NALBINDNING

Fru Cristina Stolte (Anna Gustafsson)
Shire of Juneborg, Principality of Nordmark
Item entered: Research paper
1 Introduction..................................................................................................................... 2
2 Background ....................................................................................................................... 3
  2.1 Tools ............................................................................................................................. 3
  2.2 Classification ............................................................................................................. 4
  2.3 Archaeological finds ................................................................................................. 6
    2.3.1 Sock from Uppsala ............................................................................................. 6
    2.3.2 Sock from Söderköping .................................................................................... 7
    2.3.3 Mitten from Åsle ............................................................................................... 7
    2.3.4 Other finds from Sweden .................................................................................. 8
    2.3.5 Sock from York ................................................................................................. 8
    2.3.6 Finds in Finland .................................................................................................. 9
    2.3.7 Other finds outside of Sweden .......................................................................... 10
3 Conclusions ..................................................................................................................... 11
4 Sources ........................................................................................................................... 12
1 Introduction

I’ve seen an increasingly popular trend in Nordmark for nalbinding. The most popular item for nalbinding seems to be mittens closely followed by socks. Although you often see these items displayed, worn and for sale, they are rarely entered in Art and Science competitions with documentations. This research paper is an effort to broaden the subject with documentation both on the historical examples we have today and the classifications system used to identify the different stitches.

The intention of this research paper is not to show the how-to. The reader is expected to have some basic knowledge on how to do nalbinding.

Since I live in Sweden and have more access to books written in Swedish this research paper will focus on nalbinding mentioned in Swedish literature. Using the Internet sources that I’m aware of I have tried to broaden the study to also include examples outside Sweden.

I will not spend any part of this research paper on recreating the design of the nalbinding pieces found. I feel this will take up to much time and space and will probably fit better in with a documentation for a specific piece. I have merely stated the stitch being used in the different pieces.

Several words are used to describe this technique. I use the word nalbinding as an international word. Anne Marie Haymes (2007) has done an extensive compilation of different names used both historical and today that is worth checking out if devolving further into this technique.
2 Background

Nalbinding is made using a piece of yarn to make loops that intertwine on to each other. The left hand thumb is often used to make these loops and a needle is used to clutch the loops to each other. The loops clutch on to one or several of the earlier loops and the yarn will take the form of a strand. Just as in crochet or knitting one row of loops will attach to the next row thus forming a piece of textile. Since a finite piece of yarn is used, and not the whole hank, the yarn will need to be joined together with the next piece. This is done by felting the two yarn ends together between your hands.

In Scandinavia knitting was first used in the 17\textsuperscript{th} century and nalbinding was the technique used before that for making such textiles as mittens and socks. It was widely spread and personal as well as local varieties of the technique were often found through out the country. The earliest finds of nalbinding in Scandinavia is from the Viking age. (Rothquist Ericsson et al, 2003)

A sock found in York, Great Britain, is one of the few finds of nalbinding outside the Northern countries. Crowfoot et al (2001) suggest that nalbinding was not common outside of Scandinavia in contrast to the Scandinavian countries were the craft flourished well into the 19\textsuperscript{th} century.

2.1 Tools

A needle along with yarn is needed for nalbinding. The yarn is almost always wool which is easy to felt thus serving two purposes. One is that it eliminates the need for knots when changing the piece of yarn used. Instead the two yarn ends are felted together. The second purpose it that the finished product can be felted for a bigger thickness and longer durability. The wool can be both S-plied and Z-plied depending of the technique used to make the stitch. Depending on which hand is used and from which direction the stitch is made the yarn may un-ply. Some sources speak of nalbinding done in silk and linen but I have no further information on that.

Several archaeological excavations have finds of nalbinding needles. Two needles were found in an excavation in Uppsala, Sweden.

![Figur 1 Needles from Uppsala, bone and wood](image)
The needles are approximately 8 and 10 cm long, the short one made of bone and the long one made of wood. (Franzén 1963) In excavations in Stockholm three needles made of bone, that are similar to the ones found in Uppsala, have been found and assumed to be some sort of tool used for picking up patterns in weaving. I disagree with this assumption and believe that they are needles used for nalbinding as they are very similar in shape to other finds. The needles are also very smooth and even, a result one gets from using a needle for nalbinding. The natural grease from the wool give the needle a polished look after extensive nalbinding, using a needle for weaving will not give it the same polished look. (Dahlbäck, 1982)

Literature seldom tells us what kind of bone or wood the needles are made of. One exception to that is the finds from Uppsala. The bone needle found there is made from the fibula of a hog. One can assume that the wood used for needle would be a hard type of wood such as oak. (Ehn & Helmer Gustafsson, 1984)

### 2.2 Classification

Due to the different stitches found in nalbinding finds there has always been a need for a classification system to tell the different stitches apart. There are currently three major classification systems where one of them, Hansen, seems to be the most common for nalbinders today.

