated smokkr.

## Peripheral finds

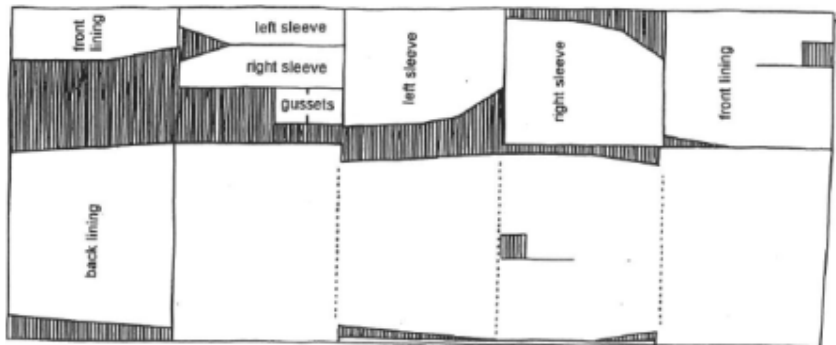
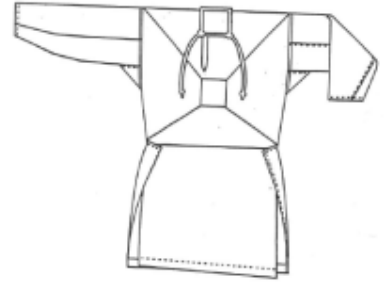
Since the finds of fragments of serks are rare, it may be relevant to examine other clothing finds for inspiration. Caution *must* be used when extrapolating from these finds as they may be radically different from the serk, but they may still be useful in demonstrating which tailoring techniques and patterns were known to the Vikings.

I have selected three finds that I believe is relevant in this regard. All three are male tunics and clearly demonstrate that Viking tailoring was not limited to simple, unfitted garments created from a few rectangular pieces. Instead the tunics are put together from a large number of pieces in fairly complex patterns. Some of them are referenced later in the discussion on interpretation of the archaeological facts.

## The Viborg Shirt



The Viborg shirt is one of the most well-known finds of Viking clothing. Large parts of a male shirt were found in a post hole, at Viborg Søndersø in Denmark. Although many of the pieces of the shirt had come apart, enough was recovered to give a clear picture of what the shirt had looked like.

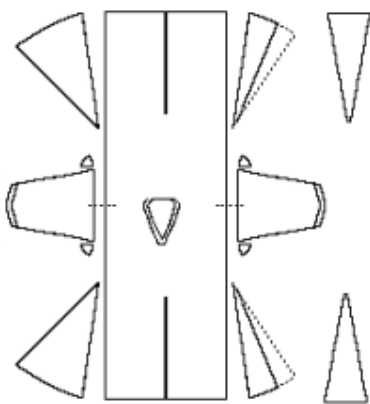


Illustrations from [The Viking shirt from Viborg](#) by Mytte Fenz.

The shirt dates from the 11th century. It has a clear waist seam on both the front and back panels and split sides below the waist. The upper body of the shirt was two layers thick; the front and back chest panels were "quilted" together with running stitches. Colour analysis showed that the linen was not dyed originally.

### The Skjoldehamn Tunic

The Skjoldehamn tunic was found in a bog on Andøya, Norway. Originally it was believed to be from the medieval period. However, recent carbon dating places it at 1050-1090 (with an alternative date at 1150-1210).



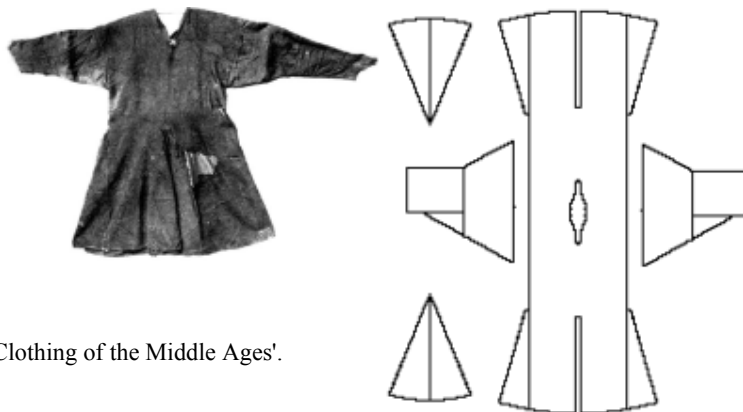
There has also been an ongoing discussion of whether the wearer was a Norse woman, a Sami man or a Sami woman. In a follow up to his master thesis on the Skjoldehamn find [Dan Halvard Løvlid](#) states that while the DNA evidence is uncertain, there are several similarities in e.g. the decoration with Sami clothing. He argues that more research is needed to conclude on the ethnicity of the wearer, but that Sami origin cannot be excluded as a possibility.

Even if the find should turn out to show Sami fashion instead of Norse, it demonstrates tailoring techniques that would have been observed by the Vikings. The uncertain dating is more problematic. Still, the alternative date places it in early medieval times in an area with little direct contact with Europe (and thus probably more conservative clothing traditions) and thus may still be relevant when considering the Viking serk.

Pattern illustration from [Marc Carlson's](#) web pages on 'Some Clothing of the Middle Ages'.

### The Kragelund Tunic

The Kragelund tunic was found in the Kragelund Bog by Viborg in Denmark. Just like the Skjoldehamn tunic it was believed to be from the medieval period, but carbon dating in 1998 revealed it to be from 1040-1155. This is at the end of or right after the end of the Viking Age, but may still indicate how Viking tunics were made.



Pattern illustration from [Marc Carlson](#)'s web pages on 'Some Clothing of the Middle Ages'.

## Interpreting the facts

That is the end of the hard evidence, and we're entering the land of interpretations. From the archaeological material it seems that only small fragments of serks have been found. This means that when we want to reconstruct the garment we must combine the archaeological evidence with other (and less reliable) sources, like poetry or illustrations.

### Wool or linen?

[Finds](#) from Finland seem to indicate that woollen undergarments were worn, but as mentioned earlier, the Finnish clothing tradition is not an ideal source for the recreation of Viking clothing because it differs fairly much from what was worn in Norway, Sweden and Denmark. The [Vangsnes](#) fragments are wool, but as stated above it is uncertain whether they are from a serk.

