Consultation of manuscripts online

Philippe Chevallier, Rioust Laure, Laurent Bouvier-Ajam

Consultation of manuscripts online: a qualitative study of three potential user categories

Philippe Chevallier, *project manager, Strategy and Research Division, BnF*

Laure Rioust, *head of public services and public development, Department of Manuscripts, BnF*

Laurent Bouvier-Ajam, *consultant, associate director of OUROUK*

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Europeana Regia is a project to digitize 874 rare and precious manuscripts from the Middle Ages and the Renaissance. The project is supported by the European Commission and involves five libraries located in four European countries[2]; it aims to digitize and present to the public three major collections of royal manuscripts, currently dispersed: the Biblioteca Carolina (8th and 9th centuries), the Library of Charles V and family (14th century) and the Library of the Aragonese Kings of Naples (15th and 16th centuries). The digital manuscripts will be fully accessible on the websites of the partner libraries, on the European digital library *Europeana*[3], and on a specific website[4].

During the project, a qualitative study was conducted by the Bibliothèque nationale de France (BnF) to determine and rank the expectations and needs of the current and potential users of medieval manuscripts on line. Focus groups were organized in three of the project's partner libraries from May to November 2010: the Bibliothèque nationale de France (BnF), the Biblioteca Històrica de la Universitat de València (BHUV) and the Koninklijke Bibliotheek van België/Bibliothèque royale de Belgique (KBR). Each focus group was dedicated to one of the user categories primarily targeted in the project: 1) researchers and academics; 2) History, Arts and Applied Arts teachers in high schools; 3) the "interested general public", such as users of the digital library *Gallica*[5].

The French part of the study was commissioned from the company OUROUK whose findings served as the basis for writing the final report, with the addition of the results of the Belgian and Spanish studies, led by staff at the BHUV and KBR with their own specific methods. The French study was conducted in two stages: 1) eight initial interviews, face to face or by telephone (90 minutes on average) destined in particular to draw up a guide for leading the focus groups; 2) three focus groups filmed (150 minutes on average) with the following populations respectively: 7 researchers, 4 teachers, 10 representatives from the "interested general public". A total of sixty people were interviewed in three countries.

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[1] Chevallier P., Rioust L., Bouvier-Ajam L., "La consultation de manuscrits en ligne : une étude qualitative auprès de trois catégories d'utilisateurs potentiels", *Bulletin des bibliothèques de France*, 2011, t. 56, n° 5, p. 17-23.

[2] Bibliothèque nationale de France (BnF), Bayerische Staatsbibliothek, Munich (BSB), Biblioteca Històrica de la Universitat de València (BHUV), Herzog August Bibliothek, Wolfenbuttel (HAB), Koninklijke Bibliotheek van België/Bibliothèque royale de Belgique (KBR).

[3] http://www.europeana.eu

[4] http://www.europeanaregia.eu/

[5] http://gallica.bnf.fr

1. Interest shown by the target public of the *Europeana Regia* project

A project to digitize rare collections from around the world arouses keen interest with the researchers and teachers interviewed.

Easy access to a large collection of manuscripts, most of which are difficult to consult (because of their great value and their state of preservation), completely digitized in high definition, makes *Europeana Regia* a "*fascinating*"[6] project keenly awaited by **researchers**[7] in particular. They highlight the importance of being able to virtually reconstitute a collection that is spread across different countries. They are interested both for research facilities (not to have to go from one library to the next) and for different "knowledge effects": to be able to make comparisons on screen, to put manuscripts side by side, beyond institutionally and academically defined collections and fields. "*We are often experts in a specific corpus. Here we have an opportunity to extend our view, to observe other perspectives*"; "*Research by images could help with comparisons, with new perspectives, difficult to do manually.*"

For **high school teachers**, the digital mode allows various uses (in the classroom by the teacher or at home by the student) and encourages group projects which elicit ideas for discussion well beyond the classroom context: educational projects with teachers of other disciplines or even with other schools in different countries ("*It can allow students of European classes in different countries to work together*"). Educationally, a site like *Europeana Regia* helps students to look differently at Internet and its uses: "*We can show the links that Internet provides between analogical and digital.*" "*It's quite funny to imagine high school kids looking at medieval manuscripts thanks to Internet*". In return, Internet emphasizes the notion of a common cultural heritage at European level: "*This will enable us to get across the notion of a common cultural heritage, especially in European classes*".

