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Frédéric Clavert & Serge Noiret (dir./eds.)

L'histoire contemporaine à l'ère numérique

Contemporary History in the Digital Age

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Depuis plusieurs décennies, les usages du numérique en histoire se multiplient. Mais l'histoire contemporaine est parfois restée à la marge de ce mouvement. Ce livre, qui recouvre divers usages du numérique, ses outils, ses méthodes, sera à la fois une bonne introduction pour les historiens désirant se renseigner sur les usages informatiques en histoire contemporaine, et un outil utile aux chercheurs et aux enseignants plus rompus à cette utilisation. Cet ouvrage leur permettra de comparer leurs pratiques et de les approfondir dans le cadre des humanités numériques.

Digital practices in the field of history have become more and more widespread in recent decades, but contemporary historians have often tended to remain on the sidelines of this trend. This book, which covers a wide range of digital practices, tools and methods, will serve both as a solid grounding for historians keen to learn how information technology can be applied to contemporary history, and as a useful tool for researchers and lecturers who already have a degree of experience in this area. It will enable scholars to compare and further their practices in the area of digital humanities, providing a comprehensive vision of the emerging field of digital history.

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Contemporary History in the Digital Age

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Preface

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In his speech opening the symposium of which the proceedings are recorded in this book, Rolf Tarrach, Rector of the University of Luxembourg, said that most scientific disciplines are based on data, which they turn into information, from which, with a little intelligence, they derive knowledge. In the hard sciences, that knowledge can be converted into laws. The other disciplines, however, cannot lay down laws, because they study the human element. Thus the human and social sciences are complex disciplines in which computer and digital technology will become a determining factor, since they relate to the process of transforming information into knowledge of the human condition.

So, right from the start of the symposium, Rolf Tarrach pinpointed the basic theme underlying this event on 'Contemporary History in the Digital Age', held in the European Commission's Jean Monnet building on the Kirchberg Plateau in Luxembourg City on 15 and 16 October 2009. This is to become a regular event under the heading of 'Digital Humanities Luxembourg' (DHLU). It results from a joint initiative by the Centre Virtuel de la Connaissance sur l'Europe (CVCE) and the University of Luxembourg Master's in Contemporary European History. The two institutions have been looking at the role of digital technologies in contemporary history research and teaching.

In developing a 'digital library' on the process of European integration since 1945,[1] the CVCE has been led to work within an emerging discipline, digital humanities, particularly in order to define and identify its activities in the vast field of social and human sciences. One fact has emerged: contemporary history lags somewhat behind, or can even be

1 URL: [http://www.cvce.eu/].

said not to be represented at all, in the digital humanities. The CVCE is interested in digital history because the Centre collects and studies data of all kinds, digitised or born digital, which can be organised, placed in context and put into a digital library or thematic digital corpora. These corpora grow, develop and build up an impressive mass of data. How can we manage information in such quantities, ensuring its quality, authenticity and standardisation? How can we be sure that the data are accessible, without infringing intellectual property?

In addition to the corpora themselves, we have to provide tools for analysing, working on and handling these corpora, and organise the collaborative research work conducted in connection with them. We also have to plan for the future, especially the semantic aspect. In plain terms, digital history has to cover the whole research process.

But it has to go beyond research and meet the expectations of civil society, come out of its ivory tower, face the new challenges involved and at the same time seize opportunities: '… humanities and social science researchers five or six years from now will be answering questions that today they might not even consider asking'.[2] The contributions of the social and human sciences to society, as well as to development and innovation in information and communication technologies (ICT), need to be considered without delay. The interdisciplinary nature of the field of digital humanities must bring about socio-economic progress. As Viviane Reding said, 'Why would you build an oil pipeline if you don't have oil to flow in it?'[3]

The idea of the symposium was also based on experience from the Master's in Contemporary European History, involving students at the University of Luxembourg in particular. The fundamental question is how we carry out research in the digital age. How can we teach and, more generally, pass on historical information and knowledge to students and the public? There are no ready-made answers, but three main topics of discussion can be identified. These, combined with the debate started within the CVCE, were the main themes of the symposium.

The first issue is the new resources made available by information and communication technology. We need to identify and become familiar with the new tools. That also means defining terms (what is 'digital history'?). It is important to take stock of the new resources because the

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2 American Council of Learned Societies Commission on Cyberinfrastructure for the Humanities and Social Sciences, *Our Cultural Commonwealth*, 2006, URL: [http://www.acls.org/uploadedFiles/Publications/Programs/Our_Cultural_Commonwealth.pdf].

3 Reding, V., speech, 1 October 2009, URL: [http://europa.eu/rapid/press-release_SPEECH-09-429_en.htm]. At the time, Viviane Reding was European Commissioner for Information Society and Media.

sceptics, especially among historians, have to be won over in order to safeguard our future in the digital age.

The second topic in the symposium concerns the writing of history. Can we still write, 'make history', in the same way as we did 10 or 20 years ago? The answer is no, but, at the same time, we have not yet invented new ways of writing about history. However, these new paths must not take us away from the basis of our discipline, the development of a critical approach. The mass of data now available online does not in itself help us to prove anything. Interpretation and analysis are still vital.

Last but not least, what will be our digital research environment? We now have a growing number of digital sources, but those documents are part of a network and have to be looked at in context. We have to define, get to know and think about our digital environment, and that is not happening at the moment. Scientific and methodological thought is critical to the work of historians, and it is even more relevant in the digital age, in both research and teaching.

We must think carefully about this issue, because we urgently need to make our methods clear, especially to the outside world; our work as historians has to be understood. I hope that the symposium will contribute to this and will help counteract some of the fears and scepticism. We think it can be said that there is no need to be afraid of the digital revolution.

*

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– Rolf Tarrach, Rector of the University of Luxembourg
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All contributors to this first symposium (keynote speakers, panellists and session chairs).

INTRODUCTION

Digital Humanities and History

A New Field for Historians in the Digital Age

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This book is a compilation of the contributions to the symposium on 'Contemporary history in the digital age' held in Luxembourg on 15 and 16 October 2009. Two institutions worked together to set up the event: the Centre virtuel de la connaissance sur l'Europe and the Master's in Contemporary European History of the University of Luxembourg.

As Marianne Backes and René Leboutte explain in their preface, each of these institutions – the CVCE as a result of its core mission and the Master's programme via a study of the practices of students, teachers and researchers – has discovered how widespread the use of digital resources and, more specifically, digital humanities has now become in contemporary history. Until now, contemporary history has tended to remain somewhat on the sidelines with regard to the use of digital resources. Historians of the contemporary are actually in a comfortable position: they have enough archives to work from, but without the mass of documents becoming more than they can work through alone or in a team, provided the topic of research is properly defined and identified and the historian is capable of drawing up a strategy for selecting from these archives.

This situation, however, is likely to change for historians of the contemporary and to set the pattern for digital developments in the discipline of history and the humanities as a whole. With the digitisation of existing archives and the advent of huge quantities of 'born-digital' primary sources – just think of the large numbers of e-mails which were probably exchanged in the years leading up to the accession of ten

European countries to the European Union in 2004 – contemporary history will have to start using new tools. Ten or twenty years from now, it is conceivable that some of our work will rely solely on digital sources. Ideally, if we are to be ready in time, the tools we will have to use then need to be designed now.

What this book aims to do, through contributions which describe positive and negative experiences, set people thinking about the job of the historian in the digital age and take stock of new tools available to historians and the ways they can be used, is firstly to serve as an introduction to historians wondering about digital technology, and, for our more experienced colleagues, to share experiences that they will find useful.

The second object of the book is to be part of the digital humanities and digital history movement. Digital humanities, which is a highly structured discipline in English-speaking countries, is also to be found in Europe, as the contributions to this book show: most of their authors are from mainland Europe. These proceedings seem to us today to be part of a rising tide of awareness of digital humanities in Europe which continued in Paris in May 2010,[1] then in Florence[2] (March 2011) and Lausanne[3] (November 2011), and which has led to the emergence of national associations for digital humanities, as, for example, in Italy in May 2011. Some series of seminars – like the French-Italian ATHIS workshops[4] – shows the vitality of digital humanities in Europe.

These endeavours have continued, as the 2009 symposium was the first of a series called Digital Humanities Luxembourg (DHLU).[5] A second symposium was held at the Abbaye de Neumünster in Luxembourg City in March 2012, together with a THATCamp,[6] followed in September by a similar event in Paris; Europe is now wondering whether a special transnational association needs to be set up.

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1 At THATCamp Paris 2010, which culminated in the drafting of a Manifesto for the Digital Humanities. URL: [http://tcp.hypotheses.org/].

2 THATCamp Florence. URL: [http://www.thatcampflorence.org/].

3 THATCamp Switzerland. URL: [http://switzerland2011.thatcamp.org/].

4 "Ateliers du programme ATHIS", *Ménestrel portal*, URL: [http://www.menestrel.fr/spip.php?rubrique619]. Proceedings published in Genet, J.-P., et Zorzi, A., *Les historiens et l'informatique. Un métier à réinventer*, Rome, École Française de Rome, 2011.

5 URL: [http://www.digitalhumanities.lu/].

6 URL: [http://luxembourg2012.thatcamp.org/].

From Humanities Computing to Digital Humanities

What are digital humanities? If we are to believe Google's Ngram Viewer,[7] the expression first appeared in 1994. Its popularity grew at the turn of the new millennium and its use became widespread with the publication of *A Companion to Digital Humanities*[8] in 2004. As the term emerged – defining a new discipline through the transformation of an old one, 'humanities computing' – there were many who wondered what exactly it meant.

A broad and fairly simple definition would be as follows:

> The digital humanities is an area of research, teaching, and creation concerned with the intersection of computing and the disciplines of the humanities. Developing from an earlier field called humanities computing, today digital humanities embrace a variety of topics ranging from curating online collections to data mining large cultural data sets. Digital Humanities currently incorporates both digitized and born-digital materials and combines the methodologies from the traditional humanities disciplines (such as history, philosophy, linguistics, literature, art, archaeology, music, and cultural studies) with tools provided by computing (such as data visualisation, information retrieval, data mining, statistics, computational analysis) and digital publishing.[9]

This definition, taken from the English-language version of *Wikipedia*, was drawn up by some of the best-known names in digital humanities.[10] It emphasises some of the characteristics of digital humanities: the interdisciplinary aspect, the methods and the tools. It implies a firm orientation towards the practical. There is only a brief reference, though, to the earlier concept of humanities computing.

The switch from humanities computing to digital humanities is important for two reasons. The first is that it reminds us that the use of information technology in the humanities does not just date from the publication of *A Companion to Digital Humanities* but goes back to the

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7 The Google Ngram Viewer is a tool devised to measure the use of a term in the corpus of Google Books and compare it with the use of other terms. Despite some methodological limitations – starting with the fact that it is very difficult to know the exact scope of the Google Books corpus – this tool is very useful for tracing the history of a term. URL: [http://books.google.com/ngrams].

8 Schreibman, S., Siemens, R., Unsworth, J. (ed.), *A Companion to Digital Humanities*, Oxford, Blackwell, 2004, URL: [http://www.digitalhumanities.org/companion/].

9 Wikipedia contributors, 'Digital Humanities' in *Wikipedia*, *the Free Encyclopedia*, Wikimedia Foundation, URL: [http://en.wikipedia.org/w/index.php?title=Digital_humanities&oldid=490013689] (1 May 2012).

10 By using the tab 'View history', we can see that contributors to the article include John Unsworth (Chicago), Lou Burnard (Oxford, TGE-Adonis) and Seamus Ross (Toronto). The article was created by Elijah Meeks from Stanford.

very origins of information technology. As early as 1949, the Italian Jesuit Roberto Busa, who wanted to create an index to the work of Saint Thomas Aquinas, met Thomas J. Watson, the founder of IBM. *Big Blue* sponsored the project, which came to fruition in the 1970s and is now available for consultation online.[11] Thus, very early on, the use of IT in linguistics revolutionised that discipline.

In France, where the first supercomputers arrived in the mid-1950s, historians, in particular, began using them almost at once. As far back as 1959, François Furet and Adeline Daumard were discussing the possible uses of the computer.[12] In 1961, the first systematic study using what was then called *mécanographie* or data processing came out; the term *informatique* for information technology was not invented in French until the mid-1960s.[13]

The use of information technology in history was then to benefit from the upswing in quantitative economic history, when it was found that the supercomputers of the 1960s and 1970s – calculators which took up a whole room and had to be programmed using perforated cards – were ideal tools for processing data. It was in that period that Emmanuel Le Roy Ladurie wrote his famous prophecy: 'Either the historians of tomorrow will be programmers or there won't be any historians left.'[14]

However, the way IT is used in history and, more widely, in the humanities and social sciences nowadays is far removed from the ways it was used in the 1960s and 1970s.

