Sewing text and images together in the digital environment.

A review of Bayeux Tapestry Digital Edition

BIBLIOGRAPHICAL IDENTIFICATION OF THE REVIEWED SDE

Resource: Bayeux Tapestry Digital Edition

Director: Martin K. Foys

Publisher: Scholarly Digital Editions, Leicester (UK), 2003¹, 2011.

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1. Introduction

The Bayeux Tapestry is an almost 70 meters long embroidery visually and verbally describing the events related to William the Conqueror and the Battle of Hastings (1066). The narration of the deeds is provided by a variegated iconographic apparatus and short Latin inscriptions, which make the Tapestry "a historical account, but also an essential source of information on the way of life in the Middle Ages: it is therefore a documentary record which employs particular narrative techniques and makes use of symbolism" (Unesco 2006, 1).

Its complex nature and its historical relevance awoke a considerable interest in the field of scholarly edition. Rediscovered in 1728 by Bernard de Montfaucon, who curated the first facsimile reproduction in the same year, the Tapestry enjoyed a lasting philological fame also in the following centuries. Aware of this long-established editorial tradition, the *Bayeux Tapestry Digital Edition* (BTDE) aims at reproducing the embroidery overcoming the limits imposed by the printed page. Indeed, the project addresses the scope of exploiting the potentiality of the digital environment to provide a new reading experience to the user.

This project was developed from 1996 to 2002 thanks to the funding of Loyola University Chicago, a pioneering research hub in the field of digital scholarly edition (e.g. see the *Charles Harpour Digital Archive*), with the main collaboration of Center for Research and Creativity at Florida State University and Hood College. The developing team is directed by Martin K. Foys, Assistant Professor of English at Hood College, responsible for the major textual and paratextual content of the SDE. James Caccamo and Jody Evenson, specialized in CD-ROMs programming (the first edition was released with this support) joined the project as graphic designers and Erica L. Pittman as editor. These general parameters are easily accessible from the section "Credits".

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2. SUBJECT AND CONTENT OF THE EDITION

The project is a true pioneer in the field of digital scholarly editions of multimedia documents. The major innovation is its endeavor to mediate between a "reader-oriented" and "document-oriented" approach. The "Introduction" page observes that in the previous editions the document was either subdivided in high-quality, detailed segments or described through a small-scale reproduction of large narrative blocks. BTDE is hence an interesting negotiation between continuity and fragmentation: the continuity of the embroidery is preserved, yet each panel is enhanced with high-quality reproductions, commentaries and ancillary media.

On the one hand, the project "maintains a semblance of editorial control (and stability) by presenting its material in a docucentric structure" (Foys 2011, Introduction) as most of the resources is anchored to the Tapestry displayed in the home page. Following an established model of SDE (Pierazzo 2017, 2), the core of the project is the reproduction of the embroidery after Wilson (1985). This version can also be compared with three relevant facsimile reproductions: Montfaucon's (1728), Stothard's (1828) and Reading City Museum's (1885). This choice is led by two considerations. Firstly, it uses these copies as *descripti* to the identify possible modifications of the original inscriptions during the restoration campaigns. Secondly, their presence highlights how the editor considered the embroidery, in its double nature of image and texts, as precious source to reconstruct the history of the culture.¹

If this structure hence proves BTDE's kinship with previous printed editions, other features show an influence of the digital scholar tendencies at the beginning of 21st century. One of these aspects is of course the implementation of *hypertext* (Mancinelli and Pierazzo 2021, 38): BTDE "uses the computer to transcend the linear, bounded and fixed qualities of the tradition written text" (Landow and Delany 1991, 227). In this way, the reader experience is richer in comparison with traditional printed books, as the "BTDE enhances the ability to produce multiple versions of the Tapestry simultaneously, realized through the user's interaction with the readings presented in the body of commentary" and the secondary material (Foys 2011, Introduction).

