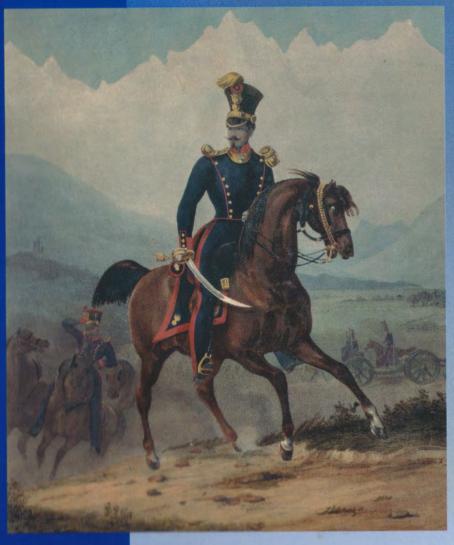
# Waffen-und Kostümkunde





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### Waffen- und Kostümkunde

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Titelbild: "Napoleon Louis Bonaparte / Capitaine d'Artillerie / Camp de Thoune 1834" (Bildausschnitt), Prinz Louis Napoleon als Berner Artilleriehauptmann zu Pferd an der Spitze einer vorrückenden Batterie, im Hintergrund Thuner Allmend und Gebirge, kolorierte Lithographie von Strixner & Zach, München, nach einem Aquarell von Felix Cottrau (Hist. Museum Bern u. Slg. Schloss Arenenberg, Inv. Nr.1955).

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## The Tailoring of the *Pourpoint* of King Charles VI of France Revealed

By Tasha D. Kelly

#### Introduction

At the *Musée des beaux-arts* in Chartres, France, a padded jacket dated to the late fourteenth century stands as a rare surviving example of fabric armour (Fig. 1). Though it is consistently cited by arms, armour, and clothing scholars, an understanding of its tailoring and construction has remained elusive. In 2002 the museum issued a new illustrated catalog which included a section on the jacket, written by *Mmes*. Isabelle Bédat and Sophie Desrosiers. Their text provided fresh insight into the jacket's tailoring, but the facts presented gave rise to subsequent, more detailed questions. As a museum catalog is not the expected setting for an intensive analysis, these questions perforce must be answered in a separate publication. Building upon the data described in the catalog and my own examination of the garment in July 2011, this paper attempts to fill gaps in the collective knowledge by providing a comprehensive overview of how the garment was tailored, assembled, and finished. In addition, these details give a better understanding of the specialized trade of tailors called *pourpointiers*, who made padded, quilted garments for men in late fourteenth century France.<sup>1</sup>

The garment, which is made of a striking crimson silk lampas and natural linen canvas and stuffed with cotton tow, was undoubtedly produced for a wealthy client. It was purported by Francis Henry Cripps-Day to have been worn by Charles VI of France (1368–1422), perhaps in 1383 at the age of fifteen, when on pilgrimage he donated it along with other armour to the *Cathédrale Notre-Dame de Chartres*<sup>2</sup>. The garment's measurements, however, contradict this theory as they reveal that it was sized for the body of a prepubescent child. The wearer's chest was less than 30 inches (762 mm) in circumference and was likely at least 2 inches (51 mm) smaller, since this garment was typically worn over a couple of layers of clothing, and possibly some form of armour, such as a mail shirt or a metal breast plate, or both. Assuming Charles was the original owner, the young royal must have worn the jacket during his years as *dauphin*, perhaps in 1378 or 1379, at the age of nine or ten years old. By the time of his Coronation in 1380, the eleven-year-old king was likely to have already outgrown it.

The diminutive arm and leg armour also housed at the museum in Chartres is dated between 1360 and 1380, and may have also been worn by Charles VI, as the pieces are proportional to



Fig. 1: The jacket, laid flat, front and back. Musée des beaux-arts, Chartres.

the jacket's size. Together, they form a martial harness of a recognizably cohesive style seen in the last quarter of the fourteenth century in France. As outgrown castoffs, they would have made a convenient collection of fine military panoply to donate to the glory of God at the cathedral in Chartres.

Considering the lack of provable origins for this jacket, it is challenging to confirm how metal torso armour might have integrated with it and with such martial jacket styles in general. Possible arrangements may have included armour worn over the garment, armour worn under it, or no armour at all, aside from the jacket itself. Several German effigies of the last two decades of the fourteenth century depict this style covered by a breast plate<sup>5</sup>. Figural art from the 1370s and 1380s in France shows evidence of this style in use with full arm, leg, and head armour but with no visible torso armour<sup>6</sup>. If armour was worn under this style of jacket in France at this time, it likely would have included a mail shirt and either a coat of plates or a breast plate. The jacket's lining is heavily stained with dark grey smudges and small areas of orange, which are consistent with oil and rust stains from metal torso armour (Fig. 2). Especially noteworthy are the strong, grey stains at the center-bottom of the front panels' lining. Their placement, shape, and coloration suggest that the owner wore a particular piece of metal leg armour called cuisses. The tops of the cuisses would have rubbed against the inside of the garment while its wearer walked, ran, or rode a horse<sup>7</sup>.

Padded and quilted martial garments of this time period had multiple names, depending on location and the original writer's choice of words. Terms in academic use today include; doublet, gambeson, jupon, jaque, and *pourpoint*. Clothing historians continue to debate the exact meanings of these terms. Since this paper focuses primarily on the tailoring and construction of the garment at Chartres, the historical French word *pourpoint* shall suffice, along with the modern generic words, "garment" and "jacket". The term *pourpoint* is employed in recent French texts covering this garment, as well as those discussing the only other known surviving padded, quilted garment from the fourteenth century in France – the *pourpoint* of Charles de Blois, Duke of Brittany (1319-1364), which is in the possession of the Musée de Tissus in Lyon, France. This garment is accompanied by a small piece of parchment dated to the late



Fig. 2: Close-up of rust-colored stains found throughout the lining of the jacket. Musée des beaux-arts, Chartres.

fourteenth century inscribed, "c'est le pourpoint et de la haire mons, sainet Charlie de Bloys". Pourpoint means "quilted garment" in modern parlance as well as in the historical context, though the shape and purpose of these two surviving garments are quite different". It is worth noting that though there were a number of clothing-related guilds in Paris in the fourteenth century, the *pourpointiers* were honored with their own guild in 1323 specifically to specialize in the skilled creation of padded, quilted garments for men<sup>11</sup>.

While at first glance the Chartres *pourpoint* is cut along relatively simple lines, the construction process was exceedingly complex, resulting in a garment able to maintain its distinctive silhouette on the wearer. The body of the garment was made twice: both the top layer and the lining layer were created separately as padded and quilted pieces and then put together to form the whole. The result was a rigid frame that held its shape. This paper fully explains how this was done, and elucidates heretofore unknown details of late fourteenth century French tailoring and sewing techniques, especially as they relate to methods for padding and quilting clothing.