The sample of "**interested general public**" chosen for the French study included people who visit exhibitions, museums and other cultural institutions more or less regularly and who enjoy beautiful books. The type of people were deliberately selected in socio-professional categories completely different from those of traditional users of the French national heritage trust[8], with whom however they share the same level of higher education. This particular "interested general public" would only be interested in consulting medieval manuscripts (non translated at that) and illuminated manuscripts from time to time, most often through external events: an exhibition, a visit to an ancient library or research for a hobby for example; some also said they wanted to help their children and grandchildren in their schoolwork and stimulate their curiosity in art and history. This mixed, volatile group is more difficult to attract and needs considerable mediation to "*understand what it's about*": "*Who commissioned these manuscripts, why were they written, what are they about?*". The illuminated manuscripts and the research possibilities are a strong incentive for this target group: "*This project reminds me of that wonderful exhibition* [at the BnF] *"Quand la peinture était dans les livres"* [1993]*. I think that high quality images are the main point of interest for a neophyte*"; "*What will people be able to understand if they don't have the translation? What is the point of leafing through manuscripts if not for the pictures? Comments are essential*". They express the need not only to be able to understand what they see, but also to be able to move around within a space. We must explore a corpus as we would visit an exhibition or take a walk: "*It should be approached like an exhibition: I must get the feeling that I will understand something, that I'm going to be drawn into a different world*"; "*if the site is well done, it should make us want to wander round, to look at a manuscript*".

Yet the initial telephone interviews with two municipal librarians show a specific category of general public, distinct from that interviewed directly in the study: an "enthusiastic general public". These are mainly senior people, captivated by the manuscripts and the related disciplines (paleography, codicology and medieval calligraphy and iconography), but it also includes bibliophiles, genealogists, amateur historians or local scholars, working for personal reasons on a place, a region, a person, etc. For these reasons this category would

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[6] Quotations have been translated from verbatim reports collected during the interviews and focus groups.

[7] The "researchers" focus group, for the French study, included seven researchers in the following disciplines: medieval history, history of texts (illuminated and liturgical manuscripts), art history and codicology.

[8] The "interested general public" focus group included: 1 school librarian (aged 29), 2 business managers (53 and 55), 1 head of digital publications (58), 1 publisher (49), 1 graphic designer (39), 1 scriptwriter (59), 1 consultant (42), 1 student in communication (25), 1 writer (66).

no doubt use the *Europeana Regia* website, and seems much closer to the profile or regular users of sites like *Gallica*[9].

2. Details of the expectations

2.1. Scientific information: the researchers

The minimum requests from researchers focus on the traditional tools in library research: introductions to the corpus, catalogues and records. First of all nothing must be removed from what can be obtained by library consultation: image quality, the quality of records, etc. must remain intact. As one researcher provocatively said: "*At a pinch, the website could stop at manuscripts call numbers and high definition images (plus a few tools to look at them). The rest is mere luxury*".

More precisely, researchers are hoping for scientific introductions to the project and the corpus, but also to areas of research (the texts, illuminated manuscripts, writings, codicology, etc.), plus a bibliography. The library catalogs where the corpus documents originate must be consultable, in general and from a given document. Finally, the bibliographic and catalog records should be as full as possible, giving details in particular of the incipit, the colophon and the ex-libris.

The great majority of researchers would like the librarians' cards to be made available in image mode, as their transcriptions are too often marred by mistakes. One researcher would also like a version in "*a format that can be used digitally*".

For the illuminated manuscripts, they request "*a very high level of description for the images, using a thesaurus*", indicating 1) what is shown; 2) the context into which the illuminated manuscript is placed (exact place, environment, etc.); 3) its relation with the text. Spanish academics however see great difficulty in reaching a standard description here.