The serk fragments from [Pskov](#), [Køstrup](#) and [Adwick-le-Street](#) are linen. So are all the serk fragments from [Birka](#), although this may partly be because woollen fragments would be harder to identify as part of the serk instead of as part of e.g. a dress or tunic. Nevertheless, Hägg proposes that the farmer's wife may have worn the same garments as the wealthy, although with less rich fabric, so that her serk would have been made of linen or fine wool.

Också bondhustruns hängselkjol var oftast av ylle i diamantkypert eller ripsartad tuskaftsväv med band- eller prydnadssnodd längs sömmar och fällkanter. En särk eller undertunika bars under hängselkjolen. Den kunde vara både av fint ylle och av linne i tuskaftsbinding.

*Inga Hägg: Vikingatidens kvinnodräkt, Livet i Birka p 13*

The finds that are clearly identifiable as serk fragments at Haithabu are linen. There are several wool fragments from an undertunic that might occasionally have been worn as a serk, but Hägg seems to believe that there was a similarly constructed linen garment worn next to the body.

Finally Thor Ewing refers to an edict of Diocletian from the late Roman period, which lists coarse linen as cheaper than fine wool, and argues that this supports the suggestion that linen could have been in common use. It is thus possible that both common people and maybe even slaves wore linen undergarments of coarser weaves, but that these have not been found as there are few or no metal artefacts in the grave that would preserve the textiles.

Ewing mentions that people from Gotland and western Norway might be an exception, as the eleventh-century writer Adam of Bremen remarks that the Norwegians rely upon their flocks for their clothing. Unfortunately the evidence from Norway is too scanty to tell whether his remark reflected reality in Viking Norway.

## Dyes and other decoration

The only instance of a decorated serk that I know of is the one found at [Pskov](#) with silk cuffs and silk strips that may have been applied to the bottom hem.

As for dyeing, wool takes dye fairly easily, and many of the fragments of woollen cloth that has been excavated show traces of colour. The Eura serk appears to have been dyed blue, and Hägg believes that all the woollen undertunic fragments found in the harbour were dyed. According to her the antibacterial effect of the walnut dye would have been appreciated in the instances where the undertunic was worn directly against the body as a serk.

Linen on the other hand, is difficult to dye when you don't have access to modern chemical dyes. With a few exceptions, the majority of linen serk fragments seem to have been left undyed. Of course, as it is difficult to separate colour originating from dye from the colour caused by rust or other discolouration, it can be hard to identify if a fragment has been dyed. Still, according to Inga Hägg, there is reason to believe that the linen fragments from the serks found in two of the graves in Birka (grave [60A](#) and [762](#)) may have been dyed blue and red respectively. There is also more convincing evidence of a blue linen smokkr in Birka grave [563](#), confirming that Vikings at Birka had access to dyed linen. Finally, the linen serks at [Pskov](#) and [Hyrt](#) were dyed blue, and the high-status lady in the poem *Rígsþula* (Moðir) wears a blue serk.

Not all serks was made of fabric in a single colour, as shown by the plaid serk fragments found in the Haithabu graves. These would have been high quality fabrics and were therefore probably only worn by the wealthy, but the white and blue plaid (grave [27/1963](#)) and red and blue plaid (grave [159/1960](#)) provide a sharp contrast to the white Viking serk that most of us have come to expect.

## Neckline

According to Inga Hägg, there is some evidence in Birka for a keyhole neckline with a slit being closed by a round brooch. Of the 52 graves in Birka with linen fragments of a serk, only 20 contain the small round brooches. Nine of the round brooches has fragments of linen (or silk) attached to them, and only four of these has fragments that show remains of the folding that would be expected from the edges of a slit in a keyhole neckline (Grave 554, [644](#), [762](#) and [60 A](#)). Only *one* of these (60 A) has identical fabric left on both the tortoise brooches and the round brooch, showing that whatever was attached to the round brooch probably was the serk.

In graves that do not contain the twin brooches (and thus probably did not have the distinctive dress that went with them), the placement of the round brooch varies, with the majority being placed on the centre of the chest. In graves that contain the tortoise brooches however, the little round brooch is usually (75% of the time) placed beneath the chin, indicating that it was pinned to a garment worn *beneath* the dress held up by the twin brooches, and thus needed to be placed higher in order to not be hidden by the dress. This strengthens the theory that the round brooch was used to close the serk. The placement of the brooch beneath the chin also indicates that the neckline probably ran fairly close to the throat, and the lower placement of the brooch in the absence of the tortoise brooch-dress may indicate that the slit was relatively long.

Still, there are 32 Birka graves with textile fragments from a serk without a round brooch. Inga Hägg concludes that these probably were no more dependent on a slit and brooch than the later medieval tunics, with their variation of neck holes. If we proceed with that assumption, some possible interpretations for the graves without round brooches might be triangular or rounded necklines large enough to allow the head to pass through or some kind of cloth closures that has disappeared.

One example of a garment that may have had a keyhole neckline *without* a brooch is the [Pskov](#) serk. Since the garment was found in a box instead of on a body, we don't know for sure if it was pinned at the throat with a brooch when it was worn. The way it is described by the archaeologists, however, make it seem that it might

have been closed by linen bands. Another example of a garment that uses linen bands instead of e.g. a brooch is the Viborg shirt. Unfortunately, the lack of a metal artefact nearby would make such a closing mechanism very vulnerable to the deterioration that happens in the grave, and so we do not know whether this was commonly in use or not.

The Pskov neckline was pleated. It is impossible to tell from the archaeological evidence whether this neckline was similar to the one that must have been used in the pleated Birka serks. However, based on Inga Hägg's assumption that the pleated serks were imported to Birka from Kiev (see below for more details), I believe it is possible that both the Birka serks and the Pskov serk came from the same Slavic clothing tradition.

The Haithabu serk fragments do not provide clear evidence in regards to the neckline, but the scarcity of brooches placed in a position high on the chest in the graves indicate that there were few keyhole slits closed by a brooch. Instead it is reasonable to assume that the serk followed the cut of the undertunic, with a deep round opening for the head. Similar openings (although with a slightly different shape) are used in the Skjoldehamn and Kragelund tunic.

## Gores?

None of the Haithabu serk fragments are identifiable as gores. However, both the woollen undertunic (fragment [55A](#) from the harbour) and the overtunic (fragment [S29](#) from the settlement) used gores, making it likely that the same technique was used for the linen serk. The serk fragments from Birka are too small to allow identification of specific pieces of the serk, but after examination of traditional folk costumes from Sweden and medieval tunics, Hägg proposes a construction of the plain Birka serk that uses gores to widen the garment (see below for more information of her theory).