#### Padding and quilting - an exercise in engineering

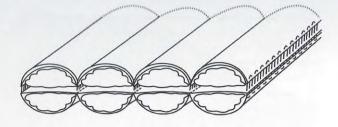
The museum's catalog provides some insight into the garment's construction, but questions have remained. In particular, why was the garment's body made in two layers of padded, quilted fabric? Was the padding stuffed between stitched channels or laid between fabric layers and stitched through? Was the garment's padded thickness uniform throughout or varied in places, and what does this reveal about such garments' relationship to armour? How did the shape of the quilt lines contribute to the garments overall appearance? Answers to these questions would better reveal the skills employed by the *pourpoint*iers for creating the exaggerated, rounded chest silhouette that was so endemic to the masculine form in late four-teenth century France.

The catalog describes the layering of materials from the inside of the garment's torso to the outside as: linen, cotton tow, and linen in one quilted layer, followed by another quilted layer of linen, cotton tow, linen, and silk. The thickness and density of the padding make clear why this two-layer quilting arrangement was required. It would be highly difficult to hand-quilt a single assembly of materials as thick as those in this *pourpoint*. By quilting two separate layers, the maker saved his fingers and hands while giving an impressive thickness and stiffness to the finished garment. It is surprisingly heavy, especially given its small size.

The construction of two separate quilted layers also assisted in the creation of two flaps on the left side: one for buttonholes, and an underlap comprising a padded strip of cloth behind the buttonholes. Underlaps serve a number of purposes in a garment of this type: they help to maintain the height of the padding down the center front opening; they block drafts coming through the buttonholes; and they provide a visually-matching background behind gaps in the buttonholes.

The sleeves were sewn in a single assembly, which differs from the two-part body pieces. The catalog lists the sleeves' layering materials as a total of six from the inside out: linen, cotton tow, linen, cotton tow, linen, and silk. The maker first assembled a layer of linen-enclosed cotton for each sleeve and then flipped it over so that cotton could be laid down directly on

Fig. 3: The sleeve layers were quilted together with the innermost layer of linen serving as the attachment point for both the red silk quilting thread and the natural linen quilting thread. The linen thread did not pierce the red silk outer fabric, and the red silk thread did not pierce the linen lining fabric.



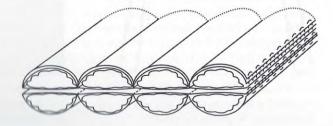
its underside, and a layer of linen and silk could be laid and stitched over it. This was a delicate and exacting operation, requiring careful stitching to prevent the red thread used for quilting the silk from showing on the inside of the finished sleeve (Fig. 3).

There are a variety of plausible reasons for this all-in-one construction. One less layer of linen makes the sleeves more flexible, a trait needed for bending the arms. It prevents the innermost layers of material from twisting around inside the sleeve. It reduces the risk of the inner materials being caught, ripped, or stretched from the insertion and removal of the wearer's arms. In contrast to the body pieces, there was no advantage in creating two separate layers of quilting for the sleeve, though the required stitching precision may have slowed the process down.

The question of whether the padding was distributed as an even layer and then stitched through versus laid in channels and stitched around required close analysis of the shape of the padded channels. The *pourpoint* has maintained a lush depth to its quilting 600 years after its creation. The stuffed channels of padding are thick, with the quilting stitches nestled deeply between each, both on the outside and the inside. To form a padded and quilted body piece layer, the maker stretched a base layer of linen taut on a quilting frame. The final shape of each piece, along with the location of each quilt line, was stenciled to the base fabric as a guide. Next, the maker stitched the top layers of fabric to the base fabric along one of the center quilt lines. The maker then placed a tightly compacted tube-shaped roll of cotton tow on the linen base, pressed firmly against the first line of stitching. The top layer fabric was then molded over it and the next quilt line was stitched, encasing the roll. This was repeated until all channels were stitched. A lack of padding under the stitches could arguably reduce sturdiness or protective qualities, but the body of the garment still had five layers of fabric through which stitches passed, providing a significant amount of solidity.

This design of an assembled layer – one flat side and one bulging side – created two flat inner surfaces for placing the quilted layers flush against each other. Any chance of the

Fig. 4: The outer and lining assemblies of the body pieces lay flush against each other, their inner surfaces relatively flat. These separate assemblies were only connected to each other at some seams and at finished edges.



layers shifting due to bulges nestling into the other piece's quilted indentations was thus eliminated. The design also precluded the possibility that the fabric had been pre-quilted and stuffed later, as such a technique typically results in equal bulges on each side of the assembled layer. Finally, and perhaps most importantly, the asymmetrical padding technique in this pourpoint has kept it rigid and thick through the intervening centuries because se the taut base layer prevents the garment's padded channels from stretching out and flattening with use (Fig. 4).

The direction of the fabric grain on the body pieces shows that the maker began stitching the quilt lines from the center of each piece and worked outwards to the edges. By begin ning from the center, distortion of the grain was evenly distributed as it increased over successive rolls of padding. Due to the variable widths between stitch lines and heights of the padding rolls, a certain amount of grain distortion was inevitable and indeed appears

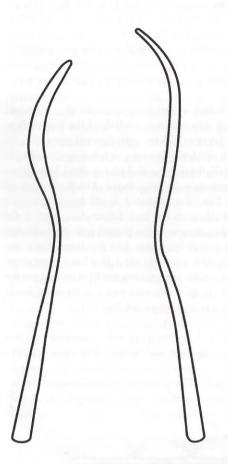


Fig. 5: Cross-section through the body pieces showing Fig. 6: The pourpoint's dress form: note the pronounced the thickness of the quilting and padding.



chest curve. Musée des beaux-arts, Chartres.



Fig. 7: A view of the lining. The pourpoint's front panels can hold this open position on their own, which is evidence of the stiffness of the padding. Musée des beaux-arts, Chartres.

near each piece's side seams. Had the maker started stitching the channels from one side to the other, the grain would have become progressively more distorted as it reached the furthest section of padding.

The third question posed at the beginning of this section addresses the uniformity or variability of the padding's height. This measurement varies on the *pourpoint*, depending on location. Over the widest area of the chest and back, the thickness of the padding is approximately 1 inch (25 mm), which diminishes to .75 inch (19 mm) near the shoulder seam, and .5 inch (13 mm) at the waist. The padding gradually thickens again as it reaches the hemline, where it is a full 1 inch (25 mm) thick (Fig. 5).

