

A late 16<sup>th</sup> Century  
English Man's  
**Linen Shirt**

*Senora Isabel Maria del Aguila*

*Project completed April 2007*

## Contents

<b>INTRODUCTION:</b> .....	<b>3</b>
<b>THE PATTERN</b> .....	<b>4</b>
PATTERN PIECES .....	4
PATTERN LAYOUT.....	6
<b>MATERIALS AND TOOLS</b> .....	<b>8</b>
MATERIALS.....	8
TOOLS .....	9
<b>THE CONSTRUCTION</b> .....	<b>10</b>
THE SEAMS & STITCHES .....	10
<i>The Hem</i> .....	10
<i>The Over-Shoulder Seam</i> .....	11
<i>The Side Seams</i> .....	11
<i>The Collar and Cuff Seams</i> .....	12
<i>The Wrist and Collar Ties</i> .....	12
THE CONSTRUCTION METHOD .....	13
<b>CONCLUDING COMMENTS:</b> .....	<b>13</b>
<b>BIBLIOGRAPHY</b> .....	<b>14</b>
BOOKS CITED.....	14
OTHER USEFUL BOOKS .....	14
WEBSITES CITED.....	15
<i>Websites with Extant Garments</i> .....	15
<b>APPENDICES</b> .....	<b>16</b>
GARMENTS REFERENCED: .....	16
<i>Man's Shirt, 1585 – 1600</i> .....	16
<i>Man's Shirt, 1600 – 1625</i> .....	18
<i>Man's Shirt, c 1600</i> .....	19
<i>Man's Shirt, early 17<sup>th</sup> C</i> .....	19
<i>Woman's Shift, 1635</i> .....	20
<i>Woman's Shift, c1610</i> .....	20
<i>Woman's Smock, 1575 – 1585</i> .....	21
<i>Woman's Smock, 1560-80</i> .....	22

## Introduction:

This project is a hand sewn man's linen shirt for wearing beneath late 16<sup>th</sup> century English fashions. The intention was to recreate, as far as was possible, the Man's shirt, 1585-1600, from the Museum of Costume, Bath, England. Substantial information about the cut and some construction information about the shirt has been published by Janet Arnold<sup>1</sup>.

While this project is based largely on the shirt from Bath, it was necessary to turn to other similar **extant garments** for additional information that was lacking from the Arnold article and the Museum information. There are a number of extant English men's shirts (and women's shifts) that could provide additional information.

The recreated shirt varies from the original in its lack of decoration (**embroidery**). As this shirt is intended to be a more utilitarian garment (that is likely to be subjected to a very hard life) and to be worn under a doublet that exposes no part of the shirt body, then embroidery is unnecessary. Not all men's shirts of this period were embroidered, for example the the Man's Shirt (c.1600) held by the Los Angeles County Museum of Arts. Over 85% of the garments studied for this article have surface embroidery, however the general non-survival of everyday garments probably leaves us with a skewed perception of the occurrence of surface decoration in such utilitarian items of clothing. From the placement of the embroidery on these garments (such as collars and cuffs) it is likely that this was embroidery was intended to be seen poking out from beneath the doublet, or that the garment was designed to be wore without a covering garment on intimate and informal occasions<sup>2</sup>.

The recreated shirt also lacks attached **ruffs** as does the bath shirt. As this shirt is to be worn with separate ruffs, I chose not to have ruffles on the shirt itself. Arnold discusses the separation of ruffs from collars and cuffs among the upper classes by "this period" (understood to mean contemporary to the 1585-1600 shirt); she speculates that the reason for this was that laundering such ruffs every time the shirt was worn would be impractical<sup>3</sup>. A set of ruffs was recommended as a suitable gift for Queen Elizabeth<sup>4</sup>. Shirts with removable / separate ruffs are believed to have plain wrist and neck bands<sup>5</sup>. Such plain bands are seen on the 1585-1600 Man's shirt on display at the Museum of Costume in Bath and the 1600-1625 Man's shirt at Warwickshire Museum, Warwick.

---

<sup>1</sup> J.Arnold. "Elizabethan and Jacobean Smocks and Shirts" *Waffen-und Kostumkunde* 19.2 (1997). Pages 89-104

<sup>2</sup> J.Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 106

<sup>3</sup> J.Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Pages 91, 95

<sup>4</sup> J.Arnold. *Queen Elizabeth's Wardrobe Unlock'd*. (London: Costume and Fashion Press, 2001) Page 95

