What is Needlelace?



The modern and currently accepted definition of needlelace, also referred to as needlepoint lace, refers to any variety of openwork lace created with a single thread and needle where individual stitches are built up to create the design and pattern[1]. This type of lace is distinct from bobbin lace, where many threads weighted with bobbins are braided and interwoven into a variety of patterns. Both types of lace were very popular in the 16th century, developing almost concurrently.[2] The history of lace is complicated and varied, and the distinction between needlelace and bobbin lace is the only firm boundary that can be drawn, due to the radically different methodologies.

Within the overall definition of needlelace there are many different types. I have elected to title this piece a 'needlelace' handkerchief, without being more specific, because it features a variety of needlelace motifs which generally fall into two types, Drawnwork and Reticello.

Extreme detail of needlelace fragment, showing build-up of individual stitches.
Fragment, 16th century. National Gallery Victoria, Australia.[3]

Drawnwork

Drawnwork embroidery can be dated back to coptic egypt,[4] and refers to any embroidery style which involves the removal or drawing aside of threads.[5] With its openwork patterns, drawnwork is considered by some to be the bridge between embroidery and lace. Consequently it can be classified as a needlelace, and is often included in many historical reviews of lace. Drawnwork as an overreaching category encompases many unique styles of varying levels of complexity, but the more complicated varieties which can be more firmly identified as needlelace became popular in the sixteenth century.



Detail of Bands of Drawnwork from a 1630 -1700s Sampler.
Montacute House, Somerset. UK National Trust.[6]

[1] *Textile Production in Europe: Lace, 1600–1800,* Watt.
[2] *Lace: The Elegant Web*, Montupet, pg 15
[3] https://www.ngv.vic.gov.au/explore/collection/work/44121/
[4] *Seven Centuries of Lace*, Pollen, pg 22
[5] *The Priscilla Drawn Work Book*, Mahaffy, pg 6
[6] http://www.nationaltrustcollections.org.uk/object/597699

Drawnwork examples prior to the advent of linen thread are rare, mostly owing to the fragility of the resulting fabric and the materials involved.[7] Therefore most of the extant examples we have of drawnwork are from later periods, and most often done on linen fabric with a matching linen thread. The Victoria and Albert Museum describes the aesthetic appeal of whitework embroidery to be in the texture of the piece.[8] Without bright colors to attract the eye there must something else to catch interest and drawnwork does this by pulling threads from the linen fabric to create a void.[9] Patterns are constrained by the voids left by the drawn threads, so drawnwork is usually composed of a band of fabric where either the warp or weft threads are removed and the remainder decorated with a repeating motif.

Reticello

Reticello is a term used to describe a particular type of transitional needlelace which began in Italy and spread throughout Europe. Prior embroideries might have featured either cutwork, the creation of holes secured with button stitch, or drawnwork, but reticello was unique in that the threads were both drawn and cut. [10] This provided a grid like support of voided squares which would then be filled by patterns of threads thrown across the squares, sometimes decorated with picots, or areas filled with close buttonhole stitch. [11] Earlier patterns are very geometric, constrained by the grid of squares voided in the ground fabric. Over time the voided squares became bigger, and the decorative infill less geometric. Eventually the ground cloth was abandoned entirely,[12] and the supporting squares were made by pinning down threads to form the necessary base to be worked upon, and the final piece inserted into the fabric it was to decorate. It was a short hop from there to true *punto in aria*, or point lace made "in the air"[13]

Reticello and similar cut-work laces were popular throughout Europe in the late 16th century; however they were primarily Italian in origin. The word Reticella is Italian for "little net" and the earliest record which contains a mention of it is a 1493 Sforza inventory including 'redexela' which is a local variant of the word.[14] Venice was a particularly vibrant center of the art, with nearly half the pattern books for lace making, embroidery and other textile arts produced and distributed throughout Europe in the latter half of the 16th century coming from Venetian sources.[15]



Strip of Reticello Needlelace, 16th Century.
Metropolitan Museum of Art[16]

[7] *The Open Canvas,* Ambuter, pg 106
[8] *Samplers, Stitches, and Techniques.* Victoria and Albert Museum, Online Article, 2016
[9] *Old Italian Lace,* Ricci, *pg 13*
[10] *Old Italian Lace,* Ricci, *pg 13*
[11] T*he Queen Lace Book*, pg 9
[12] *Needle-Made Laces and Net Embroideries,* Preston, pg 16
[13] *Needle-Made Laces and Net Embroideries,* Preston, pg 10
[14] *A Technical History of the Manufacture of Venetian Lace*, Gheltof, pg 16
[15] *A Technical History of the Manufacture of Venetian Lace*, Gheltof, pg 179
[16] http://www.metmuseum.org/collection/the-collection-online/search/220829

Intended Setting of This Piece

Needlelace items of all types were considered luxury items, and were worn as decorative elements on the clothing and accessories of the rich and powerful of both sexes[17]. Aside from the mentions above of the powerful Sforza, intricately decorated items such as handkerchiefs and gloves were commonly sought after as far away as the Elizabethan courts of England.[18] Portraiture from the period often shows the distinctive geometric design of reticello on cuffs and collars[19] and extant examples show it adorning tablecloths, headwear, pillowcases, and even swaddling bands for infants.[20]

Perhaps no better argument can be made for the status and value of lace than the fact that it was considered fine enough to gift royalty. In 1600 Arabella Stuart gifted Queen Elizabeth with a New Year's gift of a "scarf or head veil" made of cutwork embroidery. Despite having received over sixty other embroidered items, Queen Elizabeth is said to have taken 'an especial liking' to this piece.[21]Another good example is the fact that in Venice, one of the centers of lace production, young venitian noblemen were forbidden from wearing lace until they took their seat in the Venetian council[22]. In fact many european countries had special sumptuary laws created to check the extravagant spending of the wealthy on lace[23]

This was especially true of France during the reign of Catherine De Medici, whose fervor for needlelace kicked off quite the fashion. Her lifetime can almost be called the height of the needlelace age in medieval europe as she imported reticello and other needlelaces with her from Italy to France. [24] She not only set the fashion, but was an avid consumer herself. It is recorded that she had bed draperies created from squares of lacis (a type of drawnwork needlelace), and she also was the patron and sponsor of Federico Vinciolo, a Venetian creator of pattern books for lace. At her behest he also published one specifically for the ladies of the French court.[25]



Portrait miniature of Catherine de Medici by François Clouet, c. 1555. Victoria and Albert Museum, England[26]

[17] The lace book, pg 65
[18] *English Embroidery of the Late Tudor and Stuart Eras, Watt*
[19] *The Embroiderer's Story: Needlework From the Renaissance to the Present Day*, Beck, pg 12
[20] http://collections.vam.ac.uk/item/O38154/swaddling-band-unknown/
[21] *The Embroiderer's Story: Needlework From the Renaissance to the Present Day*, Beck, 11-12
[22] Lace the elegant web. Pg 31
[23] Needlemade laces and embroideries, doris preston, pg 18
[24] Needlemade laces and embroideries, doris preston, pg 18
[25] History of Lace, Palliser, pg 17
[26] http://collections.vam.ac.uk/item/O74841/

Catherine de Medici's patronage of needlelace was also instrumental in the concept of lace being a fine embroidery for fine lady-like hands. Vinciolo himself described the art as "the invention of a goddess and the occupation of a queen.[27]" And this was clearly the attitude of Catherine's court. Her ladies seemed to be in constant production of squares of needlelace, as inventories of her coffers show, at one point, 381 completed yet unmounted squares, and at another time 538 squares. [28] During her time it was considered the vocation of the nobly born and well bred, and this attitude extended to noble ladies who took up residence in nunneries.[29] There are many extant eclisiastical items, such as albs[30], alter covers, and chalice veils[31], which feature needlelace and give it the imprintor of not only a noble item, but a holy one.

With the variety of needlelace featured on this handkerchief, it would be a status symbol which would most commonly be seen in the courts of europe. It would also be carried by someone who was either rich enough to afford the expensive hand made lace, or with lady-like leisure enough to create it themselves. And although needlelace was popular throughout the 1500s and well through the end of what is considered SCA period, several of the extant needlelace examples upon which this piece is based come from the very end of the 16th and the early part of the 17th century. Therefore that is also the time period wherein I would place this piece. It would not be out of place in any noble court of Europe anywhere in the 50 year period starting from around 1590 through 1640.



