

Coat of Ships- Completed Norse Long coat

Lady Bryngeror Deotrichsdottir

Inspiration

This long coat is the culmination of several major projects for me in the SCA. The first is the embroidered ships adorning this coat, which were my first Kingdom AS entry and the largest embroidery project I have attempted to date. The second is the long coat itself which was drafted from the Haithabu tunic and is the second garment I have made with gores and gussets rather than a one-piece Scadian t-tunic pattern. Third the pattern I used to make each of the coats four layers was the first pattern that I have drafted completely independently.

The original inspiration of the project was from a book called, “The Age of Vikings”, which gave me the idea to try and recreate scaled images of different styles of long ship in embroidery. This idea resulted in the embroidered creations of Skuldelev 1, Skuldelev 2, and the Nydam Ship. The idea to apply the ships to a long coat when completed came about because I could not bear the thought of pieces that I had poured so many hours into sitting unused.

I did not have a vision for the long coat itself until several months ago, when I finally finished the Skuldelev 2 long ship. A few skills I attempted for the first time in the construction of the coat included: making a multi layered garment, embroidering runes, and sewing with silk.

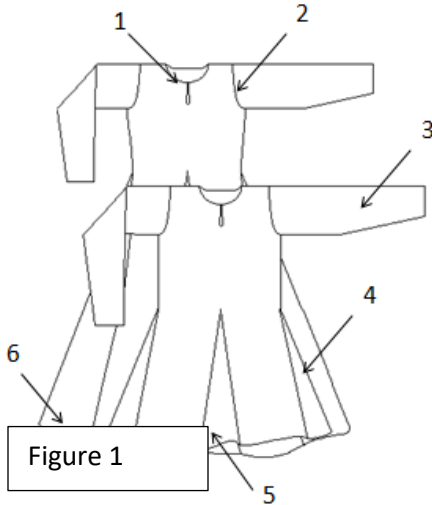
Total this project has been in the works for four years. The ships took the lions share of the time at three and a half years to complete (that time includes several breaks where I had no interest in working on the project) and the long coat itself which took approximately 20 hours to complete.

This is the first long coat that I have made.

Construction of the Long Coat

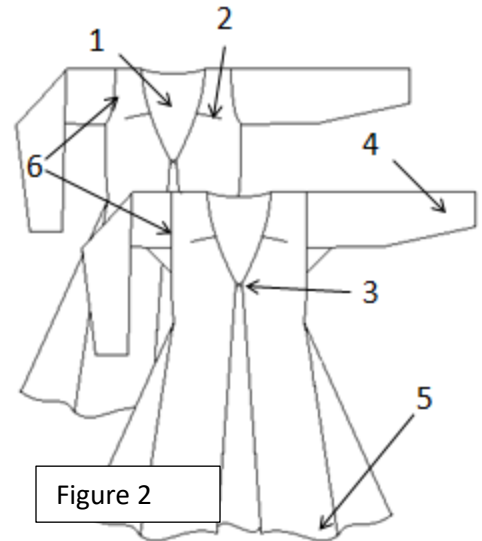
To pattern this coat, I used the Haithabu tunic, named because it is housed in the Haithabu Viking Museum which is near the site of Hedeby/Haithabu. The museum houses many finds from this town. To transform the tunic into a long coat, I cut open the front center of the tunic to make the front opening of the coat.

During the Viking age Hedeby was a major trading center located on the Jutland Peninsula, close to the border of modern-day Denmark and Germany. A large number of archeological finds have been made in and around the Hedeby site dating from the Viking Age. Including both of the Skuldelev ships that I based the embroidered long ships on. These ships were found in the Hedeby harbor



It is not known if the Haithabu tunic belonged to a man or a woman, however we do have evidence from finds in Birka that both genders would have worn closed tunics (Hägg 1986, 63-65, 69). An image of the Haithabu tunic is shown in Figure 1.

Although I was not aware of this before starting the long coat, there are extant finds from Birka of women's long



coats. See figure 2. The major difference between these finds and the long coat I created by add a cut up the front of the Haithabu tunic pattern, is that the Birka coats have a deeper and wider neckline. This neckline style causes the fabric to lay diagonally over tortoise broaches (Hägg 1974, 69-82). Other than the necklines, both the coats and the Haithabu tunic have similar sleeve construction, matching gore and gusset placement, and are thought to have been constructed in both longer and shorter variations.