<sup>5</sup> Ibid. Page 95

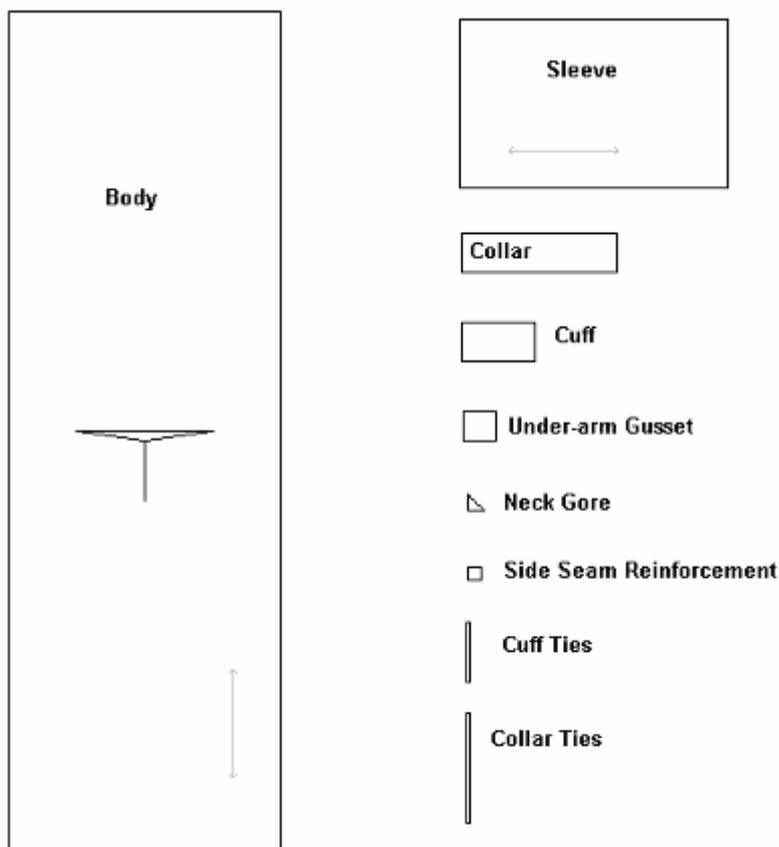
# The Pattern

## *Pattern Pieces*

The individual pattern pieces are based on those of the Bath Shirt as given by Arnold<sup>6</sup>. Exact measurements have been changed for the individual fit of the wearer as this is to be a functional recreation. Each piece is rectangular in shape, which would ensure efficient use of the fabric available. The other extant garments examined also have this rectangular construction.

The size of each pattern piece was determined using the extant garment as a guide and modifying the length and width of various pattern pieces according to the measurement of the wearer, and experimentation to determine the most comfortable and convenient fit for width and length under the wearer's doublet. The length was determined in comparison to the length of the Bath and other extant shirts.

The pieces below are to scale showing the relative size and shape of each pattern piece. (The fabric grain is only shown on body and sleeve pieces. See *Pattern Layouts* (below) for others.)



**Figure 1:** Pattern pieces

---

<sup>6</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 103

The majority of the pattern pieces and their purpose are obvious (sleeve, body, under-arm gusset) but the remaining pieces are either less common, and are briefly explained below (neck gores, reinforcement patches, cuff and collar ties) or have a point of interest requiring mention.

The **reinforcing patches** are 32mm x 38mm (with a 3mm turn under) on the original that serve to add strength to the side seam where it splits for the skirt (presumably to allow movement of the legs)<sup>7</sup>.

The purpose of the triangular **neck gores** is to help the neck of the shirt sit well over the area where the shoulders rise into the neck.

The **collar and cuffs** are double the finished width (plus seam allowances) as they are to be folded down to form own facing, as in the original<sup>8</sup>. I have elected to make the **collar and cuff ties** from the same linen as the shirt due to the total lack of availability of linen tape. See *The Construction* for further discussion.

---

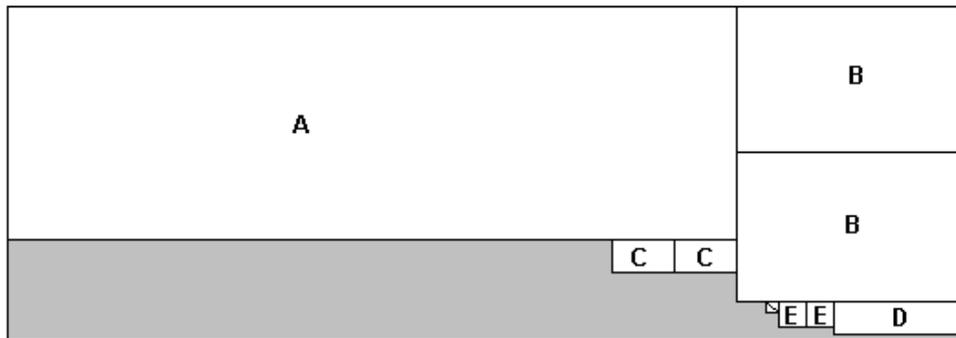
<sup>7</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. 103

<sup>8</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. 103

## Pattern Layout

In order to achieve the most efficient use of fabric I experimented with pattern pieces in relation to the fixed dimensions of the fabric I was using. Using scale paper cut outs of pattern pieces and the base fabric, three options were developed based on available fabric and the archaeological evidence. On the extant garment the grain of the fabric runs up and down the length of the body, down the length of the sleeve, and there is no shoulder seam<sup>9</sup>. Replicating these factors meant those pieces had to be laid out down the length of the fabric. Arnold does not specify the grain of the fabric for the other pieces such as the collar, cuffs, gussets, neck gores or reinforcing pieces, so the placement of those pieces is variable in the different cutting diagrams.