Not everyone agrees with that interpretation though. Thor Ewing raises the possibility that gores may have been a European invention that was not used by the Vikings. He cites the shirt found in Bernuthsfeld, Germany, dating to around the start of the Viking Age, and the Viborg shirt from Denmark dating to the end of the period, both tight and without gores.

While gores has been found at Haithabu, Ewing argues that although the evidence from the graves at Haithabu isn't untypical of Scandinavia, the majority of the textile remains come from the harbour, and may have parts of European clothing mixed in with the Viking clothing, explaining the gores. He theorizes that the wide tunic shown in e.g. the illustration above of the Danish King Knut in the Winchester *Liber Vitae* could have been made as a two-part construction with pleated skirts sewn to the upper part of the tunics at the waist.

I believe that the existence of the Kragelund and Skjoldehamn tunics weakens his theory though. Both these tunics have gores, although one of them is from the end of the Viking Age and the other may be of Sami origin. None of them were found close to the border between Denmark and the rest of Europe, so even if one accepts the argument that the fragments of gores from *both* the harbour and the settlement at Haithabu are of European origin, the same argument would not apply to these tunics.

## Sleeves?

According to Inga Hägg there is no clear archaeological evidence for the existence of sleeves in the Birka material. Only four graves contain fragments that *may* be from a sleeve, and all of these are pleated. Four is not exactly a large statistical sample, and the predominance of pleated linen may be simply coincidence, or caused by

pleated linen being easier to identify as part of a serk than plain linen, or it may be an indication that only pleated serks had long sleeves. Of the four graves, grave [1062](#) contains the fragments that are most likely to originate from a sleeve, and the pleating in this case appears to have been perpendicular to the arm.

Thor Ewing raises the possibility that long sleeves were only worn by those wearing a pleated dress, and that the rest wore some kind of half-sleeves caused by part of the dress covering the upper part of the arm. The model he proposes is explained in more detail below. While Ewing's theory is interesting, the rune stone from Hunnestad shows a plain and simple serk with long sleeves. In addition, although it is possible that the [Pskov](#) serk represents Slavic clothing tradition instead of Scandinavian, it is worth noting that the silk cuffs left in this grave provides clear evidence for long sleeves. The archaeological evidence from Eura also has sleeve fragments attached to the metal bracelets, indicating that this woman wore some kind of dress with long sleeves.

However, even if we decide on an interpretation with long sleeves, the shaping of the sleeves remains unknown (and probably was not the same for every woman regardless of time and place). In addition to the pictorial material from the Hunnestad rune stone, some inspiration for sleeve shaping may be taken from e.g. the Viborg or Kragelund tunics or from the narrow sleeves found at Haithabu (fragment [57](#)). Below are two examples of different interpretations of sleeve shaping used by museums, illustrating that there is no undisputed "One True Pattern" emerging from the archaeological evidence.



"Blouse sleeve" reconstruction,  
Historical museum in Oslo, Norway



"Straight sleeve" reconstruction,  
museum at Trelleborg, Denmark

## Shape of the serk

Because only fragments are left of the serk, the archaeological evidence cannot tell us with certainty what it looked like. What we know is that the garment reached at least to the hip, and had various necklines. There is also evidence for sleeves and gores, although the interpretations are contested.

## The Birka material

One of the popular necklines for the Birka serk was the keyhole, with a slit closed by a small round brooch. The serk came in two variants, a plain and a pleated version. The plain was more common during the 9th century while the pleated became more popular during the 10th century. According to Hägg the finds from the graves indicate that the pleated linen serk was only worn by women belonging to the more prominent and wealthy

families.

Den rynkveckade linnesarken har av gravfynden att döma säkert bara burits av medlemmarna i de förnämsta familjerna.

<...>

I enstaka 800-talsgravar finns rester av den goffrade sårken. I 900-talsgravarna blir den betydligt vanligare och förekommer lika ofta som den slåta sårken.

*Inga Hågg: Kvinnodråkten i Birka, p 13, p 36*

The origins of both the linen fabric and the serks themselves have been discussed by several archaeologists. Agnes Geijer originally believed that the linen may have been produced locally. This is disputed by Hågg who proposes that due to its location, Birka may have picked up some Eastern Europe clothing traditions, and that the pleated serk may be one of these inclusions. Part of the reason for this belief is her assertion that the "standing" pleats of the serk are not found in earlier nor later garments from the Nordic area. According to Hågg the pleated serks was probably imported as *finished garments* from Eastern Europe, instead of being pleated in Birka.

Den goffrade sårktypen kan inte påvisas i det äldre dråktmaterialet i Skandinavien och tycks inte heller ha satt spår i den fortsatta dråkthistorien så som man kunde vänta sig, om den hade vävts, skurits till och sytts i landet, ja, t.o.m. om enbart goffringen hade utförts här. Goffringstekniken ger en anvisning om, att ursprungsområdet för denna, troligen i färdigt skick importerade sårk, borde vara östra Europa.

*Inga Hågg: Kvinnodråkten i Birka p 36*

Her theory is that the pleated serk probably was imported from the area around Kiev. She also believes that the linen in the plain serks was imported, but that the serks themselves may be part of a Nordic domestic clothing tradition. Agnes Geijer later agrees that the linen is probably imported from the Slavonic areas, but then proposes that the plain serks were also imported.

This surmise tallies perfectly with a recent suggestion by Inga Hågg - based on ethnological material from Slovakian territory - to the effect that the pleated shirts worn by the women of Birka were imported from Kiev. My only objection to this suggestion is that all the linen remains - not only the pleated ones - were probably imported in the same condition, pleated and ready to wear, and that in the cases where the fabric is smooth, the garment may simply have been washed or exposed to rain, thereby losing its pleating.

