

Viking Women: Underdress

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This article focuses on the underdress, or serk as it seems to have been called in old Norse (Ewing [2006](#), p. 37). Just as for other Viking garments, the archaeological evidence is fragmentary, and the scholars do not agree on the interpretation of what little evidence exists. My intention with gathering different archaeological facts and interpretations is to make my own best guess, which of course may differ from yours :-)

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Facts: Archaeological evidence

Birka

The main excavation of Birka was conducted in the 1870s by Hjalmar Stolpe, yielding a large amount of textile material from the 9th and 10th century. The textile fragments were stored, and later analysed by Agnes Geijer (1938, summarized in Hägg [1974](#), and [1983](#)) and Inga Hägg ([1974](#), [1983](#), [1996](#)).

According to Hägg (1974, p. 12) the find material at Birka indicates that the serk was made from linen. She identified possible serk fragments in 52 of the female graves. The fragments are mainly preserved under the edges of the brooches, along the brooch pins, on the outside of the brooch and sometimes on a pair of scissors or other implements hanging from the brooches. Unfortunately, the fragments are small and thus give little information about the cut of the garment.

Av den särk eller skjorta, som bars närmast kroppen, finns inte mycket bevarat i birkagravarna. Fragmenten visar, att den var av linne (jfr. Birka III, s. 138 f.). <...> Under spännbucklornas brättekanter sitter ofta rester av linne från särkens framsida, men av baksidan rakt under spännbucklan finns inga spår. Den har befunnit sig nära centrum för förmultningen och helt saknat kontakt med metaller.

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 textilsikten, 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 kända plaggen i Birkas kvinnodräkt.

Hägg 1974, p. 12

Plain and pleated linen

There appears to have been two different types of serk in use at Birka (Hägg 1974, p. 12). The majority of the graves (31 of 52) contained serk fragments of plain linen, while 21 graves contained linen or traces of linen that had been pleated. Both types have been found in graves with a small brooch placed at the throat, and in graves without such a brooch. However, while the plain serk appears to be equally prevalent in graves from the 9th and 10th century, this is not the case for the pleated serk. Only three of the 21 graves with traces of a pleated serk are from the 9th century, indicating that the pleated serk became more common in the 10th century (Hägg 1974, p. 19 fig. 10).

Det vi faktisk vet och som Geijer varit först att notera är, att särklinnet varit dels slätt, dels plisserat eller rättare fint goffrerat (...). Birkasärken är goffrerad efter en metod, som återkommer i betydligt senare folkdräktsammanhang i sydöstra Finland, särskilt Karelen, och i Estland, framför allt på Dagö, däremot inte i Sverige. Goffreringen går så till att tyget - linne såväl som ylle - rynkas i små veck, 2-3 mm djupa, med hjälp av nål och tråd. Rynktråden dras åt hårt, varefter plagget fuktas, sträcks och läggs i press, tills vecken permanentats. Sedan dras tråden ur tyget. På detta sätt bildas låga, rundade *ståveck* av en helt annan typ än de hårt tilplattade *liggveck*, som uppstår vid plissering med pressjärn.

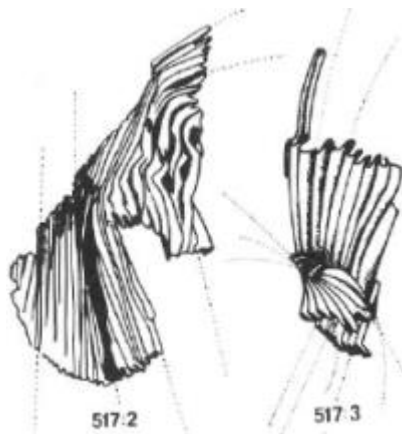
Hägg 1974, p. 12

Rester av särklinne finns i dryft 50 av Birkas kvinnliga skjelettgravar. Ett trettiotal gånger kommer de från den släta särken, övriga gånger från den goffrade (...). Både typerna förekommer såväl med som utan sprundspänne.

Hägg 1974 p. 19

The pleats are small, with a depth of about 2-3 mm, and are rounded. Hägg proposes that they were created by the same method as is known from later period folk costumes in Finland and Estonia: the fabric is gathered tightly with a needle and thread, then it is moistened, stretched, pressed and left until the pleating is permanent (Hägg 1974, p. 12).

Grave **517** contains the largest pleated serk fragments found in the Birka material. The fragments were mainly preserved within the two oval brooches, but there were also traces of pleated linen on a pair of scissors placed at waist height. One of the oval brooches appears to have moved during the deterioration, resulting in some shifting of the serk fragment within. The linen appears to have been undyed. A small round brooch was found high upon the chest, but it had no textiles adhering to it.



Hägg 1974, p. 123



[Eva Vedin, SHM](#) 

517. De största sammanhängande styckena goffrad linneväv i hela birkamaterialet kommer från spännbucklorna i denna grav (...). Goffrat linne förekommer även på ena skänkeln till en sax, som låg ungefär i midjehöjd. Linnet är numera rostfärgat men kan ha varit vitt eller naturfärgat. Vid behandling i EDTA-lösning försvagas den rostbruna färgen något, men eftersom linnet ligger i direkt kontakt med järnnålen i båda spännbucklorna, är det mycket hårt rostbemängt. De goffrade 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 särklinne och hängselöglor inte befinner sig i ursprungligt läge i den ena spännbucklan. Kjölens öglor har förskjutits från nålfästet mot mitten av nålen, och en del av det goffrade 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 kjölen. Högt uppe på bröstet låg ett litet runt spänne. Det är numera helt utan textilier.

Hägg 1974, p. 15

When comparing the fragments of pleated linen on the various oval brooches, there appears to be a tendency for the pleats to run in parallel with the pin in the brooch, and then bend towards one side of the brooch (Hägg 1974, p. 26-27).

Unfortunately, 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 to identify 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.

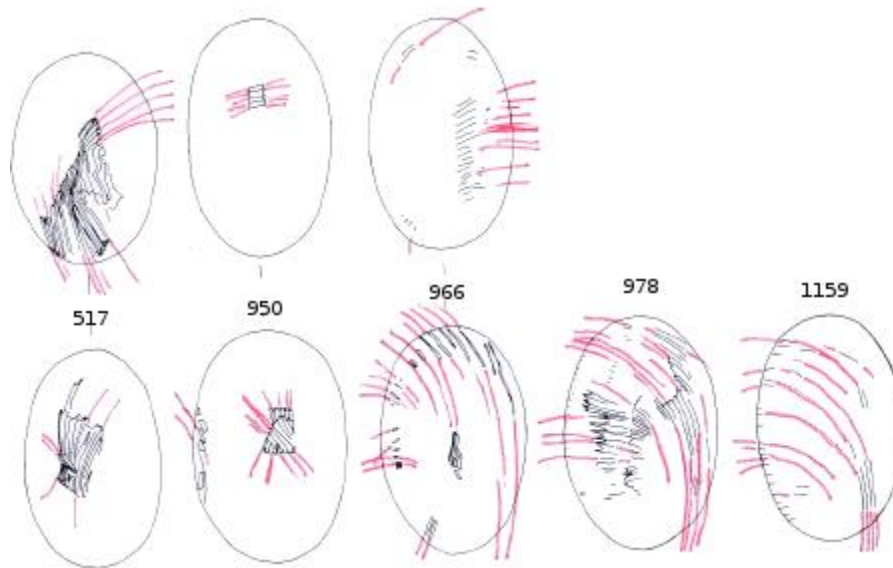


Illustration: Hägg 1974, p. 27. Red lines added to emphasize the probable continuation of the pleating.

Shape of the serk

Several of the graves (e.g. **60A**, **464**, **550**, **551**, **552**) have preserved fragments believed to belong to the serk inside the oval brooches. The warp of these fragments runs in the same direction as the longitudinal axis of the brooches (Hägg 1974, p. 14-15). This indicates that the body of the serk was cut on the grain. One of the clearest examples of this is grave **464**, where a plain, relatively fine linen has been preserved inside the right oval brooch (Hägg 1974, p. 14).

464. I höger spännbuckla finns linnefragment från särken på flera ställen. <...> Linneresterna finns på spännets botten (järnnålen är helt bortkorroderad), under brättet och över en av hängselkjolens öglor (...). Linnevävens tråddriktning är enhetlig och följer i stort sett spännets längdaxel. <...> Särken i denna grav var av slät, relativt fin linneväv (FH1 eller 2) och från början troligen vit eller naturfärgad.

Hägg 1974, p. 14

In grave **791** pleated linen from the serk is found attached to metal scissors lying at the hip of the body in the grave, demonstrating that the serk reached at least this far down the body (Hägg 1974, p. 16).

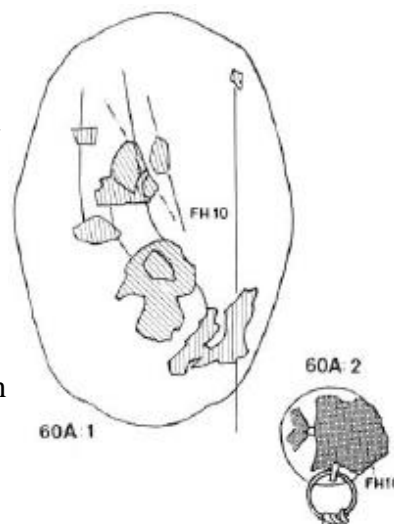
791. Rikligt med goffrerad linneväv från särken på en sax, som låg vid kvinnans högra höft i graven. Ett litet runt spänne högt uppe på bröstkorpen bör ha hört till ett sprund i särken.

Hägg 1974, p. 16

Grave **60 A** has several fragments of the same quality of serk linen attached to different metal objects in the grave. The linen fragments inside one of the oval brooches are attached to the brooch by corrosion, but do not appear to have been pierced by the pin (which is consistent with them belonging to a serk). The warp of the fragments run roughly in parallel with the length of the brooch.

Illustration: Hägg 1974, p. 121

The grave also contained a small round brooch where two linen fragments, each with a folded edge, had been preserved on the back. The edges meet behind the brooch, but do not overlap, and the pin pierces the cloth on both sides of them. This indicates that the small brooch was closing the slit of a keyhole neckline. Finally, linen fragments were preserved on a pair of scissors (Hägg 1974, p. 14).



60 A. Från graven kommer linne av tre olika typer, FH 8, FH 10 og FH 11*. Både FH 10 och FH 11 är (numera) 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. Spännbuckla nummer två är numera så godt som helt utan textilier.

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, 60 A:2. 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. - Plan över graven saknas.

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.

Hägg 1974, p. 14

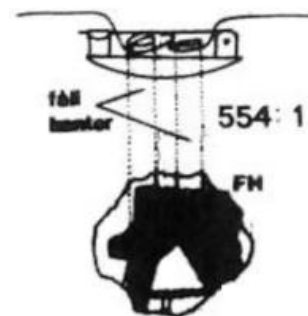
*Numbered in Agnes Geijers' report Birka III. Textiles made from flax or hemp cannot be identified as one or the other by the naked eye, thus the use of FH to signify "Flax or Hemp".

Keyhole neckline

Several graves contained a small brooch, found in a position close to the throat, probably closing an opening in the serk. As mentioned above, the brooch in grave **60 A** indicates the existence of a keyhole neckline.

Further evidence for such a neckline can be found in e.g. grave **554**, where well-preserved folded edges from the slit is attached to the back of a little round brooch. The folded edges are narrow, ca. 4 mm wide, and may have been created by folding the fabric twice (Hägg 1974, p. 15).

Illustration: Hägg 1974, p. 124



554. Ett litet runt spänne var enda spännet i graven. Nålen är nästan helt bortkorroderad. Den har genomstungit två fällkanter av linne från ett lodrätt sprund i särken. Kanterna är väl bevarade, ca 4 mm breda 554:1. En snodd har varit fäst vid den skadade bronsöglan nedtill på spännet, 554:2.

Hägg 1974, p. 15

In grave **762**, a fragment of the linen with a folded edge is pinned to the little round brooch. The pin 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 (Hägg 1974, p. 16).

While almost all fragments of the serk is linen (or hemp - the two fibres are difficult to tell apart), grave **644 B** contains the fragment of a folded keyhole slit that is made from a very fine weave of linen, or possibly silk. This edge is also 4 mm wide (Hägg 1974, p. 16).

644 B. Två vikkantar av ovanligt fin, ljus linneväv (eller eventuellt siden?) på baksidan av ett litet runt spänne, 644:1. Fällvikningen är ca 4 mm bred. Kanterna har hållits samman i en lodrät, sprundliknande öppning av den nu försvunna spännenaålen. Även ett trästycke (?), mot vilket spännet legat pressat i graven, har rester av sprundet. Särk med (sidenkantat?) halssprund och litet runt spänne.