A fine handkerchief for a fine lady

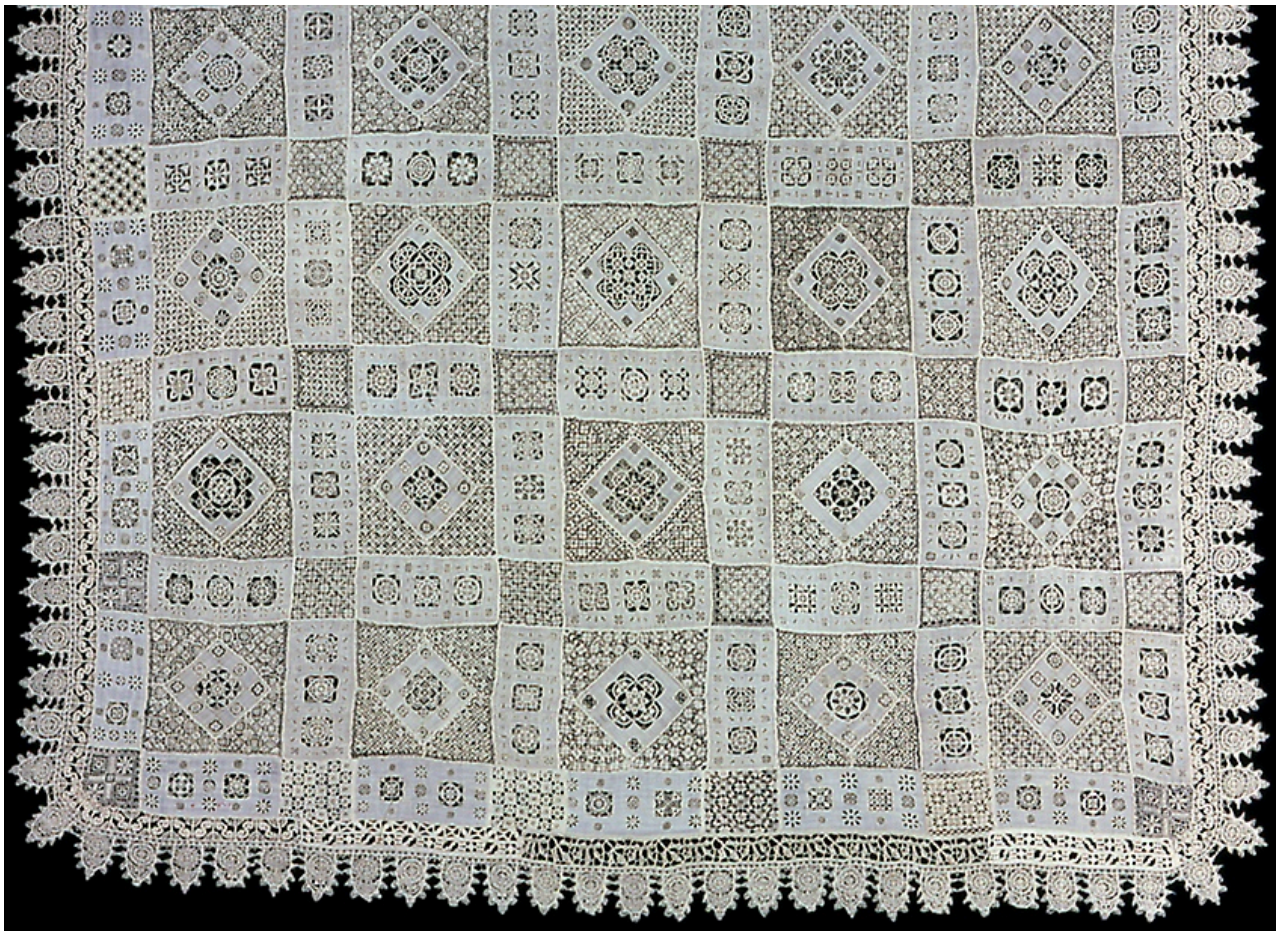
[27] *Lace: The Elegant Web*, Montupet, pg 145
[28] *Embroidery and Lace: Their Manufacture and History…*, Lefebure, pg 181
[29] *History of Lace*, Palliser, pg 11
[30] *Seven Centuries of Lace*, Pollen, pg 78
[31] *Seven Centuries of Lace*, Pollen, pg 102

Inspirations for This Piece

For this piece I have drawn motifs from a wide variety of extant examples which will be shown in line with the item creation documentation. However I would like to share here a couple of notes regarding needlelaces which are particularly applicable to this piece.

The first of these is that it is not unusual to see extant pieces of lacework which employ a variety of motifs and methods. One of my favorite pieces at the Chicago Museum of Art, pictured below, has the following description:

> *"Squares and rectangles of: linen, plain weave; cut and drawn work embroidered in back, hem, overcast, square open work stitches and needle lace fillings; and squares of linen, knotted square netting embroidered in cloth, darning, and interlocking lace stitches; darned and overcast bars, darned points and squares, and darned and woven wheels; edged with linen, bobbin lace; linen, plain weave cut work with needle lace fillings, and points of linen, needle lace worked on a cut and drawn thread grid"*



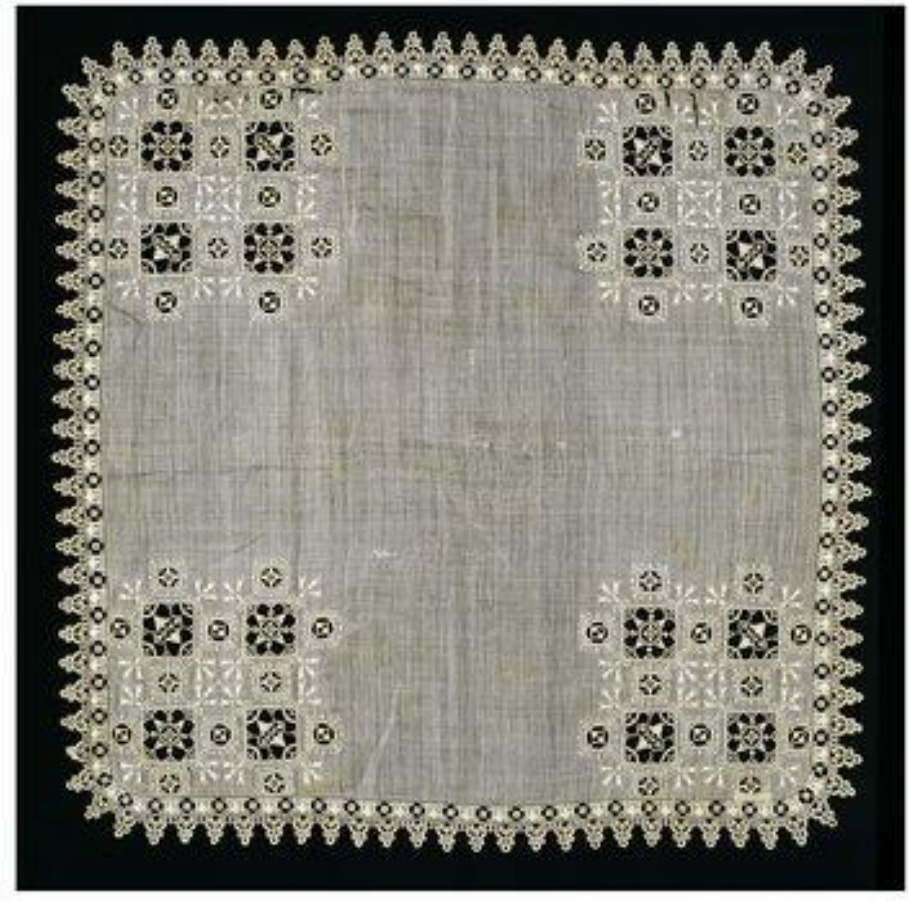
Italian cover, made 1601-1625. Cleveland Museum of Art[32]

[32] https://www.artic.edu/artworks/54111/cover

This piece includes almost every type of lace and openwork that existed at the time, including different varieties of drawnwork, needlelace, and even bobbin lace. If you look at the different motifs, it is also clear that different patterns are used. All of the squares utilize different designs, and even a single side of the border shows two or three different patterns.

This brings me to my second point, about symmetry. Modernly, we are very used to symmetry. For example, the normal instinct when creating something like a handkerchief would be to have all the borders the same pattern, and all the corners the same pattern. In period, this was not always the case. Many extant pieces, like the one above, seem to try to cram as many different patterns and motifs as possible into a single piece. Considering lace was a luxury item, this makes a certain sort of sense. If you can only afford one table cover, you want it to exhibit your wealth in the most extravagant fashion possible.

There are extant pieces that have symmetry to them,[33] but it was by far not a hard and fast rule. For my piece, I took inspiration from the following handkerchief currently housed at the Victoria & Albert Museum:



Needlelace Handkerchief, Made around 1600. Victoria & Albert Museum[34]

[33] http://collections.vam.ac.uk/item/O294441/border/
[34] http://collections.vam.ac.uk/item/O85005/handkerchief-unknown/

I think this strikes a good balance between ‘show as much as you can’ and a more modern sense of symmetry. While there are different motifs, they are limited in number and balanced against each other. There is clearly a rhyme and reason to which motif goes where. As such, I decided that my bands of drawnwork would mirror each other across the handkerchief, and I would do only two designs of reticello, balanced diagonally across the handkerchief.