2.1 THE ANALYSIS OF THE CONTENT: BETWEEN HYPERTEXT AND HYPERMEDIA

The user can acquire a comprehensive knowledge of the Tapestry thanks to the material provided, which analyses the inscription and the images of the manufact and reconstructs its historical background. Indeed, in the default <u>page</u> each scene is accompanied by a comment, consisting of a

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¹ A mention on the role of *codices descripti*, particularly in the history of the culture, is mentioned in Pasquali (2020, 26). The facsimiles were created both to have a reliable reproduction in case of damages of the original embroidery and to allow a diffusion in England of the French artwork. They are interesting sources to understand the reception of the tapestry, similarly to engravings for artistic masterpieces.

rich description of the scene and its details and of the historical background of the events. It also mentions relevant restauration campaigns and deciphers the iconology of the figures in the upper and lower boarders. The late Latin inscriptions commenting the scenes are also analyzed in this section and are transcribed and translated in English above the reproduction of the embroidery. The selection of the available resources is hence inspired to reconstruct the *Zeitgeist* of the artwork. This setting is evident also in the section "Background", whose material is both *hypertextual* and *hypermedial*. Indeed, they "extend hypertext by reintegrating our visual and auditory faculties into textual experience, linking graphic images, sound, and video to verbal signs" (Landow and Delany 1991, 231).

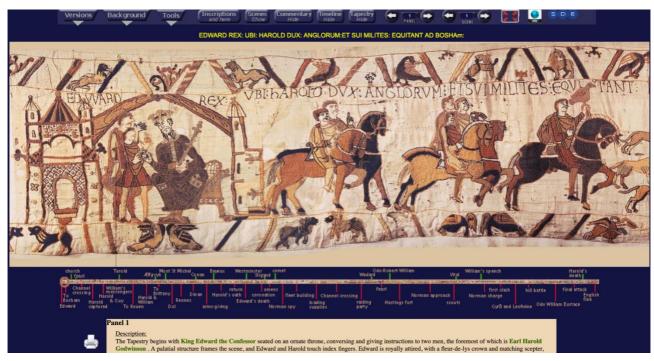


Figure 1. Main page of BTDE.

The "Genealogy", curated by Foys, reconstructs the context of the dynastic war between the duke of Normandy and the king of England. The two branches of the family are distinguished with two different colors and the user of the edition can point to any member of the tree to read a brief biography, supported by several scholarly references. Each source is linked to the general "Bibliography", consisting of a list of titles presented in raw text. Moreover, the historical background is based not only on modern studies. Indeed, original sources are collected in the section "Library" either in full-texts or, more often, just in the most relevant excerpts. The section offers a modern English translation of the source in raw text. An interactive panel provides a brief description of the displayed document ("Introduction"), a short set of notes, which can be directly reached with the hyperlinks in the main text ("Notes") and a list of the bibliographical references.



Figure 2a, b. Library panel and catalogue of the available text.

This interactive paradigm and this interface characterizes other sections, like "Museum", conceived to describe the material culture beneath the embroidery. Each element is displayed on the right and commented on the left. Different modalities of visualization are proposed, like "split screen" allowing to compare the analyzed virtual items and a specific element of the Tapestry. This tool is relevant also from an art-historical point of view as allows to identify motifs and iconographic sources (seals, illuminated manuscripts, architectures etc.) for the embroidery. The attempt to reconstruct not only the military history, but also 11th century way of life is addressed as well by the "Glossary", describing the events, the people and the places presented by the Tapestry. It contains an interesting *excursus* on social and cultural aspects identifiable in the embroidery, which are enhanced with hyperlinks to other relevant contents available in BTDE.



Figure 3. "King's Edward Seal", split screen view.

The references to places in the glossary are intimately linked to the section "Map", storing information and animations concerning the battlefield of Hastings and the main places mentioned by the Tapestry. This section should have allowed to dive in an immersive multisensorial experience. Unfortunately, this functionality cannot be enjoyed completely. Indeed, this SDE, which was originally published in CD-ROMs, suffers the obsolescence of different technical infrastructures: for example, the panels of "Click map" (Fig. 5a) or "Battle map" (Fig. 5b) cannot be visualized correctly, as uploaded in Shockwave Flash (Fig. 4)²

Figure 4. HTML script of the page "Click map".





Figure 5a, b. Visualization of the SWF files of pages "Click map" and "Battle camp".