### Option One:



A = body  
 B = sleeves  
 C = cuffs  
 D = collar  
 E = under arm gussets  
 neck gores depicted but not labelled

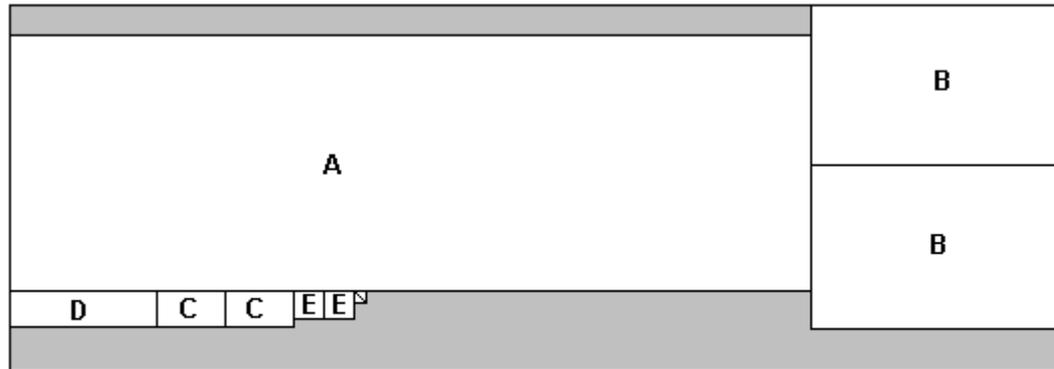
### Option Two:



A = body  
 B = sleeves  
 C = cuffs  
 D = collar  
 E = under arm gussets  
 neck gores depicted but not labelled

<sup>9</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. 103-4.

### Option Three:



**A = body**            **D = collar**  
**B = sleeves**        **E = under arm gussets**  
**C = cuffs**            **neck gores depicted but not labelled**

In the end I chose to go with option three. This was desirable as it meant there was maximum usable cabbage left over<sup>10</sup>. (Other small pieces such as the side seam reinforcing squares and ties are cut from the remaining cabbage.)

Arnold describes the side seams as being the selvages sewn together<sup>11</sup>, but the dimensions of the fabric and pattern pieces meant it was impossible for me to have selvages for all the side seams. In light of that fact I chose to do without selvages all together for evenness of construction.

---

<sup>10</sup> “Scraps of different sizes, ...[that] are left between pattern pieces, used mainly for trimmings and edgings, but in some instances large enough for whole pattern pieces. Known in the trade as ‘cabbage’.” Pain, Jean and Bainton, Cecilia. (Translators) Tailor’s Pattern Book 1589. Costume and Fashion Press, Hollywood, 1999. Page 61

<sup>11</sup> J. Arnold. “Elizabethan and Jacobean Smocks and Shirts” Op cit. Page 103.

# Materials and Tools

## *Materials*

- Fabric 100% Linen (white)
- Thread 100% Cotton (white)

**Linen fabric** was chosen for the shirt as that is the material from which all the extant garments surveyed were made. There are some contemporary references to both silk and cotton undergarments, however the utilitarian nature of linen, combined with the extant proof of its use in this type of garment and the comfort it represents made linen the natural choice<sup>12</sup>. The particular linen fabric was chosen due to availability, affordability and weight. It was unusual (compared to most modern linens available) in that it is quite fine, relatively evenly woven and not stiff or scratchy. The linen is tabby weave, as for the 1635 Woman's Shift on display in the Victoria and Albert Museum, London, and is, to my recollection, of similar weight.

**Cotton thread** was chosen in light of availability and its documented use in the early 17<sup>th</sup> Century Iberian Shirt (where cotton thread was used to embroider a linen shirt<sup>13</sup>). Cotton thread was also used in an earlier period for construction purposes in English garment manufacture<sup>14</sup>. Cotton thread was therefore used in the construction of undergarments both prior to and directly following the target period of the shirt. It is not unreasonable then to suggest it could also have been used in such a manner during the intervening period.

The majority of linen shirts were constructed using linen sewing thread; however that was not an option for this project. The linen threads on offer in local stores were significantly thicker than the individual threads of the fabric being used to construct the shirt; this is contrary to the archaeological evidence which shows that the linen thread used to construct the garment is at least as fine as the thread used to weave the fabric<sup>15</sup>. Such a thread would also have caused thick, uncomfortable seams with the method of manufacture used on this shirt. A finer, more suitable, linen thread was available but the colour was significantly different from the linen fabric to make the seams unsightly.

---

<sup>12</sup> R.M. Anderson. *Hispanic Costume: 1480-1530*. Hispanic Society of America (1979). Page 183.

<sup>13</sup> Los Angeles County Museum of Arts. [www.lacma.org](http://www.lacma.org).