Constructing the Long Coat

To construct the long coat, I cut out the pattern pieces for the two lining layers and assembled them, then repeated the process with the silk liner and the wool outer layer. Each layer is made up of nine pieces: the main rectangle which forms the body, two sleeves, four gores, and two gussets. The number of layers was determined by my consistent state of cold.

Once the wool outer layer was assembled, I appliqued the three ships and then silk serpents to the coat. The embroidered runes, done in younger futhark or long branch style runes, were applied with stem stitch in wool thread at this stage in construction (details regarding stem stitch are included in the documentation of the ship embroidery).

The runes surrounding merchant ship on the back of the coat read: Bryngeror Deotrichsdottir made this. These runes were chosen based on many translations of runestones from around Scandinavia, as well as runes graffitied in the Byzantine empire by members of the Varangian Guard. There are many examples in these finds of the creator stating that they made this item, an example from Constantinople read, "Halfdan was here". I chose to follow this practice and state my name and that I was the creator.

Both of the other ships are surrounded by words that I associate with warmth, the goal being to will this garment to be warm. These words of warmth are: fire, hearth, mead, fur, family, friends, love, sunshine, wool, home, dragons, and hug.

After the ships had been applied, I attached the four layers of the coat together with a running stitch around the collar and down the front of the coat. At this point, I placed the coat on a hanger and let gravity settle all the layers together for 24 hours. This was advice that I received from more experienced seamstresses prior to starting construction. Only after the hanging period did I even out the fabric at the bottom hem and stitch the layers together. With the binding stitch in place I then created a binding tape from more of the silk liner to enclose the raw edges.

Finally, I hemmed and bound the sleeve cuffs and sewed on the abalone buttons and button loops.

The Ship Embroidery

The inspiration for this project came from a reading of the book, “The Age of the Vikings” by Anders Winroth. The book includes a chapter of detailed research on the making and use of Viking ships. I wanted to showcase the differences in the design of these ships as they appeared before and during the Viking Age using embroidery as a medium. I started with my documentation, since this is the hardest area of AS for me. Then I got to begin creating my ships. The cargo ship took me roughly 10 hours to complete. The river ship took approximately 35 hours, due to the detail required on the shields. My last piece, the Skuldelev 2 war ship, took the longest to complete at roughly 60 hours; due to the fact that it involved stitching the sail and shields. The dugout canoe was the least labor-intensive piece at just an hour. Having pre-drawn scale images of each ship did reduce the time this project took. Eventually these three ships and the canoe will be appliqued onto a wool long coat; while this step is separate from the project I am presenting here, I am excited to showcase these ships on garb at a later date.

To make the bodies of the ships themselves, I used running, stem, and satin stitches. The sails are done in applique onto the base. The base fabric is linen, with the stitching done in pearl cotton. I chose to use cotton thread for the sake of cost. Period embroidery was usually wool thread over a linen or wool base. The sails on the cargo and later period war ship is also done in bleached linen. The shields on the rails of the two war ships are the devices of some of my friends in the SCA. This touch was personal, though in period shields would have been placed along these rails, I am unsure what if any ornamentation would have been on period shields.

The three ships depicted are each based on a Viking ship that has been excavated. The river ship is from the Nydam Bog and was built in 320 CE. The war ship is called Skuldelev 2 and was built around 1042 in Dublin Ireland. The cargo ship, called Skuldelev 1 was built around 1030 in Western Norway. This ship was repeatedly repaired with oak and pine during its life of use. Both of the Skuldelev ships were recovered during an underwater excavation. In this project each ship has been drawn to scale with 1 meter on the find matching .5 inch for my pieces. The shields are slightly out of scale, in order to clearly show the details of each device, according to my scale the shields are shown as being almost two meters across instead of the 1 ish meter across that they would have been in period.

I have mostly used secondary and tertiary resources to complete research for this project.

History of Stitches Used

Based on our current archeological evidence embroidery in the form of thread being stitched over fabric began in Scandinavia around the 9th century (Viking Embroidery Stitches and Motifs). Before this evidence suggests that prior to the 9th century decorative designs were done in wool thread on a linen base. Examples of this work include the Bayeux Tapestry as well as clothing finds from uncovered graves. In both forms' art took diverse and elaborate forms. Due to the extent of Norse trade routes ornamentation was influenced by numerous other cultures. The two most distinct areas of influence came from the West (represented mostly by finds at Bjerringhøj and Jorvík) and a style influenced by the lands to the east (represented by finds at Birka and Valsgärde). (Viking Embroidery Stitches and Motifs) Intact finds showing embroidery are rare around the world. Most pieces that have been found are partially intact making a full understanding of historical use difficult to define in absolute certainty.

