

**REPORT ON THE CONSERVATION AND RECONSTRUCTION OF  
AN 18<sup>TH</sup> CENTURY MANTUA from the collections of Lincolnshire  
County Council Library and Heritage Service**

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# **THE LINCOLNSHIRE MANTUA: CONSERVATION AND RECONSTRUCTION**

## **Introduction**

The Mantua, consisting of a gown and petticoat, both in a deteriorated state, was received in this workshop for assessment in 1994/5, but remained untouched, except for occasional inspections. Taking into consideration the deterioration of the fabric that was ongoing and the shortening span of work time left to me, I offered to carry out the work here gratis, provided some funding was found for the dummy required and the materials for conservation of the fabric and for building the undergarments. On these conditions being met by Lincolnshire County Council and The Friends of Lincoln Museums and Art Gallery, work started in January 2008.

## **General Fashion Notes**

Originating in the 17<sup>th</sup> century as a rather loose coat-like garment, based on the informal Eastern garment called a banyan, generally although not invariably worn over a petticoat (or skirt that was visible beneath the open front of the gown) of the same material, by the mid-1730s a Mantua had become a formal garment worn for grand occasions and for attendance at court. The main distinguishing feature was a train to the gown which, for greater convenience, was doubled up from about the level of the hem line of the petticoat, and attached at the corners and centre point to the back of the extended bodice, often by means of pins, while the panels at the top of the triangle, stitched along the inner end to the waist line of the bodice fronts, were turned towards the back to sit on top of the pannier. They were held up with cord loops fastened inside the gown on the main seams of the train and hitched over buttons on the outside about the level of the waist at centre back. This arrangement led to the fabric being reversed on the train and front panels so that the right side was visible when being worn. The petticoat was worn over side panniers that varied in width from quite narrow to the ridiculously wide, the looped front panels sitting on top on either side.

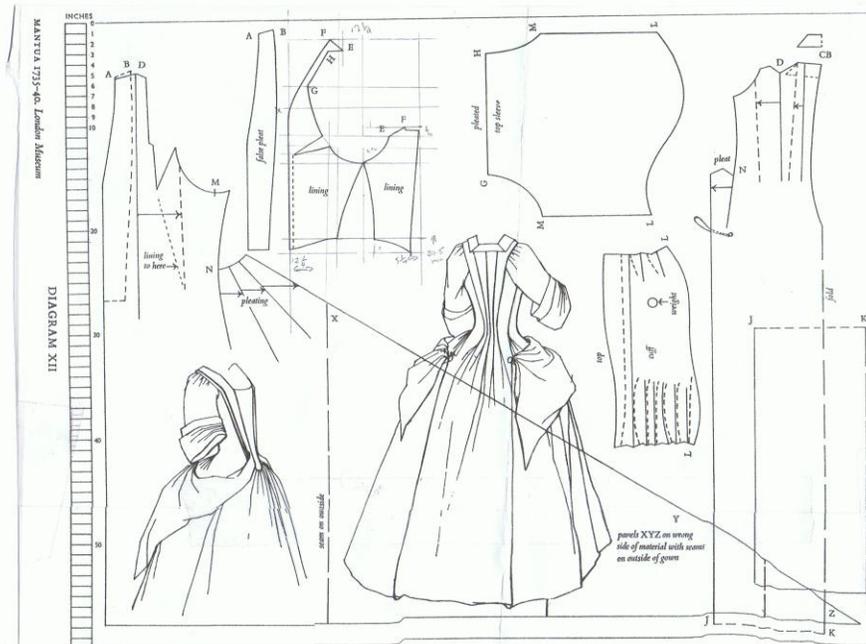
The bodice of the gown was usually open fronted at this date, the robings, i.e. material that was folded in two pleats running from the corners of the straight neck line at the back, over the shoulders and down the front, were squared off just below the waist line but did not meet each other. The gap was filled with a stomacher, which may be a separate item or made to match the gown. The back of the bodice, made from two loom widths seamed at the centre, was shaped with pleats to sit tightly into the waist while the robings were fixed to the underlying corset at the front. This was sometimes called the English style as opposed to the sack-back which came in from France. The full sleeves were elbow length, cut square and gathered over the top of the shoulder, with the arm-hole cut deep into the back giving an elegant line and they were finished with wide, pleated cuffs shaped to fit round the elbow.