The practical conditions in which researchers using information technology in those days operated were very different, what with the cost of hiring the computer, perforated cards, and the risks associated with the cards being mishandled or wrongly prepared. In particular, the things computers could do then were very much more restricted than what we can demand of them now. There have been two specific stages in the development of computers which have changed the ways they are used in the humanities and social sciences and which have made the use of them much more widespread.

The first stage was at the end of the 1970s, with the spread of personal computers, especially the first Commodore PET (1976) and Apple II (1976) models. The introduction and then the spread of graphic

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11 The *Index Thomisticus* is available on-line. URL: [http://www.corpusthomisticum.org].

12 Furet, F., Daumard, A., 'Méthodes de l'Histoire sociale: les Archives notariales et la Mécanographie', *Annales ESC*, Vol. 14, No. 4, 1959, p. 676-693.

13 Garelli, P., Gardin, J.-C., 'Étude par ordinateurs des établissements assyriens en Cappadoce', *Annales ESC*, Vol. 16, No. 5, 1961, p. 837-876.

14 Le Roy Ladurie, E., *Le territoire de l'historien*, Paris, Gallimard, 1973.

interfaces (Apple Macintosh in 1984 and Microsoft Windows in 1985) and the associated software (especially spreadsheets and databases) popularised and greatly facilitated the use of computers in the humanities and social sciences and in many other fields. What had been difficult, lengthy and expensive in the 1960s and 1970s became considerably easier to do in the 1980s, particularly because errors were easier to correct.

The second stage dates back to the end of the 1980s, and particularly from the mid-1990s, with the rise of the Internet in the first instance, and then that of one of its applications, the Web. It really began to take off, however, in the decade starting in 2000, with the expansion of the possibilities offered by the Web, an expansion sometimes designated by the expression Web 2.0, which is referred to in this book.

There has been no end to the possibilities opened up by IT which researchers in the humanities and social sciences have explored. In parallel with the uses of quantitative digital technology in economic history, textual analysis has continued to develop. As key elements in humanities and social science research, texts – especially through the contributions of linguists – have been central to the concerns of such uses of information technology. In the 1980s, for example, the first version of the TEI was created (in 1987). The aim was to 'develop, maintain, and promulgate hardware- and software-independent methods for encoding humanities data in electronic forms'.[15] The establishment of the TEI and the release of the first Guidelines (TEI P1) were a response to the need for standards specific to the humanities and social sciences and common standards from one project to another.

The advent of desktop computing was also a period of fragmentation and segmentation. The ephemeral nature of some applications, operating systems (Windows, Mac and others) which could not intercommunicate, proprietary formats which were barely compatible with each other, and developments in hardware – especially data storage equipment – all put the outcome of research projects at risk.

Yet the emergence of the Internet and the Web, the nature of which is to connect computers together and to be compatible between systems, has increasingly made it possible to overcome that segmentation. With desktop computing, it also makes computers a required presence in every aspect of the day-to-day lives of researchers, from searching for sources to publishing the results of their work.

15 "TEI: history", URL: [http://www.tei-c.org/About/history.xml] (December 2012).

Web 2.0, Digital Humanities and Digital History

'It is true that tools do not make science, but a society that professes to respect the sciences should not ignore their tools …'[16] – it is this assertion by Marc Bloch which interests us when it comes to stressing the contribution made by the texts presented here to this information technology that is being applied to the world of the humanities and history in particular.

At the moment we are certainly confronted with drastic – and dramatic – changes in the relationship between computing, technology and the communication of historical content on the Web. History as a science is based on an explicit methodology, sources, critical analysis and interpretation of those sources, and debates on the scholarly work of historians. Those fundamentals are not altered by the rise of what is now widely known as 'digital history', a specific field within digital humanities. Since 2004-2005, however, historians using the Web have had their daily work transformed more than in the previous ten years by Web 2.0-type digital technologies, which have recently shaken up some of the traditional ideas on historiography and the working methods of history teachers and researchers.

The desktop computer, the laptop, the handheld computer and the mobile phone are new items that have crept into the range of tools historians use in their day-to-day activities to support scientific work and scholarly communication. As a group of historians at King's College and the Institute of Historical Research in London pointed out in their report on British research into the use of the Web by historians,[17] the footnotes in academic works with hyperlinks as well as the quotations themselves often come from digital resources that have radically altered the way in which historians work nowadays.

In discussing the changes in historical discourse in the age of digital technology, in its present form and for the sake of convenience referred to as Web 2.0, we aim to consider the changes in certain professional concepts rather than the technology itself or the relationship between digital history and digital humanities. The current digital revolution is similar to what happened when printing was invented in the Renaissance period. It opens up a new age of science and communication in the field of the humanities and social sciences, whose tools and practices, and

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16 Bloch, M., *Apologie pour l'Histoire ou métier d'historien*, Paris, Armand Colin, 1974, p. 67.

17 Bates, D., Nelson, J.L., Roueché, C., Winters, J., Wright, C., *Peer Review and Evaluation of Digital Resources for the Arts and Humanities Final Report and Recommendations*, London, 2006, p. 9, URL: [http://www.history.ac.uk/sites/history.ac.uk/files/Peer_review_report2006.pdf].

consequently specific methods, have undergone radical changes. With digitisation, historians are forced to reconsider the very epistemological and theoretical concepts they use to define their work. Heuristic questions, too, are drastically altered in a digitised world that is constantly changing: the alteration of content and contexts is a concept that historians are not yet ready to accept.

What we might now call the 'digital turn' in history as part of the wider digital humanities field has created uncertainty as to the durability of sources, their digital life and the ability to 'reproduce' them in the same form over a period and thus verify a previous analysis referring to them.

So far, though, it is the methods used by historians – their practices – that have been most altered, if it is assumed that research and critical access to documentation are an integral part of the actual writing and teaching of history. In fact, the fundamental revolution in information and communication technologies in the digital age has had an impact on the work of historians well beyond their critical relationship with their sources.[18]

A recent analysis of the current changes in the work of historians in the digital age[19] underlines how the instability of digitised texts is now an ongoing problem for digital historians. This shift to constantly changing, fluid texts[20] has led to the examination, mainly by librarians and archivists rather than by historians themselves, of new concepts for the description of digital documents, new forms of conservation and permanent long-term access.[21] Thus historians are – often passive – witnesses

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18 Noiret, S., 'Informatica, storia, storiografia: la storia si fa digitale', in *Memoria e Ricerca*, No. 28, 2008, p. 189-201, and 'The Historian's new Workshop', in Porciani I., Raphael, L. (ed.), *Atlas of European historiography: the making of a profession 1800-2005*, Basingstoke, Palgrave Macmillan/European Science Foundation, 2010, p. 69.

19 Iacovella, A., 'Les TIC peuvent-elles dire l'histoire?', in *Humanités numériques*, Vol. 1: *Nouvelles technologies cognitives et épistémologiques*, Paris, Hermes Science Publications, 2007, p. 33-51.

20 Minuti, R., *Internet et le métier d'historien: réflexions sur les incertitudes d'une mutation*, Paris, PUF, 2002, p. 72-75.

21 Guercio, M., 'I documenti informatici' in Pavone, C. (ed.), *Storia d'Italia nel secolo ventesimo. 3. Strumenti e Fonti*, Rome, Ministero per i beni e le attività culturali, Dipartimento per i beni archivistici e librari, Direzione generale per gli archivi, 2006, p. 36, URL: [http://www.archivi.beniculturali.it/DGA-free/Saggi/Saggi_88.pdf]. For a European survey on digital preservation: Angevaare, I., 'A future for our digital memory: permanent access to information in the Netherlands', *English-language summary, Report of the Dutch National Digital Preservation Survey*, 2009, URL: [http://www.ncdd.nl/en/documents/Englishsummary.pdf]; Angevaare, I., 'Taking Care of Digital Collections and Data: "Curation" and Organisational Choices for Research Libraries', *LIBER Quarterly 19*, No. 1, 2009, p. 1-12, URL: [http://liber.

to the creation of new instruments (software, databases) and new methods (communication, reading, publication), which link their daily work to computing activities for the humanities; but sometimes, on the contrary, they actively create their computing applications and, in doing so, they enter the field of digital humanities. For historians, these instruments and methods go beyond what is common to digital humanities, within the framework of what is known as 'digital history': a field, a method (even, in some cases, a sub-discipline) known in French-speaking countries as *histoire numérique* (a term that differs from the term in use in other Romance-language countries).[22] The new dependence on digital information and documentary knowledge found in virtual spaces and requiring 'machines' and programmes to be viewed – whose long-term survival librarians and archivists are trying to ensure – is not traditionally part of the baggage of humanities specialists. Thus these new 'digital' epistemological practices and analytical tools create a need for collaboration and for a new transdisciplinary knowledge, requiring historians to recognise and understand the methods and tools of computer specialists and vice versa.

Are Transdisciplinarity, Fluidity of Information and Insecure Authorship a Challenge for Digital Humanities?

The fluidity of digital documents, their reproducibility and the ease with which information can be published on the Web enhance two of the advantages of printing – mass circulation and the possibility of referring to numerous works/resources and thereby comparing knowledge – but they also mean that texts and documents, unlike printed material, have no long-term stability. The Web allows knowledge to be revised anywhere and at any time, and seriously destabilises its organisation[23] and the professional groups that traditionally had ownership of it. Digitisation destabilises all forms of authority and opens the debate to anybody wishing to participate. It forces people to explain what was previously implicit, and places knowledge in an unstable environment that makes it difficult to refer back to sources and origins. Does information on the

library.uu.nl/index.php/lq/article/view/7948]. For an American survey on digital preservation, see *Sustainable economics for a digital Planet: Ensuring long term access to digital information, Final Report of the Blue Ribbon Task Force on Sustainable Digital Preservation and Access*, February 2010, URL: [http://brtf.sdsc.edu/biblio/BRTF_Final_Report.pdf].

22 The common core of the digital humanities was recently emphasised in France with the *Manifesto for the Digital Humanities*, April 2010, URL: [http://tcp.hypotheses.org/318].

23 See preface by Brossaud, C., Reber, B., *Humanités numériques: Volume 2, Socio-informatique et démocratie cognitive*, Paris, Hermes Science Publications, 2007.

Web become legitimate only when it is open to debate and no longer simply because it is based on explicit sources belonging to a specific context?

Thus, as their documentary and critical methods are being transformed, historians are having their authority, often their academic authority as sole possessors of true scientific knowledge, undermined with the emergence of historical discourse from every sector of society:[24] as Roy Rosenzweig so aptly put it, 'everyone [is] a historian'.[25] The active presence of digital history means that the traditional concept of authorship – the author as originator of a text, of ideas, or a person who can be referred to in a dialogue and to whom certain arguments can be attributed, etc. – no longer applies on the Web.[26] In fact, digital writing tools, especially in the Web 2.0 environment, are available to everyone, sometimes to a whole group of people, and it is often no longer possible to attribute arguments to a specific individual. This is even truer when dealing with the analytical approach and the new digital tools created in the field of digital humanities.

Individual authors of a historiographic essay are sometimes subsumed into groups. Often primary sources are no longer connected to the material that gave them meaning and validated them in context. So one of the major problems in the digital world is undoubtedly the individualisation of meaningful contexts, what philologists call the history of text and document representation, and this remains a central issue for the digital humanist. For Jerome McGann, who voices the distrust many intellectuals feel towards unstable digital information, only scientific digitisation that respects non-digital contexts and is seen as part of the history of the material production of a document is scientifically valid. For this expert in the history of texts, literature and poetry who is directly involved in the creation of digital archives meeting such scientific criteria,[27] few of the digital library projects currently being developed

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24 For an examination of the different approaches to history, from amateurism to publication, see Zorzi, A., 'Linguaggi storici e nuovi media', *Storia e problemi contemporanei*, No. 29, 2002, p. 161-169.

25 Rosenzweig, R., *Afterthoughts: Everyone a Historian*, URL: [http://chnm.gmu.edu/survey/afterroy.html], comment on Rosenzweig, R.; Thelen, D., *The Presence of the Past. Popular Uses of History in American Life*, New York, Columbia University Press, 1998, URL: [http://chnm.gmu.edu/survey/index.html].