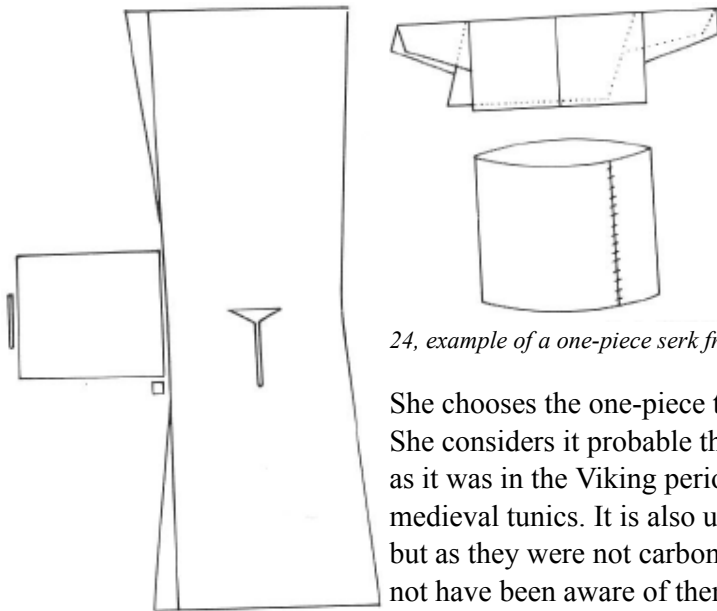
[\*Agnes Geijer: Textile Finds from Birka p 89\*](#)

Hågg disagrees with Geijer's assumption that the plain serk is just a pleated serk that have been washed. She points out that there is a clear chronology to the fashion in serks, and that if Geijer is to be believed, it would follow that the increasing popularity of the pleated serk in the 10th century would indicate that people stopped washing their serks after 900. Instead she restates her belief that the plain and pleated serk was two different types of garments, coming from different clothing traditions.

Spår av den slåta sårken finns huvudsakligen i de äldre gravarna och av den goffrade i de yngre (800- resp. 900-talet). Att de två sårkarna kan skiljas åt kronologiskt bekräftar, att det måste röra sig om två olika typer och inte, som också hävdats om en och samma typ - nämligen den goffrade <...> Om ett sådant antagande verkligen stämde måste man ju dra slutsatsen, att goffrade sårkar, eller "rynckveckade", för att använda en term denna författare numera föredrar, inte längre tvättades efter ca 900!

*Inga Hågg: Birkas orientaliska praktplagg p 205*

Since she believes that the plain serk was created from imported linen, but in a shape according to the domestic tradition, she chooses to use Swedish folk costumes believed to be originating from medieval or earlier periods as a possible basis for the reconstruction.



There are two variants that she considers; one is a shirt consisting of two parts with an upper part of finely woven linen fabric and a lower part (often hidden beneath other clothing) made with a coarser linen, the other is a shirt/dress made in one piece (no shoulder seams), with sleeves, gores and gussets added.

*Illustrations from Inga Hägg: Kvinnodräkten i Birka, p 21 and 24, example of a one-piece serk from Vingåker Folk Costume and a two-part serk from Estland*

She chooses the one-piece type as the most likely to reflect the Birka evidence. She considers it probable that the serk remains the same in the medieval period as it was in the Viking period, and this is the pattern which is used in early medieval tunics. It is also used in both the Skjoldehamn and Kragelund tunics, but as they were not carbon dated until after she had written her thesis, she might not have been aware of them as possible Viking finds. Her main reason for choosing this type though, is that in a few graves it has been possible to identify linen from both upper and lower parts of the serk to be of the same quality, indicating a serk made of one piece instead of an upper and lower part.

The pleated serk is even more challenging to reconstruct. Just like in the case of the plain serk, Hägg decides to look at the clothing tradition in the area in order to make guesses in regards to the construction of the garment. Since she believes the pleated serk was imported from Kiev, she looks at Slavic traditions.

There are two different Dacian garments that might have been the origin of two types of south Slavic serks. The first is the Dacian-Slavic type, the second is the so called Dacian "Faltenkleid". Both are shown on the Trajan monument in Adamklissi, Romania.



Dacian-Slavic type: pleats gathered *towards the neck*. Pleats on the sleeves run parallel to the arm.



"Faltenkleid" type: pleats run *towards the shoulders*. Pleats on the sleeve are perpendicular to the arm.

Unfortunately, due to Stolpe not noting which tortoise brooches were on the left and on the right of the body, we can't tell whether the Birka serk had pleats running toward the neck or toward the shoulders. This means that we can't select one type over the other as a likely candidate for the reconstruction of the pleated serk, or judge whether in fact both types were present in Birka. The finds of sleeve fragments indicate that the pleats might

have been running perpendicular to the arm (which would support the "Faltenkleid" model), but they are so few and uncertain that they cannot be used as a basis for choosing a type. Thus Inga Hägg concludes by leaving the question of the reconstruction pattern for the pleated serk open.

Thor Ewing suggests a radically different interpretation of both the plain and the pleated serks. Instead of using the very limited archaeological evidence, he looks at contemporary literary sources.

When talking about a visit to a high status couple, the poem *Rígsþula* describes the woman, Moðir as having a blue dyed serk with pleated sleeves:

...en húskona hugði at örmum, strauk of rípti, sterti ermar. Keisti fald, kinga var á bringu, siðar slæður, serk bláfáan...  
- *Rígsþula*

...but the lady of the house was thinking of her arms, smoothing the linen, pleating the sleeves. A bulging faldr, a clasp was on her breast, a full slæðr, a blue-dyed sark...  
- *Translation by Thor Ewing: Viking Clothing p 41*

In the case of Amma, the wife of a yeoman farmer, the poem does not explicitly mention a serk (unless dúkr á halsi is another way of describing a serk):

Sat þar kona... sveigr var á höfði, smokkr var á bringu, dúkr var á halsi, dvergar á öxlum.  
- *Rígsþula*

There sat a woman... a sveigr was on her head, a 'smock' on her chest, a cloth was at her neck, 'dwarf' brooches at her shoulders.  
- *Translation by Thor Ewing: Viking Clothing p 37*

So Moðir is described as having sleeves, while the slave girl described in the same poem has tanned (and therefore bare) arms. No mention is made of either sleeves or arms in regards to Amma.

Thor Ewing cautions against reading too much into the brief phrases of the poem, but argues that it is possible that Amma is wearing a large neck cloth instead of a serk. Or that if she is wearing a serk, then it probably contrasts with Moðir's in the absence of pleats and sleeves.

According to Ewing a possible interpretation of the serk could be a garment similar to the dresses illustrated in the ninth-century Italian 'Augsburg Gospel book', namely a loose robe which is open in front to below the breast and has no sleeves (although it is full enough to cover the upper arm). While the gospel book was made far from Scandinavia, it is from the same time period as the Vikings.

*Illustration: Thor Ewing: Viking Clothing, p 57.*

These dresses would, if pleated, have pleats that run towards the shoulders, and would fit well with the Birka material if one chooses the "Faltenkleid" over the Dacian-Slavic type of dress when interpreting the evidence. Again, it is unfortunate that the archaeological material cannot tell us whether the Birka pleats ran towards the shoulders or the neck.