3. AIMS AND METHODS OF THE EDITION

Albeit the edition displays the content in an intuitive structure, without omitting relevant material, it sometimes seems superficial in the description of the methodology, especially concerning textual scholarship. This inaccuracy can be seen already in the lack of a proper *philological statement*. The sole section which may provide useful food for thoughts in this direction is the "Introduction". Here, after a short bibliographical reconstruction of the history of the Tapestry, the aims of the project are stated. BTDE is not conceived as a *summa* of the previous studies on the embroidery, rather the

² The format was declared obsolete at the end of 2020, but it can be still opened by an external software (e.g. Ruffle).

editors identify as focal point of the publication the key-words *hypertext* and *hypermedia*, which allow to provide an enhanced reading experience of the edited artefact.

Therefore, the contribution of these two core concepts to the field of digital scholarly editing can be interpreted as the main ambitious research question of the project. Yet, at a closer look, specific goals can be individuated. In particular, the richness and the quality of the "Background" resources show how Foys is interested to the "history of the culture" (Pasquali 2020, 26) rather than to a sole textual analysis. The *hypertextual* structure is the framework where the editor sews together all the different cultural instances provided by the SDE: the embroidery is here interpreted as a potential indirect fresco of the way of life along the Channel in the 11th century. "A hypermedia edition – explains Foys (2011, Introduction) – also recaptures, if only by analogy, a sense that the Tapestry itself was a multimedia document in which meaning was found through a shifting collusion of space, location, image, text, border, and perhaps even sound".

In this direction, the adopted methodological approach might be reconducted to a reader-oriented critical sensitiveness. Of course, this has a great impact on defining the "implicit reader" of the SDE. The project refuses a self-definition: its title mentions the edited document and the publication medium (*digital*). Nonetheless, an ideal reader can be modelled starting from the available material. Albeit the scholar rigor can be identified by the massive high-quality and well documented resources, the publication is thought not only for an academic audience but is conceived also with an educational purpose as allows the user to experience the Tapestry as "an eleventh-century viewer".

Given the importance of the photographic facsimile, BTDE can be considered as a documentary edition. The double nature of the embroidery of *text* and *image* is nonetheless unevenly reproduced. Indeed, the iconographic and material aspect is thoroughly scrutinized throughout the edition, but the rendering of the textual inscriptions is approximative as the editor's mission sometimes appears more educational than philological. For example, the default visualization of the edition displays the text in modern English translation, rather than in Latin. This subordination reflects a specific feature of the Tapestry, where the "text constitutes a reduced chronicle of marginal, but not insignificant, importance, apparently subordinated visually and functionally to the larger figural imagery" (Brilliant 1991, 107).

Consequently, the general analysis of the inscriptions is limited to a section of the "Glossary", besides other "details" such as hairstyles, costumes, or vegetation. Here Foys performs a paleographical analysis of the inscriptions stating that the letters are "drawn from a mixture of both epigraphic and manuscript models", of capital and semi-uncials characters. Foys' chosen solution is here a semi-diplomatic transcription, but the lack of philological statement causes several inaccuracies, as shown in the Appendix.

Lastly, the extensive commentary, especially in the sections "Restoration" and "Inscriptions", is intended as an apparatus where the original Tapestry is compared with the facsimiles to identify variants. After a thorough bibliographical analyses, these errors are then catalogued either as innovations of the *descripti* or as possible modifications to the *antigraph* during restoration campaigns. These sections also contain paleographic notes on textual information, as well as references to relevant traits to define the language variety from a diachronical and diatopical perspective.

4. Publication and presentation

Being published at the beginning of the new millennium, BTDE was originally published on CD-ROMs, whose content was later published on a free website. The current interface is intuitive, and the user can easily identify the requested resource. Despite the lack of a single complete index, the architecture of the website can in fact be easily grasped without looking at the user guidelines of the "Help" page. Indeed, the user reaches by default the visualization of the first panel. A series of buttons allow to read the commentary, to scroll along the scenes and panels, to hide the scene and to change the language of the transcription (Latin or English). From this main page the user can reach different resources. The menu "Versions" allow to see and compare the four embroideries (the original and the three facsimiles). Besides, the "Background" toolbar leads the reader to additional resources (see §2.1). Lastly, "Tools" redirects to the section concerning credits, search and support.