<sup>14</sup> "In 1392-5 a Great Wardrobe account records the purchase of 6lb of cotton thread ... and there is some evidence that it was used in making clothes for Richard II." Crowfoot, Elisabeth et al. *Textiles and Clothing 1150-1450*. Boydell Press (2001). Page 152

<sup>15</sup> Arnold, Janet. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Pages 103-4

## Tools

- Steel Needles
- Steel Pins
- Fabric Scissors
- Snips

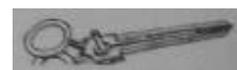
**Steel needles** were used due to availability and convenience as they are a tool with which I am familiar and comfortable, and can purchase with little difficulty. The use of steel needles is not inconsistent with what is known about Elizabethan era needles. Indeed, (Spanish) steel needle-making was introduced to England during the eighth year of Queen Elizabeth's reign<sup>16</sup>. This would indicate that steel needles were available in England from 1566, roughly twenty years before the date of the shirt in question.

**Steel pins** were also used due to availability and convenience. As steel needles were available in this period, it is therefore not unlikely that steel pins could have also been used. There is archaeological evidence of copper or copper alloy pins in early to med sixteenth century Italy<sup>17</sup>; however copper pins are not available and the only brass pins easily available (lace pins) proved to be too soft for ease of use with the linen fabric.



Modern **fabric scissors** of a style similar to period fabric shears shown in various images were used for cutting the fabric.

**Figure 3:** detail of *The Tailor* by G.B. Moroni c 1570 (National Gallery, London)



**Figure 2:** detail of the woodcut on the cover of the *Tailor's Pattern Book*

**Snips**, very similar in design to those shown to the right were used for cutting and trimming threads<sup>18</sup>.



**Figure 4:** 16th century Italian shears

---

<sup>16</sup> Stow, John. *Survey of London and Westminster*, Published 1598. Via "Pins and Needles" *Sealed Knot* and *Stefan's Florilegium*

<sup>17</sup> Oxidation colour (green) would suggest copper or copper containing alloy (e.g. brass). M. Amjar-Wollheim, Marta. *At Home in Renaissance Italy: Art and Life in the Italian House 1400-1600* (V&A Publications, 2006) Page 118

<sup>18</sup> M. Amjar- Wollheim, Marta. *At Home in Renaissance Italy: Art and Life in the Italian House 1400-1600* (V&A Publications, 2006) Page 110

## The Construction

The construction techniques used here are copied from the extant Man's Shirt from the Museum of Costume in Bath, England.

Arnold states that each garment piece was cut out and "hemmed" all around before the hemmed pieces were then sewn together<sup>19</sup>. Arnold does not define what she means by "hemmed".

Only two seams used in the shirt are described by Arnold; the 'over-shoulder' seam attaching the sleeve to the body of the garment, and the side seams. The sleeve to body seam, or seam from the "gusset upwards over shoulder" is described as a "run and fell seam"<sup>20</sup>. This is another name for a "flat felled seam"<sup>21</sup>. The side seams of the shirt are constructed with the "selvedges drawn together ..."<sup>22</sup> but again no stitch is described.

Where information about the seams and stitching was lacking, other extant garments were examined for evidence of possible construction techniques.

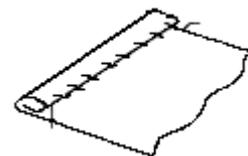
## The Seams & Stitches

### The Hem

Arnold does not define what she means by "hemmed" in the *Waffen-und Kostumkunde* article<sup>23</sup>. The hem is given as 1.55 mm, but there is no information as to whether the fabric was folded under once or twice before being stitched down<sup>24</sup>. No stitch type is specified by Arnold, and none of the photographs show sufficient details to establish the hemming stitch used.

In light of the questions raised, and my inability to view the extant garment, I made several choices based on techniques used in similar extant pre-seventeenth century garments, the fabric being used and practical experience.

The tiny hems were impossible to reproduce in practice as the fabric being used was woven too loosely to support such a narrow hem. Indeed a 1.55mm hem would have caught only two threads (sometimes one) and the fabric's natural inclination to unravel would mean such a narrow hem would fray. I therefore chose to fold the edge under twice as it gives a neat finish that is harder wearing than simply folding the fabric over once (as it inhibits fraying by protecting the raw edge). This period method is often described as a "double-folded hem"<sup>25</sup>. Consequently, the finished hem is 5mm wide, which I judged to be the narrowest it could be and not be undone by the fabric fraying through normal use.



**Figure 4:** double-folded hem using hemming stitch

---

<sup>19</sup> J. Arnold "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 103

<sup>20</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 103

<sup>21</sup> E. Crowfoot et al. *Textiles and Clothing 1150-1450* Op cit. Page 157

<sup>22</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 103

<sup>23</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 103-4

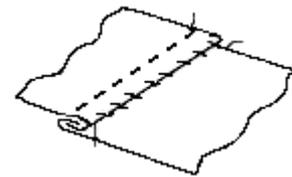
<sup>24</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 103

<sup>25</sup> E. Crowfoot et al. *Textiles and Clothing 1150-1450* Op cit. Page 157

The pre 17<sup>th</sup> century stitch options Crowfoot et al discuss for securing a double-folded hem are hemming stitch and running stitch<sup>26</sup>. I chose to use hemming stitch because it is fairly invisible and will also produce a strong hem that is less likely to catch. This particular stitch is known to have been used in linen shirts as early as the 11<sup>th</sup> century and later in the linen St Louis Shirt (13<sup>th</sup> century)<sup>27</sup>.