Ewing argues that the pleated upper-class version of this garment would have a reduced fullness, making sleeves more necessary. The lower class version of this robe would give a semblance of half-sleeves, with more protection than was afforded a slave, but not proper sleeves as worn by Moðir. This reconstruction would explain why the few fragments at Birka identified as possible sleeve fragments, all are pleated.

The general shape of the serk on the rune stone in Hunnestad is more consistent with the pattern and interpretation that Inga Hägg chose for the plain serks of Birka than the wider robe proposed by Thor Ewing, but



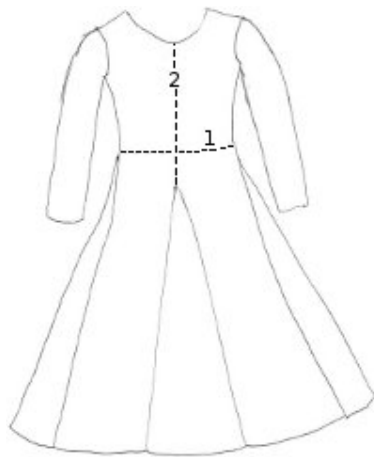


this drawing may be more figurative than realistic. The interpretation by Inga Hägg's also fits better with the existing Kragelund and Skjoldehamn tunics. On the other hand, one may argue that these are male garments, and that the female serk was radically different.

### The Haithabu material

The scarcity of brooches in the vicinity of the throat in the graves, combined with the cut of the neckline in fragments [72C](#) and [73](#) from the harbour indicate that the necklines of the Haithabu serks tended to be wide and rounded. The armholes were probably sharply curved, enclosing the upper arm and shoulder, and the sleeves were fairly narrow, as indicated by the sleeve fragment from the overtunic (fragment [57](#)) and the armholes from [72C](#) and [73](#).

It is also clear from the fragments of the woollen undertunic that regardless of whether the Birka serk was a loose robe as envisioned by Ewing or not, the Haithabu serk had a more fitted shape. It likely followed the basic shape of e.g. the Skjoldehamn and Kragelund tunics and of the medieval tunics that came later (in e.g. Herjolfsnes). However, the upper part of the serk may have been shaped to fit closer to the body than the loose fit created by the rectangular body piece of e.g. the Kragelund tunic.



From the archaeological evidence, it is likely that the Haithabu serk had a front and back part connected at the shoulders with a seam, and was widened by gores.

We don't know how large the individual pieces that made up the serk were. It could have had front and back pieces that were only split to allow a possible gore in the middle. Or it could, like the tunics [55A](#) and [18](#), be constructed from an upper part joined to a lower skirt by a seam along the waist (dashed line 1). Additionally, there might have been a seam running vertically down the middle of the front and back, as would have been the case in [55A](#) and [18](#) (dashed line 2).

We have evidence from grave [5/1964](#) that the Haithabu serk could be pleated, but the fragments are so tiny that they give even less information than the Birka material in regards to the shape of this serk type.

### The Pskov material

Although Vikings sometimes travelled to Russia, it isn't a given that the remains in the Pskov grave are from a Viking serk. However, the "tortoise" brooches found together with the clothing indicate that there would have been a smokkr, or something very similar, and it is therefore likely that the undergarment would also have been similar to the serk.

The fragments that are found indicate that the serk would have been pleated, at least around the neck. It is unknown whether the serk as a whole was pleated, and whether it would have been of the same type as the pleated Birka serks imported from Kiev.

The serk would have had long sleeves ending in silk cuffs, and are to my knowledge the only example of a decorated serk that has been found. It may have been further decorated at the hem. The archaeologists speculate that the silk trimming bands found in the grave *might* belong to the serk, due to being identical in colour to the silk cuffs. However, as the same argument may be made for the smokkr (it contains a strip of the reddish-violet silk), in the end they decide to not draw a conclusion regarding which of the two garments that had been hemmed with the silk strips.

Unfortunately aside from the neckline and the sleeves there is no archaeological evidence for the shape of the

Pskov serk. In the [preliminary report](#), translated by Beatson, the serk appears to have been termed rubakha by the archaeologists. This is one of several terms that were used to describe the linen shirt that was a staple of Russian medieval underwear. In the final report, however, this term is gone, and the text gives no interpretation of the shape of the serk beyond the physical evidence of the fragments.

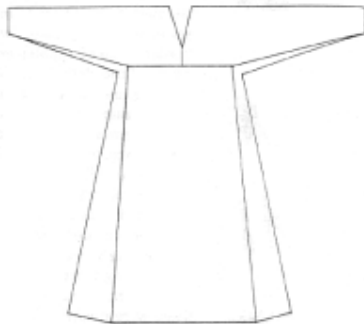


A drawing of the serk was included in the report, but there is no information of whether this reconstruction is built on related garments, and if so, which.

*Illustration based on Zubkova, Orfinskaya, Mikhailov: Studies of the Textiles from the 2006 Excavation in Pskov, p 298*

## The Eura material

All that was left of the underdress in [grave 56 at Luistiari](#) was fragments of the sleeves. These had been narrow at the wrists, widening slightly upwards, and were rather long, extending outside the bracelets on the hands. This reconstruction is based on the female grave 56 at Luistiari in Eura. The illustration and information about the reconstruction is from



*Illustration: Pirkko-Liisa Lehtosalo-Hilander: Ancient Finnish Costumes, p 50*

The warp was parallel to the sleeve length, so when interpreting the evidence Lehtosalo-Hilander decided to seek out a construction method that would allow the cutting of sleeves in a lengthwise direction. With that in mind, she decided to adapt the pattern of a leather tunic from a Danish Iron Age bog find. In this garment the sleeves extend to the neck so that there are no seams on the shoulders, and the body part is formed of a front, a back and two side gussets.

Using this construction pattern, the Eura serk has only straight cuttings. If the cloth is started and ended with tablet-woven bands, only the edges of the neck-opening must be hemmed; the starting and end borders of the cloth form the edges of the hems and sleeve ends.

The chosen pattern uses fabric in a very efficient manner. Still, its origin illustrates how difficult it is to make an interpretation based on the few fragments from the grave. The Danish Iron Age ends roughly around 790 AD, and is pretty far both in distance and time from the woman dying in Finland at the end of the 11th century. (Also, as said earlier, the clothing tradition of Finland at this time seems to differ significantly from the rest of Scandinavia, and so grave 56 at Luistiari is therefore a somewhat suspect source for a Viking serk.)