Hägg 1974, p. 16

Sleeves

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** a pair of scissors was lying alongside the left arm. The linen attached to the scissors had pleats running across the scissor blades (Hägg 1974, p. 17).

901. Från graven kommer slätt linne i två strukturer, en grövre och en finare, samt goffrerat linne, sannolikt från särken. Slätt linne av båda slagen finns på bygeln till en sax. Övriga delar av saxen är täckta av mycket veckrik, delvis tydlig goffrerad linneväv. Saxen torde ha legat ungefär vid kvinnans högra överarm, jfr planen.

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.

Hägg 1974, p. 17

Colour

Most of the linen serk fragments appears to have been undyed, although some of them are currently discoloured by rust or by the decomposition of the body in the grave. There is however one grave, **60 A**, where the serk fragments are currently blue. The fragments 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 (Hägg 1974, p. 14).

Furthermore, there is grave **762**. The grave has been identified as a child's grave. It contained a small round brooch with heavily rust coloured linen on the back. 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. The grave also contains a knife with bright reddish linen fabric attached (Hägg 1974, p. 16).

762. Barngrav med ett litet runt spänne med linnerester på baksidan (...). Linne fanns även på en kniv (...): "Beim Messer sind Reste von noch deutlich zu erkennender gleichmässig hellroter Leinwand gleich FH 2." Linnet på spännets baksida är numera starkt rostfärgat. Om även detta från början varit rött (?), har inte kunna 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 fållkant, som ligger tillbakavikt över nålfästet. Spännet har alltså hållit samman ett loddrätt sprund i tyget.

Hägg 1974, p. 16

An inner serk or underclothing?

One of the graves, **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 was a plain and fairly coarse linen fragment found in the layer under the serk (Hägg 1974, p. 17).

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.

Hägg 1974, p. 17

Haithabu

Various excavations of the former Viking settlement of Haithabu, near Schleswig Holstein in Germany, have yielded a large amount of 10th century textile material. A majority of the preserved fragments were found in the harbour. These fragments were the remains of clothing that had been torn up, coated with tar, and used as ship's caulking ([Hägg 1984](#)). Excavations also uncovered textile fragments from the settlement and graves of Haithabu ([Hägg 1991](#)).

Many of the garments found at Haithabu appears to have been cut to fit the body. Hägg (1984, p. 214) points out that not only does each garment fill a specific function, but the tailoring craft is more advanced than earlier. Patterns are no longer solely based on the rectangular fabric coming off the looms, but instead uses pieces cut on the diagonal, in curved shapes etc. to create garments tightly fitting the body. The many remnants of cut-offs confirms the impression of more sophisticated cuts and shaping.

De många efter kroppens former snävt skurna plaggen i Hedeby, t.ex. skjortan och byxan i mansdräkten eller tunikan och hängselkjolen i kvinnodräkten, visar att den dräkthistoriska utvecklingen nu nått en nivå, där dräktens olika delar genom tillskärning och sömnad givits olika, mycket bestämda funktioner. <...>

Klädesplagg, som huvudsakligen är sammansydda av större och mindre fyrsidiga tyglängder kan i och för sig vara funktionsbestämda, men kan inte betecknas som produkter av en avancerad tillskärarkonst. I sådana fall baserar sig mönstret på den i vävstolen givna formen. När emellertid inte de fyrsidiga och rätvinkliga tyglängderna bildar utgångspunkten för mönstret utan kroppens former, så att stoffytorna måste skäras till på diagonalen, i bågform, i kilstycken osv. uppkommer en i princip helt ny uppbyggnad av snittmönstret. De här analyserade mönstren vittnar om stor erfarenhet i tillskärningskonsten: såväl fastheten som elasticiteten, olika på tygets olika ledder, har utnyttjats maximalt i hängselkjolen, att döma av de bevarade fragmenten (Nr. 14A-B). <...>

Exemplen av detta slag är många, de här anförda torde räcka till för att visa, att dräkten i Hedeby befunnit sig på ett högt utvecklat stadium. De många resterna av tillskärningsspill bekräftar detta intryck.

Hägg 1984, p. 214

Serk remains in the graves

Only 1% (16) of the examined graves at Haithabu graveyard contain oval brooches. This is a clear indication that while the dress suspended by these brooches (*smokkr*, Ewing 2006, p. 37) was still in use, it was definitively not the only type of garment worn by the Haithabu women (Hägg 1991). However, as these graves contained the most metal, they are also the ones most likely to have preserved traces of the serk.

According to Hägg (1991 p. 227) 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 oval brooches contained small fragments of a fine linen tabby (z17 F/10mm x z12 F/10mm) from the serk.

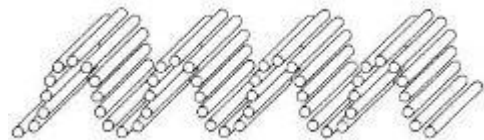
Särken under hängselkjolen var av mycket fin, tvåbindig väv, för det mesta omönstrad och slät (jfr 182-185/1960) men i några fall blå med fin rutmönstring (27/1963). Det finns också spår efter en goffrad särk (5/1964) av utomordentlig hög kvalitet. Emellanåt sitter ett litet runt spänne i särkens halsöppning (188/1960) men ännu vanligare saknas spänne.
Hägg 1991, p. 227

In some graves (e.g. grave **188/1960**) a small brooch was found close to the throat, probably closing the slit in a keyhole neckline (Hägg 1991, p. 178). However, more often than not there was no brooch, indicating a different neckline (Hägg 1991, p. 227).

Vermutlich aus diesem Grab kommt eine Gruppe von Schmuckobjekten, darunter eine Terslevfibel aus Silber mit Filigran, auf deren Rückseite zwei Reste eines sehr feinen Leinengewebes festkorrodiert sind. Durch das Gewebe stecken Reste der Nadel aus Eisen sowohl beim Dornkopf als auch beim Nadelhalter. Leinengewebe und Fibel dürften deshalb in der Tracht zusammengehören. Wahrscheinlich handelt es sich hier um Bruchstücke vom Halsschlitz eines Hemdes mit Fibelversluß.
Hägg 1991, p. 178

A pleated serk

There is a single example of a pleated serk. Grave **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 (Hägg 1991, p. 210).



Illustrations: Hägg 1991, p. 209

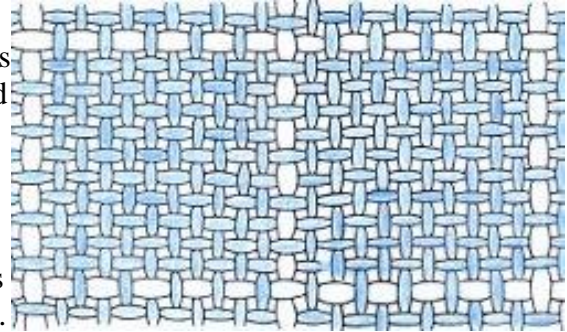
This is, as far as I know, the only find of a pleated serk similar to the Birka finds, but outside of Birka. With only one find however, it is impossible to know whether the pleated serk was common in Haithabu.

Von außerordentlich hoher Qualität ist auch die fein gefältelte Leinwand aus Kammergrab 5/1964 (Abb. 90.1-2). Das Gewebe, mit berechenbaren Fadenzahlen an acht Eisenblechfragmenten von der Truhe noch

erkennbar, zeigt eine nahezu ausgeglichene Einstellung der Webfäden. Die Fältchen sind überwiegend zerknittert und in mehreren Stofflagen übereinander in Rost fixiert, doch bei einem Stück (Abb. 103 4a) noch einigermaßen intakt erhalten. Bei diesem Stück liegt der gefältelte Stoff in zwei Schichten, die obere Schicht in etwa sieben parallelen, ganz feinen, wellenförmigen Fältchen, deren Tiefe nur rund 2 mm erreicht. Eine neue Falte folgt bei jedem sechsten Faden (Abb 103 4b). Die Garnstärke beträgt in beiden Richtungen 0,2-0,3 mm. Hägg 1991, p. 210

Checked linen of high quality

Finally, there was evidence of serks made from linen fabric that had been woven with dyed threads to create a check pattern. Grave **27/1963** contained fragments of linen cloth that had been woven in a pattern with small blue squares surrounded by a white border. The linen fabric had one white thread (z-spun) for every tenth blue thread (z-spun) in both directions. The resulting blue checks were 4 mm wide in either direction (Hägg 1991, p. 212).



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.

Hägg 1991, p. 212

Illustration: Hägg 1991, p. 213 (blue added for emphasis)

These fragments were preserved on a bronze ring used to fasten a whetstone. The rest of the grave goods (bead string and amulet holder) indicates a female burial. The linen belonged to the garment directly under the whetstone - probably either the smokkr or the serk - but as there are no oval brooches in the grave, it is interpreted as a serk (Hägg 1991, p. 212).

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

Just like in grave 27/1963, the blue linen background appears to be divided into squares by a thread of a different colour. In this case the 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 (Hägg 1991, p. 212).

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.

Hägg 1991, p. 212

Die Öse muß deshalb an dem Gewand befestigt gewesen sein, das mit der Rechteckfibeln zusammengehalten wurde. Unter der Öse mit dem dazugehörigen Gewand folgt ein Bekleidungsstück aus Gewebe in Tuchbindung das offensichtlich über einem zweiten Gewand aus sehr feinem, kariertem, bläulichem Stoff getragen wurde. Bei der Lage der Rechteckfibeln zwischen den beiden Schalenfibeln dürften diese Bekleidungsstücke Trägerrock und

Hemd gewesen sein, wobei der etwas gröbere, insgesamt aber noch sehr feine Stoff vom Trägerrock und das sehr feine karierte Gewebe vom Hemd stammen würden.

Hägg 1991, p. 144

While the colour of the pattern threads differs from each other, the two checked linen fabrics seem to have a similar weaving density and similar ratios between the warp and weft.

Piercing the serk as part of the burial custom

The serk was worn closest to the body and is usually found as fragments on top of the smokkr fragments inside the oval brooches. However, while piercing the serk with the pin from the brooches isn't normal practice, evidence of it has been found in two graves in Haithabu (Hägg 1991, p. 278). Hägg suggests that the purpose 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.

Hägg 1991, p.278

Serk remains found at the settlement

All finds from the settlement are stray finds. Thus, identification of which garments each fragment belong to are based solely on their shape. Furthermore, even when a garment can be identified, we do not know whether the wearer was a man or woman.



There are some large fragments of linen (**S31 A-K**) that probably belong to an inner garment, possibly a serk. Unfortunately, not enough has survived to make a conclusive identification of the garment.

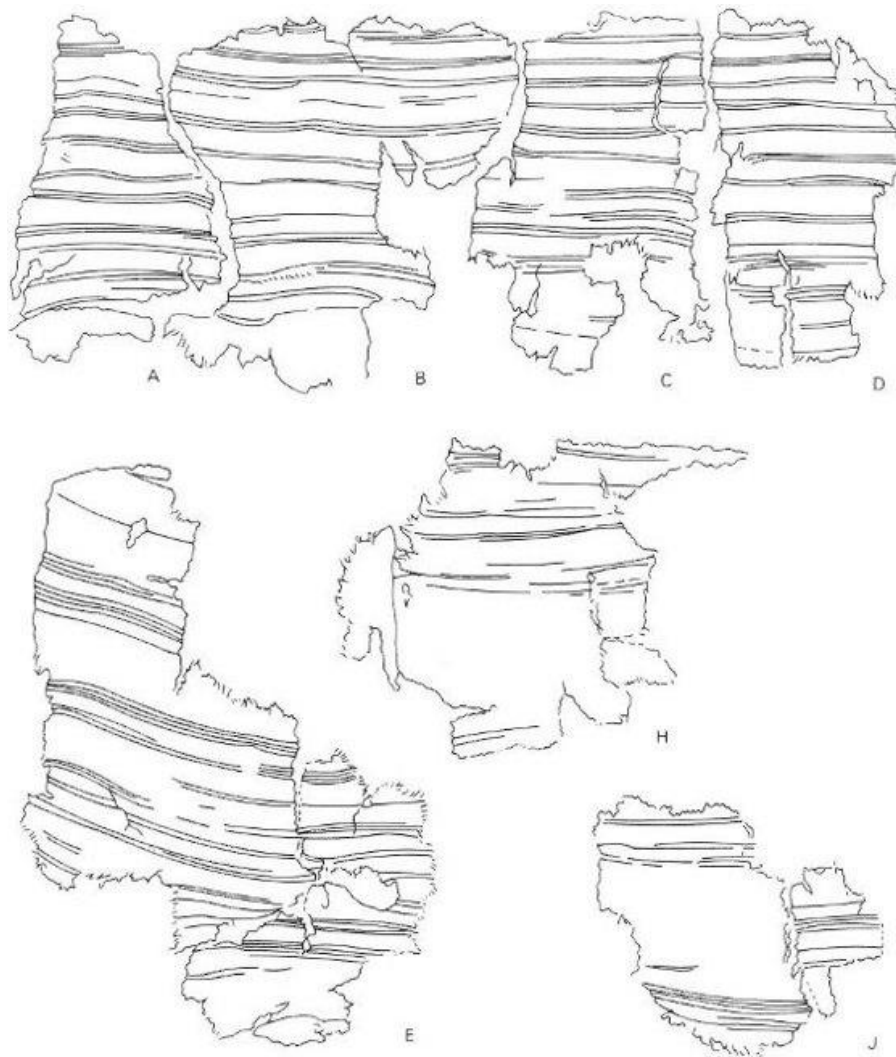
The linen is a fine tabby structured weave similar to the linen in the [Viborg shirt](#). Comparing the patterns of the weave in the different fragments and matching areas with similar thread ratios, allows us to determine

relative positions of some fragments.