### *The Over-Shoulder Seam*

The seam used was that described by Arnold for the seam from “gusset upwards over shoulder”<sup>28</sup> as a “run and fell seam”<sup>29</sup> or “flat felled seam”<sup>30</sup>. The pieces of fabric were stitched together using running stitch (right sides together), and then one side of the seam allowance was trimmed back before folding the other seam allowance over it. Hemming stitch was then used to secure the free edge of the seam to the wrong side of the fabric.



**Figure 5:** Run and Fell seam (underside)

Arnold does not discuss whether the seam allowance is folded over to the body of the shirt or onto the sleeve. I chose to push it over onto the body of the shirt because it does not interfere with the seam allowances of the underarm gussets so much.

### *The Side Seams*

Arnold describes the side seams of the shirt as being constructed with the “selvedges drawn together ...”<sup>31</sup> but again no stitch is described. The fabric is described as “beautifully woven” such that the selvedge is barely noticeable<sup>32</sup>. Sadly my fabric is not so “beautifully woven” such that the selvedge is clearly noticeable and significantly more densely woven rendering it a different colour and more opaque. Also, the combination of the width of the fabric and the width of my pattern piece meant that it was not possible to cut the body of the garment to have selvedges on both sides as in the original garment.

Arnold makes no mention of any other construction techniques used with regards to this shirt. In order to uncover what other type of seams and stitches may have been used for the side seams and the remaining construction I turned to the other garment discussed by Arnold in her article “Elizabethan and Jacobean Smocks and Shirts”<sup>33</sup>. The seams used on the seventeenth century smock are also only occasionally described<sup>34</sup>. “Narrow 1.58mm wide hems are made all around the edges of each piece of the smock”<sup>35</sup> indicates that each piece is hemmed before construction, but no hemming technique or stitch is mentioned. Arnold says that “the long side seams are then oversewn together”<sup>36</sup>. Oversewing (sometimes called over stitching or overhanding) is the technique of using

<sup>26</sup> E. Crowfoot et al. Op Cit. Page 157

<sup>27</sup> Ibid. <http://heatherrosejones.com/archaeologicalsewing/linen.html> and H. Jones *Another Look at the St. Louis' Shirt* <http://www.heatherrosejones.com/stlouisshirt/index.html>

<sup>28</sup> J. Arnold. “Elizabethan and Jacobean Smocks and Shirts” Op cit. Page 103

<sup>29</sup> J. Arnold. “Elizabethan and Jacobean Smocks and Shirts” Op cit. Page 103

<sup>30</sup> E. Crowfoot et al. *Textiles and Clothing 1150-1450*. Op cit. Page 157

<sup>31</sup> J. Arnold. “Elizabethan and Jacobean Smocks and Shirts” Op cit. Page 103

<sup>32</sup> J. Arnold. “Elizabethan and Jacobean Smocks and Shirts” Op cit. Page 103

<sup>33</sup> J. Arnold. “Elizabethan and Jacobean Smocks and Shirts” Op cit. Page 104

<sup>34</sup> J. Arnold. “Elizabethan and Jacobean Smocks and Shirts” Op cit. Page 104

<sup>35</sup> J. Arnold. “Elizabethan and Jacobean Smocks and Shirts” Op cit. Page 104

<sup>36</sup> J. Arnold. “Elizabethan and Jacobean Smocks and Shirts” Op cit. Page 104

whip stitch to join two pieces of fabric together, "... allowing a flat, or almost flat, surface when the pieces are opened out..."<sup>37</sup>. It can be worked with the two pieces right sides together or with them flat with only the edges in contact<sup>38</sup>. In light of this, I oversewed the remaining (pre-hemmed) seams together with right sides together.

The side seams are shown for the bottom 56cm, from beneath the 32mm x38 mm re-enforcing patch stitched across the end of the side seam<sup>39</sup>. Rather than the 3mm turn under on the original, I have used 5mm in order to prevent fraying as discussed above, and whip stitched the patch to the garment.

### ***The Collar and Cuff Seams***

The centre front slit on the Bath shirt is finished with a 1.5mm hem<sup>40</sup>. I have chosen to hem it in the same manner as discussed above. For the cuff slits, the edges of the sleeve were already finished before construction began, so nothing needed to be done before attaching the cuffs.

The collar is cut on the fold (the upper edge is folded over) and the edges are oversewn together<sup>41</sup>. There is no discussion on how the collar is attached to the shirt, nor is there any on how the ties are attached. In light of the lack of information I have chosen the neatest option of stitching the ties into the collar (and cuffs) so that it emerges through the seam. I used running stitch to attach the tie to the seam allowance before the collar was oversewn together. Running stitch was chosen because it was known in this period: "a line of running-stitches ... is present in many examples of surviving clothing of the 16<sup>th</sup> and 17<sup>th</sup> centuries ..."<sup>42</sup>.

Similarly, due to the lack of information regarding how the collars and cuffs are attached to the garment, I have chosen the neatest option. The extra fabric in the body is gathered and then stitched (using running stitch) into the front of the collar (right sides together). The facing is then folded down and the raw edge folded under before being secured using hemming stitch. The same method was used for the cuffs.