## Some thoughts on the length of the serk

This is hard to discover by archaeology, because the metal artefacts that preserves fragments of clothing are seldom placed at the lower edges of the dress. From the Birka finds we know that the serk was at least hip-length, since a couple of the graves has linen fragments from the serk attached to a pair of scissors placed at the hip of the body.

None of the other serk fragments give more information about the length of the garment. There are a couple of fragments from an overtunic at Haithabu that might be the bottom edge of a floor-length garment, but the interpretation is uncertain, and we don't *know* whether the design of the overtunic is applicable to the serk.

Turning to the pictorial material there is a carving on a rune stone in Hunnestad, Sweden, that shows the Jotun Hyrrokin mounted on a wolf.

She is wearing a simple short serk with a long slit neck which comes no lower than her knees, indicating that serks could be short sometimes. The dress may be extra short to show the indecency of a Jotun, but may still reflect something worn in ordinary life. Possibly a short serk was suitable for slaves or used as work-clothes (trailing white linen dresses are not especially practical in the cowshed or when harvesting crops), and not reflecting what would have been worn by higher class people when they put on their finery.

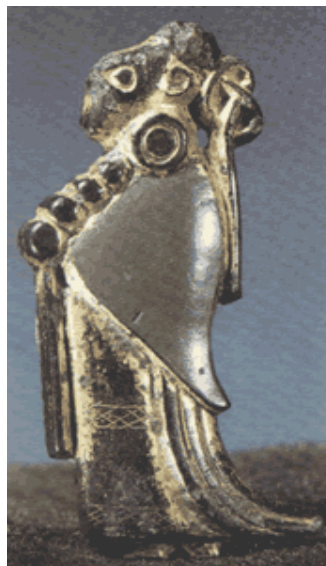


Picture stone from Hunnestad, Sweden. Photograph from [Wikipedia article](#) licensed under the [Creative Commons Attribution ShareAlike 3.0 Unported License](#).

Common sense regarding the temperatures in Scandinavia also indicates that not all dresses were short... although one should be very careful applying our modern day "common sense" to dress codes from the past. The fragmentary figure of a woman on a picture stone from Låbro Stora Hammars, Gotland, may present a more representative picture of serks worn as part of finery. She appears to be wearing a short overdress and a possible long pleated serk. Her serk resembles garments identified as 'backcloths' on other woman figures, raising the possibility that these also represent pleated serks.



Picture stone from Alskog, Gotland. Woman with forecloth and possibly a pleated backcloth or serk.



Silver figurine from Tuna, Sweden, possibly wearing a suspended dress and a pleated backcloth or serk.



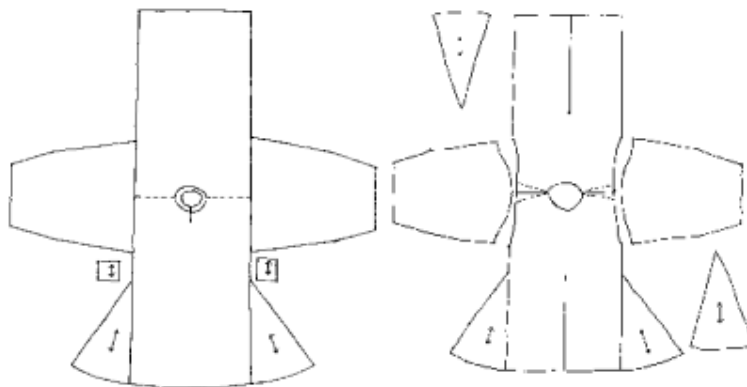
Picture stone from Låbro, Sweden. Pleated serk. Thor Ewing: Viking Clothing p 37

## Some reconstruction patterns

## The standard T-tunic

Variations of this pattern are used in both the Skjoldehamn and Kragelund tunics, as well as in early medieval tunics. Both of the variations shown here are suggested by [Carolyn A. Priest-Dorman](#).

Leftmost is the pattern chosen by Inga Hägg as the most likely reconstruction of the plain Birka serk. Construction include front and back panel cut in one piece and small round or keyhole necklines (both shown in the drawing). Triangular gores are added for additional width in the skirt area. Sleeves may taper towards the wrist as shown in the drawing, or be formed as a straight rectangle with no tapering.



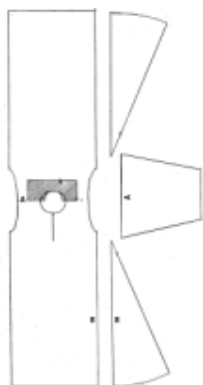
The second pattern is based on the finds from Haithabu harbour. The garment sports rounded armholes for fitted sleeves, two-piece body construction with shoulder seams, and scoop-style neckline. Gores are used to widen the garment toward the bottom. This version of a Haithabu serk pattern does not have a separate upper and lower part joined by a seam at the waist, nor does it have a seam running down the middle. The basic body shape is rectangular.

Two sets of sewing instructions for how to measure and make a T-tunic to fit you. Both can be adapted to the patterns above.

- [T-tunic - the period way](#)
- [Practical Worksheet for Tunic Construction](#)

## Some pleated versions

None of the following reconstructions seem to take into account the indication from the archaeological material that the pleats in the sleeve might have run perpendicular to the arm.



The first of the reconstructions is presented by Historiska världar, a project run by [the Museum of National Antiquities](#). The pleats in this reconstruction somewhat emulates the pleating towards the shoulders shown in the Dacian "Faltenkleid" dress, although the pleating seems to run more parallel to the body instead of in the "V" shape in the "Faltenkleid".

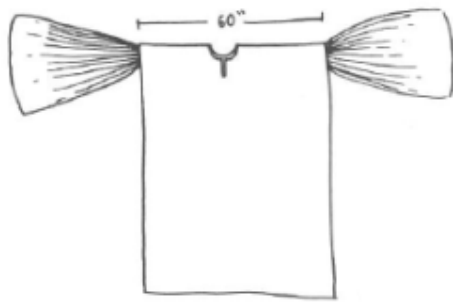
The reconstruction consists of seven different pieces that are sewn together and then pleated. To achieve the pleating small stitches are sewn horizontally through the fabric and pulled tight. The garment is then soaked in hot water and dried, before the stitches are removed. They have added an extra piece over the shoulders, in order to make the garment fall better, but state that there is no archaeological evidence for this piece.