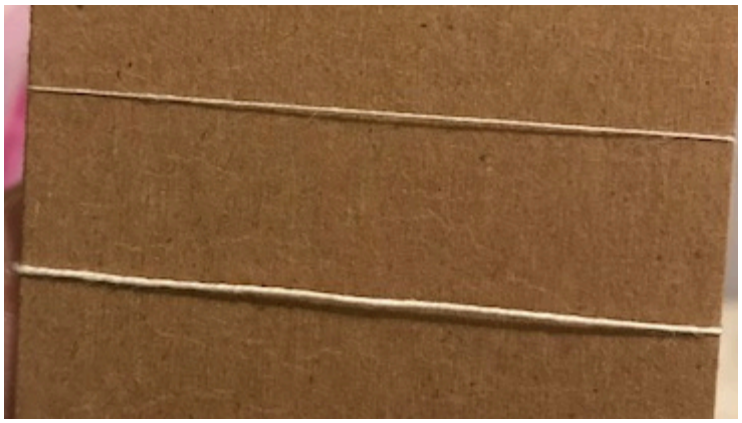


The two corner motifs of my design, balanced diagonally between opposing motifs of drawnwork

Materials:

Needlelace in this period was almost certainly linen, and was primarily used in period to add embellishment and decoration to linen cloth and embroidered with matching linen thread.[35] The materials were not usually dyed, and needle laces of the sixteenth and seventeenth century were predominantly the natural creamy ivory of flax thread. [36]

My piece of linen is a lighter handkerchief weight 3.5 oz/yd2, white in color, which suits the high-value item I was creating. In period the linen would have been purchased from a skilled weaver or cloth merchant. I purchased mine from a trusted online linen vendor, Fabric-store.com, and it is their IL020 Bleached handkerchief weight linen.



100/3 Gauge Linen thread

35/3 Gauge Linen thread

All of the thread I used is also linen, of a matching natural color. I used two weights, a very light lace weight (100/3), and a heavier 35/3 gauge. I started with the lighter weight thread, and it is used in all of the four sided stitch and hemming, as well as occasionally elsewhere. However I found when doing the needleweaving portions of this pieces that I needed a thicker thread, and that is the weight used in most of the needlelace motifs themselves. In period thread would have been purchased from a merchant, and my threads were obtained from various online vendors.

All my materials are the same as what would have been used in period for this purpose.

[35] *The Embroiderer's Story: Needlework From the Renaissance to the Present Day*, Beck, pg 11
[36] *Dictionary of Lace*, Earnshaw, pg 145

Tools:

All of the tools used in the creation of this piece are accurate to what would have been found in a 1550-1650's sewing kit.



Sewing Kit from the Mary Rose Shipwreck, 1545. Mary Rose Museum, England.

A utilitarian sewing kit can be seen in this picture of sewing supplies found in the Tudor era shipwreck of the Mary Rose. Pictured as part of the kit are thimbles of various types and metals, wooden bobbins which double as needle cases, and needles made of various metals.



Detail of the Portrait of the wife of Philipp Gundelius, from The Portrait-Book of Hieronymus Beck von Leopoldsdorf, c. 1575-1585 showing a fine ladies sewing kit.

The detail above from a 16th century portrait shows a sewing kit which would be more in line with what a lady would have to store her tools for fine sewing and embroidery. In this painting you can see scissors, needles, pins, and thread all stored in a bentwood box.

Needles

In this period needles were very similar to modern needles. In size, shape, and function they are primarily the same, the only major difference is that they were more commonly hand forged of various metals such as bronze and copper alloy. Steel needles were also available in period[37], if rare and expensive. However no matter the metal used, period needles were specialty items which would have been purchased from a metalworker[38] and mirror our modern needles fairly closely.[39]



Bronze needle, 14th or 15th century
National Museum of Scotland



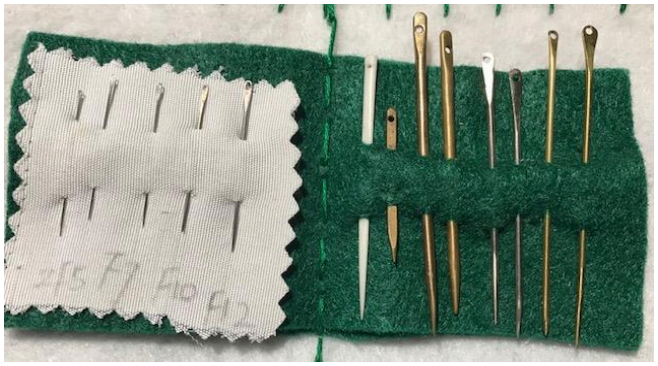
Brass Sewing Needle, 14th century
Alvastra monastery, Sweden



Sewing needles from the Atocha & Santa Margarita Shipwrecks, 1622. Key West Shipwreck Museum.[40]

I have a nice little collection of period appropriate needles. The first ones I obtained were hand forged brass needles purchased from an online vendor. In a previous project I found that these needles were a bit too thick to be doing fine needle laces, but for simpler drawnwork patterns that was not a problem. I also have a variety of hand-made/forged steel needles of various sizes I obtained from the Japanese Embroidery Center in Atlanta, where they create their hand made needles using traditional techniques. They are tiny enough to handle the most delicate needlelace, but I find their short length a little frustrating. Most recently I have picked up hand forged needles in nickel silver and copper alloy from an online supplier who specializes in such items. These needles are a better length, and still thin enough for most lacework.

My Needle Collection



[37] *Needlework Tools and Accessories: A Dutch tradition,* Sullivan, pg 73
[38] http://www.sewingmantra.com/index.php/needles/history-of-sewing-needles/
[39] Idbd
[40] https://www.keywestshipwreck.com/

Needle Case/Etui

Throughout the middle ages and well into modern periods, needles were stored in specialty cases, called Etui in french. These could be made from many hard materials, most commonly metal or wood. Since needles were specialized and highly prized tools, the cases made to hold them were often highly decorated. An excellent example is this 15th century wooden needle case from Flanders.[41] These cases were also specialty items purchased from local artisans.



Elaborately Carved Needlecase
15th century, Flanders
Hermitage Museum, Russia



Copper Alloy Needlecase
C 1150 - 1450 AD
York Museum Trust, England

My needle cases are made of wood and hand-turned, although not nearly as elaborately carved as the Flemish example above. I purchased my cases from an online vendor which specializes in reproduction wooden items.

My needle cases



[41]http://www.hermitagemuseum.org/wps/portal/hermitage/digital-collection/08.+Applied+Arts/217976

Scissors

A pair of scissors in the Museum of London show that the modern style of scissors that we are used to now, made of two separate blades joined and rotating against each other from the middle, can be dated all the way back to the 14th century.[42] But also common is a style of scissors, or perhaps better referred to as shears, which are crafted from a single piece of metal bent back upon itself. The blades can be pressed together almost like tweezers, and are angled slightly so that as they move together their blades slide against each other to cut. The iron pair below is a good example, and were probably used for needlework due to their small size.[43] As with needles, scissors would be purchased from a local metal-worker.



Scissors from the Atocha & Santa Margarita Shipwrecks, 1622. Key West Shipwreck Museum.[44]



Scissors, 15th - 16th century. Metropolitan Museum of Art, New York

The scissors currently in my sewing kit I have purchased online from a vendor who specializes in period reproduction items. They are of the shear style, forged of iron, and would blend in well with extant examples from this period. I also have a simple pair of scissors in the more modern style, purchased as part of a period needlelace tutorial. In form and function these look like a period pair of scissors. However they are made of a more modern metal, so I only use them when I invariably misplace the others.

My Scissors



[42] http://collections.museumoflondon.org.uk/online/object/28700.html
[43] http://www.metmuseum.org/art/collection/search/471615
[44] https://www.keywestshipwreck.com/

Wooden Bobbins

Bobbins for holding thread were most commonly made of wood and could be found in several styles.

The bobbins found on the Mary Rose Shipwreck are made of various woods, and many have needle cases built into their central part. My bobbin is not so fancy as to come with its own needlecase, but it is hand made of wood and obtained from an online craftsman who bases their designs on other extant examples.



Wooden Bobbin
Mary Rose Shipwreck, 1545.
Mary Rose Museum, England.



Viking Era Thread Winder,
Swedish History Museum[45]



Some of my bobbins
and thread winders

I also have star shaped thread winders in my kit which are more of a Viking era design. These were hand made for me by Baron Gavine Armstrang.

Beeswax

Beeswax was used in period to strengthen linen thread and to help keep it from twisting up on itself or breaking. Beeswax would come straight from the bees, either in a home hive or purchased from a local beekeeper. I hand-wax my linen thread with a chunk of beeswax I obtained directly from my local beekeeper, Mistress Mayken Van Der Alst.