Margrethe Hald developed the first system in the 1950s that can be seen in her book *Ancient Danish textiles from bogs and burials* (1980). This system uses roman numerals combined with lower case letters, i.e. IIa, which refers to different diagrams. Thus both the number and the diagram are needed to understand the stitch being used.

The second system was developed by Odd Nordland (1961). He uses a number followed by a superscript number, i.e. 4\(^1\)\(^2\). In case of systems that don’t have a superscript you may see his classification written with an apostrophe or a space before the superscript. Nordland used a mathematical approach to the classification and felt that all the stitches were constructed with a continuous coiling that could be dived into four quarters that were all the same. Therefore you need only to describe one. The second number refers to the changes in pattern from over to under
or under to over within what he calls quadrant A. The problem here is that not all nalbinding follows continuous coiling thus making it impossible to describe all stitches with this system. Egon Hansen developed the system that seems to be the most commonly used today. Rejecting both Halbs and Nordlands systems in his article *Nålebinding: definition and description* (Hansen, 1990) he developed a system based on the course the needle and the thread take through the loops already made. A U represents the needle and thread going under the loop and O represents going over the loop. The passage through the innermost loop is indicated with a /.

For example the stitch described by Hald as IIa and Nordland as 412 will by Hansen be described as UO/UOO.

![Figur 3 UO/UOO stitch described with Hansen's classification system.](image)

When doing nalbinding rows will have to connect with each other to form a solid piece of textile. The simplest way of doing this is letting the needle pass either from the front or the back of a previous loop. In most cases this could be described using F (front) or B (back) together with a number representing the number of loops the needle passes through, i.e. UO/UOO F1. Sometimes a more complicated stitch is made, such as the Åsle stitch, were the needle passes through loops that are not next to each other. This will be described as F1+1, if the loops are next to each other and passed through from the front the stitch will be described as F2. (Hansen, 1990)

The problem with Hansen’s classification system is that when working the stitches on your thumb the O’s might feel as going under and the U’s might feel as going over due to the fact that
2.3 Archaeological finds

There has been a number of archaeological finds that has been identified as nalbinding. Finds from Sweden are primarily dated to the 13th and 14th century. Nalbinding from the Viking Age has been found on Iceland and in Finland as well as York, Great Britain. (Nockert & Possnert, 2002)

2.3.1 Sock from Uppsala

During the autumn in 1961 an excavation took place in Uppsala, Sweden. Among some leather scraps, later identified as shoes, a sock was found. The technique in which the sock was made was early identified as nalbinding. The sock is constructed in three parts, the heel makes up one part, the rest of the leather uppers one part and finally the stalk. The length of the sock is 21 cm and it is shaped like a low boot. It also has a slit down the stalk. Due to the small size it’s believed to be a woman’s sock. The sock is very well made and was probably very striking in its colour. Today the sock has adopted a light brown colour with a contrasting decorative stitch along the opening of the stalk in dark wool. Its original colour may have been white with a black decorative stitch but it may also have been coloured. Since it hasn’t been possible to do an analysis of the original
colour it can not be determined with any certainty. The stitch is UOO/UUOO F1 using Hansen’s classifications system.

The sock is in its shape reminding of common archaeological finds of shoes in Sweden, for example shoes found in Lund. This type of shoe is also depicted in medieval pictorial sources. When the sock was found there was also a number of medieval shoe remnants found in the same area. 70 to 80 % of the shoe remnants where found in beddings dated to the late medieval ages and it is believed likely that the sock can be dated to this period as well. (Franzén, 1963)

Another piece of textile was also found in Uppsala, but the textile is so small that it’s impossible to determine the original use. It has been identified as nalbinding from the late 14th century. (Ehn & Helmer Gustafsson, 1984)

### 2.3.2 Sock from Söderköping

Another sock was found in Söderköping in Sweden around the same time as the Uppsala sock was found. Franzén writes very little about this sock. It’s courser and less elegant than the previous mentioned sock. Due to strong felting it’s impossible to determine what type of nalbinding that was used and how the sock is constructed. It is roughly dated to the Middle Ages. (Franzén, 1963)

### 2.3.3 Mitten from Åsle

Another archaeological find of nalbinding from the middle ages was found in a bog in Åsle, in southern Sweden, 1918. It is a left hand mitten, 27 cm long, nalbound in a course wool yarn. The
wool was probably uncoloured. Around the brim of the mitten there is a simple fringe of red (coloured with madder), green and uncoloured wool yarn. The first analysis of the remains of the peat inside the mitten dated the mitten to 300 – 400 years A.D. and was thought to be the earliest example of nalbinding. A carbon 14 dating was made in the late 90ties and the mitten is now dated to time between 1510 and 1640. This new dating made it possible to only date nalbinding in the Northern countries as early as the Viking age. (Nockert & Possnert, 2002) The mitten is nalbound with a fairly complicated stitch, U (U) O/U O:U OO F1+1. (Haymes, 2007)

2.3.4 Other finds from Sweden

Other finds of nalbinding pieces has been made in Sweden but I have very little information on those. Hald (1980) mentions a mitten found in Lund. The mitten was found in beddings older than the 15th century.