These measurements indicate that graduated thicknesses were used to achieve the pronounced chest curve at least partially, though not entirely. The inner shape of the garment exhibits a noticeable concavity, which is matched by the convex chest shape on the mannequin used by the museum to display the garment (Fig. 6). This invites the conclusion that the garment was worn over another bulbous shape such as a curved metal breast plate or a garment with padding in the chest area. The wearing of curved chest armour under the *pourpoint* remains the likely theory, but it could also be argued that the garment is stiff enough to maintain its shape without a bulging under-structure. (Fig. 7) Thus it is possible that a mail shirt was the only protection worn beneath it. Fig. 7 shows the front panels propped open, their rounded shape maintained in mid-air with no underlying support. The density of padding used, combined with the multiple layers of fabric, made it a heavy, stiff garment, ideal for martial use.

Another contributing factor to the shape and quality of the garment was the pattern formed by the lines of quilting. The stitches on the body pieces accentuate the shape of the garment by running in vertical channels that follow the outer curves of each pattern piece. The quilting expands outward towards the top and bottom from the middle point on each piece's waistline. This evenly distributes the radiation of the stitched lines across the entire waist circumference. The width between quilt lines narrows from approximately 1.3 inches (38 mm) at the top and bottom (with some variances (see Table 1) to 1 inch (25 mm) at the waist in back, and .75 inch (19 mm) at the waist in front.

	Front	Back
Тор	1.25 (32 mm)	1.75 (44 mm)
Waist	0.75 (19 mm)	1 (25 mm)
Bottom	1.5 (38 mm)	1.75 (44 mm)

The sleeves' quilt lines are more simply shaped. The quilting pattern is straight, as noted in the museum's catalog, following the fabric grain, not the curve of the sleeve. For comparison, reference the lower sleeves of the *pourpoint* of Charles de Blois, in which the quilt lines remain carefully parallel to each other, regardless of the exaggerated curve seen at the top of the lower sleeve. This suggests an aesthetic trend in disregarding sleeve shape when designing the quilting pattern of padded garments in this period in France.

#### The pattern

The garment is made of three basic shapes: a one-piece sleeve, a front body piece and a back body piece, plus two tiny gores that fill out the bottom of the skirt along the side seams of the front and back pieces (Fig. 8). The lining layer has a slightly different shape along the front left opening to accommodate the underlap placed behind the buttonholes (Fig. 9).

Due to the asymmetrical method of padding and quilting this garment, the fabric layers that were shaped over the rolls of padding were cut significantly wider than the final shape of the garment. The pattern pieces shown in Fig. 8 are the shape of the finished garment. If one were to pick out the stitches of the finished garment and lay the top fabric layers flat, their shapes would be wider along all side-facing seams, expanding even more in the chest and lower skirt area to account for the increased height of the padding channels. The fabric needed less added width in the waist, where the channels' loft was shortest. At their widest point, the finished front and back body pieces are 10.5 inches (267 mm) at the base of the skirt. The finished sleeves are 16 inches (406 mm) at their widest point. Flattened versions of these pieces would be 16.25 inches (413 mm) and 21 inches (533 mm) wide respectively. The quilting process contracted the fabric to 65% of its original width for the body pieces and 76% of its original width for the sleeve pieces.

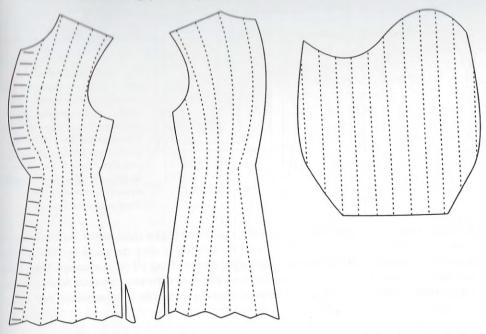


Fig. 8: The patterns of the front and back pieces, the sleeves, and the tiny gores seen on the side seams; quilt lines included, seam allowances not included. This drawing shows left-side pieces only. Any differences in the right-side pieces are negligible.

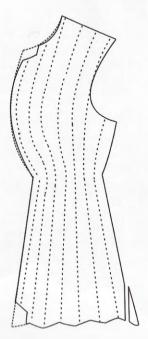
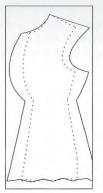
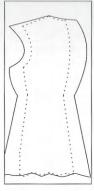


Fig. 9: The center-front edge of the lining layer was shortened at top and bottom to form the underlap. The dotted overlay along the front opening shows where the top layer covers the underlap.





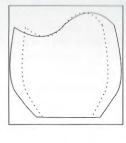


Fig. 10: Each piece of red silk and its supporting linen layer was initially cut as a rectangle. After the quilting was finished, the final pattern piece shapes were cut. The contracted shapes formed by padding and quilting are shown with dotted lines. The shapes of the top-layer fabrics as they would appear if laid entirely flat are shown with solid lines.

The top layers of fabric were almost certainly cut in rectangles sized to the width required to accommodate the accordion effect caused by shaping it over the padding. The maker would have cut each piece to its final shape only after quilting all of its channels first. Had the maker attempted to cut the widened pattern pieces to their exact shape before quilting, the precision required would have yielded neither a gain in fabric conservation nor efficiency while quilting. (Fig. 10)



Fig. 11: Close-up view of the lower left-side of the skirt, including the small gores. Five slits seemingly placed at random sit at hip level on the left side. The bottom three slits have been sewn closed. Musée des beaux-arts. Chartres.

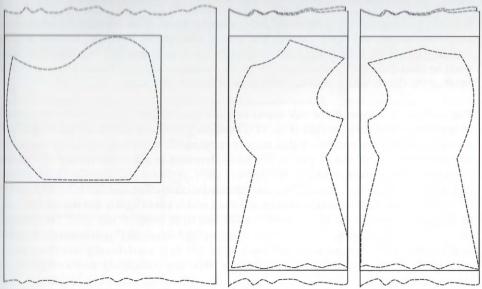


Fig. 12: The fabric at full width easily accommodated a complete sleeve and thus a single front or back piece. When folded, the fabric could fit a full front or back piece minus a small sliver of the skirt.

The sleeves are tailored to place the long seam at the back of the arm, as evidenced by the S-shaped curve of the sleeve cap. This sophisticated tailoring technique is appropriate because it creates a pocket for the elbow when the arm is bent and naturally angled out from the body. In contrast, had the tailor placed the seam under the arm, the acts of lifting,

One measured unit
 End of a measured unit on the edge of the pattern piece
 Shares a line with another measurement

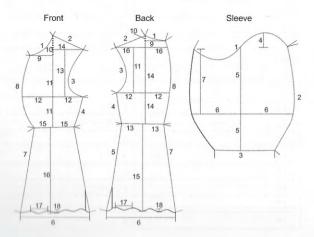


Fig. 13: The length measurements taken along seam lines and across internal surfaces. Each measurement is numbered and can be cross-referenced with Tables 2-4.

bending, and moving the arms would have created a visual effect similar to a wattle hanging from an animal's body. Instead, the sleeves maintain an attractive fullness as they naturally follow the lines of the arms. The maker made another subtle but expert decision when he placed the fullest portion of the seam's curve two inches (25 mm) below the midpoint of the sleeve, which is where the elbow sits when fully bent.