The petticoat could vary in shape and width considerably, the number of loom widths required being determined by the width of the panniers, usually six or eight panels. The pannier itself was a construction made from cane and linen canvas in the 18<sup>th</sup> century, which was strapped around the waist to hold out the petticoat on either side of the body. There was considerable flexibility built in to allow the wearer to sit down and get in and out of carriages and sedan chairs, etc.

As a comment aside it can be noted that furniture and architecture of the period tended to be made to accommodate these rather extreme fashions.

The shaping of the material was achieved largely by pleating, which made for easy alteration as fashion changed. A slash was cut down centre front to allow the top to be turned down at an angle before pleating started, creating a curve in the line of the waist. This slash is usually to be found in the centre of a loom width, but in our example the centre lies on a seam due to the nature of the pattern, giving a strong line down centre front and lines to each side close to the pocket slits. The waist line was never intended to be a close fit, but to sit down more onto the hips to allow the bodice to fit snugly and elegantly.

These garments were more or less made on the body of the client, the Mantua maker being an itinerant seamstress of great skill, one or two still known by name now. A sturdy lining was used as the foundation created to fit on top of the corset. When it came to putting in the sleeves the lower curve was stitched as an ordinary seam on the inside but the top half was gathered up and stitched down onto the outside of the shoulder piece of the bodice, between G and H on the diagram below, the stitching hidden beneath the pleat of the robing, referred to as a false pleat in the diagram. The petticoat would also have been directly pleated over the pannier that was to be used, thus making reconstruction more difficult as one is searching for the form that once lay beneath, rather than building on a known shape.



**Diagram 1**

**A page from *The Cut of Women's Clothes* by Nora Waugh**

Published by Faber and Faber, 1968

## **The Philosophy of Costume Reconstruction**

This kind of project, which involves extensive conservation of the actual fabric as well as reconstruction of a three dimensional form, has to be constantly juggled between the two sides of the process. At some point, as understanding develops, a decision will have to be made as to how far back in the history of the construction of the object it will be possible to go. Recent theories of conservation are less inclined to endeavour to return to the original form, even if possible, and to regard changes as just as important as a record of society. An exception may be made when the alteration has been for fancy dress, since no fashion statement has been made. In this case, with the object deteriorating, there was no option but to use all the evidence to be found, added to knowledge gained from other garments in order to create a viable 18<sup>th</sup> century garment.

Not all the evidence that will inform the various decisions taken along the way will be immediately obvious, so that it is very important not to jump to conclusions too quickly. It takes time to get to know even a simple object let alone one of such complexity as an 18<sup>th</sup> century Mantua. The actual evidence lies in traces of stitch lines and old thread, marks of pleating and the creasing that comes from wear. There may be cut edges of cloth that has been removed, leaving seams incomplete, or insertions of foreign or self material put in to change the size of a bust line or waist measurement. Some experience of dressmaking and familiarity with the style of the period concerned is essential to understand what these signs may mean and how to maintain them while work is going on. For example, if the fabric is laid out and flattened while being conserved, as most things are, much evidence will be lost. The fabric has a memory of long held positions, creases, direction of folds, stitch marks and seam lines which can very easily be lost, unless they are noted and retained as far as possible while giving each unit individual support.

Another factor in such a reconstruction is that, although the petticoat was a discrete object in its own right, it could only be fully understood in relation to the gown and vice versa. Although presented separately in this report for simplicity it must be understood that, in practice, both petticoat and gown were being worked alongside of each other.