Since the last version (no update is scheduled) dates to 2011, the website reflects old visual and functionality standards, starting from the implemented fonts and the sole export format available (a printable pdf created through the printer icon). However, these limits are irrelevant as does not hinder the user experience: the combination of colors is pleasant and, in texts, different highlighting strategies identify different kind of hyperlinks. On the contrary, the out-of-date version available online has a major hindering on usability. Similarly to "Map", also the function "Search" does not run in all browsers.³ Moreover, the page allows simple queries: they can be applied to the entirety of the edition or to a specific subsection (included the scene commentary but not the transcription) and they may be combined through logical operators. Given its extremely streamlined structure, the search engine can be used regardless of the previous knowledge of the user even though no further support (e.g. auto-suggestion) is provided.

As shown, the SDE is enhanced with rigorous and high-quality material, like the photographic facsimiles, and is enriched by multimedial and interactive content. The textual resources are

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³ Suggested browser: Mozilla Firefox.

supported by a rich bibliography: the section "Introduction" offers a complete bibliographical *excursus* on the most interesting aspects of Tapestry and its facsimile. The plethora of resources shows however some fragilities. In particular, as shown in Appendix, the transcription contains methodological inconsistencies and minor errors (case 16). Moreover, the text is here rendered as plain HTML paragraphs and cannot be manipulated due to the lack of annotations and the text itself is not searchable.

Lastly, the richness of content characterizes also peritextual information. Indeed, the section "Credits" has an entire paragraph devoted to the descriptions of the credits and permissions of the project. Most of the resources is under Foys' copyright, and the list of credits toward external scholars or institutions is reported in detail. The user can read the edition according to two different licenses (individual and institutional), which is feasible for scholarly reuse of the data. Unfortunately, this page does not contain other information on the sustainment of the SDE and on further implementations. On the contrary, the page defines the project as concluded: the current version SDE is hence to consider definitive.

5. CONCLUSION

Undoubtedly, BTDE is a "critical representation of an historic document". In this sense, it perfectly fits the definition of SDE proposed by Patrick Sahle, who defines Foys' project as a "good example" of implementation of editorial methodology to a cultural artefact which is not exclusively text carriers (2016, 2). Indeed, the edition completely fulfills its aim of implementing digital potentialities to recreate a new immersive reading experience of the Tapestry: it is not hence just a digitized version as, if printed, the complex hyperlink and interactive structure fades. Indeed, the use of *hypermedia* as epistemological basis for the structure of the SDE allows to easily identify in this network-shaped architecture the real digital paradigm of the edition. Through the systematic use of hyperlinks, the webpage succeeds in fact in reproducing the cognitive habits of the reader, offering a multi-layer interpretation of the manufact.

The comparison with other digital scholarly editions provides useful coordinates to contextualize the project in the magmatic field of digital scholarly editing. The high-quality and the richness of the available material are pioneering in the field (especially at first release date), but treatment of textual data is unorthodox. The philogical statement is not clear: although it clearly states the epistemological principle, it describes superficially the single methodologies of text treatment. This translates the approximative approach to the semi-diplomatic transcription, causing not rare inconsistencies and,

more seldom, mistakes. Moreover, the lack of annotation and the impossibility for the reader of manipulating text are the major limits of the project.

In *lieu* of conclusion, BTDE is an interesting project from different perspectives, whose quality is certified by a general scholar rigor. Yet the decade passed after the last modification suggests a new updated release. The possible modification may be delivered in three main directions. Firstly, the software should be updated with current technologies: interesting additional resources (e.g. "Maps") are no longer available due to the obsolescence of the implemented digital infrastructure, which seriously hinders the usability of the edition. Secondly, new scholarly tools for the analysis of textual data and iconographic details (in particular, boarders) should be provided.