The gores at the bottom of the side seams were designed to complete the skirt's expansion, as opposed to widening its flare (Fig. 11). Thus they were not added for tailoring effect, which leaves only the possibility that the cutter encountered a width deficiency in the red silk that required patched-on pieces. The fabric, however, could accommodate the cutting of rectangles wide enough for a complete body piece, since the much-wider sleeve rectangles were cut in one piece each. The cutter decided to save effort and fabric by folding the fabric in half and cutting two rectangles at a time which were slightly too narrow for completing the bottom of the skirt. Small patches had to be sewn on one side. The finished gores are tiny — measuring .75 inch (19 mm) across the bottom and approximately 4 inches (102 mm) along the side seam on each piece. (Fig. 12). It is worth noting that there are no gores on the lining linen, which means that the fabric was sufficiently wide enough to cut the pieces whole.

Tables 2-4 contain a complete list of length measurements taken for the purpose of drafting a full-size pattern based on the finished piece shapes, with the small side gores merged with the main body pieces. Each measurement is identified with a number, which can be located on the pattern pieces seen in Fig. 13.

Measurement Number	Imperial (inches)	Metric (mm)
1	4.75	121
2	5	127
3	9	229
4	4.75	121
5	13.75	349
6	10.75	273
7	13.75	349
8	11.25	286
9	2.75	70
10	2	51
11	13.75	349
12	8.75	222
13	6.5	165
14	4.375	111
15	6	152
16	13.25	337
17	2.25	57
18	0.5	13

The Tailoring of the Pourpoint of King Charles VI of France Revealed

Measurement Number	Imperial (inches)	Metric (mm)
1	3.25	83
2	5	127
3	8	203
4	4.75	121
5	13.75	349
6	10.5	267
7	13.5	343
8	13.5	343
9	2.5	64
10	0.75	19
11	7	178
12	8	203
13	6.5	165
14	14.5	368
15	13.5	343
16	7	178
17	2.5	64
18	0.5	13

Table 4: Left Sleeve, measu	ared to seams and edges	
Measurement Number	Imperial (inches)	Metric (mm)
1	17.25	438
2	18.75	476
3	9.5	241
4	3.5	89
5	16	406
6	16	406
7	11	279

#### The medieval wasp waist: a study in balance and symmetry

The shaping of the chest, waist, and skirt of the *pourpoint* was designed with symmetry in mind. To demonstrate the balance of the pattern, one may overlay a grid on the front pattern piece with x and y axes extending from the waist's center point. The highest point of the shoulder marks the line separating the right and left halves of the piece while the narrowest point of the waist marks the line separating the top and bottom halves of the piece. These balanced quadrants undoubtedly facilitated pattern drafting and provided an aesthetically pleasing silhouette to the garment. (Fig. 14)

The sweeping curve at the top of the center-front opening ends abruptly at the waist, where severe, angled lines form the skirt. This contrast in shaping between the top and bottom half of the *pourpoint* accentuates the strength of the chest curve and the narrowness of the waist. Accommodation of the hip's curve has been minimized with straight lines, thereby downplaying the appearance of femininity at a time in France when, by contrast, the curves of women's hips were highly accented in their clothing.

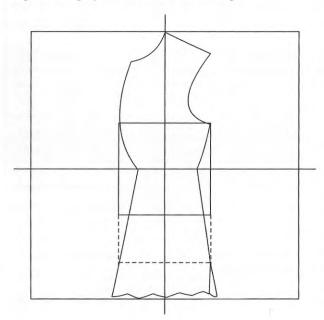


Fig. 14: The garment's body pieces are remarkably balanced along the X and Y axes of a grid. A smaller square placed on the center point of the axes highlights the chalice-like shape of the French version of the "hourglass figure" seen in the last few decades of the fourteenth century. The dotted-line rectangle extending to the bottom of the hips demonstrates the high waist of this silhouette.

#### Assembly method and stitches used

The padding and quilting process occurred while the *pourpoint* was still in pieces. Only after all quilting was completed did the maker begin to assemble the components into a complete garment. As discussed above, however, the garment's body pieces were essentially sewn together in two separate layers, with one quilted layer facing to the outside, and one quilted layer acting as the lining.

While clothing historians commonly use the term "running stitch" to describe the simple, forward-moving stitch frequently seen in the closing of seams in historical garments, a variant called "stab stitch" was used for both the seams and the quilting lines on this *pourpoint*. The two methods appear similar, but differ in application. Running stitch "runs" the needle through the layers several times before the thread is pulled taut, creating a zigzag pattern as the thread angles through the cloth. It is exceptionally challenging when working with thick layers to run the needle through the fabric layers more than once at a time, which rules out its use on this garment<sup>12</sup>. The likely alternative, stab stitch, places the needle at a right angle to the fabric and draws it all the way through the fabric on every pass. The resulting stitches are closer together and the join is stronger than one made by running stitch, though it takes far more time to execute.

As revealed in the museum catalog, the inside seams were joined with different thread (natural linen) than that used for the outside seams (red silk). The maker sewed the four body pieces together twice: once for the outer layer, and again for the lining layer. These assembled torso sections were then laid against each other, seam allowances facing inward, and attached to each other at the center back seam with a whipstitch that worked from the lining side through into some portion of the top layer, though not all the way through to the red silk (Fig. 15). This process may have been assisted by a small curved needle, similar to those used in shoemaking, due to the unwieldy nature of the thick layers and the difficulty in inserting a straight needle at the correct angle through them all. No other body seams appeared to be anchored to each other in this way. As a result, the center-back seam has the strongest indentation between quilting channels seen on the garment.

The sleeves, due to being padded and quilted in one layer, were sewn into tubes in the following manner. First, the sleeve was folded in half with the lining fabric showing on the outside and the silk edges touching on the inside edges of the long seam. The silk and the first layer of fabric just beneath it were sewn together along that seam with stab stitching. Then, the maker turned both exposed lining edges under, laying them against each other, and applied an invisible stitch to secure them to each other. All rough seam edges were thus hidden.



Fig. 15: Whip stitching on the inside back seam anchors the two layers of padding and quilting to each other. Musée des beaux-arts, Chartres.