When an object, such as the gown in this project, is in such a state of collapse, careful interpretation and knowledge of the generic methods of 18<sup>th</sup> century dress-making is essential. The way of joining the bodice and sleeves together, for example, and how the buttons and loops functioned with the train to create the “cuffs” that sit on the top of the pannier must already be understood. When the bodice was fully opened out a number of alterations were seen to be present and that quite large areas of the fabric had been deliberately cut away (the details will be discussed later.). Plus there was an insertion possibly to enlarge the bust. In the latter instance the alteration had to remain as there was no other material available to play with but in the first the material had to be built back in order to take the shape back to the earliest point to match the petticoat. The evidence available was clear in one case but not in the other.

When conservation was complete the reading of how the train had been dressed proved difficult and we are obliged to Madeleine Ginsberg, late of the Victoria and Albert Museum, for her invaluable advice in this respect. It is very gratifying when, suddenly, something falls into place.

## **The Lincolnshire Mantua**

The Lincolnshire Mantua, consisting of gown and petticoat, was given to the Usher Gallery in 1937, on condition that it was displayed.

The fabric is a Spitalfields silk identified and dated as 1735 by Natalie Rothstein, late of the Victoria and Albert Museum. It is a very rare survival of a style known to exist but of which almost no examples are still extant. The ground weave is dyed black on which a formalised pattern of lace is outlined in white, brocaded with large flowers in bright colours.

Unfortunately the nature of the process of producing the black dye is very destructive to the silk fibres, introducing an inevitable loss of strength almost as soon as it is made. When received there was a continuing loss of surface fibre and fragments were easily detached. The colours are still remarkable even though slightly faded.

All evidence points to the conclusion that the original 1735 version was altered to suit the fashion of a decade later. There were further interventions but none that altered the essential character of the garments.

### ***The Shape of the Gown***

Apart from the shape of the train the gown followed the lines of the generic type fairly closely. The pattern for a bodice shown in *The Cut of Women's Clothes*, for 1735 (see diagram 1) was almost identical, any variation accounted for by the replacement of part of the under-arm material, let in alongside the seam which joins on the robings. The stitch lines of the original dart in the armhole were also visible. When worn the length of the train is halved, the bottom section looped up to be fastened at the corners to the main seams at the level of the join. More details of the way the train is constructed and dressed will be given later.

### ***The Petticoat***

There were six full panel widths, each 52centimetres wide with narrow selvedges. For convenience each piece has been identified with a letter, U – Z. When received the two centre panels were still pleated and retained some fragments of a waist band. Otherwise it was flat and open down the back but there were fragments of a different material, blue and white checked wool, that suggested that there had been a seventh panel at some time. Pieces V and Y each had a pocket slit that finished about 4cms from the top edge. The slit was neatly finished with a rolled and hemmed edge.

In order to try to understand the form of the petticoat a toile was made in calico including the seventh panel and the pleat marks on the original were drawn in pencil along the top edge. When this was pleated up, however it was much too big around the waist for a pannier of average width so a construction was put together that reflected the assumption of a wide. 1740s fashion. A toile can be useful but it has no “memory” of past positions to help in deciding which of several possibilities is the right one. In the end it is only by trying the real thing that anything convincing can be achieved, and when the petticoat itself was offered up it was obviously wrong around the waist and the vertical seams were dragged out of line. The width of the pannier was reduced and slowly we arrived at the present shape, which corresponds to the earliest version that can be traced.