26 Weissberg, J.-L., 'L'auteur et l'amateur dans le mouvement de fluidification-réception-production', in Guichard, É. (ed.), *Comprendre les usages de l'Internet*, Paris, Editions Rue d'Ulm, 2001, p. 73-81.

27 McGann supervised the digital publication of the complete works of Dante Gabriel Rossetti, *The Rossetti Archive*, URL: [http://www.rossettiarchive.org/], and is collaborating on the project for the philological publication of 19th-century literary sources, *NINES*, URL: [http://www.nines.org/].

come up to these required standards, while the explosion of commercial digital operators such as Google and other monopoly actors will lead to cultural disaster in the long run.[28] Furthermore, born-digital sources embedded in websites are even less likely to withstand examination in specific and stable contexts that allow experience and quotations to be 'reproduced'.

Hence there is a need to reconstruct critical apparatus and scientific historical methods to take account of the Web, the medium that is cannibalising all others and allowing knowledge to be disseminated in every form. As a consequence of the digital revolution in progress in all disciplines, we are offered new libraries, new sources, new forms of teaching and learning, new ways of writing history. We are faced, above all, with new ways of reporting history and, in contemporary history, with new forms of identity representation and memory construction.

Furthermore, because of technical choices regarding digitisation, we need a 'political' and disciplinary commitment to history which also entails long-term choices on the accessibility of history content in digital archives and on the Web. Should we opt for open source software that benefits historians, and similarly open access to scholarly digital libraries, in order to promote free access to the publication of historians' intellectual output? This radical redefinition of the role of technical and professional intermediaries, who stand between the producers of historiographic texts – historians – and their 'consumers/readers', revolutionises the role of publishers. These traditional intermediaries between authors – who sometimes now produce their digital work jointly and are often widely scattered – and their readers now face serious challenges. In the material world of books, traditional publication mechanisms allowed authors to be paid for the publication of the results of their research, but today's digital publications do not yet offer clear and stable mechanisms of financial compensation for an intellectual work.

In the digital world, a redefinition of the interaction between historical knowledge and other professional skills has also raised the question of the new digital tools used in the digital humanities workshop. A major issue nowadays is who will develop these tools. William J. Turkel and Alan MacEachern, for instance, have a fairly simple answer to that question: if historians do not develop their tools themselves and embrace the goals of digital humanities, they are in danger of having

[28] McGann, J., 'Our textual history. Digital copying of poetry and prose raises questions beyond accuracy alone', in *Times Literary Supplement*, 20 November 2009, p. 13-15; McGann, J., *Radiant Textuality: Literature after the World Wide Web*, New York, Palgrave, 2001, and 'Culture and Technology: The Way We Live Now, What Is to Be', in *New Literary History*, No. 1, 2005, p. 71-82.

methods forced on them that are not compatible with their practice.[29] But it is extremely rare for historians to develop their 'tools' themselves, in the form of open source software, in order to manage digital history issues as efficiently as possible. Nevertheless, the Web requires direct involvement by historians, and they have to experiment, if not independently then with the help of digital humanists or by taking on the role of digital humanists themselves. Web-based research and publication, and new Web-based teaching methods, can only be promoted if this new network formed by different professionals is tested.

The Italian Enlightenment historian Rolando Minuti published *Internet et le métier d'historien* after his innovative experience with ELIOHS[30] and Cromohs.[31] Minuti draws several conclusions. A community of interest – a new network society – is emerging around the Net, focusing on the central concern of historians, that is, verifying their sources within their new 'habitat'. He also draws attention to the split between sceptics and enthusiasts on the relationship of historians with the Internet: digital history is no longer a choice, but is part of modern historical practice. Finally, he points out that the Net entails the creation of new forms of primacy, between countries, between institutions and between researchers, which are altering the traditional balance on the international academic scene.

If these developments in the historian's craft – which were observed when the Web was first set up and when humanities computing became digital humanities – are understood, it will be easier to control the radical changes affecting the most personal and traditional aspects of history: the attribution of texts and documents to their authors, the authentication and validation of content, and the use of new critical instruments and programming tools with due regard to the most recent changes in Web 2.0 as an evolution of the digital humanist laboratory.

The Need for an Awareness of the Importance of Information Technology

In order to take part in the current debates on the methodological and epistemological aspects of relations between digitisation, digital history and digital humanities, we are presenting some of the contributions to the 'Contemporary History in the Digital Age' symposium held in Luxembourg on 15 and 16 October 2009 and organised jointly by the

29 Turkel, W.J. and MacEachern, A., *The Programming Historian*, 1st ed. NiCHE: Network in Canadian History & Environment, 2007-08. [http://niche-canada.org/programming-historian].

30 ELIOHS, Electronic Library of Historiography, URL: [http://www.eliohs.unifi.it/].

31 *Cromohs*, URL: [http://www.cromohs.unifi.it/].

University of Luxembourg and the CVCE. The papers in this book are divided into four sections: digital infrastructures and Web 2.0; resources and tools; methods and writings; the digital environment.

The range of subjects covered will give readers with little experience of digital history a broad overview of the activities and issues involved in the field today and the challenges it presents, the most significant elements of which we have attempted to elucidate above. Experts already familiar with the subject and with digital humanities will no doubt have a clearer appreciation of the dynamism of this emerging 'sub-discipline' of digital history. We hope that this publication will help to unite Web enthusiasts and sceptics at least around one idea: that the foundation of our discipline, on the Web and elsewhere, remains a prerogative of our critical faculty.

In the light of this brief historical survey of digital humanities, this book is intended for researchers in the humanities and social sciences, especially historians of the contemporary world who are either practising digital humanities without realising it or are curious about this new field and looking for hints as to the uses they could make of it.

We hope that historians of the contemporary, and others, will be made clearly aware of the contributions that digital humanities can offer and the advantages it can bring to their practice of history and to the future of 'making history'.

PREMIÈRE PARTIE
INFRASTRUCTURE NUMÉRIQUE ET WEB 2.0

PART I
DIGITAL INFRASTRUCTURE AND WEB 2.0

Cyberclio

Vers une Cyberinfrastructure au cœur de la discipline historique

Marin DACOS[1]

Directeur du Centre pour l'édition électronique ouverte

Été 2009. À la stupéfaction générale, le libraire en ligne Amazon.com procède à la suppression unilatérale des versions électroniques de *1984* et de *La ferme des animaux* dans les Kindle[2] de leurs propriétaires. La fiction imaginée par George Orwell dans *1984* semble dépassée par la réalité. Les lecteurs dépossédés ainsi de leurs exemplaires étaient-ils sanctionnés pour avoir piraté les ouvrages ? Un bug avait-il touché le géant américain de la librairie en ligne ? Ni piratage, ni bug : c'est un problème juridique qui s'est produit, car Amazon avait commercialisé certains ouvrages de façon aventureuse. Ce n'est pas la première fois que les pionniers du numérique prennent des libertés avec le droit traditionnel. Mais c'est la première fois que les honnêtes clients d'Amazon, heureux propriétaires d'une liseuse, de modèle Kindle et de marque Amazon, se voient dépossédés à leur insu d'un ouvrage régulièrement acquis. Amazon a pénétré dans les Kindle de ses clients et effacé les fichiers qu'ils contenaient. Un tel épisode s'est reproduit en décembre 2010, pour des ouvrages érotiques vendus par Amazon, puis retirés de son catalogue, ainsi que des Kindle auxquels ils avaient été vendus. La société américaine a refusé de rembourser les ouvrages et son service commercial s'est même permis de répondre aux clients lésés que leurs lectures étaient immorales.[3] En retirant *1984*, la société de Jeff Bezos a également détruit l'ensemble des annotations personnelles ajoutées par les lecteurs. Le scandale produit par ce premier exemple d'autodafé numérique perpétré par un libraire a eu un retentissement mondial et le

[1] http://cleo.cnrs.fr / marin.dacos@revues.org / http://blog.homo-numericus.net.

[2] Le Kindle est une liseuse de livres électroniques fabriquée et vendue par Amazon.

[3] URL : [http://theselfpublishingrevolution.blogspot.com/2010/12/amazon-in-book-banning-business.html].

supermarché des livres a dû faire marche arrière. L'histoire ne dit pas si les annotations ont été récupérées, ou si elles ont été perdues à jamais. Si elles ont été perdues, c'est le signe de la fragilité des dispositifs numériques dont disposent aujourd'hui les intellectuels, au rang desquels on aura la faiblesse d'intégrer les historiens. Si elles ont pu être récupérées, c'est sans doute pire, car cela signifie qu'Amazon réalise des copies de secours des données personnelles de ses clients sur ses serveurs.

Alors que la troisième révolution industrielle, la révolution numérique, atteint l'objet-livre, cette anecdote emblématique interroge les chercheurs sur la façon dont ils doivent mener leurs recherches, leur travail d'écriture et leur métier d'enseignant. En effet, à l'heure de l'informatique dans les nuages (*cloud computing*),[4] se pose la question de la maîtrise de sa bibliothèque numérique par le chercheur. Mais le problème est bien plus large, car il touche aussi les sources de l'historien, sujet encore plus complexe et stratégique, d'un point de vue heuristique. Élargi à l'ensemble des secteurs de l'activité scientifique, du séminaire permanent en ligne à la maîtrise de l'identité numérique du chercheur, des problèmes d'annotations aux questions d'interopérabilités entre les corpus, le problème a tendance à jeter la communauté scientifique dans un abîme de perplexité. Face à un environnement numérique foisonnant, instable, imprédictible et soumis aux forces du marché, comment l'historien *lambda* peut-il être un acteur de son devenir numérique, et non subir les vagues d'innovations et les contre-vagues d'obsolescence accélérée, de modes éphémères et de faillites industrielles ? La réponse tient en un seul mot : cyberinfrastructure.

Retour aux sources ?

Un retour sur la célèbre enquête des « TRA », initiée au début des années 1980, permet d'interroger les problématiques liées à une base historique collective créée avant le développement du Web, à la généralisation de l'interopérabilité des données et à la naissance du mouvement « Open Science Data ».[5] Voici comment les porteurs de cette enquête la décrivent :

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4 Il s'agit d'une méthode informatique déportant les calculs et les données sur le réseau, alors qu'on les exploitait traditionnellement sur un ordinateur local. Les traitements de texte en ligne (Google docs, Zoho, etc.) constituent un exemple typique du *cloud computing*.

5 La libération des données de la recherche est réclamée dès 2003 dans la Déclaration de Berlin, URL : [http://oa.mpg.de/lang/en-uk/berlin-prozess/berliner-erklarung/]. Ce mouvement a été relancé par le développement d'initiatives gouvernementales de libération massive de données publiques : URL : [http://data.gov] et URL : [http://data.gov.uk].

> Commencée dans les années 80 par Jacques Dupâquier, l'enquête « TRA » vise à analyser les dynamiques démographiques et sociales de la population française de 1803 à 1986, en se fondant sur la reconstitution d'un corpus extrêmement important et unique de généalogies patronymiques descendantes (personnes dont le patronyme commence par les lettres TRA). Le choix d'un corpus patronymique permet d'utiliser les tables décennales alphabétiques de naissances, mariages et décès tenues dans toutes les mairies à partir de 1803. Le fait d'utiliser une sélection patronymique écarte les descendances des femmes mariées. Cette contrainte est nécessaire pour permettre une collecte aussi exhaustive que possible mais elle est corrigée par l'introduction à chaque génération des conjointes des hommes TRA. Le choix des noms TRA fournit un corpus de personnes représentées dans tous les départements (quelles que soient les langues locales : alsacien, catalan, etc.) qui, tout en n'étant pas trop important, permet d'avoir un échantillon représentatif au niveau national d'environ 3 000 couples, sur la base d'un couple pour 10 000 habitants par département au recensement de 1806.[6]

Comment cette base informatisée, financée par des fonds publics, est-elle mutualisée avec la communauté des historiens ? Le site du Laboratoire de démographie historique mentionne des contraintes légales et une volonté de dépôt :

> Cette enquête qui utilise des données nominatives est soumise à des contraintes administratives strictes en particulier de la CNIL : non-diffusion d'informations permettant d'identifier les personnes, ce qui limite le contenu des bases de données qui seront mises à disposition. De plus l'ensemble des documents devra être déposé aux AN [Archives nationales] après la fin de l'enquête.[7]