Från boplatsen 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 <...>

Hägg 1991, p. 275

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 (Hägg 1991, p. 39).



Illustrations: Hägg 1991 p. 67, 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 (Hägg 1991, p. 39).

Pskov

A woman's grave from the mid-10th or early 11th century in Pskov were found to contain oval brooches, and the deceased may thus have been a Norse woman, or a woman wearing Norse-inspired clothing (Zubkova, Orfinskaya, Mikhailov [2010](#)).

The grave had been plundered and no traces of a body remained. However, a block of soil from under the floor of the grave contained several textile fragments, two oval brooches and the remains of the base of a birch-bark container reinforced by wood. The textiles had probably been stored together with the brooches inside the container and placed in the grave (Zubkova et. al. 2010, p. 291-292). This protected the textiles from the deteriorating body and meant that more than usual of the surface of the garments were in contact with the preservative metal of the brooches. However, without knowing where the fragments would have been positioned on the body it is harder to identify the garments they belonged to.

There were in total 11 fragments of thin blue linen tabby and silk (Zubkova et. al. 2010, p. 297). Although the linen was heavily degraded and mostly present as a black crust, it was possible to determine that it had originally been folded in several layers, and that it had 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, except for the tucked in edges and connecting seams. Together with traces of sewing threads, this indicated that all the silk parts originally were sewn onto linen as decoration (Zubkova et. al. 2010, p. 292).

Zubkova, Orfinskaya and Mikhailov (2010, p. 292) concludes that the fragments belonged to two separate garments made from linen and faced with silk. One of these was identified as a serk.

Remains of the serk

A fairly large fragment of the neckline of the linen serk had been preserved in the grave. It is presently the largest piece of a potential Norse serk neckline that has been found, and is thus of interest even though the location of the grave raises the question of whether the serk is indeed Norse, or more influenced by Russian clothing of the time.

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.

Zubkova et. al. 2010, p. 297

Width of piece: Probably 40 cm; a seam joining two sheets runs at the centr of bodice.
<...>

Collar design: Folds and a sewn-on cord. There is a central slit (selvage). The neck was tied up with the cord. The gown probably had shoulder-pieces.

Orfinskaya and Pushkina 2011, p. 48

Photograph: Zubkova et. al. 2010, p. 292



The slit in the front of the neck line is where two selvages meet, indicating a serk that was created from two linen pieces being sewn together lengthwise.

The pleats are gathered by a thread (A) and then fixed permanently by stitching them to a thin linen band. The band acts as a closure for the serk, allowing it to be tied closed at the neck (Orfinskaya and Pushkina 2011, p. 48, Orfinskaya [2014](#), p. 263).

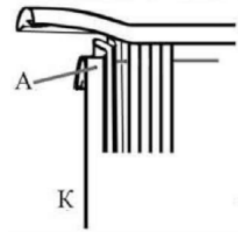


Illustration: Orfinskaya 2014, p. 263

Zubkova et. al. (2010, p. 297) refers to *two* fragments (detail no 7 and 10) that are remains from the neckline of the dress. One is shown in the photograph (detail no 7) while there is no further description or photo of the other (detail no. 10).



The grave also contained two fragments of silk cuffs, made from a red-violet silk samite (detail no 3 and 5). 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 both cuffs were trimmed with a narrow band of silk 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 (Zubkova et. al. 2010).

Photograph: Zubkova et. al. 2010, p. 296

The trim of the cuffs was made by laying a 3 cm wide piece of samite silk onto the right side of the piece that was trimmed, overlapping it 1 cm from the edge and then stitching it in place with running stitch. The hem of the trimming piece was 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 (Zubkova et. al. 2010, p. 296).

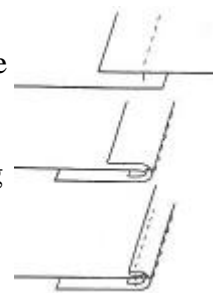


Illustration: Zubkova et. al. 2010, p. 295

In addition, some 4.5 cm wide reddish-violet samite strips were found as part of the textiles from the grave. These had been trimmed at one side by the same method that was used on the cuffs. The reverse side of the strips was covered by remains of linen, indicating that they had been sewn onto the hem of one of the linen garments. Unfortunately, it cannot be determined which of them (Zubkova et. al. 2010, p. 292, 294). Either way, this is one of the few instances of evidence we have for decoration along the bottom of a Norse garment.

Minor finds

Vegetable fibres, like linen and nettle, tend to deteriorate quicker than wool in most soil conditions. Thus, the only traces of linen serks are often a black crust left on other textiles, or tiny linen fragments that are hard to interpret. The grave at Adwick-le-Street is an example of the latter, where there were found small fragments of a garment that had been worn beneath the smokkr. It is believed to belong to a serk, although one of much coarser weave than the ones found at Birka (Speed & Walton Rogers [2003](#)).

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.

Speed & Walton Rogers 2003, p. 75-76

However, even when a black crust is all that is left, it may yield information. In Kaupang grave **C27997 C** black crust from deteriorated vegetable fibres (probably linen?) adhered to several textile fragments, including broken diamond twill fragments interpreted as the lining of a cloak. One of the crusts still held an impression left by one of the armlets of the deceased, indicating that the linen garment had long sleeves (Ingstad [1999](#), p. 242).

Til enkelte av diamantkypert-tekstilene [fra kappen] festet det noen svarte skorper som må antas å være rester etter et nå forsvunnet lin-plagg, kanskje en skjorte med lange ermer, som har ligget i berøring med føret i kappen. En av disse skorpene har form etter et av armbåndene, og her sees tydelig tråder av vegetabiliske fibre.
Ingstad 1999, p. 242

Grave B 4864 at Hyrt

Grave B 4864 at Hyrt in Voss, Hordaland, in Norway, contained two oval brooches and the remains of a third brooch. Most of the textiles has been stored separately from the brooches, but by using old photographs and marks made from the brooches on the textiles, Lukešová ([2011](#), [2015](#)) were able to reconstruct the position of the textiles inside each brooch.

Both oval brooches had preserved several fragments of a blue tabby with vegetable fibres (probably linen) from the layer closest to the body. Lukešová (2011, p. 156) proposes that they belong to a blue serk.

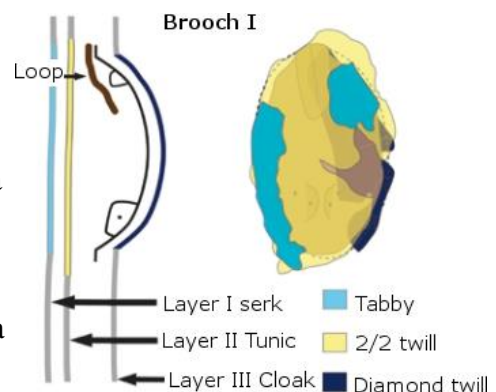


Illustration: Lukešová 2011, p 158. Modified by adding English text.

Lukešová later examined 23 graves from western Norway, finding traces of the serk in nine of them. All the fragments that were identified as part of a serk were tabbies, mainly made from plant material. The thread count of these fragments is higher compared to the thread count of the outer garments in the same grave (Lukešová 2015).



Illustration: Lukešová, Salvador Palau, Holst [2017](#), p. 284. Fragments of linen from grave B 4864

Grave ACQ at Køstrup

A small graveyard in Køstrup, Fyn in Denmark was excavated in 1980-1981. One of the graves, ACQ, contained oval brooches and several textile fragments. The grave was dated to 960-990 by Lindblom (1993), and later re-classified by Delvaux (2017) to between 850-860.

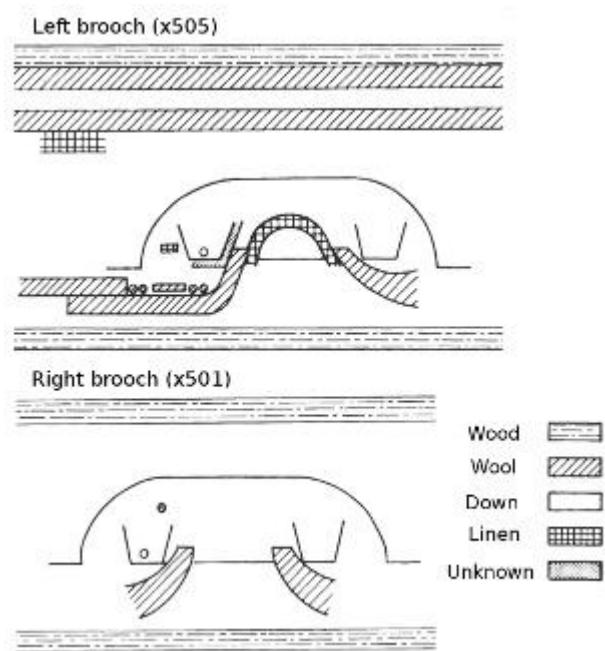
The grave contained three groups of fragments of fine linen tabby (18-24/18 threads per cm) potentially belonging to the serk (Wielandt 1980, p. 198-199). Some tiny, completely mineralized fragments (x542) were found *inmost* in one of the oval brooches (x505), underneath fragments of a dyed woollen smokkr. On top of the same brooch was another linen fragment (x525). Finally, some tiny, mineralized linen fragments (x544) were found within the other oval brooch (x501).

The Køstrup find is interesting because some of the possible serk fragments are found in an unusual position, *inmost* in one of the brooches (furthest away from the body). This leads Wielandt (1980, p. 193-194) to interpret the linen *inmost* in the brooch as a smokkr, where only fragments (x542 and x544) survive. She believes the linen (x525) on top of the oval brooch may come from this smokkr or from a shawl. Thus, her conclusion is that the woman in the grave were wearing two smokkr; a dyed woollen smokkr (with wool loops) worn next to the body, and a linen smokkr (with narrow linen loops) worn on the outside.

Rasmussen and Lønborg (1993, 175-176) interprets the find very differently. They propose that there was an undyed linen underdress (serk) worn *inside* a woollen smokkr.

The stratigraphy inside the oval brooch x505, where the wool is closer to the body than the linen, works against this interpretation. However, they believe that the pin 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 could then be folded on top of it during the decomposition.

Illustration (slightly modified): Rasmussen and Lønborg 1993, p. 176



A couple of other examples of piercing the serk to keep the jewellery in place when displaying the body for burial is known from Haithabu (Hägg 1991, p. 278). Rasmussen and Lønborg further interpret the layers of wool, down and feathers and the linen fragment on top of brooch x505 as a duvet or a cloak of some kind (1993, p. 178). Rimstad (1998) supports their interpretation of the linen as a serk, commenting that it is unlikely that the dyed and pleated woollen smokkr would have been hidden beneath an undyed linen smokkr. However, she proposes that the linen fragment on top of brooch x505 is from the serk (folding itself over the brooch as the body deteriorated) and not from a duvet (p. 19-20).

Grave B 5625 at Vangsnes

The fragments from grave B 5625 was first interpreted as potential serk fragments, and later reinterpreted as belonging to the smokkr. I include it here for reasons of completeness - as a potential a serk it would have been a very significant find.

A woman's grave at Vangsnes in Norway (**B 5625**) contained several fragments of a tabby wool. Three of the fragments were evenly pleated with 2-3 mm deep pleats. The remaining fragments are plain. This may be due to the pleating having disappeared in the grave or may



indicate that only part of the garment was pleated (Holm-Olsen [1976](#), p. 201).

Tre fragmenter av et toskafstoff, B 5625 Vangsnes, er plisserte.

Plisseringen er jevn og regelmessig og tilsvarer helt den Agnes Geijer har beskrevet fra Birka. Foldene er to-tre mm dype, og de framstår i tverrsnitt som en sammenpresset bølgelinje (Geijer 1938, 16). <...>

De øvrige fragmentene av toskafstoffet 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.