In addition to these minimum requirements, researchers are interested in any additional scientific information: scientific presentation of the project and the corpuses; a bibliography pertaining to each corpus and manuscript; a summary of the work done on each corpus and the manuscripts (origin and progression of the document in time and space, production centers and exchanges, manufacturing processes, etc.). This additional information could come from other resource sites, which would require careful examination of the interoperability and shared metadata with new partner sites (you have to "*harvest and be harvestable*").

Finally, requests described as "*ideal*" emerged: a visual representation of the spatial organization of the manuscripts in the kings' libraries concerned, at different periods; or perhaps a map of the production centers and their exchanges. These expectations express the wish for new viewpoints of the manuscripts and the hope of detecting hitherto unseen aspects: "*The view map would bring to light a new historical awareness and would offer new avenues of research*". This implies that digitizing is likely to produce new ways of understanding these objects and to push the traditional conditions of knowledge.

2.2. Editorializing the content: teachers and interested general public

Two principal requests transpired to allow the "interested general public", and the teachers and their students to gain a greater understanding of a corpus such as that proposed in *Europeana Regia:* general introductions and targeted projects.

First of all it must "*provide the keys for understanding*". In particular, considerable educational preparation is expected, especially introductions to the following notions: the manuscript as an object (different forms, how they were made); the periods covered; the *scriptoria* (implantation, organization, function); a king's library

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[9] Cf. Bouvier-Ajam L., "Evaluation of the tests to provide protected works via the BnF Gallica 2 digital library", Final report, March 2009 (http://www.bnf.fr/documents/evaluation_gallica2.pdf): "Nearly 60% of regular users of *Gallica* declared an occupation that implied frequent or even considerable documentary research: professional and amateur researchers, doctoral students, students (36%); high school and university teachers (11%); journalists, writers, librarians, school librarians (11%)."

(layout, composition, how books were acquired); calligraphy; illuminated manuscripts; authors (placed in a historical point of view to avoid anachronisms with the modern idea of an author); types of text; paleography.

For the general introductions, teachers and the interested general public would like contents "*with different levels of difficulty*": the first level should be short and simple, well illustrated, referring to a consultation of the manuscripts, to which could be added a more detailed text "for more information", with bibliographies, webographies or filmographies. Teachers point out the risk of it being used exclusively for complex indexation, especially for the illustrations, which would prevent their being looked up by a public of neophytes who are not familiar with this vocabulary.

The educational aspect does not have to include a presentation of each manuscript. It could be restricted to pivotal works that are "*representative and of greatest interest for the general public*". Two particular points of interest for a non-specialist public are highlighted: illustrations ("*The possibility to search for illustrations is a marvelous tool that would allow us to make the students work on representations.*") and the material aspect of the manuscripts ("*The public is fascinated by the form of the manuscripts, where and how they were produced*"). The public, and in particular the newly retired generation, is increasingly interested in paleography.

In addition to these general introductions, there is a need for "*a variety of access points to the contents: traditional, original, or even amusing*". These different means must be visible on the home page, which should not merely inform but "*call out*", "*arouse our curiosity*", with considerable effort given to the "*esthetics*" to be pleasing to the eye. The importance of these "*gateways*" stems from the observation that the general public and some high school teachers do not know what to look for *a priori*. So it is important to suggest programs, selections, points of view, etc. The teachers are all the more insistent on these points if the period is insufficiently or badly covered in the schools, especially in France[10]. Although a desire to "*wander*" from one manuscript to another is expressed, there is a fear of the unknown environment: "*Browsing must be easy and well marked. We must get the impression of a finite ensemble, where we will not get lost*". The freehand, intuitive progression also requires a precise framework: progressing "*on request*" in developments, with access to additional information, etc.