Daté de 2008, ce texte confirme que les données ne sont pas publiques, ou du moins accessibles aux historiens, 25 ans après le début de cette enquête d'envergure. Il est sans doute possible d'entrer en contact avec les responsables de la base et de leur demander un accès, mais aucune procédure explicite ne permet de savoir dans quelles conditions cela pourrait avoir lieu. On aurait tort de jeter la pierre aux porteurs de l'enquête TRA. Tout d'abord, parce qu'on imagine la difficulté de mettre à disposition une base de données qui aurait traversé 25 ans de mutations technologiques sans investir beaucoup de temps dans la documentation de l'histoire technique d'une telle base, dans la maintenance des données et dans la mise au point d'interfaces de consultation ou d'extraction à distance. Mais aussi, et surtout, parce que l'institution ne valoriserait pas un tel effort, que ce soit à court terme ou à moyen terme. En effet, la mutualisation des données est en général considérée comme une naïveté par la communauté des historiens : pourquoi investir temps et

6 URL : [http://www.ehess.fr/ldh/theme_TRA/Theme_TRA-Intro.htm].

7 *Ibid.*

argent dans des opérations considérées comme techniques pour permettre à ses collègues, et néanmoins concurrents, de mener des études à peu de frais, sur la base de données collectées laborieusement ? Sans incitation et sans reconnaissance collective, la mutualisation de données scientifiques reste le parent pauvre de l'activité historique, elle est soumise aux variations de la déontologie individuelle et reste conditionnée à la mise en place de relations individuelles entre le détenteur des données et le chercheur souhaitant l'exploiter. Bref, rien ne prédispose les données historiques numériques à la mutualisation. Elles font partie, dans le meilleur des cas, du « Web invisible ».[8] Dans le pire des cas, elles prennent la forme de bases de données disponibles dans un format propriétaire et/ou obsolète, disponible dans un ou deux bureaux d'une institution, soumise au risque de vol, de dégradation, de démagnétisation, d'obsolescence ou, pire encore, d'oubli. Car les données sont généralement incompréhensibles sans le savoir, essentiellement oral, permettant de connaître les modalités pratiques qui ont présidé à leur élaboration. Usages, conventions, sous-entendus, raccourcis et petites habitudes constituent une grille de lecture aussi importante que la documentation du logiciel utilisé ou les articles préfigurant la construction de la base.

Alors que la déontologie des historiens concernant son rapport aux sources est très rigoureuse et exigeante, elle n'a connu aucun *aggiornamento* numérique. Les archéologues sont quasiment les seuls à se tenir à une obligation de publication du résultat de leurs fouilles, en raison du caractère destructif de leur travail de collecte. Cela confère à leur discipline une originalité de laquelle il faut s'inspirer. Les archéologues ont mis en place un écosystème éditorial complet, permettant de publier les résultats des fouilles. Pour les autres périodes, il existe des initiatives intéressantes, mais rien d'aussi systématique que la *Carte archéologique de la Gaule*.[9]

Discipline d'origine littéraire, l'Histoire reste très souvent une entreprise individuelle, s'appuyant sur la figure traditionnelle de l'auteur et de son génie, rarement sur une démarche collective. Or, l'historien produit son savoir sur la base d'un matériau essentiellement inédit et

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8 Le Web invisible est constitué des contenus en ligne qui échappent aux moteurs de recherche.

9 La *Carte Archéologique de la Gaule* est une collection de l'Académie des Inscriptions et Belles-Lettres lancée en 1931, relancée en 1988, coéditée (depuis 1992) avec la Sous-Direction de l'Archéologie (Direction de l'Architecture et du Patrimoine), le Ministère de la Recherche, la Maison des Sciences de l'Homme. Cette collection est chargée de recenser, d'étudier et de publier, département par département, l'ensemble des découvertes archéologiques de la France de l'âge du Fer au début du Moyen Âge (c'est-à-dire de 800 av. J.-C. à 800 ap. J.-C.).

original. Cela le transforme en ensemble quasiment exclusif, en raison des difficultés d'accès aux différentes sources. Seul le savoir qui en découle est rendu public. La plupart du temps, les matériaux sur lesquels s'appuie le discours historique sont cités par extraits, mais rarement exposés publiquement dans leur totalité. Or, l'historien s'appuie sur les éléments les plus significatifs d'un corpus archivistique, éléments qui confortent la thèse, et a tendance à moins mettre en valeur les parasites qui ne « collent » pas avec elle. On devine la puissance heuristique que pourrait avoir la mise en commun d'au moins une partie des matériaux inédits extraits de chaque nouvelle enquête historique, que ce soit dans des archives publiques ou privées, imprimées ou manuscrites, textuelles, iconiques ou sérielles. La forme de cette mise en commun reste à débattre au sein de la profession, car il n'est pas envisageable de transformer l'historien en moine copiste. En revanche, lorsqu'il formalise son matériau en construisant son *corpus*, cette formalisation devrait devenir, à terme, le patrimoine commun de la profession, de l'université, voire, osons le mot, de l'humanité.

En effet, la généralisation du numérique et des réseaux constitue une opportunité historique pour recomposer le métier d'historien autour de la notion de travail collaboratif, susceptible de sortir le chercheur de son splendide isolement. À l'heure où les tenants du libre accès à la littérature scientifique s'interrogent sur une obligation de dépôt en ligne des publications des chercheurs (*open access mandate*),[10] on peut s'interroger sur l'extension de ce type d'obligation ou, au moins, d'incitation aux sources qui alimentent la démonstration de l'historien. Les modalités restent à définir. Le dépôt en ligne d'une base de données n'est pas le seul moyen : il est également possible d'adjoindre à un article des compléments électroniques qui appuient la démonstration et qui seraient susceptibles d'être réutilisés par d'autres. C'est la stratégie mise en œuvre par les sociologues de la revue *Sociologie*, fondée par Serge Paugam, qui ont décidé de la doter d'un supplément intitulé « Sociologie 2.0 ». Ce supplément, dirigé par Pierre Mercklé, se définit comme suit :

> dans cette rubrique, la revue publie, en supplément électronique de chaque numéro de la version papier, un article scientifique original distingué par la mobilisation de procédés faisant un usage avancé de dispositifs numériques innovants d'argumentation, d'administration de la preuve et de documenta-

[10] On appelle « mandat » les obligations de dépôt des résultats de la recherche mises en place par les institutions (Universités, Agences) à destination de leurs agents ou des programmes de recherches qu'elles financent. Lire, notamment Harnad, S., Carr, L., Swan, A., Sale, A., Bosc, H., « Maximizing and Measuring Research Impact Through University and Research-Funder Open-Access Self-Archiving Mandates », 2009. URL : [http://archivesic.ccsd.cnrs.fr/sic_00493057/en/].

tion de la recherche (techniques d'enrichissement textuel, documents audio-visuels, représentations graphiques animées…).[11]

Tout un programme ! Car, si le gain d'une telle démarche semble aller de soi, nombreuses sont les interrogations sur ce qui pourrait apparaître, pour beaucoup, comme un mirage technologique.

Le mirage technologique ?

Les annales des rapports entre histoire et informatique sont jalonnées de projets avortés, de données perdues et de formats inexploitables. Les cartes perforées des années 1970, les disquettes 5"¼ des années 1980, les bases de données propriétaires des années 1990, les erreurs 404[12] et les défaçages[13] des années 2000 sont restés dans les mémoires et n'encouragent guère à investir la sphère numérique. En Sciences humaines et sociales, comme ailleurs, la « loi de Murphy » guette les entreprises. La loi de Murphy, qui veut qu'une catastrophe finisse toujours par arriver, c'est-à-dire que la tartine a une propension à tomber du côté beurré, est très souvent utilisée par les informaticiens pour conjurer le mauvais sort avec humour.

La pauvreté de l'information est également une menace réelle, puisque le chercheur construit son corpus pour un usage très précis, dans lequel l'implicite règne en maître. En dehors de leur contexte initial, les bases de données risquent d'être inutilisables, incompréhensibles, voire introuvables. Ce dernier syndrome est bien connu des bibliothécaires, qui savent qu'un livre mal rangé dans une bibliothèque d'un million de livres est un livre perdu, ainsi que des spécialistes de l'information numérique, qui savent qu'une donnée mal décrite est une donnée perdue, dès lors qu'on la mutualise, au sein de milliers d'autres corpus. On pourrait appeler cela le syndrome de l'archipel, tellement dispersé que sa cartographie devient impossible. Par ailleurs, les documents sont initialement inertes et ne se lient pas entre eux. L'interopérabilité à l'intérieur du corpus, mais aussi entre les corpus, est donc quasiment nulle, ce qui produit un « effet tunnel », isolant les documents. Le syndrome du tunnel est, en général, renforcé par les processus de privatisation de données, que ce soit à l'initiative du chercheur isolé ou de l'organisme, public ou privé, qui prend en charge le corpus. Sans parler des tentations spéculatives, la mise en place des conditions d'accès aux corpus peut être motivée par des contraintes juridiques, techniques ou commerciales.

11 URL : [http://sociologie.revues.org/155].

12 Erreur provoquée par l'appel à une page Web qui n'existe plus à cette adresse.

13 Remplacement de la page d'accueil d'un site par une page composée par ceux qui l'ont piratée. Habituellement, la page est remplacée par une tête de mort et par la signature du pirate.

Dans tous les cas, elle freine l'interopérabilité des corpus et réduit leur potentiel heuristique.

La réponse à l'ensemble de ces problèmes est la mise en place d'une cyberinfrastructure au service de l'histoire. Le nom a de quoi faire peur, puisqu'il semble promettre un « machin » technologique piloté par la technique, dans lequel l'historien aurait une place secondaire et sur lequel il aurait peu de prise. Il pourrait, en outre, annoncer une rupture profonde dans le métier d'historien, réalisant la prophétie d'Emmanuel Le Roy Ladurie selon laquelle l'historien sera programmeur ou ne sera pas…[14] Le projet d'une cyberinfrastructure pour historien signe-t-il la fin d'une façon incarnée de faire l'histoire ? Cela surviendra si la cyberinfrastructure est conçue sans les principaux intéressés.

Cyberinfrastructure

Le rapport de l'ACLS sur les cyberinfrastuctures en sciences humaines et sociales définit les cyberinfrastructures comme

> une couche d'information, d'expertise, de standards, de principes, d'outils et de services qui sont largement partagés entre les communautés de recherches, mais développés pour des besoins universitaires spécifiques : une cyberinfrastructure est plus spécifique que le réseau lui-même, mais est également plus générale qu'un outil ou une ressource développés pour un projet ou même pour une discipline en particulier.[15]

La réussite d'une cyberinfrastructure dépendra notamment de sa capacité à se positionner au bon niveau d'intervention. Pour cela, je propose de distinguer programmes de recherches, plateformes et très grands équipements. L'ensemble de ces trois niveaux, harmonieusement articulés, constitue une cyberinfrastructure.

1) les programmes de recherches peuvent couvrir des équipes régionales, nationales ou même internationales, avoir une grande ampleur problématique, géographique ou chronologique, et mobiliser de nombreux chercheurs ainsi que de nombreuses ressources. Ils portent les problématiques et les innovations scientifiques. Financés en général par projet, ils ne disposent pas d'infrastructures numériques leur permettant de pérenniser leurs méthodes et leurs *corpus* sur le long terme (les laboratoires de recherche n'ont pas cette vocation). Ils publient leurs résultats au cours du programme, et une fois celui-ci achevé.

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14 Le Roy Ladurie, E., *Le territoire…*, *op. cit.*, p. 15-22.

15 Mounier, P., « Une cyberinfrastructure pour les sciences humaines et sociales », Blogo Numericus, 8 juin 2007, URL : [http://blog.homo-numericus.net/article130.html] et le rapport lui-même : *Our Cultural Commonwealth…*, *op. cit.*

2) les plateformes sont des centres spécialisés en Humanités numériques qui mènent des missions de long terme à forte dimension technologique. À cette échelle, un effort de généricité est nécessaire pour transposer dans la longue durée des projets dont les modalités sont initialement pensées comme des prototypes uniques et spécifiques. Cet effort de généricité doit parvenir à respecter l'intégrité du questionnement scientifique de chaque projet, tout en se préoccupant :

- de réduction drastique des idiomes, grâce à l'adoption de normes internationales,
- de factorisation de l'ensemble des éléments technologiques mutualisables,
- de diffusion la plus large possible, dans le respect d'une politique d'accès contrôlée à chaque fois que cela s'impose (données nominatives, données confidentielles, etc.),
- de conservation et d'accès à long terme.

Les plateformes ont donc des compétences fortes en ingénierie (modélisation des données et des processus, développement, documentation) et s'appuient sur des dispositifs technologiques puissants, afin de stabiliser l'effort d'innovation scientifique issu des projets de recherches.