Holm-Olsen 1976, p. 201

Photograph: Holm-Olsen 1976, p. 202

Holm-Olsen (1976, p. 203) notes that the pleating is similar to the Birka finds, and that the fragments may thus possibly belong to a woollen pleated serk. However, she does not mention any other fragments from the grave, e.g. that could belong to a smokkr worn over the serk.

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.

Holm-Olsen 1976, p. 203

Some years after Holm-Olsen's work, pleated wool, with pleats of similar depth as B 5625, was discovered in grave C27997 C at Kaupang (Ingstad 1999) and grave ACQ at Køstrup (Rasmussen and Lønborg 1993, Thunem [2015](#)). The Køstrup fragments clearly belong to a woollen smokkr that has been partly pleated in the front. The fragments from Kaupang are also interpreted as part of a smokkr. In light of the new evidence, it is likely that the pleated wool from grave B 5625 also belongs to a partly pleated smokkr, instead of a serk (Ewing 2006, p. 33).

Peripheral finds

Most of the archaeological evidence for clothing from the Viking Age is fragmented and hard to interpret, and this is definitively the case for serks. As the finds are so few and small, it is useful to consider other Viking Age garments when trying to reconstruct the cut of the serk. Of course, the evidence is too scant to allow for certainty, but it is likely that it was constructed with similar techniques and underlying patterns as the Viking Age dresses and tunics.

Haithabu harbour

Due to the presence of tar, Haithabu harbour yields unusually well-preserved textile fragments. However, the harbour finds provide no information on the position of each fragment on the body. Thus, identification of which garments each fragment belong to are based solely on their shape.

Linen garments seem to not have been used as caulking, or if they were, they haven't survived in the harbour. However, there are woollen tabby fragments that probably belonged to several undertunics. These appear to have been constructed from several pieces cut to fit the body, with the addition of gores to achieve extra width (Hägg 1984 p. 213).

The find material further indicates that there was an overtunic of similar design, although it was usually made from twill instead of tabby (Hägg 1984 p. 213, 215). Hägg (1984, p. 218) also finds it likely that there were linen garments of a similar cut in use.

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.

Hägg 1984, p. 213

Redan vid systematiseringen av fyndmaterialet visade sig, att de olika textiltfunktionerna 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.

Hägg 1984, 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.

Hägg 1984, p. 218

Fragments of the undertunic

Several fragments from the undertunic have been found in the harbour, all made from woollen tabby of different qualities. The fragments appear to have been dyed. Two fragments have been analysed further, allowing for the detection of dye extracted from walnut shells. Along with its aesthetic function, the walnut dye also has an antibacterial effect; a clear benefit for garments worn close to the body (Hägg 1984, p. 175).

The undertunic fragments vary in coarseness, but even the coarser weaves could not have been inferior material, seeing as they were dyed, and show no traces of having been mended before they were used as caulking (Hägg 1984, p. 50).

Fragment H72C is part of a tunic (or dress) made of coarse woollen tabby with a fabric thickness of 0,2 cm. The fragment is 28 cm long and 29 cm wide. Several of the edges of the fragment are original, although very worn. There are traces of a shoulder seam along the 7 cm long upper edge of the fragment, where it would have stitched together the front and back of the garment.

Illustration: Hägg 1984, p. 48



Even 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 fragment originally was cut along the bottom edge (if so, it would have been attached to a second piece with a waist seam), but it is too badly frayed to ascertain if this is the case. It is also uncertain whether the frayed edge on the left side of the fragment is original (indicating that it was attached to a similar piece with a vertical seam), or the result of deterioration (Hägg 1984, p. 45, 49).

Fragment H73 is another tunic fragment made of coarse woollen tabby with a fabric thickness of 0,2 cm. The fragment is 28 cm long and 24 cm wide. It is, overall, less well preserved than **H72C**. Due to the wear and fraying of the edges, the pattern can be interpreted only in general terms. It is therefore not possible to determine whether H73 and H72C are from the front and back of the same tunic, or if they belong to two different tunics (Hägg 1984, p. 49).

Illustration: Hägg 1984, p. 48



The original shape of the neck opening is uncertain. The fragment is wider at the shoulder and it has a sharper curvature of the armhole than H72C. However, the fabric quality of the two pieces is almost identical.

Fragment H72C and H73 both belong to a type of tunic with simple, fairly large pattern parts that are tailored to the body. Front and back were connected by shoulder seams, and the neck opening appears to have been rounded. The wide necklines may explain why, unlike Birka, very few brooches are found close to the neck in the Haithabu graves. The armholes were sharply curved, allowing for fitted sleeves. Finally, the circumference of the garment may have been reduced with the use of darts (Hägg 1984, p. 50).

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.

Hägg 1984, p. 50

A differently constructed type of tunic may be represented by fragment **H18** and **H55A**. These pieces consist of ribbon-like strips that are sewn together along the sides. Both fragments are torn (or cut) at the waist, possibly indicating that this kind of tunic had an upper and lower part connected by a waist seam (Hägg 1984, p. 50).

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.

Hägg 1984, p. 50



Fragment H18 is identified as a front or back piece of a tightly fitted tunic of fine woollen tabby, with two-sided pile ("Faserflor"). It is dyed, and has a height of 39 cm, a width of 15 cm and a thickness of 0,2 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.

The fabric around the shoulder area has been gradually stretched by the wearing of the garment. Finally, the rather ragged edge, which was apparently facing the body, represents an original cutting edge (Hägg 1984, p. 42).

Illustration: Hägg 1984, p. 43

Fragment H55A 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 along the bottom edge and cut or torn at waist level.

The fragment is pieced together from five separate pieces; a tiny fragment, two trapezoidal pieces that widens towards the bottom, flanked by two gores (which demonstrates that gores were used to widen these garments). The pieces have been cut so that the warp runs from top to bottom. One of the gores (a) is made of a 2/1 twill, all other pieces are from a finely woven tabby. The fabric has a thickness on 0,1 cm (Hägg 1984, p. 42).

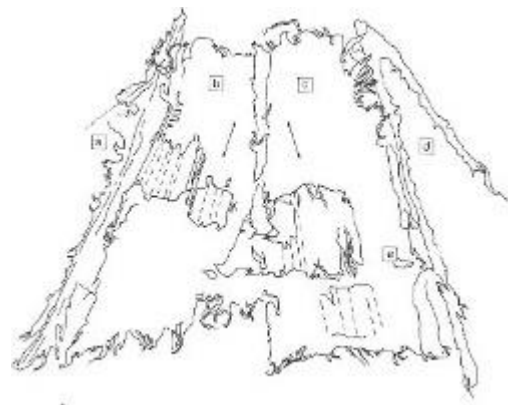


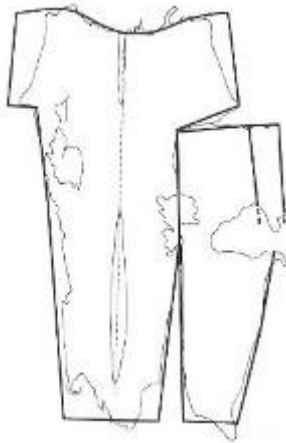
Illustration: Hägg 1984, p. 46

Between piece c (a four-sided piece) and d (a gore) there is a part (6 cm long) where the side seam has been left open. Along the opening, the edges of c and d has been folded and stitched in place. The short row of stitches is still attached to tiny remnants of a material which probably covered the "side slit" created by the opening. The turning over of the edges may indicate that the slit could be an opening to a pocket (Hägg 1984, p. 43).

Hägg (1984, p. 50) believe that the top of fragment 55A may have covered a quarter of the waist of the wearer. Extrapolating from that, the tunic would have a total circumference of about 2 meters at knee height. The sharply increasing diameter caused by the widening of the

gores and four-sided pieces makes it unlikely that this particular tunic was longer. This also fits with contemporary illustrations of male tunics reaching to the knee.

Fragments of the overtunic



Fragment H57 is an almost complete sleeve, made of medium fine 2/2 woollen twill. The top and bottom of the sleeve are tight (width of ca. 21 cm) and felted, while the widest part has a width of 30 cm. The denser warp threads at the top and bottom indicate that the variations in width are caused by using the sleeve as caulking. A comparison of the number of warp threads in the two parts shows that the sleeve has shrunk by about a third at the top and only about a quarter at the bottom, so that the original dimensions at the top and bottom should have been about 29 and 21 cm, respectively. Thus, the sleeve originally had a fairly uniform width, slightly decreasing towards the bottom (Hägg 1984, p. 55).

The sleeve has a fitted shape that would fit well with the curved armholes seen in some of the undertunic fragments. It is 58 cm long and have been pieced together from three pattern pieces. The largest piece is made from a light-colored wool, while the two minor pieces (rightmost in the illustration) are of a darker colour. The sewing threads along all seams are similar. This indicates that the two darker pieces were part of the sleeve originally, although the possibility that they were added as replacement parts at a later date cannot be ruled out (Hägg 1984, p. 55).

Illustration: Hägg 1984, p. 59

Fragment H6A and **H6B** are two long strips (30 cm and 81 cm long respectively) of woollen twill that have been dyed and fulled. 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 (1984, p. 51, 53) interprets the strips as the bottom edge of a garment and believe that they come from a floor length overtunic.

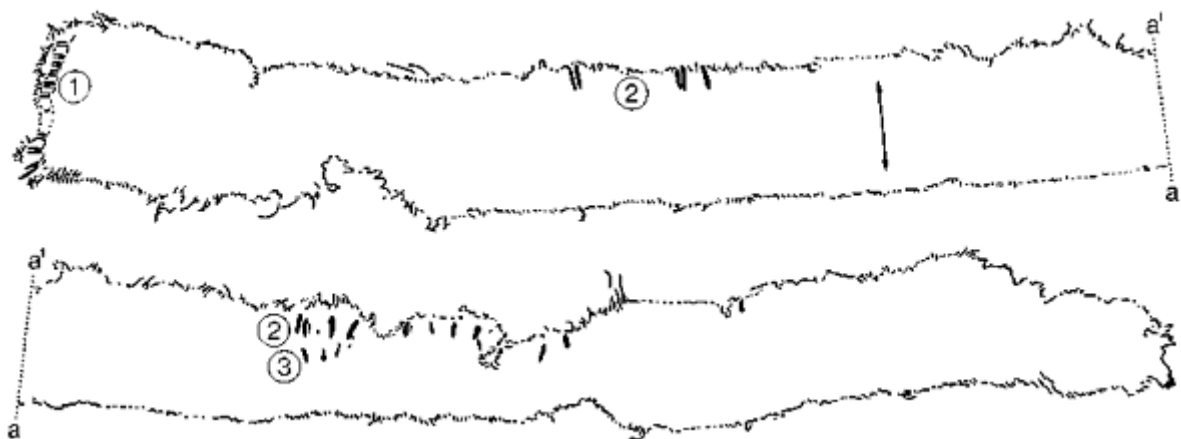
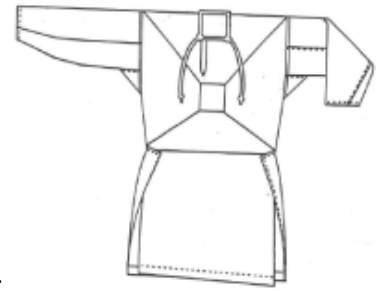


Illustration: Hägg 1984, p. 51

The Viborg Shirt

Large parts of a linen shirt were found in a post hole, at Viborg Søndersø in Denmark. Colour analysis showed that the linen was not dyed (Fenz [1987](#), p. 24). The shirt is dated to around 1050 and is ca. 95 cm long (Østergård [2004](#), p. 124).



Although many of the pieces had come apart or deteriorated, enough was recovered to give a clear picture of what the shirt originally had looked like. The body was cut from a single piece. However, the upper body of the shirt was two layers thick; and the inner layer was "quilted" to the outer layer with running stitches. The neck opening is square-shaped with an asymmetric slit. It is edged with a narrow strip of linen that extends into two ties (Fenz 1987, p. 29).