### ***The Wrist and Collar Ties***

Arnold gives us very little information about these ties, just that they are of linen tape and the dimensions: 190mm x 6mm for the cuffs and 6mm x 210mm for the collar ties<sup>43</sup>. I elected to make them from the same fabric as the shirt due to the lack of linen tape and the unsuitability of the flimsy 5mm cotton tapes available. While silk ribbon was considered, previous experience has shown it tends to come undone entirely too frequently. The linen fabric was cut 20mm wide and the required length plus 10mm. It was then finger pressed in half and the raw edges turned under before being finger pressed again. Once the folds were set it was secured using whip stitch.

---

<sup>37</sup> E. Crowfoot et al. *Textiles and Clothing 1150-1450*. Op cit. 153

<sup>38</sup> E. Crowfoot et al. *Textiles and Clothing 1150-1450*. Op cit. 153

<sup>39</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 103

<sup>40</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 103

<sup>41</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 103

<sup>42</sup> E. Crowfoot et al. *Textiles and Clothing 1150-1450*. Op Cit. Page 156

<sup>43</sup> J. Arnold. "Elizabethan and Jacobean Smocks and Shirts" Op cit. Page 103

## ***The Construction Method***

The garment was constructed in the following manner using the techniques discussed above.

1. Each garment piece was cut out from the fabric, as per the layout specified above.
2. Each garment piece was prepared in line with the extant evidence as above. Each piece was hemmed individually by folding a small double hem (5mm finished width) around all edges as listed below (i.e. all edges except those for which other seams were used). The hems were finger pressed and secured using hemming stitch:
  - ***body*** hem neck slit (but not neck hole) and bottom
  - ***sleeves*** hem long sides
  - ***gussets*** hem all around
  - ***neck gores*** hem on two short sides

The ***collar & cuffs*** were folded in half length ways and ties attached with running stitch. With wrong sides together, edges were folded under and the ends oversewn together at the ends (being careful the ties emerge from the seam).

3. The sleeve pieces were attached to the body using a run and felled seam.
4. The remainder of the garment was constructed by oversewing hemmed edges together. The exact order in which pieces were assembled is not based on period documentation or evidence; it has been developed by trial and error as my most efficient manner of assembling the garment. The order of the remaining construction was:
  - insert neck gores
  - gather neck hole and attach collar
  - attach underarm gussets
  - sew up sleeves leaving a 5cm gap at the cuff end
  - gather sleeve end and attach cuffs
  - stitch side seams together
  - attach reinforcing patches to base of side seam

## **Concluding Comments:**

I am particularly pleased with the neck of this shirt. The neck gores have proven to be essential as they make the neck of the shirt sit very well over the slope of the neck / upper shoulder. Combining this with the slight gathering into the collar ensure a very comfortable shirt that moves well with the wearer.

## **Bibliography**

### ***Books Cited***

- Anderson, R. M. *Hispanic Costume: 1480 – 1530*. Hispanic Society of America, 1979
- Ajmar-Wollheim, M. and F. Dennis, eds *At home in Renaissance Italy: Art and Life in the Italian House 1400-1600*. London: V&A Publications, 2006
- Arnold, J. “Elizabethan and Jacobean Smocks and Shirts” *Waffen-und Kostumkunde*, 19.2 (1977): 89-110.
- Arnold, J. *Patterns of Fashion: The cut and construction of clothes for men and women c1560-1620*. New York: Drama Book Publishers, 1995.
- Arnold, J. *Queen Elizabeth’s Wardrobe Unlock’d*. London: Costume & Fashion Press, 2001
- Crowfoot, E. and F. Pritchard and K. Staniland. *Textiles and Clothing 1150 1450 (Medieval Finds from Excavations in London)* London: Boydell Press, 2001

### ***Other Useful Books***

- Alcega, J. *Libro de Geometria, Pratica y Traca*. Madrid: 1589. ed. and trans by J. Pain, & C. Bainton. Hollywood: Costume and Fashion Press, 1999
- Strong, R. *Elizabeth R*. Stein and Day, 1971
- Strong, R. *Gloriana: The Portraits of Queen Elizabeth I* (New ed.) London: Pimlico, 2003

*Also various notes and photographs of smocks on display in the Victoria and Albert Museum (London, England) taken by the author in 2003.*

## **Websites Cited**

- Dupuis, T.L. *The Renaissance Tailor* <http://www.vertetsable.com/> d/loaded: 18.2.07
- Harris, M. *Stefan's Florilegium* <http://www.florilegium.org/> d/loaded: 15.2.07  
Discussions on period needles and pins
- Jones, H. *Another Look at the St. Louis' Shirt* <http://www.heatherrosejones.com/stlouisshirt/index.html> d/loaded 12.1.07
- Jones, H. *Archaeological Sewing* <http://heatherrosejones.com/archaeologicalsewing>  
d/loaded: 01.05
- Leed, D. *Elizabethan Costuming Page* <http://www.elizabethancostume.net> d/loaded: 01.05
- Stockton, J. *In Prayse of the Needle* <http://needlepraysse.webcon.net.au> d/loaded: 10 .2.07
- “Pins and Needles” *Sealed Knot* <http://thesealedknot.org.uk> d/loaded: 1.3.07