The Western style was influenced by the Anglo-Normans. Largely fiber on fiber, these stitches are still used in modern times and include: chain stitch, couching stitch, and raised herringbone stitch. (Viking Embroidery Stitches and Motifs). Many existing examples of this style are shown in embroidered works with Christian influence. Silk used in this context would have to been imported from the east and would have been extremely expensive. Wool and linen would have been the most common embroidery materials for this region's embroidery.

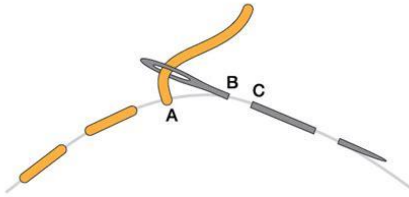
The Eastern style was influenced by Kievan Rus, Byzantine, and Slavic cultures. This style relied heavily on wire and thread over cloth for a decorative effect. This style was more focused on surface decoration than reinforcement of cloth. Motifs of animals and vegetation being very common in this style. Some finds also show ornaments involving masks.

Overall, the Norse used embroidery for both decoration and reinforcement of cloth. Use of color and the level of detail of embroidery could be used to show social status. Embroidery is a time-consuming task so those who could afford elaborate embroidery were wealthy. Many stitches were also used to reinforce clothing along the seams. This embroidery style would likely have been used by many social classes. As a result, much of Norse ornamentation is highly functional as well as beautiful.

Running Stich

Running stitch has been seen in ancient civilizations across the world, from as early as the Iron Age and has been found by archeologists throughout China, India, and Europe. Primarily used to reinforce seams an example of this stitch was found on a wool cushion in the Mammen grave site in Denmark (Viking Stitches and Motifs). Use of this stitch in Scandinavia is believed to pre-date the start of the Viking Age. Running stitch has high utility for reinforcing seams and thread is used very efficiently for this stitch.

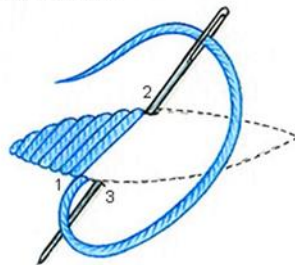
Running stitch



Satin Stitch

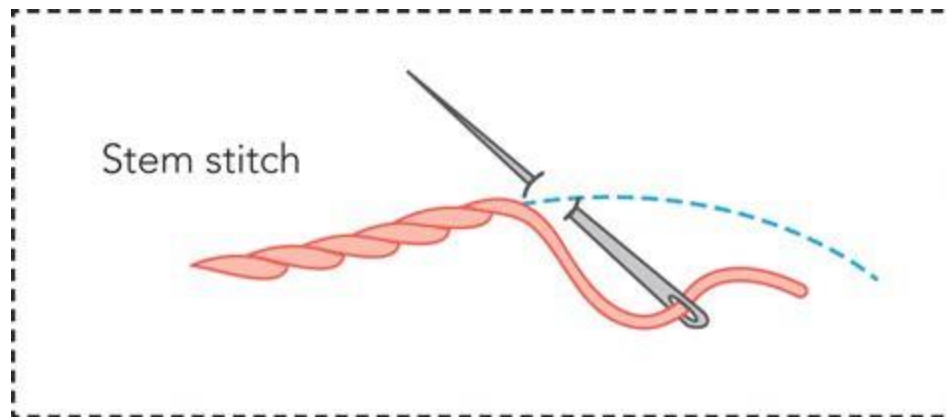
Satin stitch has been first seen in use in the Iron Age (1300BC- 600BC.) This stitch lies flat against the fabric and covers the base material. Later examples of satin stitch from between 5000 BC- 500 AD have been found alongside cross stitch in South America Egypt and China (History of Stitching). It is believed that satin stitch migrated from China to Europe via trade routes. Satin stitch is used as more of a decorative stitch, since it does not lend itself to reinforcing seams as readily as other stitches. Satin stitch best fills smaller spaces on designs. Short stitch lengths are needed to keep satin stitch flush with the fabric base, which helps keep the thread from catching and being torn.