Illustration: Fenz 1987, p. 27

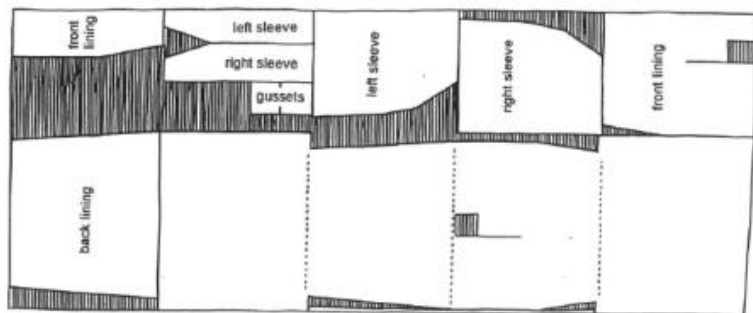
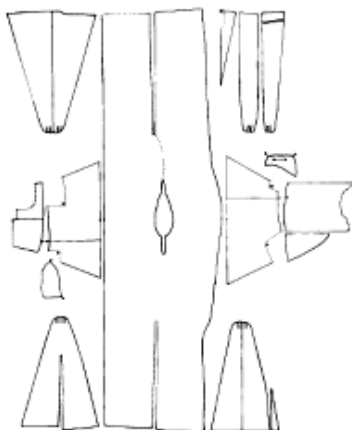


Illustration: Fenz 1987, p. 33

The shirt was sewn together with eight different types of seams (Fenz 1987, p. 28). Interestingly, even though the shirt body is continuous from front to back, there are seams along the shoulders that not only attaches the inner layer, but also have been created in a manner that gives the impression of shoulder seams. The sides are split below the waist. Looking at the development of tunics over time, Østergård (2004, p. 124) finds the narrow cut of the Viborg shirt reminiscent of the much earlier Thorsberg tunic.

The shirt has no shoulder seam, and its cut, with straight lines and long added sleeves without doming, is in principle a repetition of the 800-year-old shirt or gown from the famous find in Thorsbjerg Bog in Schleswig just south of the present Danish border.

Østergård 2004, p. 124



The Kragelund Tunic

The tunic was found on a male corpse in the Kragelund Bog south of Viborg in Denmark. It is sewn from woollen twill and have been radiocarbon dated to 1045-1155 AD. It reached to the middle thigh of the deceased and is ca. 114 cm long (Østergård 2004, p. 124).

Illustration: Østergård 2004, p. 125. The front middle gore (which is split) up is on the bottom left.

Like the Viborg shirt, it has no shoulder seams. The body of the tunic is cut in a single piece and supplied with waist-height gores at the sides, front and back. The frontal gore has a slit in the middle, allowing for even more mobility for the wearer. The sleeves are sewn together from several pieces.

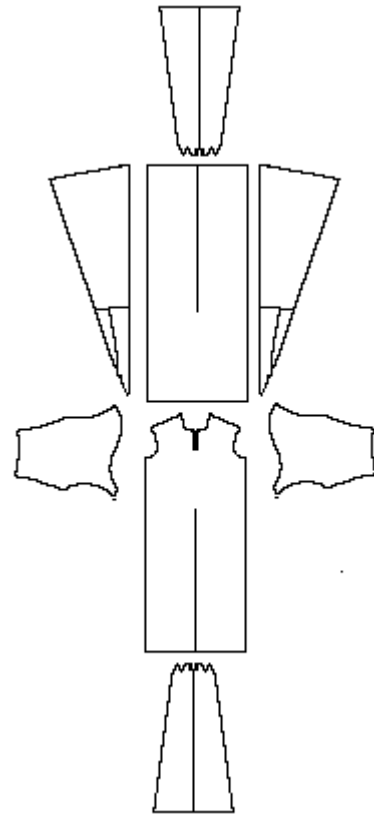
The Moselund Tunic

A male corpse dressed in the tunic was found in Moselund Bog, south of Viborg in Denmark. The tunic has later been radiocarbon dated to 1050-1155 AD (Østergård 2004, p. 135).

The Moselund find was in many pieces, since all the seams had come apart. In 1939 all the pieces were sewn together according to the best knowledge available to create the present-day appearance of the tunic (Østergård 2004, p. 141).

Like the Haithabu tunics, the Moselund tunic has shoulder seams connecting a front and back of the garment. There are several gores increasing the width of the tunic towards the bottom. Furthermore, it appears to have had a slit both in the front and back of the skirt, increasing the mobility of the wearer (and allowing e.g. for riding). The sleeves are shaped to fit the curved armholes of the tunic.

Illustration: [Carlson](#) 'Tunic - Moselund'



According to Østergård (2004, p. 95) the contemporary tunics of Kragelund and Moselund demonstrates how both tunics based on geometric shapes and the more fitted styles are present at the same time, in a transitional period.

During a transitional period both types, the geometrical and the fitted, were in use, as can be illustrated by two Jutland garments. The Kragelund garment has a geometrical cut, where the added width is achieved by means of breadths set into it at the middle and the middle back, and in the side seams, and a rather primitive neck opening. The contemporary garment from Moselund, on the other hand, is cut to fit with huge armholes and domed sleeves. Further, the garment has a small, finely formed neck rounding with a short slit in front. Narrow sides give the garment width below. The new style that Moselund represents also found its way to Herjolfsnæs a couple of centuries later.

Østergård 2004, p. 95

The Skjoldehamn Tunic

A body dressed in several garments and wrapped in a woollen blanket was discovered in a bog on Andøya, Norway. In 1986 the blanket was radiocarbon dated to 1180-1280 AD. A new radiocarbon dating carried out in 2002, placing the find at 936-1023 AD (Løvliid [2009](#), p. 21-22).

The gender-specific parts of the skeleton are missing, but the slight build of the skeleton and lack of Y-chromosome in an DNA-analysis has led several researchers to suggest that the deceased may be a woman (Løvliid 2009, p. 20, 22). The Sami-specific genetic marker was not found, but Sami identity is not only a matter of genetics (Götherström, in Løvliid 2009, p.

22). Finally, there are several similarities between the decoration of the Skjoldehamn clothing and Sami clothing (Løvliid [2010](#)).

The uncertain ethnicity of the deceased means that the find must be treated with caution when

using it to interpret Norse clothing. However, even if the clothing should turn out to be closer to Sami fashion than Norse, it demonstrates tailoring techniques that would have been observed by the Vikings.

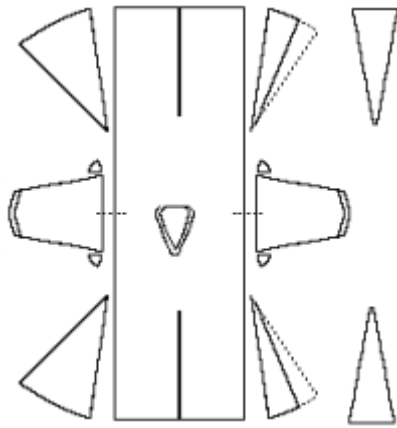


Illustration: Carlson 'Kyrtils/Cotes/Gowns - Skjoldehamn'

The tunic body is cut in a single piece, with no shoulder seams. Like the Kragelund tunic it widened with gores in the side and front, but unlike the Kragelund and Moselund tunics there is no split in the front or back. The sleeves are geometric, decreasing in width toward the wrist and have small gussets under the arms.

Eura

Finnish finds are usually not a good source for the reconstruction of Viking clothing, due to the marked differences in Finnish and Norse dress of the period. However, as the pattern for reconstructing of an underdress from grave **56** in Luistiari in Eura is popular among some reenactors as an alternative serk pattern, knowing what was found in the grave can be helpful.

Grave 56 contained a woman who had died in the early part of the 11th century.

The fabric inside the bracelets was dark blue plainweave woollen cloth. The cloth found with the brooches and chains was greenish four-shaft twill, and rather similar material but of a lighter shade was found in connection with the spiral ornaments of the apron. So apparently there had been blue sleeves, a green dress encircling the trunk and a light green apron.

Lehtosalo-Hilander [1984](#), p. 48

The blue tabby underneath the bracelets is likely to be sleeve fragments. Blue tabby was not found elsewhere in the grave, indicating that the sleeves did not belong to an outer garment (if so, it should have left traces on the outer surfaces of the jewellery or other metal artefacts). It is possible that the green twill garment (probably a dress) had sleeves constructed of a different material, but it is more likely that the dark blue tabby belonged to a long-sleeved undergarment. The tabby had been dyed with indigotin, probably from woad, and had been cut with the warp running parallel with the arm (Lehtosalo-Hilander 1984, p. 48-51).

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 for serks with the evidence we have for similar garments, and with other (and less reliable) sources, like poetry or illustrations.

Neckline

20 of the 52 Birka graves containing fragments of the serk also held small round brooches. In nine of the graves, fragments of the serk were still attached to the round brooch, and in the case of grave 554, [644](#), [762](#), and [60 A](#) these fragments had narrow (4 mm wide) folded edges, evidence for some form of a keyhole neckline. Furthermore, in grave 60 A there were identical fabric on the oval brooches *and* the round brooch, showing that whatever was attached to the round brooch was the serk (Hägg 1974, p. 14, 19).

In Birka graves that do not contain oval brooches (where the deceased probably did not wear the smokkr), the position of the round brooch varies, with the majority being placed on the centre of the chest. However, when oval brooches are present, the little round brooch is usually (75% of the time) found beneath the chin. This indicates it was pinned to a garment worn *beneath* the dress suspended by the oval brooches, namely the serk, and needed to be placed high on the chest to avoid being hidden by the front of the smokkr (Hägg 1974, p. 19).

The brooch being placed beneath the chin indicates a neckline that probably ran close to the throat. Furthermore, the lower placement of the brooch in the absence of the smokkr may indicate that the slit was relatively long (Hägg 1974, p. 22). This would e.g. have allowed for easy access when breast feeding a child.

Evidence for serks with a keyhole neckline is also present at Haithabu (grave [188/1960](#)) where a small brooch held the serk closed at the throat (Hägg 1991, p. 178), and at [Pskov](#), where the pleated serk had a slit in the front of the opening (Zubkova et. al. 2010 p. 297). It is possible that some of the pleated serks at Birka (assumed by Hägg 1974, p. 36 to have been imported from Kiev) had a similar neckline as the Pskov serk, but as no large fragments from the front of these serks have been preserved it cannot be determined for certain.

The keyhole neckline is, however, unlikely to have been the only type of opening in use for the serk. Roughly 30% of the 163 female skeleton graves from Birka contained the small round brooch (Hägg 1974, p. 19). Also at Haithabu, graves with a third brooch beneath the chin was less common than those without (Hägg 1991, p. 227). Probably most serks were no more dependent on a slit and brooch than later medieval tunics, with their variation of neck holes Hägg (1974 p. 25-26). Instead, they may have had triangular or rounded necklines large enough to allow the head to pass through (similar to the [Haithabu](#) and [Skjoldehamn](#) tunics), or closed with linen ties (as exemplified by the [Viborg](#) shirt) that usually would have left no evidence in the graves.

Gores

Little is known about the shape of the serk, due to only small fragments being preserved. There is, for example, no serk fragments being identified as gores.

However, it is likely that the serk used many of the same construction elements as the tunics and dresses. Gores have been used in the Kragelund, Moselund and Skjoldehamn tunics, and fragment [H55A](#) from Haithabu harbor, to widen the lower part of the garments. Most of the gores in these finds start at the waist, but the Moselund tunic also have a couple of full-length gores starting at the shoulders. This basic tunic construction also survives in underdresses in Swedish folk costumes, leading Hägg (1974 p. 24-25) to suggest that the Birka serk used gores to widen the garment.

Illustration: Liber Vitae in the British Library, found at Wikimedia Commons

Ewing (2006 p. 87-90) proposes an alternative interpretation, citing the shirt found in Bernuthsfeld, Germany, from the start of the Viking Age, and the Viborg shirt from Denmark dating to the end of the period, both tight and without gores. He suggests that gores may have been a European invention that was not used by the Vikings, and that the finds from Haithabu is a mix of European and Norse clothing, which may explain the gores found there. He further 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.



In my opinion, the Kragelund, Moselund and Skjoldehamn tunics, whereof two were found in central Denmark, provide proof that gores were also used by the Norse. Of course, this does not conclusively prove that they were used in the serk, but it is a reasonable assumption unless new evidence surfaces.

Sleeves

The best evidence for the serk as a long-sleeved garment comes from Pskov, with its silk cuffs sewn to the linen sleeves (Zubkova et. al. 2010). It is of course possible that the Pskov serk is influenced by Slavic clothing tradition instead of Norse, but although it is scarce, evidence for long-sleeved serks are also found within Scandinavia.

In four graves at Birka (**901**, **980**, **1062** and **1159**) a metal artefact (scissors or key) have ended up alongside the arm in the grave, preserving fragments from a pleated serk sleeve. 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.

Finally, grave **C27997 C** at Kaupang have a black crust fragment (from deteriorated vegetable fibres) with an impression of a bracelet worn by the deceased.

