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# Unpicking the Bacton Altar Cloth: innovative methodologies for interpreting embroidered textile artefacts

## Introduction

For more than a century, the embroidered textile known as the Bacton Altar Cloth (BAC) has been of interest to scholars, some of whom have speculated that it may have been created from an article of clothing worn by Queen Elizabeth I (Arnold 1988, 80; Lynn 2018). This rare survival presents an unusually broad variety of large botanical motifs worked directly on the silk and silver ground fabric by highly proficient professional embroiderers, as well as additional smaller motifs probably added later by skilled amateurs (fig. 1). Evidence of repeated cutting and piecing preserves an intricate record of the object's history of reuse and repurposing. The mixture of uncommon needlework techniques, such as polychrome speckling stitch and needle blending, with familiar methods including stem stitch, chain stitch and woven wheels, give this embroidery the potential to contribute significantly to scholarship of Early Modern textile art.

At the beginning of 2021, the BAC Stitch Research Group came together from a series of collaborative online presentations and discussion sessions about the textile hosted by the Medieval Dress and Textile Society (MEDATS) in the United Kingdom. The group members come from a variety of backgrounds with a mutual desire to share findings and pool resources to produce a richer research output through collaboration than would be possible by a lone scholar. The project progressed without set deadlines or timelines and has produced two conference papers, several workshops and blog posts. Work has begun on two articles for peer reviewed publication. The group's mission is to use a collaborative blend of research approaches to learn about the BAC and to share findings with the textile history community. These goals emerge flexibly and

adapt according to the findings of the investigation. Techniques include detailed examination of the artefact itself, including high resolution imaging and analysis, technical visual analysis, art historical interpretations of contextual sources (including botanical illustrations, paintings, and comparable surviving textiles), digital reconstruction and digital mapping of the artefact, and experiential reconstruction.

This project was launched in response to the cessation of normal academic pursuits during the COVID-19 pandemic. Travel to museums, libraries, archives, and historic sites was initially impossible. However, photographs taken by the authors before, during, and after conservation, both on and off display, allowed for remote analysis. Historic Royal Palaces conservators kindly supplemented these with additional photographs of the reverse of the BAC before it was mounted for exhibition, photomicrographs, and conservation reports. After restrictions eased, group members made additional visits to view the textile and captured more detailed photographs. Links to and notes about relevant resources were compiled in shared-access digital spreadsheets and slide shows to facilitate collaboration amongst team members during lockdown, and discoveries and observations were shared in weekly video meetings.

## Key research questions

Understanding the BAC will require investigating the past uses of the textile, identifying and interpreting the embroidered motifs on it, inspecting the materials employed in its construction, and both cataloguing and practising the techniques used to create it.

In 2015, the BAC was moved from its home in St Faith's Church in Bacton, Herefordshire (United

Kingdom) to the conservation studios at Hampton Court Palace, London (United Kingdom). In October 2019, it went on display as the focus of the exhibition *Elizabeth I's Long Lost Skirt*, curated by Eleri Lynn, then curator of the Royal Ceremonial Dress Collection. Lynn investigated the possibility of a link to the Tudor Court through Blanche Parry, Chief Gentlewoman to Elizabeth I, concluding that, despite an absence of documentary evidence to link the cloth to a garment worn by Elizabeth I, "the very strong inference to be drawn is that this late 16th-century, elite, professionally embroidered court gown entered the small church of Bacton by gift of the queen in memory of Blanche Parry" (2018, 22). Janet Arnold also conjectured that "it was one of Elizabeth's petticoats given for use in the church after Blanche's death" (Arnold 1988, 80). However, neither Arnold nor Lynn were able to conclusively determine the nature of the previous textile object from which the BAC was made, nor confirm that the cloth had a royal provenance. A more definitive answer to this question is a key objective of the BAC Stitch Group.

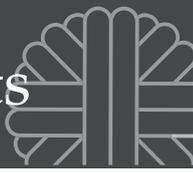
Embroidery added significant value to this already luxurious textile. Not only did it provide beauty and colour, it also reflected the social, political, and religious values of those who commissioned it from

professional needleworkers and of the amateurs who devoted considerable time and cost to adding additional images (Morrall and Watt 2008, 167). Embroideries were usually worked on linen, then cut and applied to more expensive textiles. Understanding why the motifs were embroidered directly onto the silk and silver ground may clarify the purpose for which it was initially commissioned.