Finally, there is a request for interactive or fun multimedia activities: virtual exhibitions ("a king's library", "how a manuscript is produced", "how a book came about"); discovery programs (pertaining in particular, and especially in France, to the disciplines exploring new school curricula: "Art, creation and culture"; "Art, myth and religion"; "Art, the State and power", etc.); analyses of images, or of pages of writing; brief video presentations of a subject by a researcher (calligraphy, paleography, codicology, etc.); readings of extracts from manuscripts in the original language with the text at the same time.

More generally, the editorial approach must resonate with the current preoccupations of the target public: "*The antique corpuses must be brought to life and must at any cost avoid remaining stuck in their own time warp. This can be done by demonstrating the links and continuity between the people living in that period and modern times.*" "*Common situations and issues must be shown as being connected to those of today.*" These links must not be only in the mind, but also and especially in the flesh: "*The relationship between the public and the documents must be affective.*" "*The copyists, authors and commissioners must be brought to life.*" It is essential to remove the academic distance which emphasizes the serious, solemn nature of a period, in order to also get across the "*trivial*" nature.

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[10] In 7th grade (history of art from the 9th to the 17th century, study of a text from the Middle Ages); in 10th grade (a text in French, the work and image in Plastic Arts, the medieval town as an option in Art History); in the Applied Arts section of 11th grade (from prehistory to the Industrial Revolution); and in the literature section in 12th grade (a work from antiquity or the Middle Ages). The new French school curricula for 2010-2011 also include a "history of books", in the French lessons from 10th grade, and will offer "exploratory lessons" including some to encourage studying aspects of medieval culture.

2.3. Search methods in the corpus and presentation of the results

For the researchers, the multilingual nature of the corpus raises the problem of linguistic equivalences and the different spellings of proper nouns, which could require management of the authority lists. The search engine is therefore expected to suggest words and expressions as letters are typed (predictive typing) and when it is complete (other possible spellings).

Researchers would like to be able to search the incipit of the second and penultimate pages, the colophons and the ex-libris.

To access the list of available works, the following indexes were suggested:

- corpus (the Biblioteca Carolina, the Charles V Library, the Library of the Aragonese kings of Naples);

- archives (partner libraries);

- fields (Theology, Philosophy, sciences, literature...);

- names of people linked to their roles in relation to the manuscripts (commissioners, authors, translators, owners, etc.);

- names of works and themes;

- production centers of the manuscripts;

- periods (ordering, writing, translation, copy, acquisition): "*Imagine I was in the Charles V library at such and such a time: what works would have been there?*";

- elements of the material aspect of the documents (with rule marks, stitching marks, etc.).

The list of results must supply, at first sight and on one single page, enough information to allow for an intelligent choice: "*A good list of results must allow you to find the documents that are likely to correspond to what we are looking for without clicking or tooltips*". The list on the Persée website is given as an example[11]. In particular, the first page of the manuscript must be displayed in the list of results and you must be able to enlarge it without exiting the list. The complete bibliographic record of a document must be visible from the result, in a new window (rather than a different screen). Above all, researchers want to limit having to switch between the list of results, the bibliographic records and the actual document.

As we have seen, the high school teachers and the interested general public are keen on multiple entries to the texts and illuminated manuscripts, through indexes and selected themes for documents, inspired in particular by the curricula: "*Examples for using the database should be provided*". Some examples of entries into the corpus using documentary themes were suggested: "royal authority"; "chivalry"; "bestiary"; "recipes"; "medicine"; "everyday objects"; "trades"; "architecture"; "fashions"; "jewelry"; "furniture"; "tools"; "school books"; "translated manuscripts"; "calligraphy"; "glosses and annotations"; "one letter"; and via through indexes (those of the Illuminated manuscripts database in the French Culture Ministry[12] are given as examples): "kings and queens"; "authors"; "types of texts"; "image themes"; "events"; "places". A search engine would be used more for searching for illustrations (a character, an animal, or a place, etc.).