All of the preserved sleeve fragments from Birka are pleated. It is unknown whether this was also the case for the serk sleeves at Pskov and Kaupang, given that all that is left is of the linen is a black crust. The Pskov serk appears to have been pleated or gathered towards the neck, but we do not know if these pleats extended further. The predominance of pleated linen in the preserved serk fragments may be coincidence, given the extremely small sample size, or may be due to pleated linen being easier to distinguish and thus easier to identify as belonging to a serk (Hägg 1974, p. 22). A third alternative, raised by Ewing (2006, p. 56-57) is that long sleeves were only used in conjunction with pleated serks.

Ewing turns to the descriptions in the poem *Rígsþula*, noting that the high-status woman, *Moðir* is described as having a blue-dyed serk *with pleated sleeves*.

...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: Ewing 2006, p. 41

In the case of Amma, the wife of a free farmer, the poem does not explicitly mention a serk (although it uses the term "cloth at her neck").

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: Ewing 2006, p. 37*

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

- *Rígsþula*

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

Although Ewing cautions against reading too much into the brief phrases of the poem, he 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 may have contrasted with Moðir's by the absence of pleats and long sleeves (Ewing 2006, p. 56).

While Ewing's theory is interesting, it is very Birka-centric. Except for a single find (grave **5/1964** in Haithabu), the pleated serk has not been found in Scandinavia outside of Birka. Thus, there is no reason to believe that the absence of a garment, worn by a small group of women in Sweden, would have signaled a lower social status in the rest of Scandinavia, or that Norse women in Norway and Denmark did not wear sleeves because their serks were made of plain linen.

The archaeological evidence provides no clues regarding the construction pattern of long serk sleeves. However, inspiration may be taken from the geometric tunic sleeves of e.g. Viborg, Kragelund, and Skjoldehamn, and the more fitted sleeves from Haithabu harbour (fragment [H57](#)) and Moselund.

Examples of variations in the reconstructions of serk sleeves



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



*"Straight sleeve" reconstruction,
museum at Trelleborg, Denmark*

Shape of the serk

The fragments that are left of the serk are too small to provide us with a conclusive picture of the whole garment. What the archaeological evidence can tell us is that it reached at least to the hip and had various necklines. There is also evidence for sleeves and gores, although not all experts agree on their interpretation.

The Birka material

There were two serk types in use at Birka; one made of plain linen and one that was pleated. While the plain serk was in use throughout the whole period, the pleated serk became more popular during the 10th century (Hägg 1974, p. 36).

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

Hägg 1974, p. 36

The "standing pleats" of the pleated serk does not appear in earlier clothing from the Nordic area, nor does it appear to have influenced the clothing that came after, as one would expect if it had been woven, cut and sewn, or pleated, locally. However, the pleating technique is prevalent in the Slavic clothing tradition, indicating that the pleated serks may have been imported as finished garments to Birka, probably as part of the Norse travels and trading along Dnjepr and Dnjestr. It is worth noting that the pleated serks is at its most popular in the 10th century, at the same time as there is increasing evidence of Norse presence in the area around Kiev (Hägg 1974, p. 32, 36).

Att en goffrad särk förekommer i Birka utan kända förstadier på nordisk mark och utan fortlevande traditioner i senare tiders allmogedrätt tyder på, att den under en mycket begränsad tid, på ena eller andra sättet, hämtats utifrån. Eftersom den goffrade särken inte heller satt några spår på andra håll i det västeuropeiske folkdräktmaterialet, torde den höra hemma inom en annan kulturkrets, alltså rimligen den östeuropeiska. Det förefaller ganska sannolikt, att inte bara den främmande tekniken utan även snitt och detaljutformning, m.a.o. hela särken i färdigt skick, importerats från det sydslaviska området. Denna import bör sättas i samband med vikingarnas färder öster- och söderut längs Dnjepr och Dnjestr framför allt, eftersom dessa färdleder skär igenom själva kärnområdet för den sydslaviska goffrade särken. Det är slående att den goffrade särken framför allt förekommer i kvinnogravar från 900-talet, då det nordiska inslaget var särskilt starkt i Kievområdet <...>

Hägg 1974, p. 32

There has been more discussion regarding the origin of the plain serk. Hägg (1974, p. 36) believes that while the linen probably was imported, the serks were cut and made in Birka according to local clothing tradition. Geijer (1983, p. 89) disagrees, suggesting that the plain serks are simply pleated serks that have lost their pleating due to washing. This is, however, disputed by Hägg (1983, p. 205), who notes that the clear chronology to the fashion in serks confirm that the plain and pleated serks were two different types of garments. Otherwise, the increasing popularity of the pleated serk in the 10th century would indicate that people stopped washing their serks after 900, something that is unlikely to have happened.

This surmise tallies perfectly with a recent suggestion by Inga Hägg - 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.

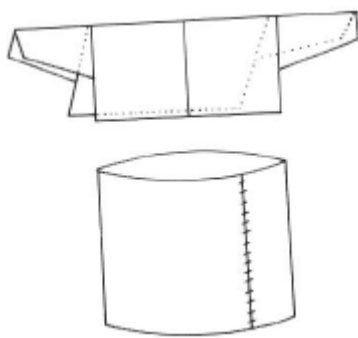
Geijer 1983, p. 89

Spår av den släta särken finns huvudsakligen i de äldre gravarna och av den goffrade i de yngre (800- resp. 900-talet). Att de två särkarna 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 särkar, eller "rynckveckade", för att använda en term denna författare numera föredrar, inte längre tvättades efter ca 900!

Hägg 1983, p. 205

The plain serk

The numerous small brooches beneath the chin confirm that the keyhole neckline (running close to the throat) was usual in the plain Birka serk. Furthermore, examination of fragments of the serk inside the oval brooches reveal that their thread direction runs along the longitudinal axis of the brooches, indicating that the serk was cut on the grain and flowed from the shoulders towards the bottom. The amount of folds that appears on some of the scissors indicates that the serk had some width (Hägg 1974, p. 22, 25).

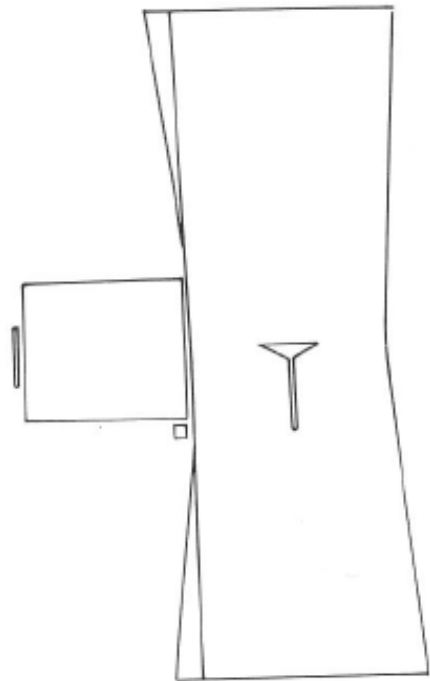


In several instances, identical serk linen is found on brooches on the upper part of the body, and on scissors or other metal artefacts on the lower part of the body. From this we may conclude that the serk was *not* constructed along the principle of later two-part shirts, where the upper (visible) part is made of finely woven linen, and the lower part (hidden beneath other clothing) is made of a coarser linen.

Illustration: Hägg 1974, p. 21. Example of a two-part serk from Estonia

Instead, it is likely that the serk body was cut from a single piece. Hägg (1974, p. 24-25) proposes a construction pattern based on a serk and shirt from a Swedish folk costume that is believed to have preserved the pattern used during the medieval period. This serk has a body cut in a single piece, without shoulder seams, widened with gores and gussets, and with long sleeves. The pattern follows the same principle as the Kragelund and Skjoldehamn tunics, although these were not dated to the Viking Age at the time Hägg was working with the Birka material.

Illustration: Hägg 1974, p. 24, example of a one-piece serk from Vingåker



Trådriktningen tycks överallt vara likartad och relativt enhetlig över spännenas hela baksida. Vävriktningen har uppenbarligen följt kroppens längdriktning. På den del av framstycket, som täckts av spännbucklorna, sneddar trådriktningen något, troligen till följd av tygets sluttande fall över axlarna. Att döma dels av veckbildningen, dels av det mycket veckrika linnet på en del saxar, bör särken ha haft en ganska generös vidd.

Hägg 1974, p. 22

Av sprundspännen och sprundfragment framgår, att särken åtminstone i ett stort antal fall haft sprund, och detta i sin tur medger slutsatsen, att plagget nått upp under hakan. Vävriktning och veck hos linnerester under spännbucklor och på saxar i gravarna visar, att tyget fallit fritt och ledigt över axlarna i stort sett i vävens längdriktning som på en helskuren särk. Plagget har nått ned åtminstone till höften, troligen betydligt längre. Några gånger har det kunnat konstateras att linnet varit detsamma i särkens övre och nedre partier, vilket

innebär, att det rört sig om ett helskuret plagg, inte om särk av överdelstyp. Belägg för långa ärmar saknas, men det behöver inte innebära något negativt bevis i ärmfrågan.

Hägg 1974, p. 25

The pleated serk

Like the plain serk, there is evidence that the keyhole necklines (closed with a brooch) also was usual in the pleated serks, and that it reached at least to the hips.

Given that the pleated serk was probably imported as a finished garment, the interpretation of the garment should be based on what is known about the shape and construction of serks in the south Slavic area. Unfortunately, there appears to have been two different types of serks in use at the time. The early version of both types is pictured on the Trajan monument in Adamklissi, Romania (Hägg 1974, p. 32-35).



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.


Returning to the Birka evidence, it is clear from the fragments left on the oval brooches that the pleats ran lengthwise, in parallel with the brooch pin, and then bent towards one side of the brooch. However, as it was not documented which brooch was on each side of the body, they cannot be used to determine whether the pleats were collected towards the neck opening (as in the Dacian-Slavic type), outwards over the shoulders (as in the Faltenkleid) or if both serk types were present at Birka (Hägg 1974, p. 26-30, 35).

There is a sleeve fragment with pleats that might have been running perpendicular to the arm found attached to a scissor in Birka grave [1062](#), possibly indicating a Faltenkleid serk, while the serk found at [Pskov](#) appears to have been of the Dacian-Slavic type. However, these finds are too few to provide a conclusive answer.

Nor does the pictorial evidence settle the question conclusively. Figurines of valkyries and other female entities in Viking art are by their nature difficult to interpret. Their significance

is lost to time, and we do not know if the clothes they are wearing resemble the everyday clothing worn by the Norse, or even if all of them are meant to represent women.



Köpinge (left) and Grödinge (right) Sweden,
[Gabriel Hildebrand, SHM](#) 

Revninge, Fyn, Denmark
 (possibly a man)
 ([Archaeology](#))

Galgebakken, Denmark
 ([Natmus](#))

Some of the figurines appear to have pleats running toward the throat, while others have sleeves with perpendicular pleating. Furthermore, it is unclear whether these garments are serks, or dresses. The question of what type of serk was prevalent at Birka must therefore be left open.

An alternative interpretation

A radically different interpretation of the plain and pleated serks is suggested by Ewing (2006, p. 56-57) using contemporary literary sources.

He proposes that the serk could be a garment similar to the nursing robes illustrated in the ninth-century Italian 'Augsburg Gospel book'. These garments are loose robes that are open in front to below the breast and have no sleeves (although they are full enough to cover the upper arms).

Illustration: Ewing 2006, p 57

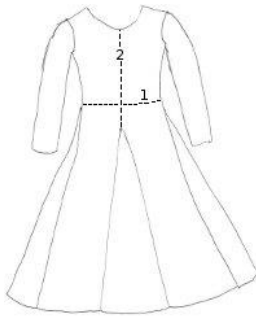


A pleated upper-class version of this garment would have a reduced fullness, making it necessary to add sleeves. The plain lower-class version would give a semblance of half-sleeves, giving more protection against the sun and weather than was afforded a slave, while still not being proper sleeves as worn by Moðir in Rígsþula (Ewing 2006, p. 56).

While this would explain why the few sleeve fragments at Birka are pleated, it is as mentioned above a very Birka-centric theory. The loose nursing robes in the gospel are unsuited for being worn under other garments, especially e.g. the shaped dresses and tunics from Haithabu. Nor do the theory account for the pleated serks probably being an imported garment, and thus belonging to a different clothing tradition than the plain serks used in Birka and the rest of the Nordic area.

The Haithabu material

Despite the rather large linen fragments ([S31 A-K](#)) preserved from the settlement, the Haithabu finds give little information about the shape of the serk. There is evidence of keyhole necklines (e.g. grave [188/1960](#)), although most graves did not contain a small brooch near the throat, indicating a different type of neckline. There is also a single find of a pleated serk (grave [5/1964](#)), 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.