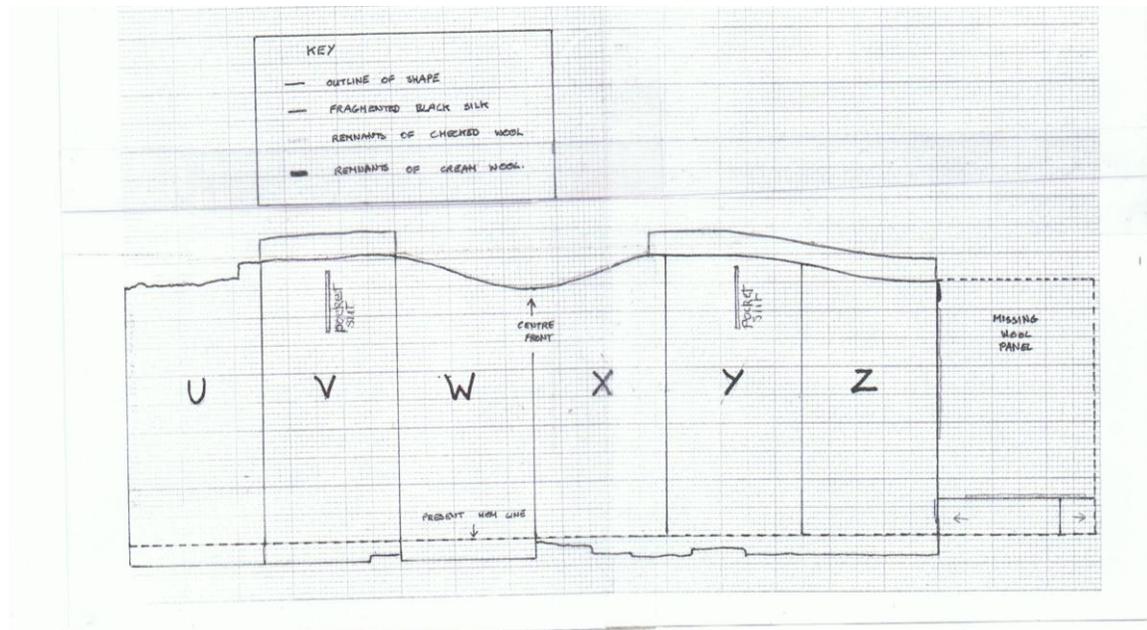


Diagram of the panels of the petticoat.

### Conservation Methods:

**Before going further with the description of the construction and reconstruction of the gown and petticoat a brief account of the way the basic fabric was conserved before it could be put back together is given here.**

*In a situation such as this, where the fabric had to retain the ability to fold and mould to pleats, using sufficient adhesive to hold the Stabiltex firmly enough to prevent the cracks from spreading would be self-defeating. The use of the adhesive was more to make the Stabiltex controllable than to adhere it to the silk. In any case there was so much loose fibre around on both reverse and front surfaces that it was impossible to create a really strong bond.*

#### To Treat Stabiltex with Beva 371

**Method 1** using a spray gun only in a spray booth with strong extraction:  
prepare the Stabiltex by stretching it between two bars or rollers (depending on the size of the piece required) one above the other, making absolutely sure that the orthogonality of the weave is maintained.

Beva must be diluted from the gel in which it is sold, with a solvent from the hydrocarbon range, between petroleum ether and Stoddart's according to the speed of drying needed. A very thin solution is best for spraying but not one that will dry too quickly or the solution will form strings before it hits the surface and create a rough and uneven film. With the right mixture two or three coats are required to build up sufficient adhesive in an even layer.

## ***Method 2***

Alternatively, the fabric can be stretched over a silicone surface and the solution painted out, keeping the weave in line. When dry the layer of adhesive is on the lower side of the support, the thickness controlled by the percentage solution used.

The choice between an all stitching or all adhesive approach has long given way to the understanding that a combination of the two often gives the best result. In this case it was decided to use black Stabiltex as a support, first treated with a light coating of adhesive (Beva 371, sprayed) and attached to the reverse of the fabric using heat from an iron (65°C) followed by couching with Skala polyester thread where reinforcement was needed.