Satin stitch



Stem stitch

Stem stitch serves diverse purposes, it can be used as both a reinforcement stitch for seams and can also be used as a filling stitch or outlining stitch. Probably best known for the large use of stem stitch of the Bayeux Tapestry, it has been found in five grave sites in Birka (Sweden) dating from the 10th century. These findings show the use of the stitch on men and women's clothing as a stitch used to reinforce seams (Viking Embroidery Stitches and Motifs). While a capable filling stitch, in the Birka finds at least, stem stitch was primarily used to reinforce seams and on the edges of applique. The find at the Mammen grave site showcases more use of stem stitch, both as an outlining and fill stitch. This find does not give a good idea of where embroidery would have been placed on Norse clothing (Embroidery from the 10th Century Viking Grave at Mammen Denmark).



Research on Shipbuilding and Evolution of Design

Ships were crucial to Norse society. Research has shown that ships are an important part of Norse burial rituals and were the foundation of expansive Norse trade routes. Advancements in the technology of ship building by the Norse allowed for the Viking age and the river, channel, and trans-oceanic travel that this time period is known for. As noted by Anders Winroth in his book, “Age of the Vikings”, “if the Norse has not become exquisite shipwrights there would have been no Vikings and no Viking Age.’ Research has also shown that ships from the late Viking age are different from ships in the early Viking age (Vikingskibs Museet). Earlier ships were primarily designed for travel on rivers and around the coast of fjords. Later ships were adapted for trans-oceanic travel, with adaptations including masts, deeper keels, and higher sides. All Norse ships are known for the strength, flexibility, and versatility.

Long ships were labor intensive and costly things to build. Based on archeological finds we know of several major ship types used by the Norse: early river ships, sea going long ships, and canoes. The term “long ship” that we often apply to Norse ships is the archeological definition ergo a ship utilizing both oars and sails, whose length is 5 times its width (Vikingskibs Museet).

The Building Process

Norse ships were built from several types of wood. The preferred type for the body of the ship was oak a strong but flexible wood. Oars and later masts were typically built from pine. Due to the importance of oak for ship building, the use of the word oak in Norse poetry can mean ship. Planks for these ships were not sawed but split, which maintained the wood grain and increased the strength of Norse ships while also leaving them very flexible. These planks were also easier to bend.

Prestige of chieftains would have relied in part on their ships and as a result praise of ships is common in Norse poetry. One of the largest sources of first-hand accounts we have of Norse ships come from skalds praising their master’s ships. Other firsthand accounts come largely from the accounts of monks; and while these sources note the speed of Norse ships, little further detail of the actual construction is given.

Any ship would have required an intense amount of resources to construct. In building a recreation of the Skuldelev 2, ship seating 60 rowers, it took roughly 1, 670-man hours, 150

cubic meters of oak, 7 months (assuming a master shipwright, his apprentices and plentiful unskilled labor to fell trees), 1300 hours for the nails and iron detail, 18 cubic meters of pine for tar, and time to weave ship rope and sail. The grand total almost 40,000 hours (The Age of the Vikings). While smaller ships would have required less time, it would still be significant.

Ships would typically have been named after animals. (The Age of Vikings)

River Ships

Early Norse ships were primarily used for river travel. Shallow drafts and the positioning of oars allowed for speedy travel in both deeper fjords and shallow rivers. These ships varied in length but a key characteristic is that these ships had no masts. A ship dating from 320 CE and found in Nydam was 23.5 meters long by 3.5 meters wide and could reach top speeds when propelled by 28 rowers. Based on archeological finds to date, these ships had a shallower draft and would have had a smaller distance between the freeboard (side of the ship) and the water. The lower freeboard would have kept these ships closer to the coasts to avoid harsh weather and large waves.

Sailing Ships

As the Viking age advanced so did the technology used by the Norse to build ships. While speedy, most less river ships with their shallow draft were not suitable for trans-oceanic voyages. Rough seas would overwhelm these ships and even strong crews cannot row across an entire sea. In order to address these shortcomings and expand the potential area for trade or raiding the draft of the ships was deepened and masts were added. Based on archeological finds, these ships first began to appear in the late 8th century. Although the Norse had been exposed to ships with sails before this time by the Romans, it is not until later that they adapted the square sails on their long ships. The year 800 CE is when archeologists first begin seeing ships under sail depicted on runestones. The oldest sailing ship that has been found to date is the Oseberg ship, built in Norway from about 815-820. The Oseberg ship has pine mast, less skillfully attached than later Norse sailing ships, and a moderate draft of 1.5 meters. The freeboard was also only moderate, which is less safe in windy weather. A recreation of this ship has been made, and while fast, it is dangerous to sail in windy weather or at speeds over 9 knots. Sailing ships were propelled by square sails, which both increased speeds, but were also the greatest liability on the ship. Headwinds are difficult for square sailed ships. Tacking can be used to address this, but it is a lot of work for a ship's crew.