In my use of beeswax on linen thread, I have found that it is not always needed, or even the best choice for needlelace. Sometimes it definitely adds a needed strength, but in some places the added stickiness it imparts is actually a problem in the easy execution of most patterns. In this piece, I found I had to use it on my thicker linen thread, as without it the thread frayed and broke far too easily. As such it is present in the needlewoven and reticello motifs.



My Poor Abused
Piece of Beeswax

[45] http://mis.historiska.se/mis/sok/bild.asp?uid=28686

Thimbles



A thimble was an important part of a period needleworking kit, and while I do have a couple of thimbles present in my sewing kit I will be honest and say that I have not yet quite gotten the hang of using one properly. Consequently, this means I rarely use one in practice except in the odd times I dig it out to help push a needle through a particularly stubborn piece of sewing.

A good example of why I should use thimbles more

The finds from the Mary Rose Shipwreck display the wide variety of thimbles in use in the late 1500's. They are all of various types of metal, and generally fall into two types. The domed 'beehive' thimble has a closed top, and looks similar to modern thimbles. Also represented is a ring style which is open at the top. It is theorized that the ring style of thimble was in common use prior to the common use of the beehive style thimble, although both were common in the late 16th through early 17th century.[46]



Thimbles from the Mary Rose Shipwreck, 1545. Mary Rose Museum, England.

I have two thimbles of the ring style, one in pewter and one in bronze, both purchased from online vendors who specialize in metal reproduction items.

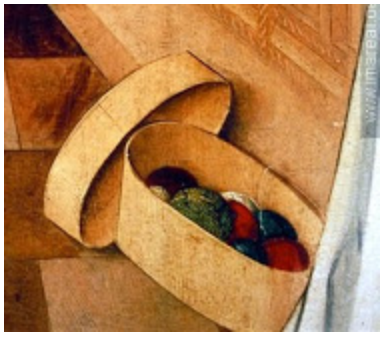


The thimbles I should use more

[46] *Thimbles*, The Portable Antiquities Scheme, 2016

Bentwood Box

A key part of any sewing kit is something to hold it all together. In period this function could be served by a basket, a bag, or practically any other container. However bentwood boxes were very common and there are many examples of extant boxes as well as representation in art to support their use for holding sewing supplies.



Detail of the *Annunciation*,
Maria am Gestade altarpiece in Vienna, c. 1460-1470



Decorated Bentwood box, 13th century,
Metropolitan Museum of Art, New York[47]



Detail of the Portrait of the wife of Philipp Gundelius,
from The Portrait-Book of Hieronymus Beck von Leopoldsdorf, c. 1575-1585

My bentwood box was purchased online from an Amish retailer who uses traditional techniques to hand-make their boxes.



The bentwood box that holds my sewing kit together

[47] https://www.metmuseum.org/art/collection/search/454752

Item Creation:

For this project, I deliberately wanted to expand my repertoire of techniques by trying out some 'needlewoven' drawnwork. While there are numerous extant examples of needleweaving, before this project I had not yet attempted any. I also wanted to expand my research by seeing if I could locate extant examples of some techniques which are often seen in modern drawnwork tutorials, but are rarely found on samplers or pieces in period. These types of drawnwork involve using additional laid threads to gather the exposed warp of fabric into various patterns.

Throughout the following I am also including pictures of the extant period items which provided the inspiration and guidelines for the various designs incorporated into this piece.

Preparation

In most embroideries the first step in the period process would be to prepare the fabric and frame. The linen was washed and smoothed, and then "dressed" upon an embroidery frame using thread, most likely linen. A needle would be used to sew the thread through the edge of the linen, and then wrapped around the edge of the frame before going back to the linen to pick up another stitch. This ensured good tension which could be tightened and adjusted as needed. Once the embroidery piece was done, it could be cut from the frame.

However for needlelace this is not always the best practice. Linen is flexible and stretches, and will often bend in the direction the thread is pulled. When working button hole bars and other common needlelace stitches, this leads to distortion of the motif when you are forced to draw the thread up and away perpendicular to the fabric. It is better instead to have the flexibility to bend the ground fabric over a finger, allowing you to draw the thread parallel to the ground fabric and preventing any distortion. Another benefit to this approach is portability. Dressing this piece would have required a very large frame, and would be impossible to travel with easily. Since I needed to be able to carry my piece around and work on it whenever and wherever I had time this was not really a viable option.

This was not out of period practice. Certainly larger and/or more intricate pieces would be dressed on a frame, and it is a technical requirement for many types of embroidery. However 'hand sewing' projects were equally common. The image here shows both styles, one lady working a large piece on a frame while her companion hand sews upon what looks to be a filmy piece of gauze or lace. This lady does have a pillow on her lap, but is clearly holding the piece in her left hand while sewing upon it with her right.



Detail of *Ladies in a Garden Embroidering,* 1595–1637. British Library, England.

To begin, I took my handkerchief weight linen and drew one thread in all four directions to mark the edge of the piece and ensure the warp and weft were even. I deliberately made it a little overlarge for a handkerchief, but I wanted to give myself plenty of room for both drawnwork and reticello. Then after cutting along the line of the drawn threads, I drew another thread an inch in on all four sides to mark where the hem would be folded down.



I decided to fold the hem and hem it down with a classic hemstitch. I did this around the entire piece before removing any more threads.

Drawing Threads

An excellent extant example of this process is a sampler at the Victoria and Albert Museum which dates from the early 1600's. Most of the sampler is completed with drawnwork embroidery of various types and complexities, but there are also a couple of rows which were started, but not finished. The piece in the picture below is unfinished, and worked in stages so you can clearly see how the ground of the fabric was prepared by drawing threads out of the linen.



Detail of Sampler, 17th century. Victoria & Albert Museum, England[48]

You will also see that the edges of the ground fabric are reinforced with a stitched border, and then the design is made by gathering the remaining threads in various patterns. In this case it seems as if the embroider did one reinforcing border, drew the threads beside it, and then is in the process of creating the other at the same time the design is laid down.

[48] https://collections.vam.ac.uk/item/O364560/sampler/

This is just one example of many. Differing borders can be used, with four- sided stitch being a very popular choice. Four sided stitch naturally groups the remaining threads into little bundles, which are then used as the basis of simpler patterns.

For this piece I knew I wanted to do two bands of drawnwork on a side, allowing for 4 squares in the corders for reticello. I've learned from past experience here, and I carefully cut the outer two sides of one corner, leaving four threads intact between bands. Then I drew those threads across to the other corners before cutting them. This allowed me to have smoothly proportional drawnwork all around the piece.

Four-Sided Stitch

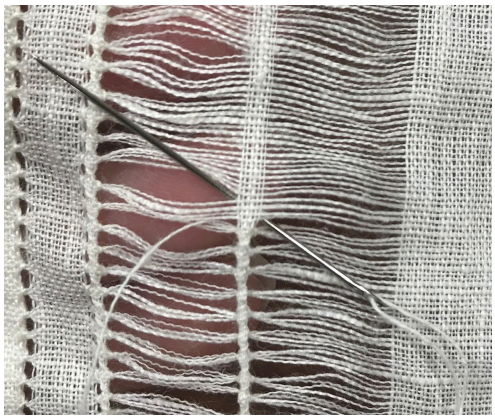
This is an extremely common stitch used extensively throughout the middle ages which functions by wrapping 3x3 or 4x4 squares of linen ground with thread. Mostly the thread used would be linen as well and match the cloth in color. You can find examples of this stitch on most samplers of the period, if only as a division mark between sections of embroidery. The picture here shows a particularly beautiful example of the stitch from a 1618 sampler in the Victoria and Albert Museum.[49] You can see how the size of the ground threads and/or how many threads are left in the middle of the stitch can change the look of it.



Detail of the Lucke Boten Sampler, made 1618. Victoria & Albert Museum, England

Because of its square nature, a four-sided stitch can be worked in any direction, so long as it is in a straight line. Since I am right handed I tend to work either from right to left, or up, so the needle naturally points in the direction I am going. I've done all of mine in this piece in a 4x4 square.

[49] http://collections.vam.ac.uk/item/O70238/sampler-boten-lucke/

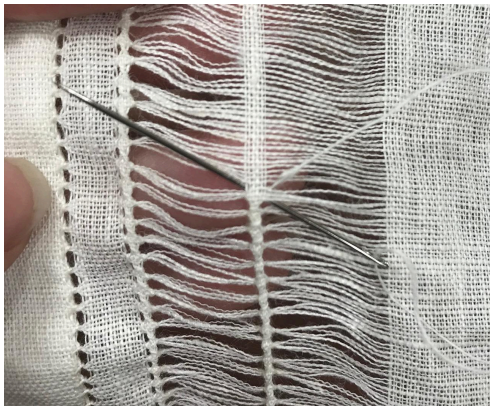


Starting on top of your piece, count over four threads and go down into the fabric. Then come back up four threads back over and four up, in the opposite corner of the square formed by the stitch. In the picture here I am working around the central band of intact fabric left between two rows of drawnwork, but the principle remains the same when working this stitch directly into a piece of fabric.