This principle was followed throughout but where further reinforcement was needed and to replace actual missing areas a black polyester taffeta was used, supplemented with a heavier polyester, which was a closer match to the black of the ground, pieced in, in larger areas, to bring the surface level up to the original. [On the left the bottom of the petticoat is shown, backed onto the first layer and on the right the missing piece of the cuff of the gown is being made up with the second layer.]

The surface was covered with black tulle wherever the fabric had to be handled for fitting.

Looking at the finished article a less dense colour may have been better, as the areas of black tend to give a false impression of the construction.

## **The Development of the dummy and corset**

When creating a figure for period dress the underlying shape and garments need to be as authentic as possible or the resulting display will not be convincing and the body itself must be firm or the shape will not be maintained over a long period of display.

### ***The Dummy***

The dummy, which would form the base of all reconstruction work and, eventually, display, was provided by the firm H&H Sculptors from their specialist range of period figures. The 18th century was a period when the female figure was tightly controlled, pushing up the bust but giving a long line beyond the natural waist, not the kind of hour glass figure of the mid-19th century. We had no real idea of the size of the lady so chose to work with the smallest available. With hind sight at least one size larger would have been a benefit as the width across the shoulders proved to be too narrow for comfort. The bust, also, has had to be enlarged to the point where it is now impossible to join on some arms if it was desired.

The method of building the figure was one I developed when working on the V & A Costume Court figures in 1984, using 'bandages' i.e. lengths of cotton cut on the cross about 7.5cm wide wound around the figure to hold wadding in place and pull it tight to make a firm body.

### ***The corset and stomacher***

Meanwhile a corset was made up using an authentic 1735 pattern taken from *Corsets and Crinolines* by Norah Waugh (published by Batsford, 1954). It was made from two layers of firm, satin weave cotton, stitched together to make a series of channels into which lengths of

flat spring steel were threaded. The 18th century corset is long in the body and pushes up the bust to give an elegant line. This version is laced both back and front, allowing for considerable adjustment to fit the lady. The stomacher was a separate triangular shape, also stiffened, which was covered in plain black silk and eventually decorated with red ribbon to fill the space between the robings in the final dressing.

### ***Creation of the pannier***

A pannier was constructed from another pattern from Corsets and Crinolines but this went through a number of changes during the process of reconstructing the petticoat as evidence emerged and ideas changed about its proper shape.

At first it seemed that it would prove to be a round shape; but there was too much fabric in the waist to pleat up and keep the pocket slits in the right place. The next idea which took into account the possible extra panel, was that it was much wider and flatter, more like the fashions of the 1740s, with two side plackets instead of one centre back, and a pannier was constructed to support this. However the way the panels draped and that the seams did not run vertically quickly showed that this was also wrong.

The final version proved to be a cross between the two, with modest side panniers dropped well away from the waist line. During our experiments a bum role was tried to support the back of the skirt but this too was abandoned as being too prominent. An extra petticoat was added to soften the lines of the hoops which kept the lower part of the petticoat held out to shape. A lot of support of this kind is required to maintain the shape over a long period. The crinoline, as such, did not become fashionable until the middle of the 19<sup>th</sup> century.

### ***Final touches***

A chemise was made from fine cotton, with elbow length sleeves and with the neckline gathered on a tape run through a channel. This garment went beneath the corset and two layer lace ruffles were added to the sleeves and a length of matching lace gathered up to run inside the neck-line.

The Brussels lace of the right period has been lent by Burghley House until the dress has been displayed.

### **Further comment on construction and alterations**

As described on page 3 the two centre panels were still pleated and retained some fragments of a waist band. Otherwise it was flat and open down the back but there were fragments of a different material, blue and white checked wool, that suggested that there had been a seventh panel at some time.

The pocket slits were worn and splitting at the top but otherwise they were neat and convincing.