It is however, likely that the plain Haithabu serk was created along a similar construction pattern as the tunics and dresses, whereof there are several preserved fragments. Some of these garments had wide, rounded necklines (fragment [H72C](#) and [H73](#)), others (fragment [H18](#)) show a more v-shaped opening. They had shoulder seams connecting the front and back of the garment, sharply curved armholes ([H72C](#) and [H73](#)) and fitted sleeves (fragment [H57](#)). The lower part of a tunic ([H55A](#)) also demonstrate the use of side, frontal and/or back gores to widen the circumference of the garment.

While the Haithabu serk probably had shoulder seams and fitted sleeves, we don't know how many pieces went into the construction of the body of the garment.

It may, like the tunics that [H55A](#) and [H18](#) belonged to, have been constructed as an upper part joined to a lower skirt by a seam along the waist (1). Additionally, there might have been a seam (2) running vertically down the middle of the front and back, as was also possibly the case for [H55A](#) and [H18](#). However, given the current evidence, it is equally likely that it was cut as two fairly simple, large pieces, joined at the shoulders and fitted around the arms. Given that it was an undergarment, it may have had only side gores, instead of gores in the sides, front and back.

The Pskov material

Although the oval brooches and smokkr was not the only garment worn by Viking women, it is believed to have been a unique Scandinavian garment, not worn by other cultures. Thus, whenever oval brooches are found, they are interpreted as signifying the Scandinavianness of the wearer, in addition to her social class and position (Jesch [2015](#), p. 95-97).

In the diaspora, it is assumed that they signify the Scandinavianness, or at least a Scandinavian affiliation, of the wearer, particularly in those contexts, such as England or Russia, where there were also indigenous inhabitants from whom the wearer might have wished to distinguish herself.

Jesch 2015, p. 96-97

Thus, while the clothing stored with the brooches may have been influenced by local fashion, it is likely to have had some Norse characteristics. As shown by the neckline fragment, the Pskov serk was pleated around the neck. The pleats may have run further down, similar to the Birka serks, but as only part of the neckline survives, this cannot be determined. The serk had long sleeves ending in silk cuffs. It may have had silk trim along the bottom.

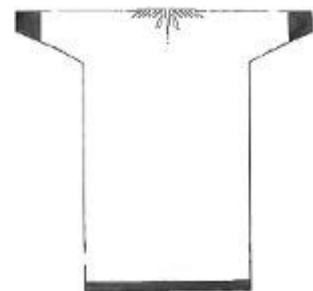


Illustration: Zubkova et. al. 2010, p. 298 (modified to show only the serk)

Unfortunately, aside from the neckline and sleeves there is no archaeological evidence for the shape of the Pskov serk. Zubkova et. al. (2010 p. 298) has sketched it as a basic, wide, garment, based on the shape of later Russian shifts, but has not added seams or information about the cut of the garment.

The Eura material

The only thing left of the underdress in [grave 56](#) was a few fragments of the sleeves. The evidence indicates that the sleeves were narrow at the wrists, widening slightly upwards, and were long, extending outside the bracelets on the hands. As there were no fragments left of the body of the undergarment, the shape and pattern of the dress remain unknown.



Lehtosalo-Hilander (1984, p. 51) suggests that the underdress may have been constructed along the same logic as a much earlier garment, a leather tunic from a Danish Iron Age bog find. Using this she constructs a pattern that permits the sleeves to be cut parallel with the warp (as in the find), and where very little material is wasted.

Illustration: Lehtosalo-Hilander 1984, p. 50

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 long side gores, extending to the wrists. The pattern can be laid out so that no fabric is wasted, and that the selvages end up at the end of the sleeves and the hem (Lehtosalo-Hilander 1984, p. 51).

Although the proposed pattern does not conflict with the evidence in grave 56, it is mostly built on speculation. This is a natural consequence of the tiny amount of evidence available in the grave and in similar graves. However, it means that the interpretation is not a good source for the Norse serk, especially given that the jewellery and preserved fabrics in grave 56 show that the other garments worn by the deceased woman were made according to a clothing tradition that differs significantly from the Norse.

Some thoughts on the length of the serk

The length of the serk cannot be determined solely from archaeological evidence. The metal artefacts preserving fabric are placed on the upper part of the body, and the furthest down that serk fragments have been found are on scissors lying at the hip (grave [791](#) at Birka). Some fragments that might be from the bottom of an overtunic (**6A** and **6B**) were recovered from Haithabu [harbour](#). However, as stray finds their identification is uncertain, and furthermore give little information regarding the length of whatever garment they belonged to.

Turning to the pictorial evidence, most of the figurines and picture stones are hard to interpret regarding what they are wearing, and whether it was meant to resemble clothing worn by living persons of the time.

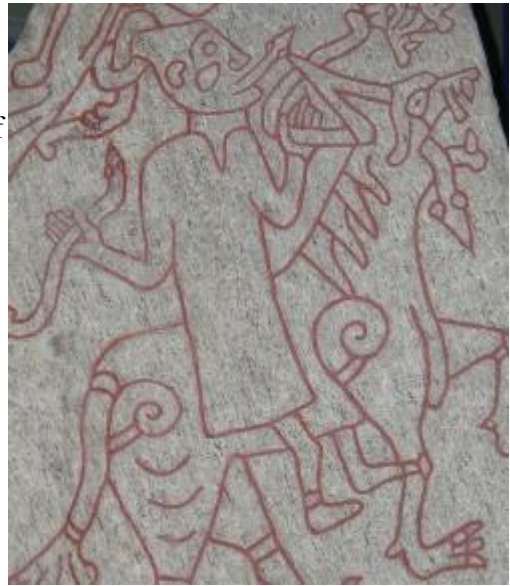
One depiction of what might be a serk is the carving on a rune stone in Hunnestad, Sweden, that shows the Jotun Hyrrokin riding a wolf with snakes for reins, on her way to the funeral of

Balder. She is wearing a simple garment with a keyhole neckline with a long slit, and long, narrow sleeves. The garment stops above her knees.

Illustration: Picture stone from Hunnestad ([Wikipedia](#)).

It is possible that Hyrrokin's serk (if that is what it is) is drawn as extra short to demonstrate the indecency of a Jotun. However, it may still reflect something that was worn in everyday life. Possibly a short serk (although perhaps slightly longer) was suitable for slaves or used as work-clothes for the free farmers (Ewing 2006, p. 43).

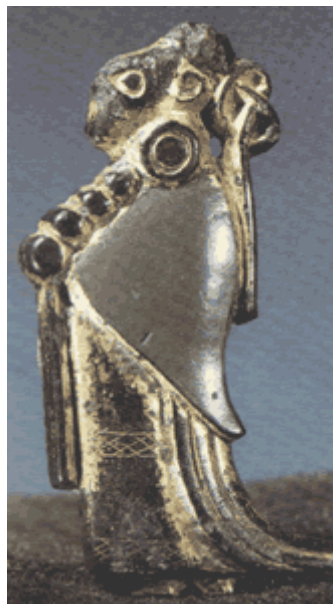
Although one should be very careful applying our modern day "common sense" to dress codes from the past, the temperatures in Scandinavia means that it is unlikely that all serks were short as the one worn by Hyrrokin.



The fragmentary figure of a woman on a picture stone from Låbro Stora Hammars in 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 (e.g. the picture stone from Alskog and the metal figurine from Tuna), 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 (Ewing 2006, p. 37)

What material was used?

The numerous graves with archaeological evidence for the serk, e.g. at [Birka](#) (Hägg 1974), [Haithabu](#) (Hägg 1991), [Pskov](#) (Zubkova et. al. 2010), [Hyrt](#) (Lukešová 2011), [Køstrup](#) (Rasmussen & Lønborg 1993), and [Adwick-le-street](#) (Speed & Walton Rogers 2003), all contain serk fragments identified as linen tabby. Unfortunately, while fibres from animals (wool, fur and hair) can easily be distinguished from plant fibres in general, it is very difficult to distinguish between different plant fibres like e.g. flax and hemp (Skoglund et. al. 2013, p. 2). This is why Geijer (1983, p. 87) chose to use the term Flax/Hemp for all the plant fibre textiles from Birka.

It was the difficulty involved in firmly distinguishing between the two bast species that led me to employ the cryptic designation FH (Flax/Hemp) in the original classification. Such finds were made in about forty-five graves.

Geijer 1983, p. 87

According to Skoglund et. al. (2013, p. 2), fragments made of plant fibres have often been identified as flax purely based on examinations with standard, white light, compound microscopy, something that is not enough to secure a proper identification. The tests required to distinguish between flax and other plant fibres are, however, destructive and thus cannot be used routinely on all finds (Lukešová et. al. 2017).

There is evidence for both flax and hemp being grown in Scandinavia during the Viking Age, although there is not conclusive proof that they were used for textile production instead of food or oil. Both fibres have also been found in fine textiles from Viking Age Scandinavia (Skoglund et. al. 2013 p. 1-2). However, an analysis of five serk finds from Western Norway, identifies all of them as being made of linen (flax). It is possible that this indicates a preference for using linen instead of hemp in serks, or that it is a reflection of what was available in the area (Lukešová et. al. 2017, p. 284).

Nine samples were identified as flax (*Linum usitatissimum* L.). One sample could only be identified as bast fibre. A recent investigation has shown that hemp has been used for fine textile production in Viking Age Scandinavia (Skoglund et al., 2013). The finds that we have examined stem largely from rich graves. Our results suggest that the preferred material for plant fibre clothes and accessories of high ranked people in Merovingian Period and Viking Age Western Norway is likely to have been flax. Hemp fibres can be as fine as flax fibres (Catling, Grayson, 1982; Wulfert, 1999), so fibre quality alone cannot explain this. The reasons may be related to material availability and local tradition. A full explanation will require a systematic investigation of all Merovingian Period and Viking Age textile finds preserved in Scandinavia.

Lukešová et. al. 2017, p. 284

One point to keep in mind is that all of the clearly identified serk fragments have been found together with oval brooches, a form of jewellery that is believed to have been worn by the social stratum of prosperous farmers (Lønborg 1999, p. 267, Jesch 2015, p. 97). It is possible that the less prosperous would have worn undergarments of wool instead of plant fibres (Hägg 1996, p. 13).

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 tuskaftsbindning.

Hägg 1996, p. 13

At the same time, an edict of Diocletian from the late Roman period lists coarse linen as cheaper than fine wool, leading Ewing (2006, p. 13) to argue that common farmers, and even

slaves, could have been using coarse linen undergarments. The lack of evidence from graves of the lower social strata, due to few or no metal artefacts that preserve textiles, means that there is no conclusive archaeological evidence for either theory.

Ewing (2006, p. 13) also mentions that people from Gotland and western Norway might have used less linen than the rest of Scandinavia, as the eleventh-century writer Adam of Bremen remarks that the Norwegians rely upon their flocks for their clothing. This is however, not reflected by the archaeological evidence in regard to serks. The serk fragments preserved along with the oval brooches in several graves from western Norway are all made of plant fibres (Ingstad 1999, Lukešová 2015, Lukešová et. al. 2017).

Dyes and other decoration

Most Viking Age textiles are different shades of brown when they are found. Chemical analysis is necessary to detect whether a fragment is dyed, and if so, determine what dye has been used. This procedure is used sparingly, as it is costly and destroys a tiny part of the textile. There is thus no systematic analysis mapping the frequency of dye appearing in Viking Age textiles.

What we know is that unlike wool, plant fibres like flax or hemp, are difficult to dye with most plant dyes and the colour fades quickly. The exception is woad (or indigo), a dye that do not penetrate the fibres, but paints their surface blue.

It is thus not surprising that most serk fragments appears to have been left undyed. There is a red serk fragment in grave [762](#) at Birka, but it has not been conclusively determined whether the colour is the result of dyeing or discoloration by metal salts from the nearby brooch (Hägg 1974, p. 16). The rest of the dyed serk fragments; grave [60A](#) at Birka (Hägg 1974, p. 14), the [Pskov](#) find (Zubkova et. al. 2010, p. 297), and grave [B 4864](#) at Hyrt (Lukešová 2011, p. 156), are blue. The two serks made from checkered linen also have a blue background, divided into checks by a single thread of a different colour (white in grave [27/1963](#), red in grave [159/1960](#), Hägg 1991, p. 212).

Dyed linen would probably have signaled wealth and status. The poem *Rígsþula* tells the story of the god Ríg's visit to mankind, describing three couples belonging to distinct social groups; thralls, free farmers, and a high-status couple. *Rígsþula* likely presents a simplified view of a more nuanced social stratification, but it is still interesting that it is the high-status woman (*Moðir*) that is explicitly mentioned wearing a blue serk (Ewing 2006, p. 41).

The blue linen serk at Pskov had been even further decorated with silk cuffs and silk strips that may have been sewn along the bottom hem (Zubkova et. al. 2010 p. 292, 294). It is, however, the only known example of a serk decorated in this manner.