Here I think it is important to mention tugging. In order for this stitch to look the way it should, you need to tug and snug the thread to the fabric after each step. This also helps to enhance the diamond look of the interior ground threads.



After the thread is snugged, count down four threads and go into the fabric at the same place you started. Then count four over and four up to come back up through the fabric at what is essentially the last remaining corner of the square. Snug the thread tight.



Count four down, and go back into the first hole made by your stitch going down into the fabric. Come back up through the hole at the opposite corner. Snug tight. This is a mirror of the first stitch in the square, and puts you back into a position to repeat the pattern again.

Every drawnwork edge in my piece, as well as the intact threads running between the bands of drawnwork, are secured using 4 sided stitch. This took For-ev-er.

Preparing the Reticello Squares



The interior bars of the reticello corners are needlewoven. Normally this step would be part of the reticello pattern itself, however I actually did the needleweaving of the interior bars with the same thread I had used to do the four sided stitch between the bands of drawnwork. I felt it was best to have the security of a continuous thread in these places rather than two seperate threads.

The corner squares for the reticello were secured first using a basic whipstitch to hold down the loose edges of the cut thread. Then the outside edges of each corner were further secured using buttonhole stitch, as well as the first bundles of thread on the inside corners of the squares along the drawnwork.



Whipstich



Buttonhole

I consider all of the previous steps discussed as part of preparing the ground cloth for the needlelace. Many hours of work are involved to prepare the linen properly before even a single decorative motif is applied.



Ready to go!

Needleweaving



Detail from an English Needlelace Sampler, 1600s. Cooper Hewitt Museum, New York.[50]



Booklet of Drawnwork and Embroidery, Early 1600s. Metropolitan Museum of Art, New York.[51]

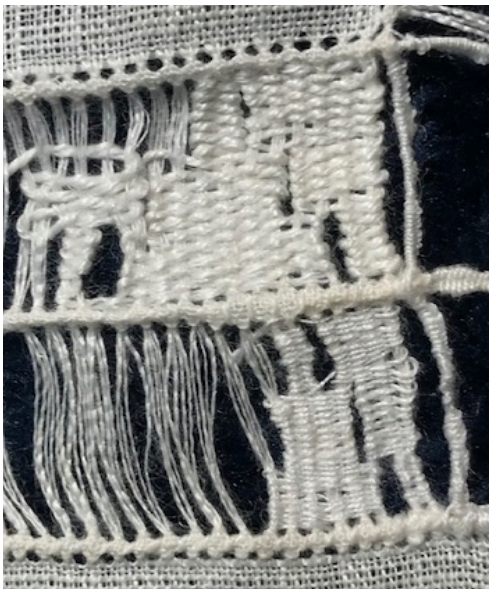
The inspiration for the first needleweaving technique featured on this handkerchief comes from the two samplers detailed above. Pyramid designs such as this are very common, and it was actually harder to find extant examples of simpler versions. Because my prepared bands of drawwork were rather wide, I decided to create pyramids that were 10 bundles of thread wide at the base, with 'steps' two bundles of thread wide.

I started these sections with the same lightweight thread I had been using, and found it unequal to the task. The style of needleweaving I was going for requires the threads to lie closely together, and that was hard with the thinner thread, at least without using far more thread and time than I was willing to devote. I went back to my extant examples and noticed that in a lot of them the thread used for the needleweaving was thicker than that of the ground cloth.



Detail of the Sampler above (Detail from an English Needlelace Sampler, 1600s. Cooper Hewitt Museum, New York.) Zoomed in you can see the size difference between the ground thread and the thread used to do the needleweaving.

[50] https://collection.cooperhewitt.org/objects/18564263/
[51] https://www.metmuseum.org/art/collection/search/221650



So I purchased a thicker linen thread and tried again. The difference was significant.

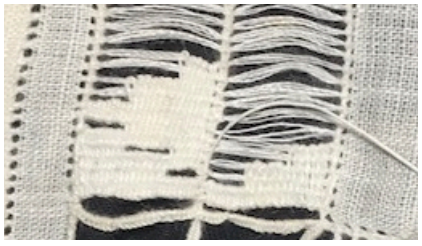
The bottom is the thinner thread, the top is the thicker thread, and I think it's pretty obvious which one is better for the task.

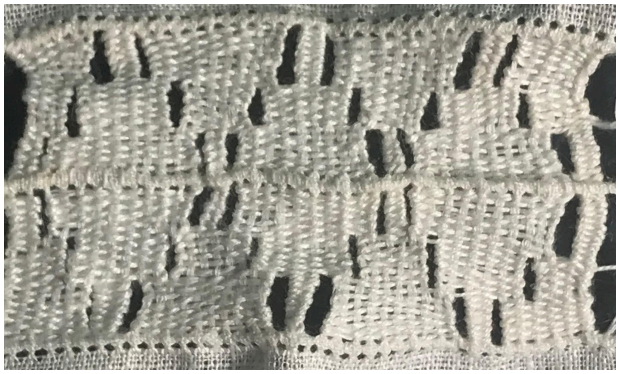


How you work the stitch also makes a difference in tension and how tightly the threads are packed. I found that two methods worked best. First, holding a finger or nail against the working thread as I drew it through the ground cloth kept it more or less in place. Secondly, the needle itself can be used to press the threads down, like a shuttle on a loom.

I also found it easier to work the motif across both drawnwork bands at the same time. This just made the most sense for thread conservation and ease of work.







Completed section featuring this needleweaving motif.

The second needleweaving motif I utilized also comes from the sampler 'book' at the Metropolitan Museum of Art, dated from the early 1600s. [52]

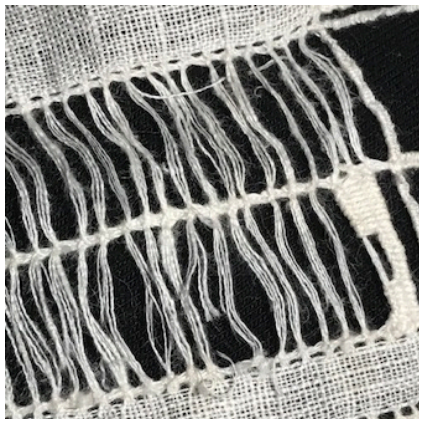


Booklet of Drawnwork and Embroidery, Early 1600s. Metropolitan Museum of Art, New York.

With this motif, I discovered why you shouldn't sew while tired. I completely misjudged how to work this motif and ended up with something I didn't like at all. I ended up cutting it out entirely, which you should also not do while tired as I accidently cut a few of the warp threads and had to do a little repair work before I could continue.



Did Not Like, this doesn't look right at all



Mistakes were made, note the cut threads



Better!

Thankfully after some sleep this motif became much easier to work, although I did limit myself to one repetition in each of the four places it was used.

[52] https://www.metmuseum.org/art/collection/search/221650

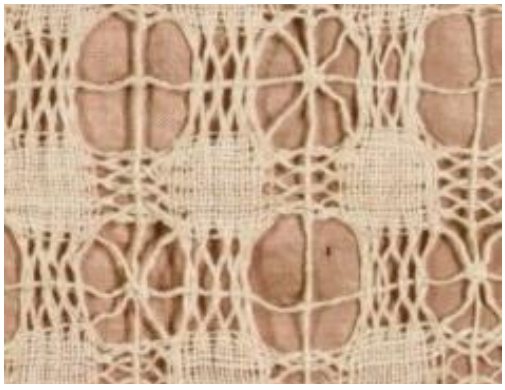
Drawnwork

My first running drawnwork pattern has a story to it. I first saw this 16th century piece over 7 years ago when I was first starting to research needlelace. At the time, I had no earthly clue how it was done, or how it related to reticello. I just knew that I liked it and I wanted to try and reproduce it someday. It is one of the first pins on the pinterest board where I store these things, but then I forgot about it.



16th Century Cover. Metropolitan Museum of Art, New York[53]

Sometime this past year, I happened upon this image again while doing research and, to my surprise, I understood it much better. In the intervening time I seem to have absorbed enough information to be able to not only recognize it as layers of drawnwork, but more importantly as an example of a drawnwork technique you see in almost every modern beginning drawnwork tutorial. I had previously thought this drawnwork technique didn't have extant period documentation. However, as this piece is from the 1500s, it is well within period and I am pleased to now have it documented.



Detail of the 16th Century cover at the Metropolitan Museum of Art, better showing this specific drawnwork motif.