2.4. Viewing and manipulating documents

Standards for this are much higher and more precise in the researchers' groups than in the other groups. They see this type of project as a means to avoid having to actually go to the libraries where the works being studied are hold, but also as a means to see elements that *in situ* consultation would not allow. One important point for the researchers is that the pages must load very quickly (Google Books is given as an example). Navigation between the list of results and the documents, and also within each document, must be flexible and fluid:

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[11] http://www.persee.fr
[12] http://www.enluminures.culture.fr/

"*Viewing a manuscript on screen must provide us with exactly the same opportunities as when we are actually holding it in our hands.*"

More precisely, to view and manipulate pages of a manuscript, researchers ask:

- to have a choice between the different consultation modes: a continual flat plan (vertical like Google Books and horizontal); mosaic (with the possibility to increase the size of the vignettes and therefore reduce the number per line); books to leaf through (mainly the interested general public, but not exclusively: "*It's fun the first time, but it soon becomes tedious*"); tables of contents with marked supplements if any; direct access to a given page via the list of folios; marking of remarkable pages in the manuscript (requested by the teachers);

- a (very) high resolution for the images. Both to be able to see a close-up view to "*observe with great accuracy the material aspect of the document we are looking at: the grain of the page, the ink, the folds, etc.*" and to have very high quality images to incorporate into scientific articles.

Among the tools allowing visitors to view the pages as closely as possible, enlargement is considered "*essential*": the first level of page enlargement must be fully contained in the screen view to see it as a whole; it must be possible to zoom the whole page, which must be movable on the screen; the zoom must be gradual, preferably "*guided by the user*" and not by imposed increments; a magnifying glass must applicable wherever you want on the page.

Two other tools are listed as "*desirable but not essential*":

- Scale and measurement: the scale of the document viewed, vertical and horizontal, permanently displayed, even when the image is enlarged; an electronic ruler to measure the distance between the two elements on a given page;

- contrast and luminosity: to be able to work on the contrasts and the luminosity of an image (cf. the now standard tools for touching up photographs); color filters available (a Wood's lamp) which show up the parts that are difficult to read or even invisible to the naked eye.

Finally, three tools were mentioned by French researchers only:

- functions to correct undulations and rounded pages, as offered by certain scanners;

- 360° rotation of the page to make it easier to read glosses and annotations;

- tools to facilitate comparisons and perspectives: placing side by side different pages of one work, or even from different works; transcription and translation of the texts should be presented for a selection of works and placed opposite the original text; the possibility to open two works on the same screen; creation of a mosaic of pages selected by the user.

Most of these tools to view and manipulate pages are considered relevant to observe the manuscript as an object. Added to that, the material aspect of the manuscript must be formally and accurately described with (numerous) photographs taken by specialists in the field ("*Only book-binding specialists know what needs to be photographed and how. Photographers should be provided with expert guidance.*"). A 3D view of the manuscripts, with the possibility to rotate them in all directions and a permanently visible scale, would also be of real interest.

2.5. Peripheral tools and collaborative sections

Four peripheral tools and services were mentioned in the interviews:

- A personal storage space for results: whatever the public, this means storing and consulting the search hits in a personal area (a "*basket*"), while the session is open (interested general public) or for a longer time (researchers and high school teachers). Additional tools for annotating or bookmarking, etc., were not mentioned;

- tools for exporting data: downloading (PDF format) a whole manuscript (low definition) and pages (low and high definitions), and exporting lists of results and records (CSV, XML, EndNote, or even PDF);

- tools for indicating or sharing: the principle of permalinks[13] and exportable labels is considered useful to integrate resources into a digital workspace, wiki, blog, or personal website. The standard "Bookmark and share" tools[14] found in social network sites were mentioned by a respondent in the "interested general public" group;

- high definition printing of pages on request and the possibility to purchase Facsimiles at a reasonable price.

For the collaborative sections, researchers and high school teachers were asked if they would be willing to participate in adding to the site contents.