## **Websites with Extant Garments**

- Los Angeles County Museum of Arts.* <http://www.lacma.org> d/loaded: 26.2.07
- Early 17thC Man's Shirt – linen with cotton embroidery
  - 1600 Man's Shirt – plain linen
- Museum of Costume.* <http://www.museumofcostume.co.uk> d/loaded: 10.2.07
- 1585-1600 Man's Shirt – linen with pink embroidery
  - 1610 Jacobean Woman's Shift – linen with black diagonal embroidery
- “Image Search” *Victoria and Albert Museum* <http://images.vam.ac.uk> d/loaded: 10.2.07
- 1635 Woman's Shift – linen with pink silk embroidery
  - 1575-85 Woman's Smock – linen with black silk embroidery
- Warwickshire Museum* <http://www.warwickshire.gov.uk> d/loaded: 15.2.07
- 1600-1625 Man's Shirt – linen with pink silk embroidery

# Appendices

## ***Garments Referenced:***

Three high-necked under garments were found which were dated to, or the earliest possible date of manufacture fell before the seventeenth century.

### ***Man's Shirt, 1585 – 1600***

Date	1585 - 1600	
Nationality	English	
Materials	Linen with black silk embroidery	
Location	Museum of Costume Bath, England	
Inventory ID	Not given	
Dimensions	120cm (neck to hem) 96cm (width of skirt) 220cm (cuff to cuff) <sup>44</sup>	

Shirt on left  
(Image from Museum website)

<sup>44</sup> measurements taken from diagram and scaled up in accordance with ratios given. J. Arnold. *Elizabethan and Jacobean Smocks and Shirts*. Op Cit. Page 103.