3) les infrastructures, qui assurent le financement des plateformes et arbitrent sur les priorités stratégiques. Leur rôle est également d'assurer l'interconnexion et la mise en cohérence de l'ensemble des dispositifs des plateformes. Ils s'assurent que l'évolution des plateformes est en phase avec l'évolution des enjeux mis en évidence par la communauté scientifique. Ces grands équipements portent sur les quatre dimensions majeures de la recherche en sciences humaines et sociales :

- *l'accès*, la stabilisation et la mise en relation des données numériques entre elles,
- *les données* sur lesquelles s'appuient les chercheurs (archives historiques, enquêtes orales, statistiques diverses, données archéologiques, etc.) *mais aussi les méthodes et outils* qui permettent d'en extraire des découvertes scientifiques,
- *l'édition* des résultats de la recherche (livres, revues, archives ouvertes),
- *la vie des communautés scientifiques* (débat scientifique, identité numérique).

Ils constituent les formes contemporaines des infrastructures traditionnelles des sciences humaines et sociales : bibliothèques, archives, presses universitaires, universités, centres de recherches.

Les travaux de construction des Cyberinfrastructures sont en cours. On citera le projet Bamboo aux États-Unis,[16] Joint Information Systems Committee (JISC) au Royaume-Uni,[17] les initiatives françaises (PROGEDO, CORPUS, BSN)[18] dont le Très Grand Équipement Adonis[19] et son moteur de recherche,[20] les projets européens DARIAH[21] et CLARIN.[22] D'autres initiatives jouent un rôle très structurant sans être des cyberinfrastructures, comme le W3C[23] ou le Consortium TEI (TEI-C).[24] Ces organismes jouent un rôle de définition de normes et de guides de bonnes pratiques qui jouent un rôle essentiel.

L'état de l'Art

L'ensemble a vocation à obéir à l'état de l'art, tant d'un point de vue scientifique que d'un point de vue technologique. Cette formulation, simple et rassurante, cache une réalité complexe et évolutive, sur laquelle la stabilisation d'un savoir positif est difficile. Il ne suffit pas, en effet, de lister l'ensemble des technologies et des normes auxquelles il faut obéir pour être conformes à l'état de l'art. Le « lancer » de sigles technologiques (« sigles dropping » sur le modèle du « name dropping ») est, en effet, un sport qui demande peu d'efforts et qui a vocation à rassurer un auditoire réputé ignorant dans le domaine technologique.

En revanche, on connaît quelques-uns des grands principes qu'il faut respecter et des technologies à appliquer. C'est l'objectif que se donne le Manifeste des Digital Humanities, rédigé par une centaine de spécialistes lors de THATCamp Paris en mai 2010.[25] Selon ce texte, la communauté des Humanités numériques se structure autour de grands principes : interopérabilité, ouverture et documentation des formats, échange de bonnes pratiques. Ce domaine ne pourra se développer et se structu-

16 URL : [http://www.projectbamboo.org/].

17 URL : [http://www.jisc.ac.uk/].

18 URL : [http://www.roadmaptgi.fr/Documents/TGIRs%20en%20STIC%20et%20SHS.pdf]. Voir également nos propositions : Caverni, J.-P., Dacos, M., *Construire les Digital humanities en France. Des Cyber-infrastructures pour les Sciences humaines et sociales*, Rapport remis à la Commission des présidents d'université (CPU), 2009, 15 pages.

19 URL : [http://www.tge-adonis.fr/].

20 URL : [http://rechercheisidore.fr/].

21 URL : [http://www.dariah.eu/].

22 URL : [http://www.clarin.eu].

23 URL : [http://www.w3.org/].

24 URL : [http://www.tei-c.org].

25 Version française, URL : [http://tcp.hypotheses.org/318] ; version anglaise, URL : [http://tcp.hypotheses.org/411].

rer sans la mise en place d'une communauté de professionnels spécialisés, affectés à temps plein à ce type de mission, et dont les compétences seront mises à jour en permanence. Dans un contexte de forte concurrence salariale dans le secteur informatique, cette ambition n'est pas la plus simple à assumer sur la durée. Les Humanités numériques sont en train de se doter de guides de bonnes pratiques. On consultera, pour la France, les guides de bonnes pratiques rédigés par le TGE Adonis,[26] pour l'Angleterre, ceux du JISC.[27] On trouvera ci-dessous deux illustrations de la nature et de la complexité des objets concernés. Le premier exemple est un tableau présentant quelques standards et stratégies utilisés dans une cyberinfrastructure. Le second est le schéma simplifié du système d'information du Centre pour l'édition électronique, qui représente une toute petite brique de la cyberinfrastructure française en cours de constitution. Ce schéma laisse deviner la complexité de la cyberinfrastructure générale et permet d'illustrer la modularité de tout système d'information moderne.

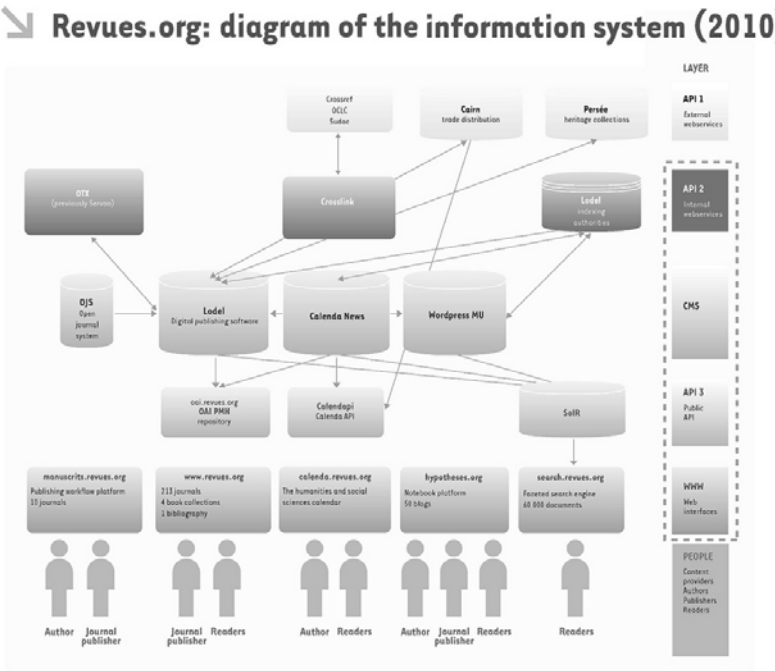
Tableau 1 – Quelques technologies utilisées

Technologie	Finalité
Dublin Core	Description de métadonnées.
XML	Encodage de tous types de documents.
TEI, EAD, METS	Formats XML de référence.
RDF	Description des données (Web sémantique).
UNICODE	Jeu de caractère universel.
OAI-PMH	Protocole d'interopérabilité.
OPDS	Format d'échange de catalogues d'ouvrages.
DOI, HANDLE	Systèmes d'identification unique des documents.
OAIS	Principes d'archivage pérenne.
LOAD BALANCING	Système de répartition de charge pour assumer la progression forte d'un système.

[26] URL : [http://www.tge-adonis.fr/ressources/guides].

[27] URL : [http://www.jisc.ac.uk/publications.aspx].

Figure 1 – Schéma simplifié du système d'information du Centre pour l'édition électronique ouverte



Urbanisation du système d'informations

Une cyberinfrastructure doit faire appel au modèle d'urbanisation des systèmes d'information. Celui-ci a vocation à éviter la construction d'un dispositif monolithique, très peu évolutif et fragile. Au contraire, on privilégiera une architecture des données intégrant le principe de cohérence forte et de couplage faible. Il s'agit de prendre en compte l'ensemble du système d'information (SI) comme une ville qu'il faut lotir de façon optimale, considérant que la cohérence de l'ensemble doit être forte mais la dépendance entre les objets faible. Cela signifie qu'il faut monter des quartiers et des lotissements interdépendants mais assez autonomes pour pouvoir être remplacés individuellement sans mettre en péril l'équilibre de l'ensemble. Ce type de système n'est, bien entendu, pas cantonné à un périmètre fixé à l'avance. Il peut s'étendre et se reconfigurer en fonction de l'évolution des usages, des besoins et des

environnements technologiques.[28] Les briques du dispositif communiquent entre elles comme avec les dispositifs extérieurs au système d'information : elles utilisent des API ou Webservices.[29]

Risques et difficultés

On aurait tort, cependant, de réduire la notion de cyberinfrastructure à un jeu de processus et de bonnes pratiques technologiques. Nous reprendrons le fil du Manifeste des Digital Humanities pour en énoncer les axes. Le premier risque concerne les difficultés d'accès aux données et aux métadonnées. En dehors des obstacles légitimes, notamment liés au respect de la législation sur les données nominatives, on peut craindre la mise en place de barrières institutionnelles ou commerciales. Mais d'autres freins existent, comme la faible documentation des données (article 9). Le deuxième risque porte sur la mise en place de secrets concernant les méthodes, le code et les formats qui ont abouti à la recherche (article 10). Même dans le milieu universitaire, et au sein d'équipes favorables au logiciel libre, il n'est pas si fréquent que du temps et de l'argent soient mobilisés pour la diffusion et la documentation de code.[30] Cela peut être le fait de négligences, d'un manque de moyens ou d'une volonté de protéger un pré carré. Le troisième obstacle porte sur la faible intégration des compétences liées aux humanités numériques dans les cursus universitaires et dans les établissements de recherche (article 11). Cela mènerait à un pilotage purement technologique, par des acteurs ignorant l'essentiel de ce qui constitue les disciplines au service desquelles est élaborée l'infrastructure. Sans appropriation par la profession dans son ensemble, la cyberinfrastructure sera plaquée sur des paradigmes et des concepts étrangers. On peut même craindre un dialogue de sourds entre ingénieurs et enseignants-chercheurs, ce qui constituerait une catastrophe. À l'inverse, nous avons besoin de médiateurs et de ponts permettant de croiser, voire de faire converger, les dimensions de l'ingénierie et celles de la recherche. Cette question trouve des prolongements dans des secteurs qui ne sont pas discutés dans les conseils scientifiques des universités… alors qu'ils le devraient. Ils sont trop longtemps identifiés comme purement techniques, et se situent donc

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28 Akoka, J., Comyn-Wattiau, I. *et al.*, *Encyclopédie de l'informatique et des systèmes d'information*, Paris, Vuibert, 2006.

29 « Un service Web est un programme informatique permettant la communication et l'échange de données entre applications et systèmes hétérogènes dans des environnements distribués. Il s'agit donc d'un ensemble de fonctionnalités exposées sur internet ou sur un intranet, par et pour des applications ou machines, sans intervention humaine, et en temps réel », in « Webservice », *Wikipedia*, URL : [http://fr.wikipedia.org/wiki/Webservice] (7 janvier 2010).

30 Par exemple, sur *SourceSup*, URL : [http://sourcesup.cru.fr/].

dans l'angle mort des débats au sein des établissements. Les conséquences peuvent en être fâcheuses. L'exemple du Digital Object Identifier (DOI) en est sans doute l'expression ultime, puisque la société Crossref (officiellement à but non lucratif) a réussi à en faire un bastion lui permettant d'imposer des règles de fonctionnement non scientifiques sur l'identification unique des documents scientifiques. Il existe des alternatives, mais celles-ci ne sont que faiblement soutenues et aucune organisation de l'ampleur de Crossref n'est, aujourd'hui, capable de contester son hégémonie. Or, Crossref impose une économie de la rareté à un bien informationnel stratégique, qui devrait être soumis à des principes scientifiques avant tout. On touche là aux questions de gouvernance du numérique, largement laissées à l'abandon par la communauté des historiens. Or, ce quatrième obstacle est sans doute le plus important (articles 13 et 14). L'histoire des rapports entre l'État et l'informatique est jalonnée d'exemples montrant de fortes difficultés d'adaptation à une situation très évolutive. De même, on ne devra pas perdre de vue que la plupart des grandes réussites de l'histoire de l'informatique n'avaient pas été prédites, ni anticipées. On proposera donc une approche incrémentale à un plan prédéfini pour les vingt prochaines années sur une feuille blanche. Cette approche incrémentale devra répondre à des besoins réels, et ajuster le dispositif en permanence en fonction de l'évolution de ceux-ci. Il ne s'agit pas de mener une course sans fin à la nouveauté technologique, qui correspondrait à une gadgétisation du numérique. En revanche, la cyberinfrastructure devra s'attacher à la mise en place d'un *continuum* entre elle et les besoins de la recherche et de la société.