The diversity of flowers, vines, trees, and woody shrubs worked on the BAC elevates its significance beyond that of most surviving Elizabethan embroideries, as it permits greater study both of the history of English gardens and of the importance embroidery patrons placed on depictions of both familiar and exotic specimens. Many authors acknowledge the complex symbolism of botanical motifs in art of the Early Modern era (Hayward 2010, 25–26; Reynolds 2013, 150; Lynn 2017, 96). The BAC may have been commissioned by a noble to represent their fashionable interest in formal gardens (Strong 2000, 20–26) and their knowledge of recently introduced foreign species. Accurate identification of the plants appearing on the BAC may help establish a date range for the creation of the primary botanical motifs and illuminate the cultural significance of a textile representing this species variety.



Fig. 1: The Bacton Altar Cloth after conservation: it is a natural colour (undyed) ribbed silk with a supplementary weft of flattened silver strips, embroidered with large botanical motifs in blended polychrome silk with gold and silver thread, and smaller animal images in silk and metal threads. On loan to Historic Royal Palaces courtesy of the Church of St Faith, Bacton, Herefordshire, UK (Image: Challe Hudson)



## Outcomes to date

The Bacton Altar cloth was conserved, framed and hung on the wall of the St Faith Church in 1909 (Lynn 2018, 4). During conservation in 2019, the previous linen and cotton patches, conservation stitching, and cotton lining were removed. The silk ground is fragile and degraded in many places, and the embroideries have faded. The BAC was cleaned with a low power vacuum and cosmetic sponges, then stabilised by stitching to a silk lining dyed to match. The BAC is now mounted on a padded board, stored and displayed flat in a T-shape measuring 117 cm by 201 cm (Henni and Thompson 2019).

The BAC Stitch Group first attempted to identify the species depicted in the 80 plus full and fragmentary botanical motifs. This process was complicated by the presence of motifs clearly representing the same plant, but worked from different patterns, as well as motifs with identical silhouettes, but for which the flower or fruit colours are dissimilar. Texts such as John Gerard's *The Great Herball, or, Generall Historie of Plantes* (1597) provided a reference for understanding how contemporary botanical knowledge could have informed the artists designing the motifs. The BAC Stitch Group shared their photographs and research

progress in virtual workshops, encouraging feedback about the species identifications proposed, and sought opinions from gardening experts. A total of 38 distinct species were identified. Although a small number are yet to be conclusively assigned a species name, every botanical motif has been numbered and catalogued, with accompanying visual or contextual references recorded for each identification.

The group also analysed the smaller embroidered motifs that had been worked amongst the botanical motifs. These secondary motifs were first organised into categories and mapped on the cloth with Graphical Image Manipulation Program (GIMP) computer software, then analysed based on emerging themes (fig. 2). Caterpillar motifs were embroidered throughout the BAC, but motifs such as insects, butterflies, birds, and trees were clustered near others of a similar type. Other motifs appear to have been positioned relative to one another conveying an idea or a story. One of these series became the subject of further investigation into the popular depiction of hunting scenes in a variety of 16th century decorative arts (Hudson et al. 2021). This scene was significantly altered by the deliberate removal of at least three animal motifs (ghosts) visible in traces of remaining