When finished sewing the long seam, the maker carefully turned the sleeve right-side out, tucked it inside the assembled inside-out torso pieces, and lined up the top of the sleeve with the armhole. The red silk of the armhole edge was stitched to the red silk of the sleeve cap. Finally, the maker whip-stitched the sleeve's lining edge to the armhole's lining edge after tucking both rough edges under and out of sight. This may have been done while the sleeve was still lying within the inside-out torso assembly, but it just as well may have occurred after the garment was turned right-side out.

The underlap along the left-front opening was constructed from the lining layer. A strip of the same red silk used on the outside of the *pourpoint* was laid on top of the left lining layer's center-front edge. This strip is approximately 3 inches (76 mm) wide; enough to accommodate the width from the center-front edge to about an inch (25 mm) or so past the interior edge of the buttonholes. Next, a portion of the bottom layer that included the red silk on top of it and the linen just below that was sewn to the inside of the top layer about .5 in (12.5 mm) past the interior edge of the buttonholes. The edges of the bottom layer were then trimmed shorter on the diagonal at the top and the bottom (see Fig. 9). A line of quilting was added to the middle of the remaining length. The rough edges of the underlap were finished



Fig. 16: Close-up view of the underlap, spherical buttons, neckline, and backside of the buttonholes. Musée des beaux-arts, Chartres.



Fig. 17: Close-up view of the bottom of the underlap, the underside of the flat buttons, the buttonholes, and a small portion of the wavy hem. Musée des beauxarts, Chartres.

by turning the fabric layers inward and then whip-stitching them together with a thick, natural-toned linen floss. Since the top and bottom edges were trimmed shorter than the actual length of the front opening, the two bottom-most and two top-most buttons do not have any underlap material behind them. (Fig. 16, 17)

The pourpoint was likely sewn together in the following order:

- 1. All four outer body pieces were sewn together at back and side seams, which was then repeated for the lining body pieces.
- 2. The two body assemblies were laid together, flat sides touching, and attached to each other at the center back seam.
- 3. The shoulder seams were attached: lining-front to lining-back and outer-front to outer-back.
- 4. The sleeves were sewn into tubes.
- 5. The sleeves were attached to the body.
- 6. The underlap, front edges, buttonholes, and buttons were sewn.
- 7. All remaining edges were finished last: neckline, cuffs, and hem.

By the time the garment was finished, the lining layer and top layer were attached to each other at the center back seam and all the edges. *Mmes*. Bédat and Desrosiers assert that they were also attached at the side seams and the shoulder seams, but visual inspection was inconclusive. A horizontal line of widely-spaced stitching appears on the lining layer around the waist, though this is not mentioned in the catalog text. This stitching may have been added to anchor the lining layer to the top layer without stitching all the way through to the outside, similar to the whip stitching used for this purpose along the center back seam.

#### Buttons and buttonholes

The *pourpoint* originally had a total of twenty seven buttons, though one is now missing. They are wrapped in the same silk that covers the garment and come in two shapes: eleven spherical and sixteen flat-faced. The top-most button is flat-faced, while the buttons below it are spherical until the waist, at which point they become flat again, to the bottom of the garment. This pattern is the same one observed on the *pourpoint* of Charles de Blois, which, rather than being a coincidence, likely points to the popularity of that arrangement on masculine, button-front clothing in the later years of the fourteenth century. Flat buttons better accommodate the placement of a belt over the hips, although perhaps not enough: the missing button is in the sixth position from the bottom of the *pourpoint*, which is exactly where a large belt adorned with precious metal plaques may have sat around the hips. The placement of spherical buttons on the upper torso also enhances the roundness of the chest. (See Fig. 7, 16.)

The diameter of the spherical buttons ranges between .7 inch (18 mm) and .75 inch (19 mm). The museum's catalog states that there is a rigid core, possibly wood, around which red wool was first wrapped and then the red silk from which the garment was made. However, upon examination they feel soft enough to the touch to have been stuffed with a densely packed textile material. Historically, this would have been done by sewing a circle of running stitches onto a round piece of fabric, drawing it up into a pouch shape, and then either stuffing it with a separate, tightly wadded core of fabric or cotton tow, or with the fabric circle's own surplus fabric. The thread would then have been pulled tight, thus creating a closed sphere. There is no stitching on the bulbous front of these buttons, but they are heavily stitched on their undersides with natural-colored linen thread. There was no attempt at neatness in stitching each button closed. The maker may have assumed the backs of these buttons were not likely to be scrutinized. The linen thread used to close up the buttons was not used to attach the buttons to the garment. Their shanks are made from red silk thread. They are also overlaid by a slightly different color of red thread, which was used to secure red gauze over each button during a past conservation effort.



Fig. 18: The seam curve is widest just below the middle height of the sleeve, which is where the point of a fully bent elbow naturally rests. Note the stitches outlining where the lion's head and buckle were originally attached on the left breast. Musée des beauxarts, Chartres.

The construction of the flat-faced buttons is a bit more complex. Their diameter is consistently .7 inch (18 mm) each, making them slightly smaller, on average, than the spherical buttons. They are quite stiff and yet flexible when pressure is applied, which rules out a solid, unbending material like a wooden disc as their core. They are perfectly round and uniformly flat, with sharply turned edges all around. A close look at their underside reveals that each button was closed up using thick, natural-colored floss, like that used on the spherical buttons. The stitches are similarly disorganized and long. After the buttons were closed, they were stitched through in concentric circles with a thinner red thread, which compressed the material flat. The insides of these buttons were probably filled with either a few round pieces of fabric, some padding in the form of tow or wool felt, or perhaps a combination of these elements <sup>14</sup> (Fig. 19).

Both types of buttons were loosely sewn to the edge of the right front opening with thick, red silk floss. This loose attachment was strengthened and finished by wrapping the thread around its length multiple times, creating the shank. In the case of the flat-faced buttons, the shank floss was sewn all the way through the button so that it appears in the center of each button's face. No knots for securing the shank thread are visible anywhere on the surface of the garment, indicating that they were placed in between the two quilted layers of the right front piece. The number of knots may also have been minimized by proceeding from one button location to the next without tying a knot. This would require a long length of floss passed between the quilted layers. <sup>15</sup> This technique required that the hem remain open, to provide access between the quilted layers.



Fig. 19: Close-up of the flat buttons with edge finishing. The buttons are applied directly to the edge. Musée des beaux-arts, Chartres.