Conclusion

Le chantier qui s'ouvre durera dix, vingt ou trente ans. La route sera longue et complexe. L'ampleur des moyens à engager et la nécessité d'une vision à long terme ne doit, cependant, pas faire oublier que la science est faite d'imprévus et de retournements, elle doit donc rester essentiellement humaine, et permettre un séminaire permanent, selon le mot d'André Gunthert,[31] et pas seulement se concentrer sur les objets de la recherche qui sont les corpus et les produits de la recherche que sont les publications. Reléguer la conversation scientifique dans les marges des cyberinfrastructures serait une erreur stratégique majeure.

[31] Gunthert, A., « Why Blog ? », in Dacos, M. (dir.), *Read/Write Book*, Marseille, Cléo, 2010, URL : [http://cleo.revues.org/174] (23 janvier 2011).

Web 2.0 and the Future of Research

New Tools for Research Networks

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This paper will discuss the use of social networks and "Web 2.0" applications as tools for academic research. The paper is divided into two main sections: 1) What is Web 2.0? and 2) Which activities and tools might be considered as the most relevant in this context from the point of view of academic research? In this second and last section, my attention will mainly be devoted, as the title of the paper suggests, to social networks and social networking applications, and to the idea of research-oriented social networks.

What is Web 2.0?

The term "Web 2.0" has no single, definite meaning: it has rather broad and somewhat vague connotations. I have dealt elsewhere with its history and scope,[1] and here I will merely summarise the main features

[1] Roncaglia, G., "Gli strumenti del nuovo Web e l'organizzazione della ricerca in campo umanistico", to be published in the proceedings of the conference "Le opere filosofiche e scientifiche. Filosofia e scienza tra testo, libro e biblioteca", Lecce, 7-8 febbraio 2007. URL: [http://dspace.unitus.it/handle/2067/433]. The standard reference is the paper by O'Reilly, T., *What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software*, September 2005, URL: [http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-Web-20.html]. While this paper proved to be seminal in shaping most of the subsequent discussion on Web 2.0, I would be very cautious in subscribing to one of its main thesis, namely the idea that user generated content (note that the expression itself is not present in O'Reilly's paper) is to be seen as a form of "collective intelligence". While the information added by the users might well be – and usually is – the result of human intelligence, the notion of intelligence seems to imply intentionality. And I would be hesitant to apply without qualifications the notion of intentionality to the kind of "collective" subject represented by the community of active Web users. For the very same reason, I would be very hesitant in subscribing to some among the thesis put forward by Pierre Lévy in his standard book on collective intelligence: Lévy, P., *L'intelligence collective. Pour une anthropologie du cyberespace*, Paris, La Découverte, 1994. Tim

that, in my opinion, are central to the concept.[2] I will do so by proposing a rather dull list of eight key concepts, each of which will be followed by a short explanation. I hope that at least some of them will acquire more substance in the second part of my paper, where I will deal with specific Web applications.

The first key concept – and the one most frequently associated with Web 2.0 – is that of *User-Generated Content (UGC)*.[3] In the early years of the Web, content publishing was limited to people and institutions with access to a Web server and with the skills required to build and upload an HTML page. Content Management Systems (CMS), and more specifically blog-oriented, server-based CMS allowing users to write and publish their posts easily, were but the first step toward a new era of easy content production and sharing. Tools and platforms for image sharing (such as Flickr or Picasa), video sharing (such as YouTube) and audio sharing (such as podcasts) were further steps in the same direction. The new Web is not just a tool for accessing information produced by institutional entities and power users: it is an environment in which every single user can publish and share self-produced content. UGC is the core of Web 2.0, and most of its tools try to address the obvious problems of sheer volume, organisation, classification, evaluation, selection, retrieval, social use and preservation of such a huge amount of information. In the field of academic research, UGC implies a shift in the direction of a closely interconnected research community, oriented not only toward the individual production of research content, but also toward its active and collaborative dissemination and evaluation.

O'Reilly has further emphasized the role of collective intelligence in John Battelle: O'Reilly, T., Battelle, J., *Web Squared: Web 2.0 Five Years On*, 2009, URL: [http://www.web2summit.com/web2009/public/schedule/detail/10194], in which the Web is seen as an entity capable of "learning", and the tools of Web 2.0 are connected to the rise of a "collective mind". Once again, the kind of collective intentionality and the teleology which seem to be implied by the use of those expressions should, in my opinion, better be avoided.

2 This discussion partially overlaps with the one included in Roncaglia, G., "School Libraries and Social Networks", in *Proceedings of the 38th Annual Conference of the International Association of School Librarianship, incorporating the 13th International Forum on School Librarianship*, Abano Terme-Padua, 2-4 September 2009, Zillmere – Queensland, 2009.

3 In its report *Participative Web: User Created Content*, the OECD Working party on the Information Economy correctly states that "There is no widely accepted definition of UCC, and measuring its social, cultural and economic impacts are in the early stages." The report however offers a tentative definition which seems to grasp the core meaning of the expression, defining User Created Content as: "i) content made publicly available over the Internet, ii) which reflects a certain amount of creative effort, and iii) which is created outside of professional routines and practices." OECD Working party on the Information Economy, *Participative Web: User Created Content*, 12 April 2007, p. 4, URL: [http://www.oecd.org/dataoecd/57/14/38393115.pdf].

A second key aspect of Web 2.0 is the role of *Semantics*.[4] The new Web is so huge and complex that old-style directories or even plain-text search engines don't allow us to manage, search and retrieve information in an effective way. We need semantics in order to organise, classify and retrieve information. By adding semantics (i.e. metadata) to the new Web, we are confronted with two quite different approaches: formal, XML-based, well-structured ontologies are required to deal with uniform, authoritative collections of information (archives, libraries, structured texts and corpora, etc.), while informal, bottom-up social tagging might help in dealing with most user-generated content. Tools allowing for the effective implementation and – whenever possible – integration of these two strategies will be an essential component of the new Web, both in general and in the specific context of academic research.

A third relevant concept is that of *Collaborative filtering*.[5] In the new Web, users have the role of both producing information and using it. And their behaviours in selecting, sharing and using content are also information that can be – and actually is – scrutinised and used. This raises obvious privacy concerns, but at the same time can be of invaluable help in the process of selecting information: by analysing the behaviours of users "similar" to us (and of course our own behaviour), a Web platform can offer us suggestions for books, music, films, news, etc. Any user of Amazon knows how refined and effective those suggestions can become, if we allow the platform to gather enough information about us (profiling). The use of collaborative filtering is also of utmost relevance for academic research, where it implies new forms of (and tools for) collaborative evaluation of research content, and offers an

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4 A role which is most clearly implied by Tim Berners-Lee conception of semantic Web: Berners-Lee, T., Hendler, J., and Lassila, O., "The Semantic Web", in *Scientific American Magazine*, 17 May 17 2001, URL: [http://www.sciam.com/article.cfm?id=the-semantic-Web]. For a general presentation of the key ideas and tools of semantic Web, cf. Antoniou, G. and van Harmelen, F., *A Semantic Web Primer, 2nd Edition*, Harvard (Mass.), The MIT Press, 2008. While the idea of semantic Web (or its most recent incarnation in the form of the linked data initiative) is usually considered as distinct from Web 2.0 and is sometimes referred to as Web 3.0, its relevance from a Web 2.0 perspective is undeniable: even the "user generated semantics" provided by the use of social tagging (folksonomy) – the main semantic strategy of Web 2.0 – do require stronger (and sounder) tools and ontologies if we want to consolidate and use them with some degree of interoperability. For a general overview of the idea of social tagging cf. Peters, I., *Folksonomies. Indexing and Retrieval in Web 2.0*, Berlin, De Gruyter, 2009.

5 For an introduction to collaborative filtering and to its key tools: Su, X., and Khoshgoftaar, T.M., "A Survey of Collaborative Filtering Techniques", in *Advances in Artificial Intelligence*, 2009, DOI:10.1155/2009/421425, URL: [http://www.hindawi.com/journals/aai/2009/421425.html].

interesting alternative – or rather a useful supplement – to the traditional peer-review process.

A fourth key element of Web 2.0 are *RSS feeds*. The name is technical, but the idea is simple. The books I read – or rather the metadata describing them –, the music I listen to, the images I publish on Flickr or Picasa, the posts I publish on my blog, the short descriptions of what I am doing that I write on social networks such as Twitter or Facebook – in short, any kind of reasonably uniform content being released over time – can be organised in structured feeds of information that can flow freely and move from one application to another, from one Web page to another. It is difficult to overestimate the importance of RSS feeds for the new Web.[6] The very idea of gathering in a feed all kinds of different activities of a single user, and of sharing this feed with the user's friends, is at the core of social networks. Within open archives or research-oriented social networks, RSS feeds allow users to monitor the academic production of an individual researcher and also to monitor new contributions to specific research fields, to easily follow a discussion within a forum, or to automatically update lists of references or quotations.

The use of *Embedding, syndication, re-use, mash-up* constitutes a fifth, relevant feature of Web 2.0. RSS feeds allow for easy syndication (in its most common translation, RSS stands for Really Simple Syndication) and re-use of information flows. However, even single pieces of information (an image, a video, an audio file) can be easily re-used on different Web pages. In Web 1.0, we did this through links (only in the case of images was it easy – if not always legal – to incorporate in a page images taken from different pages on different Web servers). In the new Web, we have tools allowing for the direct embedding of all kinds of Web content. This means that a Web 2.0 page is not just a static, self-enclosed entity: it can be the result of collecting and aggregating content drawn from different Web platforms, and ready to be "taken away" and re-used elsewhere, by ourselves or by other users. While Web 1.0 was a restaurant based on fixed, pre-arranged menus, Web 2.0 is a takeaway. And not just any takeaway: one in which we might want to mix Chinese noodles with Indian Chicken Masala, Italian ice cream with French wine. The new Web platforms must thus be able not just to talk to each other, but to actively exchange content, gathering and aggregating it (mash-up).

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6 For an early discussion of this concept: Roncaglia, G., "Blogosfera e feed RSS: una palestra per il Semantic Web?", in *Networks – Rivista di filosofia dell'intelligenza artificiale e scienze cognitive*, 2003/2, p. 47-56, URL: [http://dspace.unitus.it/handle/2067/9]. Extensive resources on RSS feeds are available at URL: [http://www.rssboard.org/].

Social networks are the killer application of the new Web, and a further key element of our enumeration. By generating content and sharing it, by exchanging messages and information, users establish relationships among themselves and with the very information they produce and gather. Such relationships – as well as real-life relationships seeking a virtual counterpart in the new virtual environments – are in turn valuable information that we want to use and take advantage of (collaborative filtering being but one example of this process). Social networks are the tools of choice to collect, share and put to work that peculiar kind of information constituted by both user-to-user relationships and user-to-content relationships.[7] This is, of course, a rather abstract explanation of social networks – a more specific one would describe them in terms of a collection of user profiles, each of which includes references to a user's network of "friends", and might embed content (audio, video, news, etc.) that the user has either produced or selected. We will discuss social networks further in the second section of this paper, but I am quite confident that most of you are familiar enough with social networks such as Facebook to make sense even of this rather sketchy and abstract description, and to understand the special role that user-to-content (and even content-to-content) relationships might have in the case of research content.

From a somehow different perspective, that of programming and designing Web sites and tools, the use of *Apps*, *WebApps*, *page interaction*, *Ajax* might be considered another essential feature of Web 2.0.[8] The Web was born as a tool for publishing content produced elsewhere, not as a tool with which users can actively interact and which can be used to produce and manipulate content. Accordingly, Web browsers were simply clients used to request and receive information from a Web server, not a sort of operating system capable of "running" Web-based applications. However, we soon discovered that gathering and presenting information was not enough: we need interaction. The idea of Web-based applications, embedded in Web pages and ready to be used

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7 For a general introduction to social networks and an extensive bibliography cf. Boyd, D., and Ellison, N., "Social Network Sites: Definition, History, and Scholarship", in *Journal of Computer-Mediated Communication*, Vol. 13, Issue 1, October 2008, p. 210-230, URL: [http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.2007.00393.x/full]. For a discussion of social networks from the point of view of the structure of the relations involved: Kumar, R., Novak, J. and Tomkins, A., "Structure and Evolution of Online Social Networks", in Yu, P.S., Han, J., Faloutsos, C., *Link Mining: Models, Algorithms, and Applications*, part 4, Berlin, Springer Verlag, 2010, p. 337-357.