Answers from the researchers depended somewhat on their country of origin. The French researchers would be willing to point out a bibliographic or webographic reference or a mistake in a record, pass on an off-print, etc., on condition however that "*it is very simple, fluid and quick*". For example, a button on every page to call up a *pop up* form (cf. the "Notify a problem" link in Persée, with the possibility of attaching a document). The Spanish researchers and university professors are more open to working in collaboration, and mentioned in particular the possibility of making their students take part in adding to the contents, under the supervision of the experts: "*The collaboration must be centralized. All the contributions to the website should be approved by the researchers in charge of the project*".

The high school teachers would be interested in the idea of contributing and see it taking two forms: passing on worksheets, or even teaching sessions they have prepared in relation to a document or a theme; and passing on work done by their students ("*it would be very stimulating and encouraging for the students to be able to show their contributions to a site such as this*"). They recommend that the teaching resources available should be indexed according to the relevant school levels (elementary school, junior high school, high school). It could all be put together in a specific blog: "*It is useful to have access to both the Europeana Regia corpus and the related educational works.*"

3. Conclusions

The study has confirmed the considerable interest of researchers and academics in this project, but has also pointed out their demanding standards. Compared to the existing offer on other sites, their requests are less concerned with new functionalities than on how well the tools perform, the speed of access and how exhaustive the information would be. All of these requests are based on their regular frequentation of other sites referred to positively or negatively during the discussions (*Persée*, *e-codices*[15], *Gallica*, etc.). Researchers are accustomed to working on the web and can therefore choose and compare what is on offer in the field of online manuscripts.

For History, Arts and Applied Arts teachers in high schools, the project is seen as an excellent potential teaching aid, but it would require suggestions for courses, themed presentations, selections (remarkable pages) and a considerable effort to provide mediation (translated passages, reading in the original language, video conferences by specialists, analyses of pages). It is important to encourage them to browse around, in and through a pre-marked space. A few key works could be presented in great detail, perhaps interactively, and the rest of the digitized corpus could be part of a more general approach. The idea of being able to add value to the site, particularly by publishing work done by their students, was very attractive.

Interest in the project is less marked in the "interested general public", who would only consult medieval manuscripts and illuminated manuscripts from time to time, often motivated by family or cultural events. The illustrations are the main attraction for this public. However, because this category is mixed and volatile, it would not be relevant to offer them a specific section, as the proposal made to teachers should also be appropriate for them. Within the interested general public, however, there is one category very interested in the project, already identified among the users of cultural or online libraries (for example *Gallica*): a population of seniors, fascinated by the process of how manuscripts are produced, calligraphy, paleography, etc.

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[13] Permanent URL type link to reach a given document.

[14] Tools allowing you to add a page to your favorites and share it in your networks.

[15] http://www.e-codices.unifr.ch

Appendix 1: The main points to look out for in producing the website:

►The graphic layout

All the people interviewed, including the researchers, would like the site to have well-designed graphics that are pleasing to the eye: "*the container should be on a par with the contents*".

►Home page

Great care must be taken with this so that it arouses the curiosity of the visitors and makes them want to go further by providing original entries and points of view. At the same time, it must provide direct access to expert research and the personal area, given that the researchers do not want to have their own dedicated website. They say they are interested in the different points of view available and consider themselves part of the "general public" on subjects outside their own.

►Fluidity and ease of browsing

The researchers were the most insistent on this point, probably put off by frustrating, unintuitive interfaces requiring too many clicks and frequent switching between pages.

►Loading time for the manuscript pages

This point is particularly important for the researchers, as the slightest delay in response would immediately undermine a site on which they have to work long hours.

Appendix 2: Guide for leading the focus groups

1. Reasons for interest in consulting manuscripts online: texts, illuminations, manuscript as an object
2. General expectations towards the *Europeana Regia* project
3. Specific expectations concerning the website:
     * Presentation of the project: general information, scientific information, editorialisation
     * Search methods in the corpus: search engine, indexes, selected themes
     * Presentation of the results: data, icons, navigation inside the list of results
     * Viewing and manipulating documents: consultation mode, resolution for the images, table of contents, etc.
     * Peripheral tools and collaborative sections
4. Visualization of other websites giving access to medieval manuscripts
5. The main points to look out for in producing the website