BAYEUX TAPESTRY

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The condition report and its implications for the conservation and exhibition of the artefact.

In spite of the challenges presented by the public health context and the fact that cultural institutions are closed to visitors, heritage conservation and restoration continue to be a major priority for the State.

A report on the condition of the Bayeux Tapestry was thus carried out by a team of eight restorers, all specialists in antique textiles, at the beginning of 2020 (with the State as contracting authority), in order to gain a better understanding of its state of conservation.

This examination represents an essential basis from which to develop a restoration protocol. It will also inform and support deliberations as to how the Tapestry should be exhibited in the future, in line with the latest recommendations regarding textile conservation.

These various areas of scientific work form part of the development phase of the overall architectural and museum project (for which the City of Bayeux is the contracting authority) that is intended to provide a new setting for the thousand-year-old embroidery from 2026.

This press pack reports on the activities carried out last year and sets out the methods used, the results and recommendations.
Bayeux Tapestry Museum

The Bayeux Tapestry has been classified as a Historic Monument since 1840 and has been listed in the UNESCO “Memory of the World” Register since 2007. The artefact is the property of the French State and was entrusted to the city of Bayeux by Napoleon Bonaparte in 1804. Today it is considered to be both the greatest monument to textile arts of the Romanesque period and a key testimony in its account of the conquest of England by Duke William of Normandy in 1066.

It has been on display since 1983 in the Centre Guillaume le Conquérant, formerly a large seminary, which is a building protected as a historic monument in the City of Bayeux conservation area.

The number of visitors from all over the world coming to see the Tapestry, as well as the many scientific studies devoted to it, serve to confirm the work’s international renown. The Tapestry museum receives 400,000 visitors a year, of whom 70% are from outside France, making it one of the top 5 most visited sites in Normandy.

In 2017 the French State attributed the label “Musée de France” (French national museum) in recognition of the unique character of the municipal collections of Bayeux, which henceforth took the name “Bayeux Tapestry – Baron Gérard Museum of Art and History”. At the same time it provided an administrative framework with a custodianship agreement spanning several decades.

Collegial deliberations were initiated in this context with a view to enhancing the conservation conditions of the Tapestry, with funding for the studies coming from the 2015-2020 CPIER (“Seine Valley” inter-regional project agreement).
Aim of the condition report on the Bayeux Tapestry: improving the conservation conditions of the work.

The aim of the preliminary study was to draw up a detailed and accurate condition report on the damage or repairs which had arisen over the centuries in order to increase material knowledge of the work and optimise its conservation conditions.

Several audits have already looked at preventative conservation methods with regard to the way the Tapestry is currently displayed (ten-yearly monitoring, climatic and lighting studies, accumulation of dust, scientific imaging campaigns etc), for which the reports were published recently (see conference proceedings *L'invention de la Tapisserie de Bayeux* (“Inventing the Bayeux Tapestry”), published by Point de vues – Ville de Bayeux 2018).

In 2019 the DRAC de Normandie (Normandy Region Cultural Affairs Directorate), a decentralised department of the Ministry of Culture under the authority of the Prefect of the Normandy region, launched a call for tenders, assisted by the Fabrique de patrimoines en Normandie (Normandy Heritage Workshop), to carry out a more detailed assessment of the Tapestry’s condition and to draw up recommendations for its conservation, handling, display and restoration. This led to an examination being made in January 2020.

A survey such as this had never been carried out on the embroidered side. The data collected supplemented the observations that had been made on the reverse side in 1982-1983. All the data is now stored and available for consultation by experts on a documentary database associated with a Spatialised Documentary Information System (SIDS). This highly innovative tool was set up in partnership with the University of Caen Normandy and the CNRS research institute.

The results of the studies inform the actions required to stabilise the work and call for an analysis of the way in which it is displayed. They will also feed into the deliberations on the architectural and museum project being developed at the moment (with the city of Bayeux as contracting authority).

©Ville de Bayeux – Handling the Bayeux Tapestry in its examination area
Methodology for the condition report.

The condition report was carried out in January 2020 during the period when the museum is closed each year. The Tapestry had to be handled in order to allow the team of restorers to examine it close up without the interface of the glass case.

In view of the time constraints for examining this work of exceptional size (it is almost 70 metres long), the DRAC recruited a team of eight restorers-curators specialising in textiles, all with Masters degrees in the conservation and restoration of cultural properties from the University of Paris I or the National Heritage Institute:

- Aude Mansouri (leader),
- Cécile Argenton,
- Thalia Bajon-Bouzid,
- Marie-Flore Levoir,
- Valérie Marcelli,
- Déborah Panaget,
- Maëlle Toubert,
- Agathe Strouk.

The whole 68.38 metre length of the Tapestry was examined closely. Each restorer studied approximately 1 metre in length per day of the embroidery and its linen cloth background in order to analyse every element of deterioration.
Each point of deterioration found was transferred directly on to the SIDS tool, and entered using a digital tablet that was provided to each restorer. The decision to opt for a digital tool to carry out the condition report made it possible to:

- Establish a specific set of vocabulary for the task which meant that deteriorations could be clearly defined and entries could be standardised;
- Combine a diagnosis as to the origin of each deterioration, a variety of projections as to how it may develop according to how the Tapestry is displayed in the future, and recommendations in the event of it being restored;
- Produce immediate statistical reporting on the points of deterioration found, both in terms of quantity and of location on the work, which was of enormous assistance in enabling the operations to be monitored accurately day by day.