Comment on this reconstruction made by [Carolyn Priest Dorman](#) in [Norsefolk Yahoo group](#):

"The cut more or less conforms to what we know of Birka garments: no shoulder seams, slit front neckline. I don't know why the armholes are curved, since no mention of that is made in anything I've read about Birka. The pleating is sweet, and you can see the needle holes that remain from the needle pleating the entire garment was given. However, the pleats are not nearly as deep and full as the ones in the actual remains (inside several oval brooches). And I'm not convinced that the intensive labor of needle pleating the arms like they've done (see all the parallel rows of pinpricks going around the arms) would have been justifiable."

The next reconstruction is presented by [Caroline A. Priest-Dorman](#) in Women's Garb in Northern Europe, [450-](#)

1000 C.E. The pleats in this reconstruction also somewhat emulates the pleating towards the shoulders shown in the "Faltenkleid" dress, although the pleating seems to run more parallel to the body instead of in the "V" shape in the "Faltenkleid".



Use a large rectangle each for the front and back halves of the garment. Each should be as long as you want the serk, and the entire width of the fabric. Centre a keyhole neckline at the top of the garment. Cut sleeves twice as big around as you normally would, pleat or gather them to your normal arm size, and sew them to the body with underarm gussets. Hem the piece and then pleat the fabric by putting two parallel lines of running stitch all the way across the garment at both the top and the bottom edges, on both the front and back of the garment. Pull the threads and gather the fabric tightly, wet it thoroughly and dry it by hanging it overnight with a

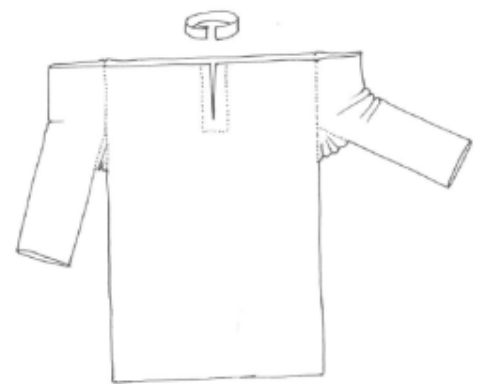
weight tied to the bottom.

The last reconstruction of a pleated serk is presented by [D. Rushworth](#) in A handbook of Viking Women's Dress AD [700-1200](#). The pleats in this reconstruction run towards the neck as in the Dacian-Slavic dress.



This style has sleeves sewn in parallel to the body, and a wide shoulder opening that is gathered into a neckband. The gussets under the arms are essential to allow the sleeves to function properly.

Rushworth believes that the pleating would be achieved by folding the newly laundered, damp linen serk into small folds, twisting the bundle to put pressure on the pleats and then tying it into position. The dress was then left to dry.



## The Eura underdress



This reconstruction is the one suggested by Pirkko-Liisa Lehtosalo-Hilander. The cutting pattern is presented in [Ancient Finnish Costumes](#) on page 50.

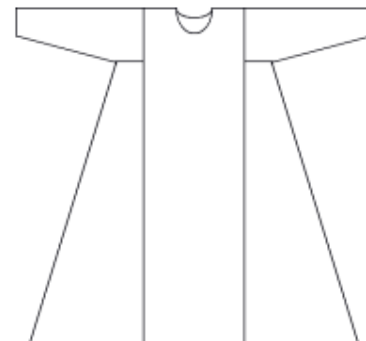
A serk made according to this pattern can be cut from a piece of cloth measuring either ca. 190 x 160 cm or 380 x 80 cm, without wasting a single piece of material.

It uses a front and a back piece, two sleeves (cut in the same direction as the front and back, and two long side gussets (of which one of them is cut in half in order to maximise the use of the fabric).

## A variation of the Eura dress?

Made by Vigdís Vestfirzka (SCA). This dress seems to be a variation of the Eura pattern. It uses fabric in an efficient manner and is congruent with the little archaeological evidence there is from the Eura find (the sleeves is cut in a lengthwise fashion) but there is no archaeological references for the pattern.

While there are no stated archaeological references for the pattern Vigdís' article gives very clear and easy to follow instructions on how to adapt the pattern to a person and put together the serk.



## My choice of reconstruction

Before starting the work on this article I already suspected that there was no definitive truth when it came to the Viking serk, and the more of the background material I read, the clearer it became how little evidence there actually is and how much the accepted "expert reconstructions" are built on just educated guesses. In addition not all experts agree on the interpretation of what little material there is.

As a consequence, those of us that don't want to glue fragments of fabric to our bodies and call it a reconstruction (not a very attractive prospect :-)) must guess when we create our clothing. Of course, I build upon the existing evidence and interpretations of it in my search for an actual wearable garment, but I refuse to delude myself into believing that my end result is anything else than guesswork.

So far I have decided to make two different types of serk, one inspired by the evidence from Birka and one inspired by the Haithabu material. I might make other interpretations in the future. After all, one can never have too many Viking clothes in the wardrobe :-))

The first choices were the same irrespective of the type of serk I chose, namely fabric, colour, pleating and length.

I chose to use tabby woven linen (and in one instance hemp), because the majority of the existing serk fragments are linen or other plant fibres. Also, as a modern person I have even stricter requirements for cleanliness than the Vikings, especially for undergarments, and linen and hemp endures machine washing better than wool.

Although there have been found fragments of serk linen that were dyed, I decided to stick with the majority of the serk fragments and use undyed linen. If I were going to dye it, I would choose blue, because that appears in Rígsþula and in both Pskov, Hyrt and at least one grave in Birka. (I would have liked to be able to use linen plaid for one serk though, in order to demonstrate that sometimes the Viking clothing doesn't match our expectations, but I haven't gone far enough into textile nerdism yet that I dye my own thread and then weave the fabric.)

When it came to the choice between creating pleated or plain serks, the decision was easy. The guesswork surrounding the reconstruction of the pleated serk is significantly flimsier than for the plain serk. More importantly, with tendinitis in both arms, a garment that *every single time* I wash it requires me to at best twist it thoroughly, or at worst sew new threads for pleating, does not tempt me at all.

Then there is the length of the serk. Although I believe that shorter serks may also have existed, I chose to make

mine "almost-floor-length". This is because it is very unlikely that I will put on a Viking serk to muck out the cow-shed or do other kinds of hard manual labour. (For those who wonder, we don't have a cow-shed. Nor do I use my costumes when working in the garden.) Instead I will be wearing them in situations where I will usually also wear jewellery and a decorated Viking smokkr, and so a "finery serk" will fit better than a "work serk". Besides, long garments are warmer, and I freeze easily.