8 A general introduction to this topic is provided by Campesato, O. and Nilson, K., *Web 2.0 Fundamentals for Developers: With AJAX, Development Tools, and Mobile Platforms*, Sudbury (MA), Jones and Bartlett Publishers, 2010.

through our browser and inside its window, is another key element of the new Web. And platform-based, Web-aware applications (such as those offered – mostly for mobile devices – by the Apple or Android markets) might well supplement purely Web-based applications, and/or effectively interact with them. Ajax is the new tool of choice in the field of Web applications (and is a remarkable improvement over the simple use of JavaScript, Vbscript and ASP); this is not the place to discuss it,[9] but it is useful to remember that, when asked, a Web programmer would probably mention Ajax as Web 2.0's main tool.

Finally, a further feature of Web 2.0 is the adoption of new paradigms in the field of *Web design*. For most users, the expression "Web 2.0" also has a very visual connotation; it is something with large and colourful icons and a simple design oriented to mainly visual rather than exclusively verbal communication. We will not deal here with this aspect of the new Web,[10] but again it might be useful to mention it: Web design is after all a central feature of any Web page or site, and effective communication with users requires good, sound and usable Web design.

Social networks and research

There is no lack of statistics on the amazing penetration of social networks. According to Nielsen's 2009 report "Global Faces and Networked Places":

> Social Networking has been the global consumer phenomenon of 2008. Two-thirds of the world's Internet population visit a social network or blogging site and the sector now accounts for almost 10% of all Internet time. "Member Communities" has overtaken personal Email to become the world's fourth most popular online sector after search, portals and PC software applications.
>
> The story is consistent across the world, "Member Communities" has taken a foothold in every major market from 50% of the online population in Switzerland and Germany to 80% in Brazil. Facebook has become the largest player on the global stage, dominant in many countries, yet localized offerings have won the day in many others.
>
> However, the growth in popularity of social networks – and the resultant broadening audience – is only half the story. The staggering increase in the amount of time people are spending on these sites is changing the way peo-

9 A comprehensive guide to Ajax is provided by Holdener, Anthony T. III, *Ajax: The Definitive Guide*, Sebastopol (CA), O'Reilly Media, 2008.

10 For a simple and accessible introduction on the key principles of Web design 2.0, see Hunt, W., *Web 2.0 How-To-Design Style Guide*, URL: [http://Web.archive.org/Web/20130117052646/http://www.webdesignfromscratch.com/Web-design/Web-2-0-design-style-guide/] (10.06.2010). A more traditional and comprehensive resource is Beaird, J., *The Principles of Beautiful Web Design*, Sitepoint, 2010.

ple spend their time online and has ramifications for how people behave, share and interact within their normal daily lives.[11]

There is probably no need to add that such statistics are all the more impressive when the focus is on "Generation Y": as early as 2007, an astounding 96% of the entire American online population aged 9-17 was using social networking tools.[12] Time spent on social networks is growing three times faster than the overall Internet rate, and the data concerning the most important social network,[13] Facebook, are even higher.

However, social networks are not usually associated with research. I do think that such an association could and should be explored, and this from (at least) two different points of view: 1) as a tool which can be used for Web-based informal learning, and therefore as a tool useful in the dissemination of the results of research activity, and 2) as a tool which can offer us insights and models on how research-oriented social networks could be built (and the kind of problems that might need to be avoided). Both uses, in my view, can benefit from three invaluable tools: RSS feeds, content embedding and social networking applications.

But let's start by looking at the very idea of social networks. In the early days of Web 2.0, it was quite common to distinguish between relationship-oriented social networks (such as MySpace), where the main aim is to build on and foster personal contacts and relationships between users, and content-oriented social networks (such as YouTube or Flickr), mainly devoted to hosting and sharing user-generated content.

Facebook successfully challenged this idea. Born as a relationship-oriented social network, it owes much of its success to the very tidy and effective implementation of a simple idea: the stuff of which personal relationships are made is information; therefore, implementing tools for sharing information and user-generated content is a key element of the

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11 Nielsen Company, *Global Faces and Networked Places. A Nielsen report on Social Networking's New Global Footprint*, 2009, URL: [http://blog.nielsen.com/nielsenwire/wp-content/uploads/2009/03/nielsen_globalfaces_mar09.pdf].

12 Grunwald Associates National study, URL: [http://www.trendsspotting.com/blog/?p=165]. The research does include e-mail among social networking tools, but the impact of this should not be overestimated: Generations Y and Z consider e-mail as a tool of the past, and in 2009 Boston College stopped distributing e-mail addresses to incoming freshmen, URL: [http://socialnomics.net/2009/08/11/statistics-show-social-media-is-bigger-than-you-think/].

13 While it is safe to consider *Facebook* as the biggest and most important social network on a global scale, it is not without competition: China's *Qzone* declares over 350 million users, with almost 200 million updating their account at least once a month. As of August 2009, *Facebook* declared more than 250 million active users, with more than 120 million logging on at least once each day, but in July 2010, the company announced that the number of *Facebook* users worldwide had broken the 500 million mark, one for every 14 people in the world.

mission of a relationship-oriented social network. It was only natural that the two models – relationship-oriented and content-oriented social networks – should come together to form a single concept.

Embedding, feeds and WebApps are the tools used to reach this goal. Content embedding and RSS feeds have been looked at in the first section of this paper: as we already know, they are both used to "move" content (text, images, audio, video) from one site to another, allowing for content mash-up. From the point of view of a social network, this makes it possible to aggregate and embed in the page of a given user the streams of posts from the user's blog, her or his images from an image sharing platform such as Flickr or Picasa, her or his videos from a video sharing platform such as YouTube, and so on.

Let us immediately try to picture this process of aggregation from the point of view of a research-oriented social network. In this exercise, we will start with a somewhat simpler (and maybe less interesting) task: the research-oriented *use* of existing social networks. I will use Facebook as the social network of choice, because it is both the most widely used and the most powerful in allowing content aggregation, but the same principles would apply to other social networks. A number of research projects already have a Facebook page. Unfortunately, most of them use their page just as a sort of placeholder: apparently, the message they intend to convey is just that of "being there".

This means that the Facebook page is not fulfilling its primary goal: aggregating and embedding information (by means of both Web feeds and direct upload), and allowing for its re-use. The project might have a blog, a website powered by an RSS-enabled content management system, or a content sharing platform that generates RSS feeds… Why not use the page as an aggregator for such information?

Content selection and syndication, by the use of embedding and feeds, might thus be a first step in making the social network page of a research project a useful tool and not just a placeholder. And WebApps might be the second.

Most social networks – Facebook being again probably both the best known and the most useful example – allow for the free development and use of WebApps: small, interactive Web applications that can be easily embedded in the user's page. Of course, from our point of view most WebApps could be considered totally useless, if not deplorably frivolous: virtual birthday gifts, vampire bites and the like. However, a 10-minute search among the thousands of available Facebook applications should be enough to discover tools that are significantly more interesting and useful.

Let us browse through some interesting examples. My first pick – and this might surprise you – would be social reading applications. Before considering them, and trying to explain why they could be relevant for research-oriented social networks, let us briefly introduce the concept of Web-based social reading and social reading platforms. The idea is to allow users to build a personal bookshelf, in which it is possible to include (and differentiate between) books that the user just owns, books that she or he has actually read, books that she or he is reading, and finally books that the user doesn't own but would like to read. A book is represented by its cover image, allowing for very "visual" bookshelves, and every book may be reviewed and rated by the user. Collaborative filtering is then applied to the data collected by the platform, thus generating both suggestions for new books to read ("Among users with bookshelves similar to yours in terms of titles and ratings, such-and-such a book, which is not in your bookshelf, is often included and highly rated. Therefore, you might like it too") and suggestions of new users to connect with (those having bookshelves similar to yours). Forums to discuss books, RSS feeds for each user's bookshelf and links from every single book to online bookstores are usually included among the tools offered by social reading platforms.

At the moment, there are six or seven players in the field of social reading platforms: the best known are aNobii, quite popular in Europe, Shelfari, bought by Amazon in August 2008, Goodreads, possibly the most feature-packed,[14] LibraryThing, Living Social: Books (aka Visual Bookshelf) and weRead (formerly iRead). All of them offer small Facebook applications that allow the user to display the books read or acquired most recently on her or his Facebook page, and automatically add information on all the bookshelf-related activities to the user's Facebook feed.

Visual Bookshelf (more than 900,000 monthly active users) and weRead (almost 400,000 monthly active users) seem to be the applications of choice among Facebook members, Goodreads being the only other social reading Facebook application with more than 100,000 monthly active users.

My purpose here is not to review existing social reading applications or to compare their features, but rather to suggest that such applications could be of great interest from the point of view of research-oriented social networks. It is clear that most existing social reading platforms and applications are somewhat "bookseller-oriented": they promote discussions about books in a context where the natural place to buy the books discussed is online bookstores such as Amazon.com. There is

[14] URL: [http://www.kenwohlrob.com/2009/02/goodbye-shelfari-library-thing-and.html].

little doubt that links to online bookstores are the main source of revenue for this kind of platform.

But there is no reason at all why this kind of application should be limited to typical "bookseller's books": the idea could easily be applied to books within libraries and digital collections and to scientific papers in journals or proceedings. And scholarly books and articles are the stuff research is made of. A powerful, collaborative platform for social reading, discussing and annotating scholarly books and papers would be an invaluable aid to the research community, and the inclusion of social reading tools within research-oriented repositories – such as most open archives – would be a first step in this direction.

How should such a platform be organised? My idea is something similar to existing social reading applications, but focused on academic books and papers, with the added option of interoperability with open archives, offering Zotero-like tools for in-browser documents and citation management, strong annotation tools, and Google Wave-type tools for discussion within small and medium-sized research communities. And it should be possible to use such tools from within research-oriented social networks such as ResearchGATE or Academia.edu, but also from within "general-purpose" social networks such as Facebook.

Do we have something similar? Well, not yet, but there are four tools that I believe can prod us in the right direction; each of them hints at something that could or should be developed and integrated within research-oriented social networking tools. The four tools I have in mind are a Facebook application named Digital Text 2.0,[15] a Browser application such as Zotero, a research-oriented social network such as Academia.edu (but other research-oriented social networks, such as ResearchGATE, could and should also be taken into account; for a discussion of different research-oriented social networks and Web applications)[16] and a history-oriented social network such as Footnote. I will not discuss Zotero here – I assume that most of you are familiar with it – nor will I discuss Footnote, a platform that, as far as I know, has led to much criticism among professional historians, but which from my point of view has many interesting features, starting with its easy and effective tools for sharing and annotating documents. It also has tools for integration with Facebook: a Facebook application called iRemember,[17] which

[15] URL: [http://dtext2.de/]; cf. also Rodgers, J., Sinclair S., *Digital Texts 2.0. Towards Social Networking of Texts*, 2008. URL: [http://www.creativecreature.ca/blog/wp-content/digital-texts-poster.jpg].

[16] Codina, L., "Science 2.0: Social networks and online applications for scholars", in *Hipertext.net*, No. 7, 2009, URL: [http://www.hipertext.net/english/pag1034.htm].

[17] URL: [http://www.facebook.com/apps/application.php?id=58547631756]. The application is not available anymore (December 2012).

allows users to search and share within Facebook historical documents and documents related to their family history. But, again, I assume that most of you know about this. Probably most of you know about Academia.edu and ResearchGATE as well: they are both research-oriented social networks with capabilities for document management that are somewhat similar to an open archive (unfortunately – as far as I know – still without support for OAI-PMH), but with a stronger emphasis on the social and collaborative aspect of research, allowing for the exchange of news and information, comments and discussions. The Academia.edu project was started by Dr Richard Price of Oxford University, who describes the platform in the following terms:

> It shows academics around the world structured in a "tree" format, displayed according to their departmental and institutional affiliations... [and] enables academics to see news on the latest research in their area – the latest people, papers and talks.[18]

Digital Texts 2.0 is probably less well known: it is a Facebook application that "helps you to organize and share your digital texts. You can group your texts into collections, associate them with authors, assign tags and other useful metadata, and add your notes and comments. You can also join groups, see what your friends are reading, and share your texts and annotations."[19]

I do not know how or when we will actually be able to boost our research through the widespread and standardised use of a new generation of research-oriented social networks and social networking tools, but I am fairly confident of one thing: they are not too far away. While waiting for them, and whenever possible collaborating in their development, I think that the research and scholarly community should not fear or avoid "general-purpose" social networks. On the contrary, I think that we should be active and fully-fledged agents in this field.

Additional reference

Young Adult Library Services Association, 2008, *Teens & Social Networking in School & Public Libraries: A Toolkit for Librarians & Library Workers*. Chicago. Full text available at http://www.ala.org/ala/mgrps/divs/yalsa/profdev/SocialNetworkingToolkit_Jan08.pdf.