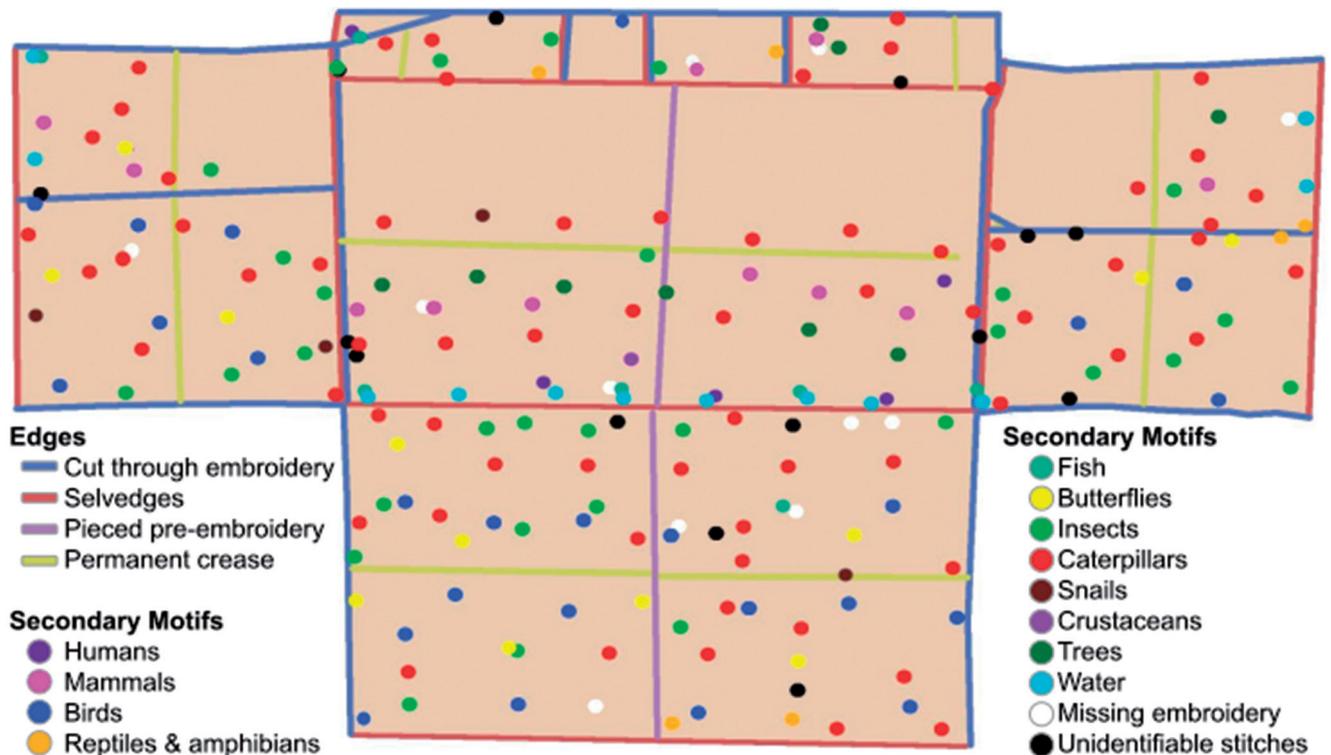


Fig. 2: The secondary embroidered motifs (dots) and the selvedges, seams, cut edges, and creases (lines) used to guide a digital separation of the Bacton Altar Cloth into its component fragments. Together with the embroidered botanical motifs (not pictured), the digital separation was used to reassemble the fragments into the textile's original trapezoidal panels (Image: Challe Hudson)

stitches and damage to the ground fabric (fig. 3). Another apparently narrative scene taking place on water featuring boats, men, and large aquatic creatures is depicted in a horizontal arrangement of motifs. Research into the source and meaning of this series is ongoing.

Mapping the smaller motifs also indicated a pattern to the placement of the categories, with birds and butterflies appearing only on some parts of the BAC, while the hunting and aquatic scenes were located on different panels from the flying animals. This led to the next phase of the project: identification of the individual pieces of fabric that were sewn together to create the altar cloth. Photographs were carefully studied to identify markers such as creases, selvages and severed motifs, which were digitally mapped onto the cloth using GIMP (fig. 2). These markers were then employed to reassemble the individual pieces into the positions they would have had prior to cutting by digitally unpicking the seams and rearranging the component parts of the altar cover (fig. 4). The digitally restored cloth confirmed the pattern suggested in the mapping: the smaller motifs had been embroidered onto two distinct and discontinuous trapezoidal panels before they were refashioned into a table cover (Hudson et al. 2022).

Possible sources for the specific patterns for the large botanical and smaller animal motifs were also sought. A potential source is Jacques Le Moyne's pattern book, *La Clef des Champs* (Lynn 2018, 15). This book contains several designs that are almost identical to those worked on the BAC, particularly larkspur, borage, and barberry. Other illustrations closely resemble the marigold, grapevine, and squirrel on the BAC. As the woodcuts for the pattern book were based on Le Moyne's earlier watercolour drawings, these were also considered, along with derivative works such as sketchbooks (British Museum 2022) and early 17th century printed pattern books based on Le Moyne's work (de Passe 1593–1603). Although these works resemble the botanical motifs on the BAC, none appear to be direct copies. Sources for the secondary motif patterns were also sought. The bear was probably copied from Nicolaes de Bruyn's bestiary, *Animalium Quadrupedum* (Lynn 2018, 17). By studying works by de Bruyn (1594) and other contemporary printmakers, as well as needlework pattern books, illustrated herbals and early zoological texts, additional possible sources were located which now merit further study.