The buttonholes are sewn .25 inch (6 mm) in from the left front opening and are relatively uniform in width, approximately 1 inch (25 mm) wide. They were created by first slitting the textile layers and then encasing each slit with a tight buttonhole stitch in red silk floss. The padding in the buttonhole flap is noticeably thinner than other areas of the garment, and this cannot be attributed just to the compression caused by sewing the buttonholes. Less padding was used, which made it more flexible and thus easier to manipulate buttons into and out of the holes. The ends of each buttonhole were not rounded or reinforced, leaving them with a boxy, rectangular appearance similar to the buttonholes found on contemporaneous clothing fragments in London<sup>16</sup> and on the *pourpoint* of Charles de Blois. Their length provides barely enough room to squeeze each of the spherical buttons through, as was observed when some force was required to unbutton the *pourpoint* to prepare it for examination. By comparison, the flat-faced buttons passed through the buttonholes with ease.

#### Details of the edge finishing

Before the wavy hemline was finished, running or stab stitches were sewn about .5 inch (13 mm) in from the edge, all the way around the bottom of the garment. Like the seam attachments, this was done twice – once in natural linen thread on the lining layer, and once in red silk, on the top layer. This served to prevent the padding from settling at the bottom of the garment, which might have resulted in a bagging or distortion of the shape of the hem.

The hem and front opening edges were finished with the outermost layers of fabric turned inward toward each other, and then sewn together with an overcast stitch. The hem and buttonhole-side front opening were bound with red silk thread, while the button-side front opening was bound with natural-colored linen thread. This technique gave the edges a smooth, thin, flexible finish. The edge on the buttonhole side is encased in red gauze for conservation. The bottom portion of this finished edge is currently sewn closed using an invisible stitch rather an overcast stitch, which hints that this area was re-sewn during later conservation. A line of small, closely-spaced stab stitches was then sewn about .25 inches (6 mm) in from the edge, just abutting the outer edges of the buttonholes. On the button side, a large basting stitch was sewn about .25 inch (6 mm) from the edge where the buttons were sewn on, presumably to keep the edge crisp and flat. The stitches on the buttonhole side are much smaller and closer together by comparison. Such a sturdy stitch makes sense, given the amount of physical handling the buttonhole edge receives.

The sleeve cuff was likely finished with an overcast stitch that bound the edges inward towards each other like that used for the hem and the front openings. This is impossible to know for certain now, since the bottoms of both sleeves have worn away. A past conservator applied a color-matched fabric to the sleeve ends, skillfully disguising this unfortunate loss (Fig. 18).

The rough edges of the neckline were bound with a single thin strip of red silk. It was first attached by stab stitch to the outside of the neckline edge. It was then turned inward with the rough edge tucked under, and sewn down with a whip stitch. Measured from internal

stitching to external stitching, its width is 1 inch (25 mm), though its appearance on the outside is approximately .25 inch (6 mm). It is currently encased in red gauze in an effort to prevent further wearing away of the fabric (see Fig. 16).

#### Intriguing cuts in the skirt

The catalog briefly describes some cuts set into the lower left front side of the garment's skirt and suggests these were added sometime after the original tailoring was completed, due to their rough appearance. The authors do not speculate on how much later this may have happened, however. There are five cuts, three of which have been sewn closed. Claude Blair, in his book *European Armour: circa 1066 to circa 1700*, wrote that there is "a slit for a sword low down on the left side" which makes unclear whether he knew that there were originally five<sup>17</sup>. To explain his point, two cuts would allow a sword belt worn under the garment to pass through to the outside, so that the sword and its scabbard could sit against the left hip on top of the garment, perfectly placed for a right-handed man drawing his sword. Alternatively, the sword belt and scabbard may have remained under the garment, but a single slit would have allowed the sword to be sheathed and drawn from the outside.

Either alternative is a plausible interpretation of the slits seen on the *pourpoint*, especially given the visual corroboration provided by contemporaneous figural imagery. A particularly useful artistic example showing both techniques may be seen in Fig. 20. The combatant on the ladder wears his sword belt so that it passes through two slits, allowing the sword and scabbard to sit outside his *pourpoint* on his left hip. In contrast, the sword worn by the foreground combatant on the right is tucked inside a single slit, its scabbard peaking out below the hemline of his *pourpoint*. Covering the sword belt with a sturdy *pourpoint* may have reduced the chance of the belt being severed. It also may have been more comfortable to place the padding of the *pourpoint* between the sword belt and a heavy belt of plaques.

It is also possible that the slits were sewn to accommodate a dagger belt and scabbard, instead of a sword, since the *pourpoint* originally had a gold lion's head and buckle attached to the left breast, presumably for the purpose of chaining a dagger to it, according to the catalog text. The mechanisms described above apply just as well for a dagger as they do for a sword, though a dagger is more likely to have been worn on the right hip due to the prevalence of right-handedness and the weapon's short draw length.

None of this explains, however, why the *pourpoint* has five uneven, oddly-sized cuts in it, when only one or two are needed for a weapon. The three bottom-most cuts terminate at the same distance from the hem, though they are of different lengths (see Fig. 11). One may conclude that several cuts were placed in the wrong location for the placement of the belt, if they were indeed cut for that purpose. The three bottom cuts were sloppily sewn closed using a natural-colored thread. The two open cuts were finished with a loose, untidy buttonhole stitch in the same thread. Considering the fineness of finishing throughout the rest of the garment, this work is strikingly coarse by comparison. It is very unlikely these cuts were made or sewn by the original maker or someone under his purview, due to this quality difference. Also, the

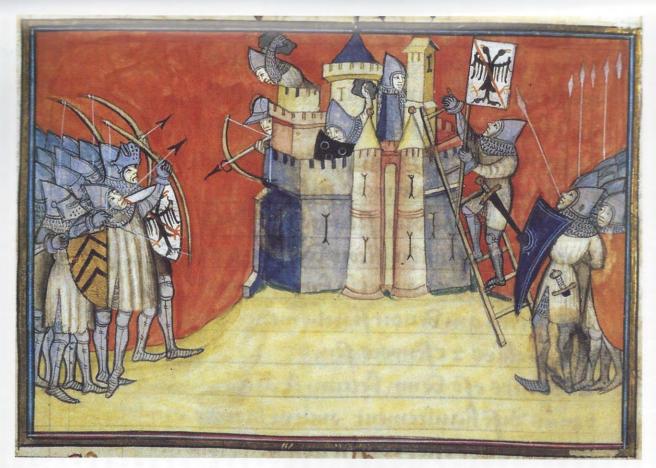


Fig. 20: Two different ways to wear swords with the assistance of slits in the pourpoint. Yates Thompson MS 35, Le chanson de Bertrand du Guesclin, f. 80v, 1380-1392. British Library, London.

exact placement of a sword or dagger belt can only be determined after donning all clothing, armour, belt and sword, and finally, the jacket. This probably took place after the *pourpoint* left the maker's custody.