[53] https://www.metmuseum.org/art/collection/search/215023

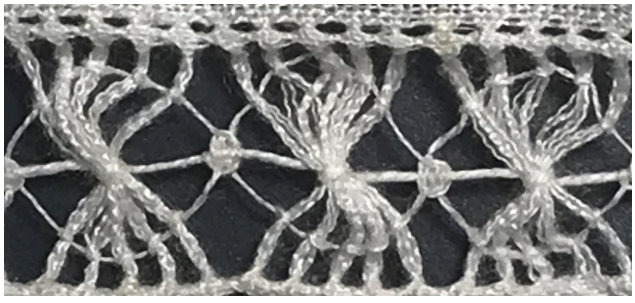
I have noticed that the simpler and more common drawnwork patterns rarely make it onto a sampler. My thought is this: the simpler forms of drawnwork were probably one of those techniques that were so well-known that the assumption was you should know it already. If that is the case, then why include it in a sampler when there are fancier patterns to show? The simpler drawnwork patterns also tend to be very delicate. Without overcasting of the gathered threads, they would be more prone to disintegration through use or age. Simpler patterns were also probably used to adorn linens of all sorts, but those linens were more likely ones which saw a lot of use. Items like everyday towels and chemises would get beat up and worn out, and also are the most logical places to put the most basic of drawnwork embellishment. So there is a high likelyhood that any extant examples simply haven't survived.

Even though I now had an extant example of this technique, I unfortunately had no guidance on how to execute it. For this I had to go to some modern video tutorials to get me started, just going to prove that some of the best keepers of period knowledge are the handicrafts people who still practice it today.



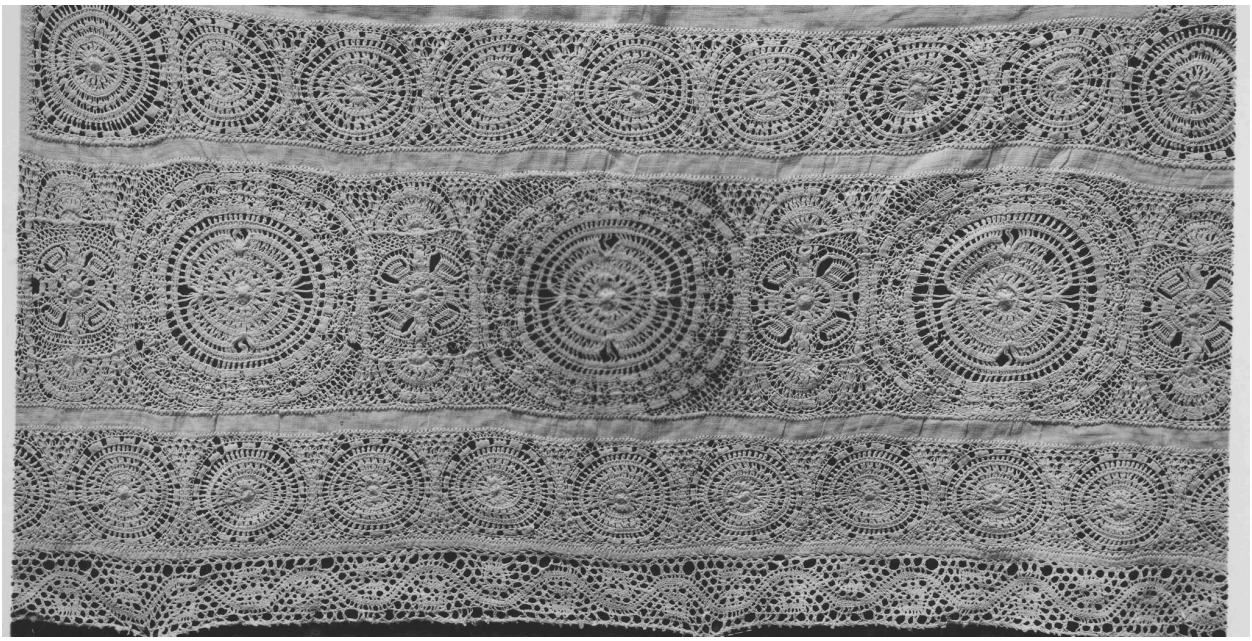
Once I figured it out the technique was fairly simple. First you use the needle to tug the bunches of thread into place, overlapping one another. Then the path the running thread lays secures them in those locations.

My second drawnwork motif required a lot of research and extrapolation on my part before I was comfortable including it in this piece. Inspired by my success in documenting one simple drawnwork pattern still used modernly, I wanted to see if I could also document this one.



This picture is from my finished piece, so you have a good idea of the pattern I was hoping to document

This is another one of those ‘beginning drawnwork’ patterns you see in the modern tutorials, but documenting it was hard and I had to make some assumptions based on available extant examples. Firstly, the circular shape of two of the binding threads isn’t unknown in period. It is very similar to a spanish drawnwork technique called Teneriffe which was known in period and makes use of circular lacis patterns. This 17th century piece from the Metropolitan Museum of Art is a good example:



Cover, Spanish, 17th Century. Metropolitan Museum of Art, New York[54]

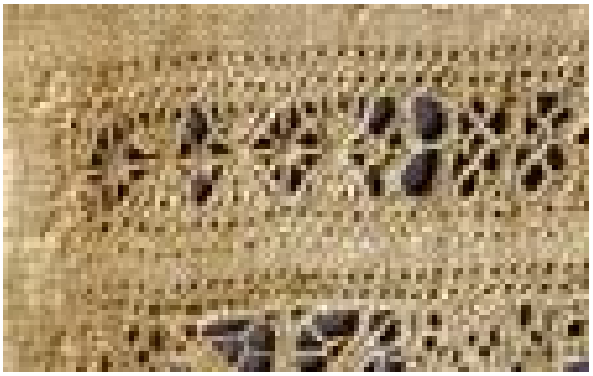
You can also occasionally find similar running threads in other places, like in the Metropolitan pattern book:



Booklet of Drawnwork and Embroidery, Early 1600s. Metropolitan Museum of Art, New York. [55]

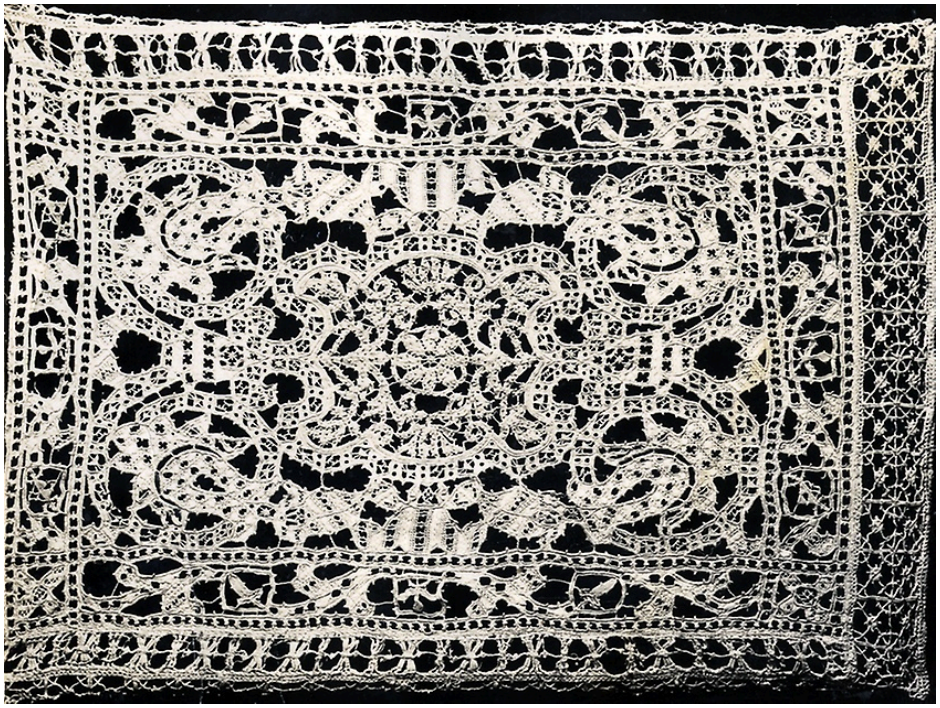
[54] https://www.metmuseum.org/art/collection/search/212811
[55] https://www.metmuseum.org/art/collection/search/221650

There is also this sampler I found at the Winterthur Museum of Art in Delaware that has almost this exact motif, but makes me cry because it is dated from 1698-1706, putting it exactly 48 years too late to use as a primary source documentation. An argument could be made for the motif being commonly used enough earlier to warrant inclusion on a sampler, but this is not exactly 'smoking gun' evidence.