With the exception of the two centre panels (W and X) the rest had been lengthened with an addition of widths of plain black ribbed weave silk, neatly over-stitched to the turned edge along the top, before being pleated in line with the main original pleats, together with some new ones. Only traces remained of the extension to piece U, which was in particularly bad

condition. These were probably added for the second version, along with the extra loom width of check patterned wool in the centre back, making it possible to increase the width of the panniers in accord with the fashion of the 1740s. The extra panel would have been hidden by the train and is not an unusual feature of the very wide and grand dresses of this period. The first version of the pannier and mock up of the petticoat proved that there was not enough evidence to proceed along those lines with conviction.

The first intention was to leave the black silk in place, perhaps to turn it inside and incorporate it with the pleats, but to conserve it to a usable state would have taken far too much time and would have been very bulky in any case. With some reluctance, therefore, the strips were removed.

The panels of the petticoat had been shifted in relation to each other in the vertical line so that the pattern was no longer aligned correctly. Much of the weak stitching had been reinforced by tight machine chain stitching from the 19th century which was acting like a perforation line.

The same fabric was found as lining to the cuffs of the sleeves, which was probably added when they were altered for the 1740s. This is still there.

The fabric of the bodice was in a state of collapse, particularly through the centre back and under the arms, affecting both the sleeves and bodice, all places where sweat was likely to combine with the effects of the mordant in the black dye with disastrous results. When half of the bodice was laid out free of the train and with the front and back separated at the shoulder it was clear that the under arm was lacking some material and the shoulder line was too narrow. When eventually the sleeve was examined this too had lost material. Stitch lines vanished into nothing under the arm and the top was curved instead of being straight across (see diagram on page 2). Part of conservation was to build back these missing areas as well as to consolidate the pleats in the back where the lines of stitching had split along perforated lines. There was severe damage at the base of the pleats which had been caused by the drag on the buttons stitched one on each side round which the cords were looped.

The facing of the neck line at the back was a replacement, the mitred corners folded rather than being cut to shape, in order to join with the robings as they come over the shoulder. The robings appeared to be the original fabric though with much loss along the turnings and of surface decoration.

The lining of the bodice was lost at some time during the next 200 years, one remaining piece in the back and two strips used to fix the bodice to the stomacher being all that was left and they may have been later anyway. The remains of the wool found down one side of a back panel indicated quite drastic alteration by the addition of an extra panel has unfortunately obscured original detail of how the placket worked.

The train itself is made up of one long central piece, joined to the extended bodice with the wrong side of the material to the outside, with sections set symmetrically to either side, which tuck in along the sides when the train is turned up. There were places of wear along the hem line and other areas where it was handled.

In the diagram of the pieces of the train there are two panels, A & B, missing, but there are also the three pieces of fabric (see above) which cannot be accounted for by the pattern repeat or by the marks of previous usage; there are signs of pleats on one piece, itself made up of two pieces, that indicate it had been used as a cuff and of tight gathering on another. There are also the pieces used to alter the front of the bodice to account for, but with the evidence available this is impossible and we are left with only unprofitable conjecture. The piece that might have been used as a sleeve cuff was eventually mounted on black material to make up a piece to match the missing cuff of the train.

It is difficult to be sure that any original stitching survives on either gown or petticoat although the seams of the train have been double turned to keep the cut yarn of the brocade under control and this is most likely to be original. However, investigation could only take place wherever the stitching was exposed revealing loosely twisted brown silk thread but the actual stitching is not of a quality I would expect in a dress of this nature, but perhaps this is a sign of a country Mantua maker rather than a high class London maker.

The thread used for the alterations was thick, white and doubled up, a sure sign of an alteration although black thread was used for stitching on the taffeta strips.