At best, the cuts' origins can be narrowed to two possibilities. They may have been added by an attendant to the original owner who was both untrained in the sewing arts and unskilled at determining where such cuts should be placed to accommodate a sword or dagger. He may have also been in a hurry and sloppy as a result. Or, the cuts may have been added much later, perhaps during the time of the French Revolution, when the gold lion's head was removed from the upper left breast of the garment and any amount of irresponsible meddling may have occurred. While the more likely explanation involves the accommodation of a weapon, examination did not reveal any clear answers. Chemical analysis of the threads to find their age may help narrow the possibilities, but that effort is outside the scope of this paper.

#### Conclusion

Though this *pourpoint* appears to be made from a simple pattern, close examination reveals that its construction employed expert understanding of tailoring and the behavior of quilted fabric on the body. It is a highly structured jacket that required a great number of hours of meticulous stitching to complete. This type of a garment could have been affordable only to the wealthiest of the nobility, lending credence to the belief that the future king of France wore this particular example in his childhood, perhaps as part of a parade panoply.

The layering of materials to achieve the sumptuous padded appearance was complex and exacting. The extra work involved in quilting two separate layers of the body pieces resulted in a stiffness which helped to maintain an aesthetically ideal silhouette while worn on the body. This garment was well-suited to be worn with metal armour, as the high number of fabric layers also provided some level of protection against attack by weakening the percussive strength of blows and slowing down the penetration of cuts and thrusts from sharp weapons.

Though the tailoring methods used to achieve the depth of padding and stiffness have obvious application in the context of martial protection, they may also translate well to the interpretation of non-martial padded, quilted men's garments in which an exaggerated breast is seen. The padding in the chest area of such garments may have been built up and kept stiff using similar techniques, in which a separate quilted lining layer was placed behind the top quilted layer.

The intricacy of this rare embodiment of the fashionable later fourteenth-century silhouette stands in stark contrast against the simpler, unpadded designs of the clothing worn by the lower classes. One might compare a modern-day bespoke suit of finest wool to a cotton knit t-shirt to understand the gulf between a *pourpoint* and a simple tunic in the later years of fourteenth century France. This difference makes clear that the guild of *pourpointiers* came into existence in large part to control the quality of padded, quilted garments. The *pourpoint* in the *Musée des beaux-arts* of Chartres is a beautiful testament to this specialty trade,

#### Endnotes

- 1 Bédat & Desrosiers 2002, 67-71. The catalog text serves as a useful complement while reading this paper.
- 2 Arnold 1993, 24. Cripps-Day references the *Comptes de L'Hotel des Rois de France an XIVe et XVe Siècles* for the information about Charles VI's pilgrimage. His comments were published in a private work called *Fragmenta Armamentaria*, V, Frome: Butler & Tanner, 1939, 137.
- 3 The chest measurement around the outside of the garment is approximately 33.5 inches (851 mm). The interior circumference measures 30 inches (762 mm) at most, and more likely measures as small as 27 inches (686 mm). The waist measures no more than 21 inches (533 mm) around the interior. This matches with the chest and waist circumference of a thin, 8-year-old male child today. If children were smaller-framed in the later 14th century, these measurements might have been suitable for a boy as old as 10, but clothing and armour must still be taken into account.
- 4 The museum catalog states "depuis 1372 (?)", indicating 1372 as the earliest likely year of the garment's creation. Given the size of the garment in relation to the age of its purported wearer and the styles seen in French figural art at that time, the furthest plausible date of construction is 1380. If the garment did not originate with Charles VI, it could date as late as the mid-1380s, when the silhouette, sleeve style, and length of this type of garment were still common.
- 5 The most studied example is the well-preserved effigy of Walter von Hohenklingen (c1386) in the Swiss National Museum in Zürich, Switzerland. A lesser-known example is the effigy of Eberhart von Rosenberg (c1387), housed in the *Evangelische Pfarrkirche* in Boxberg (Baden-Württemberg), Germany.
- 6 A number of illuminations in *Bibliothèque Nationale de France* (BNF) Ms Français 338 (c1380–1390), *Guiron le Courtois*, show men in armour wearing this jacket style. Other examples in BNF Ms Français 2663, Jean Froissart's *Chroniques* (*Livre l'*), portray fighting men wearing this garment with a breastplate strapped over it, though the manuscript is solidly dated to 1412-14.
- 7 Pers comm, David Rylak, Nov 2011. The matching of stain location to metal cuisses was suggested to me by Mr. Rylak, an armourer who specializes in recreating Western European suits of armour as worn in the 14<sup>th</sup> and 15<sup>th</sup> centuries.
- 8 Blanc 1997, 74. The parchment's text leaves no doubt about the accuracy of the term *pourpoint* for padded, quilted garments. Modern examples of usage include the Bédat & Desrosiers 2002 catalog text and two articles by Georges Bernage discussing the *pourpoint* of Charles de Blois published in the now-defunct French magazine, Moyen Age: "Le pourpoint de Charles de Blois" and "Le pourpoint à grandes assiettes".
- 9 For detail about the pattern used to construct the *pourpoint* of Charles de Blois, see "Cut to Pieces by a Determined Tailor", on the *La Cotte Simple* website: http://www.cottesimple.com.
- 10 English-speaking clothing historians frequently misunderstand the term *pourpoint* as used in fourteenth century France. The *Dictionnaire du Moyen Français* 1330-1500 defines the *pourpoint* as a *Tunique collante, rembourrée et piquée, couvrant le torse et descendant au delà de la ceinture* –"Tight stuffed and quilted tunic covering the chest and descending below the waist". The word likely derived from one of two closely-related Latin words: *perpunctus*

("pierced through" or "quilted") or *propunctus* ("pierced" or "pricked"). Confusion of the two Latin prefixes "per" and "pro" during the evolution of medieval French language was common. (see Dey 1915, 149) In French there is no association between *pourpoint* and the English verb "to point", which in this context means to tie objects such as armour, cloth hosen, or leather chausses to a garment worn on the body. However, a number of Englishlanguage texts assert that the *pourpoint's* purpose is for pointing armour to it. While the English interpretation does conform to the literal meaning of "piercing", it is likely a coincidence born of divergent evolutions from the same Latin root. (Pers comm Mathieu Harlaut, 3 Nov 2011)