2.3.5 Sock from York

This sock, found in York, Great Britain, is sometimes referred to as the Coppergate sock from the area that it was found. The sock is mentioned by Penelope Walton in NESAT 3 and is thought of to be the earliest example of nalbinding outside Scandinavia, dated to the mid 10th century. Not much remains of the sock but the likeness to the Uppsala sock suggests a similar construction. The wool in the sock may be un-dyed and a band of madder-dyed wool has been identified in the ankle part.
According to Hansen’s classification the socks stitch is UU/OOO F2, also referred to as the York stitch. (Walton, 1990)

2.3.6 Finds in Finland

Satu Hovi (2007) mentions several different archaeological finds of nalbinding in Finland. The first one is the Eura mitten found in the cemetery of Luistari in Eura, west coast Finland. Pieces of nalbinding were found in a woman’s grave and since the pieces weren’t part of the dress they were identified as parts of a mitten. The yarn used in the mitten is of three different colours, blue, red and yellow but the yarn has not been colour-analyzed thus making it impossible to tell how they were coloured. The stitch most likely used for the mitten is UUOO/UUOOO F1 or B1 + F1. Surprisingly both fastening methods, F1 and B1 + F1, have been used in this multicoloured mitten. The grave in which the mitten was found has been dated to 1025 – 1050 AD based on one of the coins hanging from the woman’s necklace.

The second find that Hovi mentions is a mitten found in a man’s grave in the Tuukkala cemetery in Mikkeli, dated to 1200 – 1300 AD. A thick piece was found sewn with the UUOO/UUOOO stitch. The fastening method was made using two loops from the previous row but Hovi doesn’t mention if it was F2 or B2. The mitten is made with white or light coloured wool and it has traces of coloured embroidery on the (supposed) back. The embroidery was made with loop stitch and cross stitch. This type of advanced embroidery has not been found on any of the nalbinding pieces in Sweden.

Another mitten was also found in the Tuukkala cemetery. This time in a woman’s grave dated to the 13th century. This mitten is also made in white or light coloured, perhaps yellow, wool using the UUUOO/UUOOOO stitch with the fastening method using two loops from the previous row.
The mitten was felted before it too was decorated with embroideries. This time the embroidery is on the arm end and much simpler then on the male mitten. The embroidery is made in two colours, probably blue and red.

The third find is from a woman’s grave in the Kekomäki cemetery in Kaukola, eastern Finland. The grave is dated to around 1200 AD and the nalbinding piece is believed by some to be a sock due to the kind of looping which can be found in 19th century socks. Others believe it is a mitten due to its placing in the grave, at the waist, were mittens usually are located in grave findings. The piece is made in very thin yarn coloured in white or yellow, red or brown and blue, one line in each colour. The stitch used is Hansen’s UOO/UUOO with one loop taken from the middle of the previous loop line thus making the line very low, possible F +1. It is very slow work making this mitten due to the low lines.

Hovi shortly mentions several other finds as well. All of them are small finds believed to be mittens found in graves and dated to 11th and 12th century. The pieces identified are made both with Z-spun and S-spun wool, all in white or light colours.

### 2.3.7 Other finds outside of Sweden

Franzén (1963) mentions other findings of nalbinding pieces. Two mittens were found on Iceland, possibly dated to 900 AD. There have also been findings of mittens from Copenhagen and Oslo, most of them probably from the Middle Ages. One exception to these finds is a textile piece found in Mammen, Denmark which is dated to 900 AD. This piece had probably been some sort of decoration for the hair and is decorated with both tablet weaving and nalbinding done in gold thread. Some believe that this is an imported piece but I have seen no evidence of this so far. Never the less it is an interesting use of the nalbinding technique.
3 Conclusions

Archaeological findings tell us that nalbinding was a technique used both in the Viking Ages and the Middle Ages. The technique seems to be popular in the Northern countries but was probably not as well known outside Scandinavia. Only those places that had contact with the Vikings, such as York, were introduced to the nalbinding technique.

The stitch being used in nalbinding varies almost with every find thus making is possible to use any kind of nalbinding stitch when making for example a mitten. This variation in stitches continued to be common in Sweden well into the 19th century were variations on the stitches could be found in villages and other remote places in the countryside. This further concludes the use of local variations within the technique.

Although the archaeological findings we have to day mostly consist of mittens and socks the technique was used for both caps and milk-sieves in Sweden during the 18th and 19th century. One may speculate if this wasn’t also used in the Viking and Middle Age as a compliment to weaving. Nalbinding is a fairly simple technique that doesn’t require the same amount of space or tools as weaving does. Knitting was not introduced to the Northern countries until the 17th century and although it was a much faster technique than nalbinding it didn’t totally replace the old technique. Nalbinding mittens were especially popular among the lumbermen throughout the 18th and 19th century.

Several examples both in Finland and Sweden use coloured wool, both as a single coloured piece or as a striped. A fringe may also be used to decorate. Finnish examples of nalbinding show us that one may also further decorate the textile with embroidery.
4 Sources