As mentioned, annotation would surely be a key solution: it would allow the creation indexes, the manipulation of text strings and, lastly, would pave the way to the application of NLP technologies, for example for more specific queries for linguistic patterns. Also, the editor deciphers the complex iconology of the boarders in the commentaries, but these aspects are difficult to isolate in the large scale. Annotation techniques and *ad hoc* search engines would allow to perform systematic and contrastive iconographic analysis.

Net of these suggestions, BTDE can be considered a milestone project in the field of SDE for its time. Foys' intuition of identifying the *hypermediality* as the paradigm for translating a multimedial manufact in an easy surfable digital environment is innovative and ambitious. Indeed, it is addressed also to a non-specialized audience and, lastly, paves the way to new frontiers of the field of digital scholarly editing highlighting the potentialities of those editorial praxes when applied at the intersection of art-history and literary studies.

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APPENDIX. INSCRIPTIONS FEATURES AND TRANSCRIPTION HABITS: A MINIMUM SAMPLE

Case	Inscription and transcription
1. ≥	ETSVIMILITES: EQVI TANT:
2. ≥	ET SUI MILITES: EQUITANT FIVE VIS: VENTO: PLENIS VE NIT: INTERRA: VVIOONIS COMITIS ET VELIS: VENTO: PLENIS VE==NIT: IN TERRA: WIDONIS COMITIS
3. ≥	NUNTIVS: ADWIL GELMVM DV CEM NUNTIUS: AD WIL GELMUM DUCEM
4. ≥	FT HIC EPISCOPUS: CIBV: ET. POTV: BE NEW DIC IT.
	ET hIC EPISCOPUS : CIBU(M) : ET : POTU(M) BENEDICIT
5a. ≥	1) Mile OLD VCI
5b. ≥	AD PeVeNeSÆ:-
6a. ≥	WIDO:
6b. ≥	VVILLELM:
6c. ≥	WILLELMI
	WILLELMI

6d. ≥	PGAIT
	PUGNANT
7 <u>.></u>	JECCLE STA
	AECLLESIA
8a. ≥	HAROLDY:
	HAROLDU(m)
8b. ≥	ADVVI DO NE
	AD WIDO NE (Widonem)
9. ≥	PETRIC API
	ECCIESIAM : S(AN)C(T)I PETRI AP(OSTO)LI
10. ≥	·ODO EPS:
	ODO EP(iscopu)S:
11. ≥	ALLOQVIT
	ALLOQUIT(UR):
12. ≥	MINISTRAVERVN
	MINISTRAVeRUN(T)
13 ≥	: IVVIDO:
	7 (et) WIDO:
14. ≥	A UVS
	E(T?)IUS [EUSTATIUS]



The editor divides the words, which are embroidered in *scriptio continua* (case 1), without reflecting the layout of the Tapestry (case 2) as the line break is usually marked just by a white space (case 3). Moreover, the polychrome of the inscription is not rendered (case 4). On the contrary, the editor keeps the alternance between capital and semi-uncials characters (case 5a and 5b). Yet, some inconsistencies can be found (see the different rendering of *WIDONIS* in case 2, with an appearingly lowercase dental, and *WIDO*, case 6a). The arcigrapheme <V> is distinguished between [u] (6d) and [v] (6b), while the occurrences of <VV>, probably correspondent to [g^w], are rendered as <W>, even though the transcription is not always consistent (6a, b and c).

The editor does not either distinguish *tituli* (7, 8, 9, 10, 11) and *legaturae* (12): they are rendered within the brackets, but in 8b the entire word is rewritten. Short-hand symbols (e.g. the Tironian note in case 13) are solved similarly. Moreover, conjectures are identified by "(...?)" and square brackets (case 14), while emendations are signaled similarly to *tituli*. In addition, some of these corrections are not always necessary. The Latin of the Tapestry do not coincide with the Classical variety.⁴ This can be evident just from a lexical point of view (*caballi* instead of *equi*, *parabolant* of *loquntur*): the transcription itself does not correct simplified diphthongs (*prelium*, case 15b), but sometimes implements morphosyntactic corrections. For instance, the suffix of the accusative is added (15c) or active verbs are reconducted to the classical deponent form (15a).

⁴ A precise phenomenology of Late Antiquity Latin is provided by Clackson and Horrocks (2007).