Detail of Sampler, made c 1698- 1706. Winterthur Museum of Art, Delaware. [56]

This is a lot of circumstantial evidence, but I still wasn't quite comfortable with making the claim that this was something done in period. I can definitely extrapolate that way, but none of the examples above were quite enough for me to feel justified in using it. And then I stumbled across this piece:



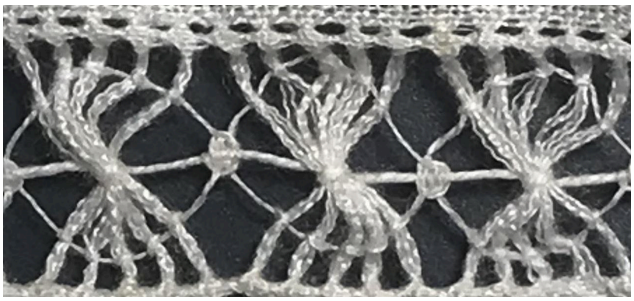
Italian Pillow Case, Made c 1590 - 1610. Art Institute of Chicago[57]

[56] http://www.winterthur.org/?src=museumcollection
[57] https://www.artic.edu/artworks/26149/pillow-cover

This pillow case is from well within SCA period, and features a wide variety of needlelace and drawnwork techniques. However one drawnwork motif in particular caught my eye:



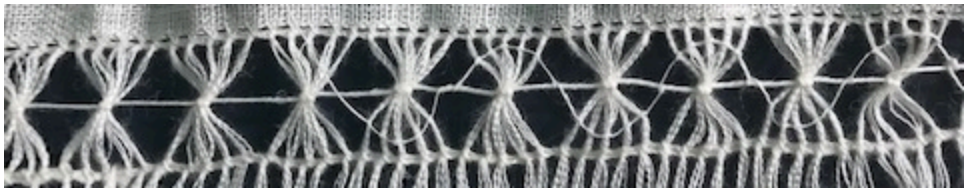
Detail of Italian Pillow Case, Made c 1590 - 1610. Art Institute of Chicago[58]



My piece again, for side-by-side reference

Eureka! The thinner circular knotting threads have mostly disintegrated, but you can still see where they were and what the pattern was meant to be. The pillow cover is just slightly more complicated, incorporating some needle weaving and overcast bars, but I feel this is pretty solid proof of the simpler motif being extant in period.

As with the other drawnwork motif, I had to go to modern tutorials for some idea how to execute this design. I actually found two different methods for doing so, and I decided to try them both. The first involved bunching the threads first, and then stitching in the circular threads. I quickly found that while using my thicker linen thread (35/3) was still a good idea for the initial running thread and bunching, it was too thick for completing the individual little knots that held the circular running thread in place. So I switched back to the thinner linen thread (100/3), and found it worked much better.

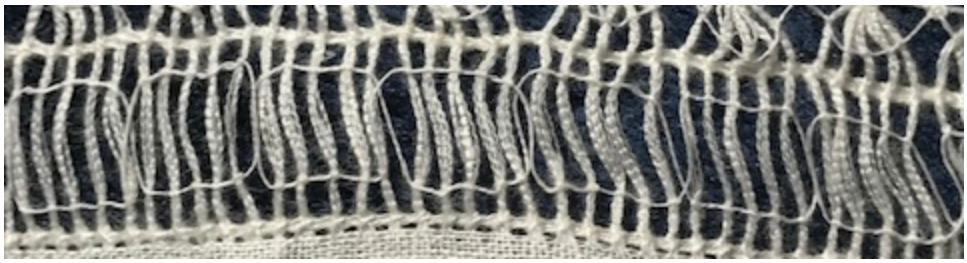


[58] https://www.artic.edu/artworks/26149/pillow-cover

Doing the motif this way included completing a little pinwheels of needleweaving at the joins of the circular running threads as I placed the second thread. Below you can see this in action.



The second method involved laying both circular knotted threads first, and then placing the central running thread. I believe the idea here is that as the threads in each bundle are gathered, the tension bulls the knotted thread into an arch shape which then forms the circular pattern.



Laying the circular running threads with the second method.



Attempting to lay in the central running thread and do the gathers and pinwheels

I did not like this methodology at all. I found that the pinwheels looked grossly outsized with the thicker thread, and this meant I had to run an entirely separate thread not needed in the other method to do the pinwheels and join the diagonals properly. Both methods were fiddly, but the first seemed to be more reliable and involve fewer stitches. So I finished the other two bars that way.

Reticello

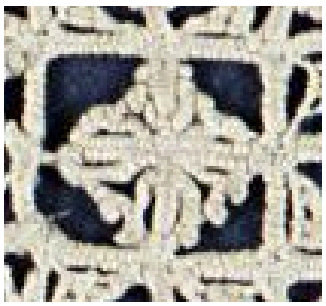
The motif of my first reticello corner is a sort of flower design popular throughout the later half of the 1500s and into the 1600s, in various permutations.



Detail of English sampler,
Made c 1640-1680.
Victoria & Albert Museum[59]



Detail of Border
Made c 1550-1580
Victoria & Albert Museum[60]



Detail of Strip
16th Century
Metropolitan Museum of Art[61]



Detail from page of Giovani Ostaus "La Vera Perfettione Del Disegno" Published in Venice in 1567. Metropolitan Museum of Art[62]



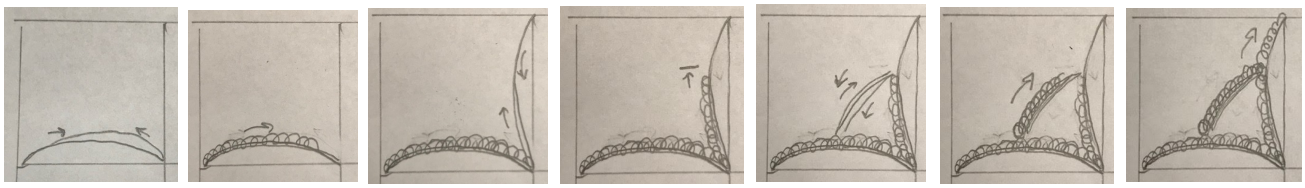
Detail from page of Johann Siebmacher's "Schon Neues Modelbuch von allerley lustigen Modeln naczunehen" Published in German in 1597. Archive.org[63]

This pattern is completed almost entirely as a series of buttonhole bars, which are pretty straightforward.

First you throw a thread across the void where you want the bar to go, looping the thread back and forth 2 to 3 times to give stability, and to make sure you are starting the buttonhole on the side you need to be. Then cover the thrown threads with a buttonhole stitch. Due to the nature of linen, the bar will naturally bend in the direction the stitch is pulled. So I always take that into account when planning where to throw the base threads, and plan for some stretch.

[59] http://collections.vam.ac.uk/item/O15339/sampler-unknown/
[60] http://collections.vam.ac.uk/item/O138076/border-unknown/
[61] https://www.metmuseum.org/art/collection/search/221107
[62] https://www.metmuseum.org/art/collection/search/226392
[63] https://archive.org/details/Siebmacher1597SchonMET/page/n8/mode/2up

The ‘flower’ pattern is just three sets of buttonhole bars. You do the first side bar along one edge of the square, then throw the threads for the other sidebar. Do the buttonhole stitch down half of that bar, throw the threads for the middle bar. Buttonhole back to where you stopped the buttonhole on the second bar, then finish it up.

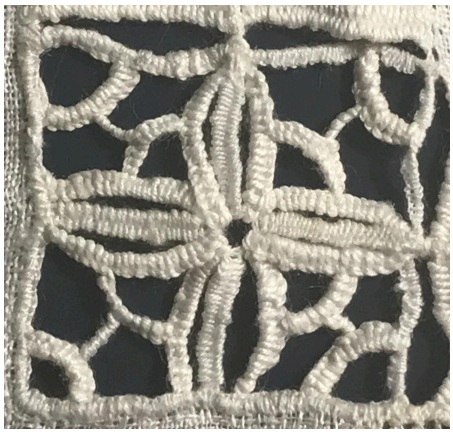


I then did the buttonhole bar at the outside corner, stopping halfway along to join it to the center of the flower with an overcast bar.

For something ‘simple’ overcasting can actually be quite tricky. You can see in places where I had to go through some really bumpy trial and error before I remembered the best way to get overcasting smooth and even. As with many stitches, there is a trick to getting it right. Basically you have to take the time to lay the thread down in the correct spot on top of the bar, bring it up behind, and then snug. That is for every revolution of the spiral of thread that makes up the overcasting on a single bar. Use of beeswax here really helps keep the overcast thread where you put it.

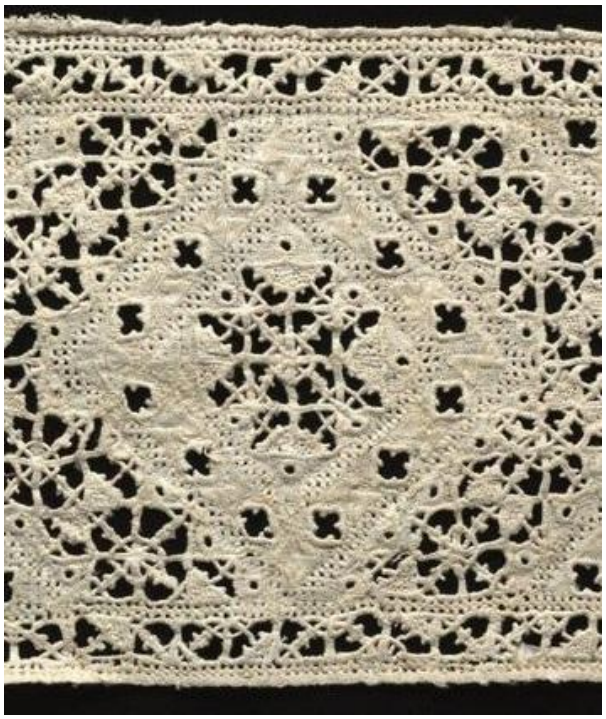


The above pictures are from another project, but show the technique well.