## **Reconstruction**

### ***The petticoat***

Work on the petticoat was begun with the idea that the pleating in the front two panels was sufficiently early to be retained but when the decision to remove the black silk was taken it was found to taper down to be caught in with the outer pleat on each side. Once this section had been released then it could be seen that there were older pleat marks present and thus it would be better to release all of the pleats. The remains of the old waist band were first removed and retained but was too fragile to do anything with. Each panel was treated as described in the section *Conservation Methods* but they had been shifted slightly in relation to each other, perhaps to try to make the pattern line up more closely. The pattern itself was irregular in the length of the repeats, a common feature of draw loom weaving, making it impossible to align both turn lines and pattern exactly. With some difficulty the tight machine stitching was removed and the pieces realigned to make sense of the horizontal turn lines at the hem and waist, after which the top of the waist and pleats could be followed more accurately.

At the hem there were several lines to choose from but here it was important to bring in the gown as the turn up point of the train gave the length of the petticoat.

As described in the making of the pannier several versions of the shape were tried out, one including the extra width of fabric. In this version there were two plackets, one on each side of the waist, but there were many anomalies indicating that this idea was not right. Pleating was made more difficult by the extra layer of fabric required to fill in missing original material, particularly as it had to be doubled over before pleating started.

When the extra width was removed and the back seam joined together some greater sense emerged. There was a wear mark indicating the bottom of the placket and a very deep turn back on both sides. Once on the body it was plain that the placket overlapped to a

considerable degree at the waist and when further over-lapping of the pleats was introduced at the pocket slit the measurement of the waist began to make sense.

Black tulle was used to cover the areas, such as the flat pleat in centre front, which suffered from handling and more couching was added as movement disturbed small fragments. The compound structure of the weave meant that only one surface was given support by the adhesive, the brocaded silks and secondary warp having to rely on intermittent stitching..

### ***The Gown; bodice***

Turning to the gown, and particularly the bodice, the sleeves were removed and the join at the back neck line was undone to allow each half of the bodice to lie more or less flat. The original dart line forming the bust was visible beneath the alteration, so this line of stitching was also released. The loss of fabric under the arm and over the shoulder could be calculated by following the curve of stitch lines now cut short and taking account of the pattern illustrated on page 3

A more or less square section had been joined in about 2 cm away from the seam of the robings, and across to the side seam just below the line of the armhole, possibly as a repair or to change the size. It created a ridge where no such ridge should be but this had to be accepted.

The robings were supported by the usual method although much extra couching was needed along the fold lines. Eventually they were also covered with black tulle as handling during mounting trials was subjecting them to a lot of stress and loss of surface fibre.

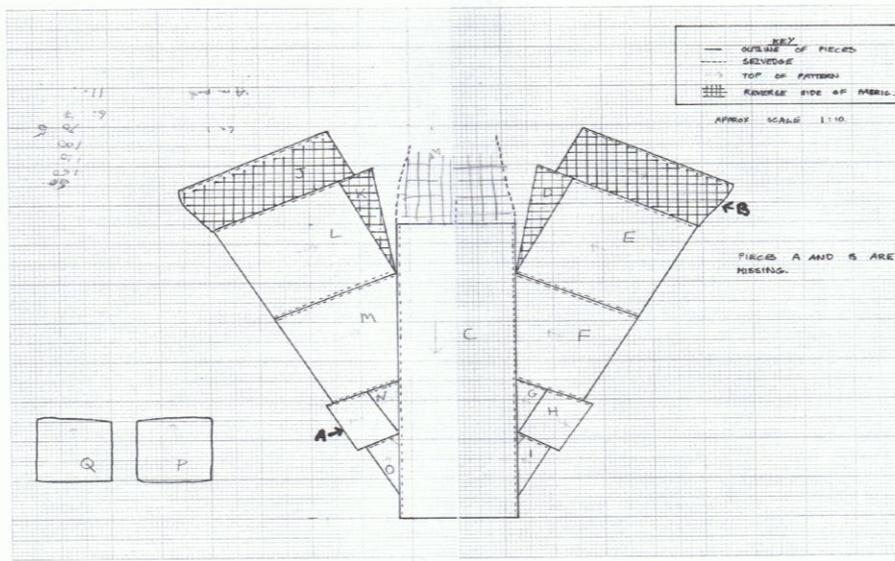
The centre back pleats were as originally constructed but the stitch lines were splitting and there was loss of fabric at the level of the waist. This extreme damage was eventually explained by the position of the buttons for the loops, stitched in the inside seam of the train, to hitch over and hold the cuffs in position. See below.