- 11 Lespinasse 1892, 205. The guild of *pourpointiers* made a variety of garment styles just as other clothing-related guilds did, with the important distinction that they stuffed their garments with either cotton tow or silk "stuff" which was presumably the raw material from which silk thread was eventually spun.
- 12 For examples of running stitch found in extant medieval garments, see Heather Rose Jone's summation, "Archaeological Sewing": http://heatherrosejones.com/archaeological-sewing/index.html.
- 13 A slightly different method is described and shown in *Textiles and Clothing* (Crowfoot, *et al* [1992] 2001, 171). Some of the buttons appear to have been formed around a pouch made by contracting a concentric ring of stitches, but it is unclear whether the buttons were self-stuffed or stuffed with separate material. Fig. 147 on that same page shows the gathered material on the edge of the fabric circle facing to the outside, which rules out a self-stuffed solution. Another, smaller set of buttons may have been of the self-stuffed variety (172).
- 14 A number of the buttons recovered from the Greenland finds were similarly made. They were compressed flat with concentric circles of stitches and appear to have been self-stuffed. Else Østergård's Woven Into the Earth (Østergård 2004) shows a photograph of this detail (170). Poul Nørlund's Buried Norsemen at Herjolfsnes (Nørlund 1924) states that the buttons were glued together (108). Østergård's more recent examination confirms the presence of a greasy substance, but does not outright state that it is glue. Despite the possibility of glue having been used in the making 14th -century buttons, there is no evidence of glue-based assistance in the assembly of the pourpoint's buttons.
- 15 This technique was used for attaching buttons and stitching buttonholes and eyelets on 14<sup>th</sup>-century clothing fragments found in London. (Crowfoot, *et al* [1992] 2001, 164, 166, 170, 172.)
- 16 Crowfoot, et al [1992] 2001, 168, 170
- 17 Blair [1958] 1979, 76

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#### List of Figures

Fig. 1, 2, 6, 7, 11, 15, 16, 17, 18, 19: Musée des beaux-arts de Chartres, Chartres, France. Fig. 20: British Library, London, United Kingdom.

All other illustrations: Tasha D. Kelly

#### Acknowledgements

In 1958 Janet Arnold wrote, "At this time I made drawings, but was unable to take a pattern. I hope to carry out further research" in her article, "The Jupon or Coat-Armour of the Black Prince in Canterbury Cathedral", published in the Journal of the Church Monuments Society, Volume VIII, 1993. She was referring to the subject of this paper, the pourpoint attributed to King Charles VI of France.

Ms. Arnold was never able to fulfill her wish to study this garment. It is with respect for her trailblazing work in the field of clothing history that I dedicate this paper to her memory and give thanks to the Society of Antiquaries of London, for providing grant money in her name for this project. Without such assistance, this work may never have been completed.

I owe a debt of gratitude to the curatorial staff of the Musée des beaux-arts of Chartres, who granted me access to the garment for detailed study; in particular, Madame Nadine Berthelier for granting me permission to examine the garment and Monsieur Philippe Bihouée, who oversaw my examination and took the excellent photographs seen in this work.

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#### Zusammenfassung

In diesem Aufsatz wird die Herstellungsweise eines Steppwamses aus dem späten 14. Jahrhundert beschrieben, welches im Musée des Beaux-Arts in Chartres in Frankreich aufbewahrt wird. Das Wams wird dem jugendlichen König Karl VI. von Frankreich zugeschrieben, doch die Größe lässt darauf schließen, dass der Träger eher um die zehn Jahre alt war. Rost und Ölflecken unterstützen die Annahme, dass unter diesem Kleidungsstück ein Harnisch oder Ringelpanzerhemd getragen wurde. Bildliche Zeugnisse aus Frankreich und benachbarten Gebieten aus dem späten 14. Jahrhundert bestätigen die Wahrscheinlichkeit dieser Annahme. Es gibt viele Bezeichnungen für diese Art Kleidungsstück, aber auch sichere Indikationen dafür, dass das "Pourpoint" hier das treffendste ist, da es ein gepolstertes und abgestepptes Kleidungsstück beschreibt.

Dieses Wunder der Schneiderkunst besteht aus zwei mehrlagigen Schichtpaketen von wattiertem und gestepptem Material. Jedes dieser Pakete besaß eine gewölbte und eine flache Seite. Die flachen Seiten der beiden Teile/Pakete wurden aufeinander gelegt, wodurch der Anschein der Tiefe zwischen den gesteppten Kanälen verstärkt wurde. Durch das Zusammennähen der Teile entstand ein kelchförmiges Oberteil mit dramatisch sich ausbeulender Brust-

region, das in einen Rock übergeht, der über die Taille hinaus gerade verlängert ist. Die Dicke und Dichte der Wattierung verhinderte Eindellungen oder andere Verformungen, wobei das Wams innen nicht der natürlichen Kurve eines kindlichen Brustkörpers angepasst ist. Die gesteppten Kanäle wurden hergestellt indem lange, wurstartige Stränge von Baumwollwerg auf ein gestrafftes Stück Stoff gelegt wurden und dann ein zweiter Stoff über diese Wattierung gelegt und festgenäht wurde. Diese Methode hat bewirkt, dass sich das stark gepolsterte Aussehen und der Griff des Objekts in den seither vergangenen Jahrhunderten bewahrt hat.

Die Ärmel des Pourpoints sind einlagig gearbeitet und weniger dicht wattiert. Dieser Unterschied in der Konstruktion macht Sinn, da Armbewegungen durch eine dicke Wattierung eingeschränkt worden wären.

Die Ränder des Kleidungsstücks wurden an den meisten Stellen mit Überfangstich eingefasst, sowie mit einer Naht aus verstärkendem Vorstich, die dicht am Rand entlang geführt wurde, Der Kragen ist mit einem kleinen Streifen aus der gleichen roten Seide eingefasst, die für die Außenseite des Pourpoints verwendet wurde und mit Überwendlingsstichen festgenäht. Die Knopflöcher und Knöpfe sind in ähnlicher Weise hergestellt wie man es an anderen Funden aus dem 14. Jahrhundert, z.B. aus London und Grönland, sehen kann.

An der unteren linken Seite des Rockteils befinden sich fünf Schlitze, drei davon zugenäht, die vielleicht dort platziert wurden, um ein verdecktes Schwert- oder Dolchgehänge herausführen zu können. Die zwei offenen Einschnitte sind mit einem losen Knopflochstich eingefasst, der dritte Schlitz wurde mit groben Stichen verschlossen, was einen hastigen oder ungeübten Eingriff vermuten lässt. Der Hersteller des Pourpoints war sicher nicht für diese Schlitze verantwortlich.

Die Komplexität der Konstruktion dieses Polstergewandes und die Feinheit der Ausführung macht die Spezialisierung des Handwerks des Pourpointiers deutlich. Die Herstellung von wattierten, gesteppten Kleidungsstücken erforderte offensichtlich eine Geschicklichkeit, die weit über Grundkenntnisse der allgemeinen Schneiderkunst lag, und erklärt, warum die Pourpointiers in Frankreich zu dieser Zeit ihre eigene Zunft hatten.