The completed square

The second reticello corner motif comes from this a venietian piece located at the Cleveland museum of art, dated from the 16th century. [64]





Detail

Needlelace Insertion, 16th century.
Cleveland Museum of Art

This reticello pattern wasn't one I had tried before, so I had to spend some time visualizing the best way to do it. I was aided by a visit to the Flagler Museum in Palm Beach, Florida. They have a small collection of lace including this fragment which I was able to get a very close look at.



Border Fragment, 16th to 17th Century.
Henry Morrison Flagler Museum, Florida[65]



Extreme detail

The lozenge shapes in this design appear to be needlewoven, as opposed to built up by buttonhole stitch. The only way I can think of this working is to have multiple threads running down the middle, and the bar becomes thicker or thinner depending on how many threads are woven through.

[64] https://www.clevelandart.org/art/1920.1105
[65] https://www.flaglermuseum.us/

This also made sense for the pattern I was attempting, as it appeared that the thinner parts of the diagonal bars were overcast, and the thicker parts needlewoven between two bundles of thread.



Even then it did take a little trial and error to figure out how best to work the entire motif. It seemed easiest to work each opposing set of diagonal bars as a set. So, my first step was to cast threads diagonally across the entire square.

Then I did the central and one of the two side overcast bars in one corner.





Then I worked the thread back over to the other corner. This is not part of the design, but instead just getting the thread back over to the other corner. However you can see how I used this as an opportunity to separate my laid threads into two bundles by wrapping the traveling thread around one of the two original laid threads.





I did all three of the overcast bars on the far corner. Then I traveled the thread back over to the other side, wrapping it around the second of the two original laid threads. This left me with four laid threads, already separated into two gathers. In the original corner I completed the third overcast bar there.



Finally I worked my way back over the diagonal bar, finishing it by either overcasting around all the central threads, or needleweaving between the two groups as the pattern demanded. Picots were also completed at the same time.



After both diagonals were done, I ran the thread for the central square and overcast it. If I had stuck to the inspiration piece this should have rightly been a diamond, not a square. However I didn't double check the pattern before completing this part and oriented the threads wrong. But I liked the square when it was finished, so it stayed. Thankfully, needlelace as an art is very forgiving of artistic license.

The completed square



Finishing

All I did to finish the piece for display was to take an iron to it to smooth out the wrinkles and press it flat. The iron as we would recognise it first appeared on the scene in the 1300s[66]. In period, irons were heated in a fire, but I feel my modern electric one is a sufficient substitute.



Completed Needlelace Handkerchief

[66] *Clothing Care: Traditional Remedies & Recipes for Care & Management of Clothing,* Gilbert.

Primary Sources:

Primary sources are grouped by type and in order of appearance in the documentation

Tools:

http://paulinespiratesandprivateers.blogspot.com/2012/10/booty-mary-rose-brought-to-life.html
Sewing notions: needles, bobbins, needlecases, from the Mary Rose shipwreck. Image in text, Pages 9, 11, 13, 14.

http://www.sewingmantra.com/index.php/needles/history-of-sewing-needles/
Bronze needle, 14th or 15th century, National Museum of Scotland. Image in text, Page 10.

http://www.sewingmantra.com/index.php/needles/history-of-sewing-needles/
Sewing needle, brass, Alvastra monastery, Sweden 14th century. Image in text, Page 10.

https://www.keywestshipwreck.com/
Sewing needles from the Atocha & Santa Margarita Shipwrecks, 1622. Key West Shipwreck Museum. Image in text, Page 10.

http://www.hermitagemuseum.org/wps/portal/hermitage/digital-collection/08.+Applied+Arts/217976
15th century wooden needlecase, Flanders. Hermitage Museum. Image in text, Page 11.

https://www.yorkmuseumstrust.org.uk/
Copper alloy needlecase, C 1150 - 1450 AD. York Museum Trust, England. Image in text, Page 11.

http://collections.museumoflondon.org.uk/online/object/28700.html
Iron scissors, 14th century. Museum of London, England. Not pictured in text.

http://collections.museumoflondon.org.uk/online/object/28700.html
Iron shears, 15th or 16th century. Museum of London. Image in text, Page 12.

https://www.keywestshipwreck.com/
Selection of scissors from the Atocha & Santa Margarita Shipwrecks, 1622. Key West Shipwreck Museum. Image in text, Page 12.

http://mis.historiska.se/mis/sok/bild.asp?uid=28686
Viking Era Thread Winder, Swedish History Museum. Image in text, Page 13.

https://www.metmuseum.org/art/collection/search/454752
Decorated Bentwood box, 13th century, Metropolitan Museum of Art, New York. Image in text, Page 16.

Extant Needlelace:

https://www.ngv.vic.gov.au/explore/collection/work/44121/
Fragment, 16th century. National Gallery Victoria, Australia. Detail image in text, page 1.

http://www.nationaltrustcollections.org.uk/object/597699
1630 -1700s Sampler. Montacute House, Somerset. UK National Trust.
Detail Image in text, Page 1.

http://www.metmuseum.org/collection/the-collection-online/search/220829
Strip of Reticello Needlelace, 16th Century. Metropolitan Museum of Art. Image in text, Page 2.

http://collections.vam.ac.uk/item/O38154/swaddling-band-unknown/
Swaddling band, Italian, made c 1590-1600. Victoria and Albert Museum, England.
Not pictured in text.

https://www.artic.edu/artworks/54111/cover
Italian cover, made 1601-1625. Cleveland Museum of Art. Image in text, Page 5.

http://collections.vam.ac.uk/item/O294441/border/
Handkerchief border, made 1600-1610. Victoria and Albert Museum, England.
Not pictured in text.

http://collections.vam.ac.uk/item/O85005/handkerchief-unknown/
Needlelace Handkerchief, Made around 1600. Victoria & Albert Museum, England.
Image in text, Page 6.

https://collections.vam.ac.uk/item/O364560/sampler/
Sampler, 17th century. Victoria & Albert Museum, England. Detail image in text, Page 18.

http://collections.vam.ac.uk/item/O70238/sampler-boten-lucke/
Lucke Boten Sampler, 1618. Victoria & Albert Museum. Detail image in text, Page 19.

https://collection.cooperhewitt.org/objects/18564263/
English Needlelace Sampler, 1600s. Cooper Hewitt Museum, New York.
Detail image in text, Page 22.

https://www.metmuseum.org/art/collection/search/221650
Booklet of Drawnwork and Embroidery, Early 1600s. Metropolitan Museum of Art, New York.
Detail images in text, Pages 22, 24, 27.

https://www.metmuseum.org/art/collection/search/215023
16th Century Cover. Metropolitan Museum of Art, New York.
Image and detail image in text, Page 25.

https://www.metmuseum.org/art/collection/search/212811
Cover, Spanish, 17th Century. Metropolitan Museum of Art, New York. Image in text, Page 27.

http://www.winterthur.org/?src=museumcollection
Detail of Sampler, made c 1698- 1706. Winterthur Museum of Art, Delaware.
Museum Object 1987.0002. Detail image in text, Page 28.

https://www.artic.edu/artworks/26149/pillow-cover
Italian Pillow Case, Made c 1590 - 1610. Art Institute of Chicago.
Image and detail image in text, Pages 28 & 29.

http://collections.vam.ac.uk/item/O15339/sampler-unknown/
English sampler, Made c 1640-1680. Victoria & Albert Museum. Detail image in text, Page 31.

http://collections.vam.ac.uk/item/O138076/border-unknown/
Border, Made c 1550-1580. Victoria & Albert Museum. Detail image in text, Page 31.

https://www.metmuseum.org/art/collection/search/221107
Strip, 16th century. Metropolitan Museum of Art, New York. Detail image in text, Page 31.

https://www.clevelandart.org/art/1920.1105
Needlelace Insertion, 16th century. Cleveland Museum of Art, Illinois.
Image and detail image in text, Page 33.

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Border Fragment, 16th to 17th Century. Henry Morrison Flagler Museum, Florida.
Image and detail image in text, Page 33.

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https://www.metmuseum.org/art/collection/search/226392
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Detail image in text, Pages 9 & 16.

Annunciation, Maria am Gestade altarpiece in Vienna, c. 1460-1470
Detail image in text, Page 16.

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