Around 900, two different classes of Viking ships were being made, war ships which were sleek and narrower. As well as cargo ships that were shorter and broader. Both of these ship types were equipped with masts, which leaves them in a different class from the mast less river ships from before 800 CE.

Cargo ships were able to carry impressive loads, a find in the Hedeby harbor is thought to have been able to carry 60 metric tons, this ship is 35 meters in length and dates from 1025. A typical cargo ship is thought to be about 16 meters and could have carried around 24 tons. This ship

would have only needed a crew of 5-7 and oars on these cargo ships would have been used only for steering, not propulsion.

War ships of this time are what we most typically think of as a Viking long ship. These ships had sails but also had seats for as many as 80 rowers (on some of the largest ships). A find from the Hedeby harbor from 985 CE measures 35 meters long by 2.6 meters wide. It would have sat 60 rowers at 30 rowing pairs.

Canoes

Norse trade routes expanded from the British Isles across Russia and into the Byzantine empire and Orient. To access some areas on this route larger river and sea going long ships were not effective. In order to traverse rivers between the Baltic Sea and the Orient Norse traders would utilize canoes which were easier to portage between sailable rivers. Based on archeological findings the kind of canoes that Norse traders seemed to use. While I could not isolate one find to base this canoe on, multiple finds from Scandinavia as well as other parts of Europe suggest that Linden wood would have been used. The actual size of the canoe would be limited by the size of the tree, but an average size seems to be about 6 meters. The largest dugout canoe found was 12 meters, but trees of large enough size to make canoes like this would have been increasingly rare as the Viking age progressed.

Reflection on the Ship Embroidery

In making these four pieces, I had to study a wide variety of sources to create an accurate image. Going into the project I had no knowledge of Norse ships. In order to gain a baseline of knowledge, I focused primarily on sources from various museums and one book, "The Age of the Vikings", which combined research from dozens of sources. My research focused on excavated Norse ships, woods used to build them, and notable changes in styles from pre-Viking age through the height of this period.

In order to retain some area of focus for this project, I did not research specific techniques used to build Norse ships nor did I try to pursue specific instances that Norse ships are mentioned in first-hand sources. I could also have expanded my research on the labor and amount of raw materials that went into construction. Each process in shipbuilding from rendering tar to the forging of nails for ships could be researched in depth. I could also have delved further into the spiritual representations of ships used in Norse mythology and on Norse graves.

These ships are the most labor intensive and best documented project I have attempted. Usually I create something and realize halfway through that I cannot document it. I was determined to create something both beautiful and accurate to period with this project and in that I feel very accomplished. I learned how to do stem stitch in order to complete the ships and actively branched away from chain stitch which has been my go-to for other projects. At some point I would also be interested in trying the wool on linen embroidery that would have primarily been used in period.

While I am glad that I did not pursue all of these avenues for this project, I could have ideas for future projects. There are other elements of Norse life that could be depicted through embroidery.

Things I Learned Making the Long Coat

One of my first lessons was in purchasing the silk. The coat is completed in dupioni silk, but before I started, I hadn't known just how many different types of silk weaves existed, I previously knew of silk georgette. I was also surprised by how easy silk was to work with, I had expected a slippery monster like satin, but found silk to be much like light weight linen.

A second lesson I learned was that in order to set gussets properly, one must sew and set the two corners that sit on either side of the armpit before trying to close the side seam. Trying to set the whole seam at once results in a warping of the shape and placement of the gusset corners. This is an error especially present in the two liner layers of the long coat.

The third lesson was to let the coat hang for at least 24 hours before completing the bottom hem. I received this advice from three different seamstresses when I was asking about wool sources for this project. When the coat was hung up all four layers of the bottom hem were even, after I took the coat down the layers had shifted by 3-4 inches. The outermost layer had become the shortest and both lining layers had grown longer. Had I bound the bottom hem prior to the hanging time, the hem would have become uneven and bumpy after completion.

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