Support was provided to the team throughout the duration of the operation by the Assistant to the DRAC contracting authority: the conservation, restoration and scientific imaging centre of EPCC, the Normandy Heritage Workshop in association with restorer Patricia Dal-Prà, and by engineers from the CERTIC (Technological Resources Centre for TIC) at the University of Caen Normandy as well as the Digital Document Centre (PDN / MRSH).
Restoration work on the Bayeux Tapestry beginning in 2024

The condition report has enabled the state of conservation of the work to be better known while allowing decisions to be made regarding the next steps to be taken to maintain the work in a satisfactory condition.

At the end of the examination the restoration team had noted:

- 24,204 stains,
- 16,445 wrinkles,
- 9,646 gaps in the cloth or the embroidery,
- 30 non stabilised tears,
- more significant weakening in the first few metres of the work.

Some of the points of deterioration bear witness to the history of the artefact, and will be conserved unless they represent a risk of further damaging the work. For example, nail holes from successive hangings, repairs to the cloth that were made in the past and wax stains caused by candles used to light the cathedral have all been found.

In the framework of the museum renovation project, the scientific committee responsible for monitoring the conservation-restoration operations concluded that restoration of the artefact would be necessary. It should be scheduled for 2024 when the current museum space has to be closed to the public to allow building work to begin. The aims of the restoration work will be to stabilise structural deterioration such as tears, the meticulous removal of dust from the work, but above all to mitigate the tensions that are currently exerted on the medieval linen cloth, caused to a large extent by earlier restoration work.

Several operations have been scheduled in order to address this last issue:

- Dismantling the support structure which currently enables the work to be displayed, and which was installed in 1982-1983.
- Removal of a backing cloth which sources indicate was added during the 18\textsuperscript{th} century.
- Removal of a strip added in the 19\textsuperscript{th} century from the lower part of the work.

In the context of the museum renovation, the Normandy DRAC is currently in the process of commissioning a study in order to determine:

- How to remove the artefact from its current position and the conditions in which the restoration can be carried out,
- The specifications for a new glass showcase in which to display the work. This new showcase needs to enable the conservation conditions of the medieval masterpiece to be optimised.
Use of the Spatialised Documentary Information System (SIDS): digital technology working for the Bayeux Tapestry.

This study, unprecedented in the history of the Bayeux Tapestry, was achieved in record time thanks to its use of the Spatialised Documentary Information System (SIDS) that was developed and custom built for the Bayeux Tapestry.

With support from the French State and the City of Bayeux, the SIDS tool was designed by the University of Caen Normandie and the CNRS research institute, and in particular the CERTIC (Technological Resources Centre for the TIC · DSI · UNICAEN) and the Digital Document Centre (PDN · MRSH · CNRS · UNICAEN). The system had previously consisted of a digitisation campaign (in January 2017) from which scanned images were used and assembled to form a panorama thanks to the skill and expertise of the GREYC (UNICAEN – ENSICAEN – CNRS) information technology research laboratory, and with the aim of developing an innovative tool to form the digital component of the future Bayeux Tapestry museum project.

Although it was created in the first instance as a support medium for the restoration/conservation operations (the 2020 condition report and the forthcoming restoration work, funded by the DRAC Normandy), the tool will also be adapted for use by the specialist scientific community, by educational institutions and ultimately by the general public via specific mediation tools that will be developed at the future museum (funded by the city of Bayeux).

During work on the condition report, each restorer was provided with a touch tablet connected to the SIDS and so could enter her observations directly on to the software. The tool enabled them to access images of both front and reverse sides of the area of interest simultaneously, enabling them to better understand certain points of deterioration (for example caused by a piece of fabric that was only visible on the reverse side), as well as images obtained with different lighting and light spectra (UV, infra-red, false-colour, low-angle light). All these images had been obtained during the scientific imaging campaign conducted by the Normandy Heritage Workshop in 2017.

The SIDS thus allowed the team of restorers to achieve an enormous body of work in two weeks, producing more than 6,500 annotation sheets illustrated with more than 68,000 geometrical shapes indicating the points of deterioration found.

The intention is for the SIDS to become a universal source of reference for the ancient embroidery. It will enable the user to navigate around the work’s whole length of 70 metres, on both front and back, with accurate, common forms of identification of areas of interest relating to the material and iconographic state of the work. A considerable number of analyses, articles, photographs, bibliographies and graphic views will also be indexed, further enriching knowledge of the work.
Meanwhile, until the re-opening of the museum….  

In the context of the work invested in developing the SIDS, and pending the re-opening of the future museum, the Bayeux Tapestry is entering a new era of outreach as the digital reference panorama of the work goes online. This will enable the public to explore the entire length of the Tapestry as easily as using a map (accessible from February 2021).

The panorama was built from images produced by the Normandy Heritage Workshop in 2017 (funded by the DRAC Normandie), and underpinned by teams from the University of Caen Normandie, the Ensicaen and the CNRS. All the partners in the project joined together in proposing to the scientific committee that it should be put online, to which the advisers of course agreed. The decision has gained even more relevance today given the difficulty of access to the museum due to the public health crisis.

Given its commitment to safeguarding and promoting the thousand-year-old work, it was logical that all the partners chose the city of Bayeux as the most appropriate entity to be the exclusive presenter of the official digital representation of the Bayeux Tapestry to the general public.

The consultation page was produced by the University of Caen Normandie and the City of Bayeux, and provides the public with remote access to the 11th century embroidered cloth, with images of a quality never seen before on the internet. This high definition panorama, which will be freely accessible from the museum website www.bayeuxmuseum.com, has now become the universal reference image of the Bayeux Tapestry.