SHIRT c.1585-1600 THE MUSEUM OF COSTUME, BATH

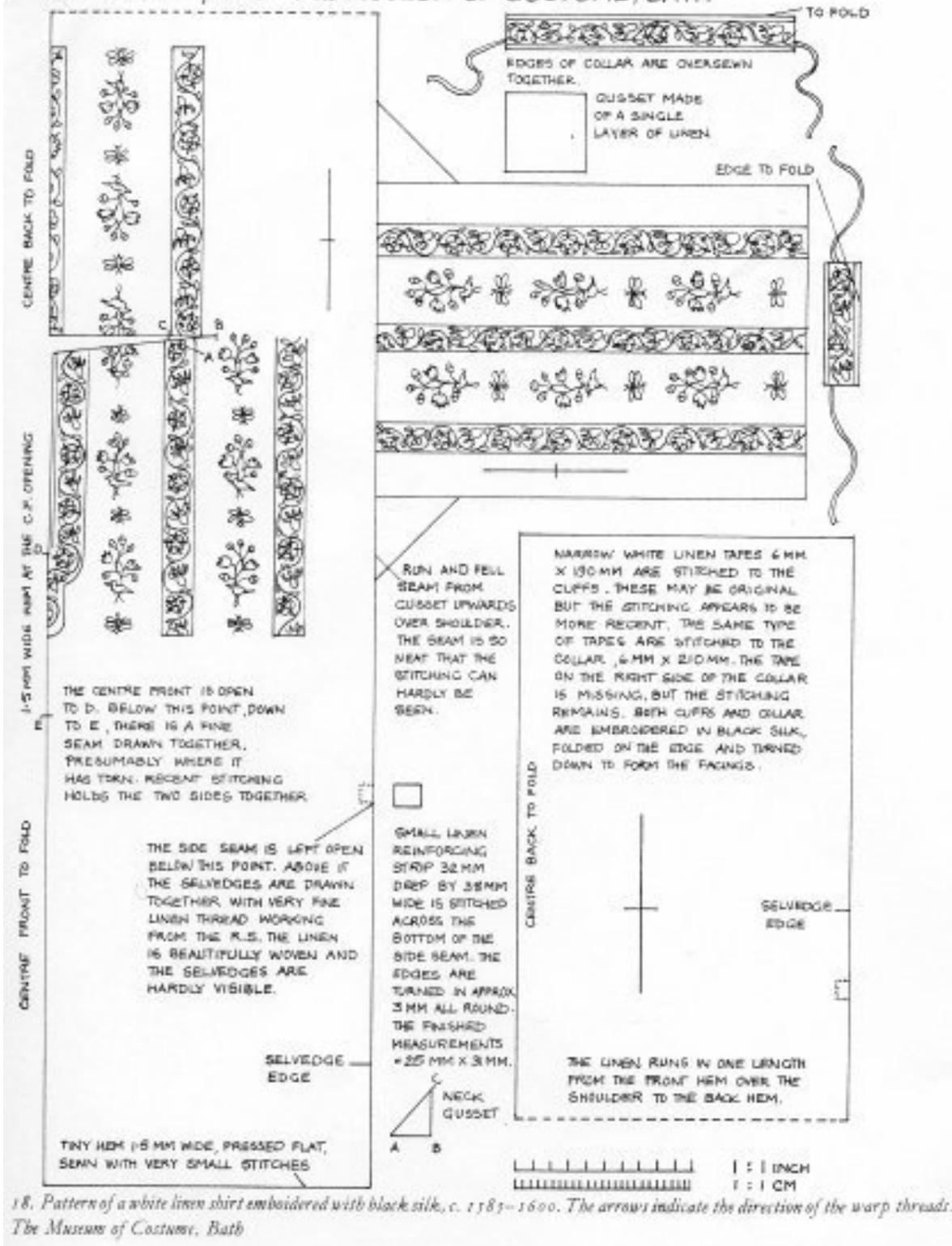


Figure 5: construction diagram from J. Arnold's Waffen-und Kostumkunde article

For further information, refer to:  
Museum of Costume website  
Jane Arnold, Waffen-und Kostumkunde article

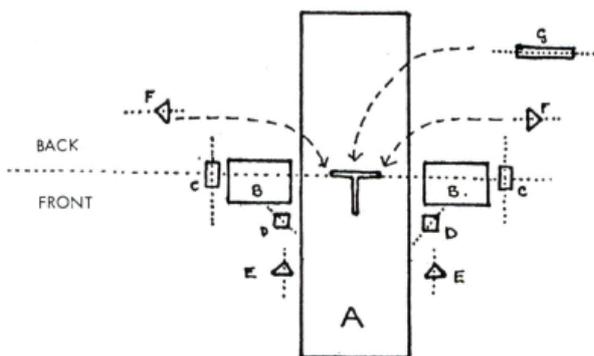
## Man's Shirt, 1600 – 1625

Date	1600 - 1625	 <p>(Image from Museum website)</p>
Nationality	English	
Materials	Linen with red silk embroidery	
Location	Warwickshire Museum Warwick, England	
Inventory ID	Not given	
Dimensions	Not given	

This shirt was helpful for the information gleaned regarding:

- construction
- fabric
- surface decoration
- thread fibres

### CONSTRUCTION OF THE SHIRT.



Details regarding the pattern and construction of the shirt were found on Jane Stockton's website in the form of the following image (see left), provided by Warwickshire Museum.

The only variation from the Bath museum shirt (other than the precise dimensions) is the shape of the reinforcing patches on the body of the garment. These are triangular while the Bath shirt and other shirts have square patches.

No details regarding dimensions, seam or stitch type.

For further information refer to: Warwickshire Museum website,  
Jane Stockton, *In Prayse of the Needle*

### *Man's Shirt, c 1600*

Date	1600	<div style="border: 1px solid black; padding: 20px; width: fit-content; margin: auto;">No image available</div>
Nationality	English	
Materials	Linen	
Location	Los Angeles County Museum of Arts Los Angeles, United States of America	
Inventory ID	AC1994.177.1	
Dimensions	Not given	

This shirt was helpful for the information gleaned regarding:

- fabric
- surface decoration

There is no mention of surface decoration on this garment, which, combined with the mention of embroidery on other shirts in LACMA's collections (e.g. below), suggests this is a plain linen shirt.

For further information refer to: [LACMA website](#)

\*\*\*\*\*

### *Man's Shirt, early 17<sup>th</sup> C*

Date	Early 17thC	<div style="border: 1px solid black; padding: 20px; width: fit-content; margin: auto;">No image available</div>
Nationality	(Iberian Peninsula)	
Materials	Linen with cotton embroidery	
Location	Los Angeles County Museum of Arts Los Angeles, United States of America	
Inventory ID	M.89.40.3	
Dimensions	Not given	

This shirt was helpful for the information gleaned regarding:

- fabric
- surface decoration
- thread fibres

For further information refer to: [LACMA website](#)



## Woman's Smock, 1575 – 1585

Date	1575 - 1585	 <p>Woman's shift on right (Image from Museum website)</p>
Nationality	English	
Materials	Linen with black silk embroidery	
Location	Victoria and Albert Museum London, England	
Inventory ID	T.113-1997	
Dimensions	Length 71.5 cm Width 40.3 cm	

This shirt was helpful for information gleaned regarding:

- fabric
- thread fibres



The museum image of the embroidery (left) clearly shows the rectangular construction used in the smock.

For further information refer to: V&A Museum (personal notes and photographs  
V&A Museum website  
Drea Leed's pictures, Elizabethan Costuming Page

## Woman's Smock, 1560-80

Date	1560-80	
Nationality	English	
Materials	Linen with black embroidery	
Location	Filmer Collection, Gallery of English Costume, Manchester, England	
Inventory ID	Not Given	
Dimensions	Not Given	

(Image from J. Arnold's Queen Elizabeth's Wardrobe Unlock'd<sup>45</sup>)

This shirt was helpful for information gleaned regarding:

- fabric
- thread fibres

For further information refer to: Janet Arnold, Queen Elizabeth's Wardrobe Unlock'd  
Drea Leed's pictures, Elizabethan Costuming Page

---

<sup>45</sup> J. Arnold. *Queen Elizabeth's Wardrobe Unlock'd*. Op Cit. page 224