The sleeves had been cut into a curve over the shoulder line where originally it was flat across the top as in the pattern on page 3. Replacement of lost fabric was followed through as usual and when they were put back into the armholes the proper procedure was followed, stitching them down onto the outside of the shoulder.

In order to make up the missing fabric it was necessary to virtually fully line most of the pieces of the bodice which had the disadvantage of obscuring the remaining details of construction, making it harder to follow the stitch lines accurately when putting them back together.

### ***The Gown; train***

The train remained attached to the back of the bodice throughout all operations, but the top sections, J and B (B was actually missing but was made up later by using one of the floating pieces mounted on the black material to make it up to size) together with D and K had become detached from the front of the bodice. After supporting all the pieces the method of joining them up again had to be discovered. The short inner end of the cuff was brought round to join the base of the bodice and then arranged to sit on the side pannier while the cord was brought up from the inner seam to be looped over the button on the outside.



**Diagram 2** The train of the gown looking at it as from the inside of the bodice. The cross hatching indicates the reverse of the fabric.

Details of the all the moves required to re-create the form of the train are difficult to plot but several attempts were made to find the correct way to arrange the kite-like shape satisfactorily. There was a change of colour that seemed to indicate that the turn up at the back took the end up to halfway between the bottom edge of the bodice and the point where the train turned inside out and that the buttons for the loops were stitched at the same level on the seam. However this did not look right. The level of the end of the train was dropped to the point where the bodice met it and the fabric was reversed, leaving the buttons where they were. Still this was not right, and as already pointed out we are indebted to Madeleine Ginsberg for her advice, and the final realisation that the evidence of the damage at the base of the pleats of the back of the bodice indicated that the buttons should be there. As soon as they were in the right place the loops held the cuffs much higher it was obvious that was the right place. If you let the object talk to you it will tell you the right solution.

### **Final Dressing**

A set of lace of the right period from Brussels was kindly lent to Lincolnshire County Council in order to complete the sleeves and neckline, which looked very bare without this essential element. It was washed and attached to a two tier ruffle made up from fine lawn which was attached to the inside of the sleeve cuff. It had been intended to stitch the ruffles to the sleeves of the chemise but it proved difficult to keep the ruffle spread open without an arm inside. Stitched to the line of the inside of the cuff this problem was overcome. The length of lace for the neck was gathered up and disposed as best as possible. The lace in the portraits always looks as though it was stiffened but for the sake of the object we could not resort to this expedient.

The robings, instead of being pinned to the stomacher were actually stitched as a more permanent way of keeping them in place, and a black satin ribbon belt was added to further

secure them. This is perfectly in fashion for the period. The stomacher itself looked rather stark and empty so it was decorated with four lengths of gathered red ribbon.

The result is as close as it is possible to get to what this dress looked like when it was first worn about 1735, although compromises have been made to accommodate alterations introduced in the 1740s, and counter-act the effects of wear and neglect during the course of two centuries. The fabric itself is still in a very fragile condition, a condition for which there is no cure in the conservator's current range of possible treatments. It should be handled as little as possible, left on the stand which has been constructed for it in a relative humidity erring on the dry side and only displayed in low light levels. It would have been seen at its best in candle-light and perhaps for display something of the sort could be simulated. She needs jewellery to fill the neck line or perhaps a fichu but since it will not be possible to add arms with any conviction, nor a head, display must be as an abstract rather than realistic concept.

Final check on October 26<sup>th</sup> 2012  
Sheila Landi