The ground fabric has been identified as a silk camlet (Arnold 1988, 79; Lynn 2018, 12), "a warp-faced tabby with a pronounced weft rib" (Hayward and Ward 2012, 247). A supplementary weft of a fine flat strip of silver



Fig. 3: Detail of the Bacton Altar Cloth showing the outline of a mostly removed secondary embroidery, probably a lion, crouching behind a stylised tree (Image: Challe Hudson)

laid on top of every second weft thread adds value to this fabric. A limited number of extant contemporary examples of similar silver camlet survive to the present day, some with flat strips of silver in alternating passes of the weft and some with fine round silver wire or pairs of wires in every pick of both plain and twill fabrics. The camlet has been identified as of Italian manufacture (Lynn 2020, 64); further analysis of the weave structure and coloured patterning of the preserved selvages may help to establish a more precise place and date of manufacture. Signs of damage, such as a permanent crease lengthwise down the middle of the fabric, and the presence of seams in the ground fabric made before the embroideries were worked, may be significant clues to the cloth's past uses.

Investigation of the materials and techniques employed by the professional embroiderers who created the large botanical motifs was also undertaken. Other extant examples of the blended polychrome speckling technique were sought. Small items such as coifs and forehead cloths with similar motifs rendered in a speckling stitch were found, but none were worked in more than one colour and none in the quantity and scale appearing on the BAC. Four of the large motifs were drawn to scale and reproduced using materials as close as possible to the original

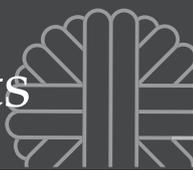


Fig 4: The component pieces of the Bacton Altar Cloth digitally separated along the seams and selvages (Image: Challe Hudson, original image © Historic Royal Palaces Courtesy of the Churchwardens and Parish Church Council of St Faith's Church, Bacton, Herefordshire, UK)

in order to provide insight into the skill level of the embroiderers and the difficulties they may have encountered. Creative blending of the coloured silk threads in a single needle proved to be a challenge and piercing the fabric through the denser bundle of weft fibres required concentration and dexterity. The denser the speckling stitches, the more compact the weave became, requiring considerable strength and perseverance. The results confirmed that the technical skill required to place the stitches quickly, carefully and efficiently was simultaneously demanding and tedious, suggesting that the 16th century embroiderer or embroiderers had been expertly trained and worked in a professional capacity.

#### Future work

Using the selvedge-to-selvedge width of the silk ground (52 cm), estimated measurements of the fabric pieces that were cut to form the BAC have been calculated from the digital reconstruction. The shape and dimensions of these hypothetical panels will be compared to patterns taken from extant garments and domestic furnishings as well as inventory descriptions, tailor's pattern books, and representations of

embroidered textiles in art. Future work will aim to replicate these pieces in fabric with similar qualities to the BAC camlet and experiment with draping and shaping these pieces to better understand how this original textile may have been used. Mapping areas of significant damage to the ground fabric and the location of now lost embroidered motifs may also contribute valuable information about its past uses.

Visual analysis and categorisation of each of the small embroidered motifs with respect to stitch, thread, colour and design will aid in determining a better timeline for the application of the secondary embroideries. Additional experiential reconstruction will help to analyse the techniques used to create the animals, water creatures, birds, trees, and insects. The stitches used to create these motifs are freer, more intuitive, and reflect a less prescriptive placement of stitches and a larger selection of embroidery techniques than might have been chosen by a professional.

A survey of contemporary extant embroideries is being compiled to establish a basis for comparison. This will help determine the ways in which the materials, methods, designs, and past alterations of the BAC are similar and dissimilar to surviving decorative textiles.

A comparison of these features may answer some of the questions surrounding the BAC and illuminate its unusual qualities. This research may also inform our understanding of the interdependent relationship between professional and domestic embroiderers.

This continuing research will attempt to reconstruct the 500-year journey of this object from the loom to its current state and status, and consider its evolving cultural significance. The multilayered digital mapping of motifs, damage, and defining marks on both the current configuration of the BAC and the reconstruction of the panels that were cut to make the BAC is an essential process for future investigation of this textile. The expanding image library of both extant objects and related art will aid further research of the BAC, and inform scholarship not just of Early Modern textiles and material culture, especially the evolution of both professional and domestic needlework, but also botanical and horticultural history.

### Acknowledgements

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