My interpretation

When talking about reconstructions people mean different things. Is it a reconstruction only if the same measurements have been used, or can you adapt it to fit your own body better? What about using different fabric? Or a different dye? Must it be worn and torn in the same places as the original to be a proper reconstruction? Use the same stitches? Of course, when it comes

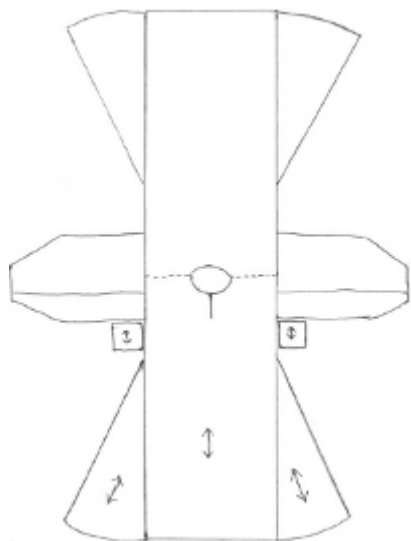
to the serk, the fragments are so small, that no matter which stance one takes, getting from the evidence to a wearable garment will involve a lot of guesswork.

All the practical issues aside, there is a larger one concerning how we reenactors and history nerds look as a group. If we all strive to our utmost to only copy exactly what is found, we will each of us be as historically correct as possible. Put us together however, and we will give the impression that the Vikings all wore uniforms. With that in mind, I study the evidence in order to understand the range of alternatives I have to play with, and then create my own garments inspired by the finds.

Based on the archaeological evidence I have chosen to use undyed linen tabby for almost all my serks. Some are of fine machine woven linen, that matches the thread count of some of the finer linen fabrics from the Viking Age, others of a coarser (but handwoven) linen. The single exception to the linen serks is a thin undyed woollen serk that I wear as the inmost layer at winter events. Also, after several years of trying to get mud out of the bottom of my serks, all of them have been cut to a length that reaches to my ankle-bones or right above them.

A serk inspired by the Birka evidence

Ewing (2006, p. 56-57) raises an interesting argument for wide robes without gores and sleeves. However, I believe that it rests too much on pictorial evidence and too little on archaeological finds. The cut of the Kragelund, Moselund and Skjoldehamn tunics show that gores were used by the Norse. It is reasonable to assume that they were also used in the serk, although the preserved serk fragments are too small to prove it.



Although Swedish folk costumes may be a less reliable source to medieval patterns than Hägg (1974, p. 24-25) presupposes, the pattern she chooses for the Birka serk is in principle the same as used for the Skjoldehamn and Kragelund tunics. Furthermore, it fits the limited archaeological evidence of serks from Birka; the upper and lower part of the serk is made from the same type of linen, the grain of the fabric ends up parallel to the length of the body, and there are long sleeves.

I have chosen to follow the basic, geometric type of pattern, suggested by Hägg (1974, p. 25), cutting the body as a single piece without shoulder seams and with straight armholes. As it is an undergarment, I use only side gores, but the total number of triangles that make up the side gores vary between two and four, depending on the layout I choose in each case to reduce waste.

Shape of sleeves: Very little is known of the shape of the sleeves. I decided on relatively narrow sleeves, as depicted on the picture stone from Hunnestad. When creating the pattern, I decided to build on extant tunic sleeves. Choosing between the tunics without shoulder seams or fitted sleeves, I decided to avoid the Skjoldehamn tunic (as it might be of Sami origin) and chose the sleeve from the Viborg tunic over the Kragelund tunic purely for aesthetic reasons.

Neckline: I chose a keyhole neckline, with narrow folded edges, whose use appears to have been well established at Birka. Out of the 52 graves where Hägg (1974) reports serk

fragments, 20 contain a small round brooch that probably was used to close the slit of such a neckline.

As mentioned above, the placement of the round brooch on the centre of the chest (when there are no oval brooches) may indicate that the slit in the keyhole neckline was relatively long. I have made both a serk with a relatively short slit in the keyhole neckline, for everyday wear, and one with a longer slit, for breast feeding.

When wearing a smokkr together with the serk with a long keyhole slit (closed with a brooch at the throat), the smokkr covered the opening sufficiently to keep me warm and preserve my

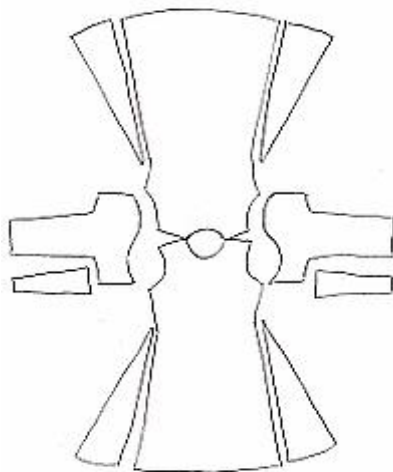
modesty. Whenever I needed to feed the baby, I just sat down, opened the oval brooches and pulled the smokkr down towards my stomach so that I could get at the opening in the serk.



The long slit in the serk can be closed with a brooch at the centre when not wearing a smokkr, although, it isn't quite closed enough for me to feel entirely comfortable (but then again, I have modern sensibilities to nudity). When the kids grew, I simply sewed the slit closed.

A serk inspired by the Haithabu evidence

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



Using fragment **H72C** and **H73** from the harbour as a point of departure, I decided to make a serk with shoulder seams, curved armholes, and an upper part shaped somewhat to my body.

I then had to choose whether I wanted to construct the body of the serk with a vertical seam running down the middle of the front and back. Fragment **H72C** and **H73** is torn here, and it cannot be determined whether it is because there originally was a seam, or the fabric has simply been torn. Alternatively, there could have been a seam at the waist, as with fragment **H55A**. As the evidence is inconclusive, and furthermore the serk is an undergarment, I chose the simplest pattern, where the body of the serk is made from two pieces, plus side gores.

Shape of sleeves: I made one serk where I used the same cut as the sleeve fragment (**H57**) from Haithabu harbour, including cutting the sleeve as two pieces instead of one. This proved to be challenging, as it is somewhat unlike a modern sleeve, but I finally managed to get the shape right.

I chose to place the sleeves so that the small sleeve piece runs along the outside of my arm, where it could have been placed as a patch on a sleeve that had been worn through at the elbow. However, it is uncertain from the evidence if the small sleeve piece was a patch, or if it was constructed as part of the sleeve from the start. The colour difference between the two pieces that was found indicate the former, while the fact that all seams have been sewn with similar thread indicate the latter.

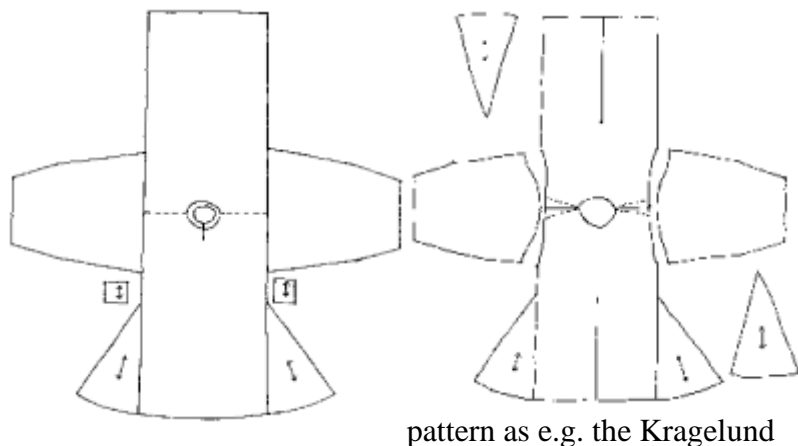
The serk is an undergarment and may have been partly shielded from wear and tear by a dress or tunic. Therefore, I have also chosen to make a Haithabu serk with a simplified sleeve made from one piece instead of two.

Neckline: Using fragment **H72C** and **H73** as a point of departure I chose a rounded neckline. A keyhole neckline is also possible, given the evidence, but I wanted to emphasize the difference between Birka, where the keyhole neckline was usual, and Haithabu where it appears to have been less in use.

Other reconstruction patterns

As demonstrated by the extant tunics, there is a wealth of possible variations over the two basic patterns used for the plain Birka and Haithabu serks. Two such variations are suggested by [Priest-Dorman](#).

The basic Birka serk pattern (leftmost) has a front and back panel cut in one piece, but may have different necklines. Triangular gores are added for additional width in the skirt area. Sleeves may taper towards the wrist as shown in the drawing, be formed as a straight rectangle with no tapering, or have a more complex (but still geometric) sleeves.



pattern as e.g. the Kragelund

Illustration: Priest-Dorman

The Haithabu serk differs from the Birka serk mainly by having rounded armholes for fitted sleeves and two-piece body construction with shoulder seams. This pattern uses a simplified version of the sleeves, and have a rounded neckline. Gores are used to widen the garment toward the bottom.

Step-by-step instructions for the basic geometric tunic or dress are provided by [Maggie Forest](#) and [Cynthia Virtue](#). Both can be used as a departure point for a Birka type serk or Haithabu serk.

The pleated tunic

There are several reconstructions the pleated serk, with different interpretations of the existing evidence.

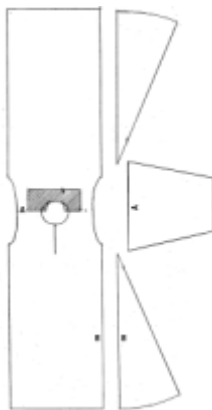
The Dacian-Slavic dresses considered to be a potential origin of the Birka serks by Hägg are first reconstructed by Florescu (1965, referred in Hägg 1974, p. 34).

His reconstruction (leftmost) suggests a simple rectangular, dress body, that is gathered towards the neck. The sleeves are sewn to the body along part of their length, and gores provide added width.



Illustration: Hägg 1974, p. 34 (leftmost), Rushworth 2005, p. 5 (rightmost)

Rushworth (2005, p. 5) proposes a variation (rightmost) of Florescu's pattern, suggesting that the longer sleeves of e.g. Birka would have needed gussets under the arm to function properly.



The reconstruction of [Historiska världar](#) combines elements seen in the Dacian-Slavic serk (pleats running along the arm) with elements seen in the Faltenkleid (pleats running towards the shoulders).

Illustration: Historiska världar

Their reconstruction consists of seven pieces that are sewn together and 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, to make the garment hang better, but state that there is no archaeological evidence for such an inner layer.

A very different approach is chosen by [Sara Heil Jensen](#). Her reconstruction is inspired by an Egyptian linen serk (3400-3100 BC), leading her to only pleat the upper (visible) part of the serk.

Photograph: [Archaeology](#) - Egyptian dress

The pleated part of Heil Jensen's reconstruction follows the same logic as the Faltenkleid. The pleats are running towards the shoulders, and the sleeves have pleats running across the arm instead of along it, conforming to the sleeve fragment found in grave [1062](#) at Birka (Hägg 1974, p. 17). No traces of a pleated piece sewn to a plain piece have been found within the oval brooches at Birka. However, the preserved fragments



are small, and the plain part of the serk would (if it existed) have been covered by the smokkr, making it less likely to come in contact with the brooches.

[Natalya Ganuzina](#) provides a pattern and step-by-step instructions for a serk with the pleats running in the same direction as seen in the Faltenkleid. Unlike Heil Jensen, she has chosen to pleat the entire length of the serk.



The body of the serk is constructed from two pieces of linen sewn together with a vertical seam running along the middle of the garment, similar to what was found at Pskov. The resulting slit was closed with a small round brooch when worn (similar to those found in many Birka graves).

Photograph: Ganuzina 2019

Two tapering sleeves and a couple of gores were sewn to the serk body, before the finished garment was pleated. The pleats were created by sewing small stitches horizontally through the garment and pulling it tight. The serk was then boiled in a decoction of linen seeds and water, and then dried. Afterwards, the stitching was removed. This pleating held up well with careful use but meant that the serk could not be washed without the entire pleating procedure needing to be repeated.

Finally, [Jenn Culler](#), has made a reconstruction that focuses on creating pleating that does not need an elaborate process each time the serk is washed.

She gathers the serk body towards the neck (as in the Dacian-Slavic type of serks), by using three threads that are left in the garment. The neckline is then stabilized with a linen band, creating a neckline similar to the one found at Pskov. The permanent pleats create creases that run further down the body, and that form anew after each washing.

Photograph: Culler 2018



The sleeves are significantly longer than the arm of the wearer. Pushing them up while the serk is worn creates creases across the arm (as was found in grave 1062 at Birka). The advantage of this type of creasing is that it reforms after washing without requiring a time-consuming process.

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