## A serk inspired by the Birka evidence

The serk evidence from [Birka](#) is very fragmentary. Fortunately, due to the graves containing serk fragments being so numerous, we have enough fragments to indicate something about the construction and cut of the Birka serk.

**Shape of the serk:** Thor Ewing raises an interesting possibility with his wide robes without gores and sleeves. Still, I believe that while one *may* argue that the illustration in the Italian Gospel book comes from the same tradition as the Dakian clothing which is a possible precursor to the pleated serk, this becomes too much of a stretch in regards to the plain serk. Besides, if Inga Hägg's argument that the plain serk has domestic traditions while the pleated serk was imported is true, there is no need for the two types to be constructed in the same manner.

I'm not so certain that I agree with Hägg that Swedish folk costumes are a reliable source for the pattern to the plain serk. My knowledge of folk costumes in Norway is that they have been created or altered as a part of the romantic nationalism movement in the 18th century. Of course, the situation may have been radically different in Sweden, but I remain sceptical to the assumption that there are "pure" folk costumes that have kept their identity from before the medieval period.

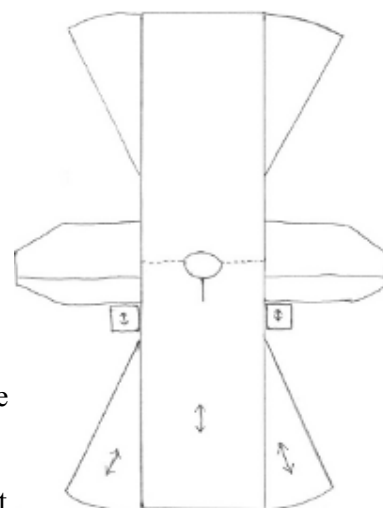
Still, the archaeological evidence indicates that the Birka serk was not assembled from an upper part of finely woven linen and a lower part of coarser linen. I also accept Hägg's argument that the serk probably remained unchanged into the early medieval period. Combined with the information from the construction of the Kragelund and Skjoldehamn tunics, I believe that the best reconstruction pattern is the basic T-tunic, chosen by Inga Hägg, with gores, gussets and attached sleeves. This also fits with the basic shape presented by the figure of the Jotun Hyrrokin on the rune stone in Hunnestad.

Like the Kragelund, Skjoldehamn, and Viborg tunic (and in accordance with the pattern proposed by Inga Hägg), I decided to make my Birka serk with a one-piece body *without shoulder seams* and with straight armholes and four sidegores.

**Neckline:** I chose a keyhole neckline, whose use appears to have been well established at Birka. Out of the 52 graves where Hägg reports serk fragments, 20 contain a small round brooch that probably was used to close the slit of such a neckline (and 4 have fragments of the slit stuck to the brooch). I folded the edges of the neckline, instead of binding it in fine linen or silk (as might have been done in grave [644](#)).

As mentioned above, the placement of the round brooch on the centre of the chest (when there are no tortoise brooches) may indicate that the slit in the keyhole neckline was relatively long. This may possibly be to allow breast feeding. In order to test this, I decided to make two Birka serks, one with a relatively short keyhole neckline slit, for everyday wear, and one with a longer slit, for breast feeding.

When I was wearing the breast feeding serg together with a smokkr, my modesty was well protected by closing the slit with a small brooch beneath my chin (the smokkr covered the enough of the remaining slit). Then,



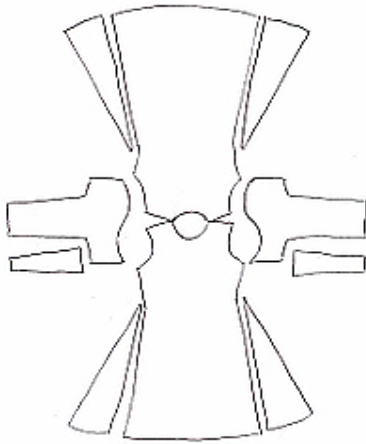
whenever I needed to feed my child I just opened the tortoise brooches, pulled the smokkr down to my stomach and opened the small brooch. Perhaps not as fast and practical as modern breast feeding clothes, but it worked :-)

**Shape of sleeves:** More guesswork, as very little is known. I decided on relatively slim sleeves as depicted on the rune stone in Hunnestad, as opposed to the somewhat wider "blouse" sleeves that seems to be preferred in e.g. the reconstructions at the Historical Museum in Oslo. When creating the pattern I decided to build on extant sleeves, although all the relevant finds are of garments used by men. I decided to avoid the Skjoldehamn tunic (as it might be of Sami origin) and chose the sleeve pattern from the Viborg tunic over the Kragelund tunic purely for aesthetic reasons (I like the look of the Viborg sleeves).

## A serk inspired by the Haithabu evidence

While the linen serk fragments from Haithabu give little information about the cut and construction of the serk, much can be gleaned from the woollen tunic fragments.

**Shape of the serk:** Using fragment [72C](#) and [73](#) from the harbour as a starting point, I decided to make a serk with seams at the shoulder and an upper part shaped somewhat to fit my body. I also decided on curved armholes, like in the two fragments.



Then I had to choose whether I wanted a vertical seam running down the middle of my front and back (fragment 72 C and 73 is torn here, and it is not possible to determine whether that is because there was originally a seam or whether the fabric has simply been torn in two parts) or a horizontal seam at the waist, or both. Due to the evidence being inconclusive, I chose the (to my mind) most attractive option and cut the body of the serk as two pieces, with seams connecting them at the shoulders and the waist.

**Neckline:** There are much fewer graves at Haithabu with a brooch close to the throat than in Birka, indicating a lower popularity of the keyhole neckline. Thus I decided to go for a rounded neckline, like the one indicated by fragments 72C and 73.

**Shape of sleeves:** I decided to use the pattern shown by the sleeve fragment ([57](#)) from Haithabu harbour, down to cutting the sleeves as two pieces instead of one. This proved to be pretty challenging, as it is somewhat unlike a modern sleeve, but I finally managed to get the shape right. I placed the sleeves so that the small piece runs along the outside of my arm, where it e.g. could be a patch on a sleeve that has been worn through at the elbow. I have seen other people placing it along the inside of the arm, where it would patch the part of the sleeve that occasionally rubs along the body. Of course, it is possible that the small sleeve piece was never meant as a patch, but instead is merely a part of fitting the sleeve to the arm...

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