[18] Quotation from URL: [http://inthelibrarywiththeleadpipe.org/2008/social-networking-with-a-brain-a-critical-review-of-academic-sites/]. The same page, from Kim Leeder, discusses some further research-oriented social networks and tools such as Pronetos, Labmeeting, Epernicus and BibApp, which are less interesting from our point of view here.

[19] From the home page of the application, URL:[http://dtext2.de/].

DEUXIÈME PARTIE
RESSOURCES ET OUTILS

PART II
RESOURCES AND TOOLS

Organisation et exploitation des archives du Parlement européen dans un environnement électronique

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…if you do not know what is going on,
which documents will you ask to see?[2]

Le débat sur les possibilités offertes par les nouvelles technologies est souvent marqué par la survalorisation des moyens technologiques. En effet, les nouvelles technologies sont généralement présentées comme autant d'instruments censés accroître, de façon quasi automatique, l'accessibilité des documents.

Cette communication vise à explorer le rapport entre accessibilité des documents et nouvelles technologies dans le contexte particulier des institutions européennes. Pour ce faire, on se fondera sur l'exemple des archives du Parlement européen.

L'accessibilité des documents – en d'autres termes, la rencontre du citoyen avec les documents des institutions européennes – dépend de plusieurs paramètres, et pas uniquement de questions d'ordre technique concernant l'organisation ou la présentation des documents. Nous essayerons de montrer, dans le cas concret des archives du Parlement, les limites de la gestion documentaire et, dans le même temps, les possibilités que les technologies offrent pour dépasser parfois ces limites.

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1 Andreas Bagias, lors de son intervention au symposium « L'histoire contemporaine à l'ère digitale », travaillait au CARDOC. Il est depuis janvier 2010 *Document Management Officer* à la Cour de justice de l'Union européenne. Les opinions émises par l'auteur sont strictement personnelles et n'engagent pas le Parlement européen.

2 Weiler, J.H.H., *The Constitution of Europe : « Do the New Clothes Have an Emperor ? » and Other Essays on European Integration*, Cambridge, Cambridge University Press, 1999, p. 349.

La base juridique

La base juridique de la gestion des documents du Parlement européen est inscrite dans le traité sur l'Union européenne : art. 1er, deuxième alinéa (consécration du principe d'ouverture) et art. 255 (définition du droit d'accès aux documents du Parlement européen, du Conseil et de la Commission),[3] ainsi que dans les règlements suivants[4] :

Règlement (CEE, Euratom) n° 354/1983, modifié par le règlement (CE, Euratom) n° 1700/2003 du 22 septembre 2003 – accès aux documents : ouverture au public des archives historiques de la Communauté et de la CEEA.[5]

Règlement (CE) n° 1049/2001 du Parlement européen et du Conseil relatif à l'accès du public aux documents du Parlement européen, du Conseil et de la Commission.[6]

Règlement (CE) n° 45/2001 du Parlement européen et du Conseil du 18 décembre 2000 relatif à la protection des personnes physiques à l'égard du traitement des données à caractère personnel par les institutions et organes communautaires et à la libre circulation de ces données.[7]

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3 La base légale sera modifiée par l'entrée en vigueur du traité de Lisbonne qui consacre, pour tout citoyen de l'Union et toute personne physique ou morale résidant ou ayant son siège statutaire dans un État membre, le droit d'accès aux documents des institutions, organes et organismes de l'Union (art. 15, § 3, Traité sur le fonctionnement de l'Union européenne) et, pour toute personne, le droit à la protection des données à caractère personnel la concernant (art. 16, § 2, TFUE).

4 Sur la base des dispositions du Traité et du droit dérivé, le Parlement européen a adopté ses dispositions internes dont la décision intitulée « Renforcer l'information et la transparence : les archives du Parlement européen », adoptée par le Bureau le 16 décembre 2002. URL : [http://www.europarl.europa.eu/pdf/cardoc/bureau_fr.pdf] (23/02/2009).

5 Conseil des Communautés européennes, règlement (CEE, Euratom) n° 354/83 du Conseil du 1er février 1983 concernant l'ouverture au public des archives historiques de la Communauté économique européenne et de la Communauté européenne de l'énergie atomique, *Journal officiel des Communautés européennes*, L 43, 15/02/1983, p. 1-3 ; Conseil de l'Union européenne, règlement (CE, Euratom) n° 1700/2003 du Conseil du 22 septembre 2003 modifiant le règlement (CEE, Euratom) n° 354/83 concernant l'ouverture au public des archives historiques de la Communauté économique européenne et de la Communauté européenne de l'énergie atomique, *Journal officiel des Communautés européennes*, L 243, 27/09/2003, p. 1-4.

6 Parlement européen, Conseil de l'Union européenne, règlement (CE) n° 1049/2001 du Parlement européen et du Conseil du 30/05/2001 relatif à l'accès du public aux documents du Parlement européen, du Conseil et de la Commission, *Journal officiel des Communautés européennes*, L 145, 30/05/2001, p. 43-48.

7 Parlement européen, Conseil de l'Union européenne, règlement (CE) n° 45/2001 du Parlement européen et du Conseil du 18 décembre 2000 relatif à la protection des personnes physiques à l'égard du traitement des données à caractère personnel par les

Ces trois règlements définissent et précisent les trois obligations auxquelles doit se conformer le Parlement :

- Constituer des archives historiques et les rendre accessibles au public à échéance d'un délai de trente ans à compter de la date de production des documents ;
- Organiser et contrôler (avant l'échéance des trente années réglementaires) l'accès du public aux documents, si aucun motif d'ordre public ou privé ne s'y oppose ;
- Respecter les dispositions entourant le traitement des données à caractère personnel.

Les services du Parlement européen participant à la gestion des documents

La gestion des documents doit couvrir la totalité de leur « cycle de vie ». Ainsi, le Parlement est doté de trois services distincts :

- *Courrier officiel* : gestion du courrier entrant et sortant du Parlement.
- *Registre public des documents* : gestion des demandes d'accès aux documents, selon les dispositions prévues par le règlement n° 1049/2001.
- *Centre archivistique et documentaire (CARDOC)*[8] : gestion des archives historiques du Parlement et préparation de versements destinés aux Archives historiques de l'Union européenne, qui sont administrées par l'Institut universitaire européen de Florence.

Il convient de souligner que ces trois services – dont la complémentarité est évidente – relèvent, depuis le 1er septembre 2009, de la Direction de la Bibliothèque, de la gestion des documents et des services de l'information, qui héberge également le service *Courrier du citoyen*.

institutions et organes communautaires et à la libre circulation de ces données, *Journal officiel des Communautés européennes*, L 8, 12/01/2001, p. 1-22.

8 Site Internet Archives historiques centrales du Parlement européen, URL : [http://www.europarl.europa.eu/parliament/archive/staticDisplay.do?id=191&language=FR] (23/02/2009) ; Commission européenne, Secrétariat général (ed.), *Guide to the archives of Member States' foreign ministries and European Union institutions*, Luxembourg, OPOCE, 2005. Le « Guide bleu » des archives des ministères des Affaires étrangères des États membres et des institutions de l'Union européenne est disponible sur le site du Conseil de l'Union européenne : URL : [http://www.consilium.europa.eu/uedocs/cmsUpload/PARLEMENT_EUROPEEN.pdf] (23/02/2009).

Le Centre archivistique et documentaire (CARDOC)

Étendue des collections et effectifs

Le CARDOC conserve l'ensemble du courrier officiel du Parlement, soit environ 60 000 courriers pour 2009.[9] Il abrite également trois kilomètres linéaires de documents physiques, sachant qu'un volume important de documents a déjà été versé aux Archives historiques de l'Union européenne. Ces documents témoignent des activités du Parlement, de son origine (1952) aux débuts des années 2000 :

- Documents issus de l'activité parlementaire (débats des sessions plénières ; rapports parlementaires ; propositions de résolution ; questions parlementaires – orales, écrites ou déposées pour l'heure des questions ; dossiers de réunions plénières et de commissions) ;
- Documents produits par les organes politiques du Parlement (Bureau, Bureau élargi, Conférence des présidents, Collège des Questeurs) ;
- Fonds des cabinets des présidents et des secrétaires généraux ;
- Courrier officiel ;
- Pétitions.

Tous ces documents, à la notable exception de la correspondance, sont organisés en « dossiers », à savoir en entités documentaires concernant une même affaire ou une même procédure.

Pour assurer la gestion de ces dossiers et documents, le CARDOC dispose de 25 fonctionnaires et agents. Une société externe met à disposition du CARDOC une équipe d'une douzaine de personnes, chargées de la numérisation et de la description des documents.[10]

Types de documents conservés : documents législatifs et documents administratifs

Les documents du Parlement se partagent en deux catégories : les documents législatifs et les documents administratifs. Les premiers sont produits ou reçus par le Parlement dans le cadre de son activité législative ou dans l'exercice de son contrôle politique.[11] Les seconds témoi-

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9 Courrier officiel du Parlement européen – enregistrements de la correspondance (en entrée et en sortie) : *2007* : 15681 et 53966, *2008* : 13152 et 51849, *2009* : 13791 et 45596. [Source : Rapport d'activités de la DG Présidence].

10 Chiffres susceptibles de varier.

11 Tout récemment, le Parlement européen a proposé dans le cadre du trilogue consacré à la révision du règlement (CE) n° 1049/2001, la répartition des documents des institutions en « documents législatifs », « documents non législatifs » et « documents administratifs », les documents législatifs étant censés être toujours accessibles au

gnent de l'activité des services chargés d'assurer le fonctionnement du Parlement, à savoir : direction, planification et organisation administrative, affaires légales et contentieux, gestion du personnel, gestion des ressources financières, gestion des ressources immobilières, gestion des ressources documentaires, systèmes informatiques, services auxiliaires et de support.

Cette distinction – qui repose sur la différenciation entre fonction législative (*voire* politique) et fonction administrative – se retrouve dans le traitement réservé aux documents. En effet, l'organisation des documents législatifs a toujours été assurée par le Parlement, tandis que le traitement des documents administratifs est une préoccupation récente.

Caractéristiques intrinsèques des documents conservés par le CARDOC

La base des données du CARDOC rassemble 823 884 documents d'archives numérisés (850 *gigabytes*)[12] et traités *à la pièce*. Elle ne représente qu'une partie de la considérable masse documentaire gérée par ce service – masse documentaire qui se caractérise par :

- *La diversité des supports conservés.* – Texte (papier et numérique), photos, enregistrements audiovisuels ;
- *son aspect multidimensionnel.* – Les archives du CARDOC peuvent être appréhendées selon des niveaux d'interprétation variés : un même document peut être analysé dans une perspective sociale, nationale, politique, administrative, personnelle, *etc.* ;
- *son multilinguisme.* – Les archives du CARDOC se doivent de témoigner du multilinguisme défendu par le Parlement. Cette volonté a deux effets :
    - la sauvegarde des éventuelles nuances existant entre les différentes versions linguistiques,
    - la constitution d'un gisement documentaire multilingue unique – qui constituera une base idéale pour le développement, d'une part, d'instruments de traduction automatique et, d'autre part, d'outils de gestion des connaissances.

public. Parlement européen, *Accès du public aux documents du Parlement européen, du Conseil et de la Commission*, P6_TA(2009)0114, Strasbourg, 11/03/09, URL : [http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=FR&reference=P6-TA-2009-0114] (23/02/2009).

12 Chiffres susceptibles de varier.

La mission du CARDOC

Le CARDOC est un service d'archives institutionnelles. Deux remarques découlent de ce simple constat.

D'abord, le CARDOC se distingue d'un centre de documentation classique comme, par exemple, le Centre virtuel de la connaissance sur l'Europe (CVCE), car il se consacre uniquement au traitement des documents produits ou reçus par le Parlement. Ainsi, il n'intègre à ses collections ni archives provenant d'autres entités administratives ni sources secondaires. Le traitement des documents s'inscrit dans une démarche archivistique : leur organisation ne répond pas à une quelconque « affinité thématique », mais à une volonté de les rattacher à une affaire ou une procédure précise. En effet, une archive n'est pleinement intelligible qu'une fois réinscrite dans son contexte, ce qui implique un travail minutieux de description, codifié par des normes internationales,[13] des documents et des acteurs impliqués (personnes physiques ou morales, comme les groupes politiques ou les commissions d'enquête).

Ensuite, en tant que service d'archives institutionnelles, le CARDOC doit prendre en considération les « intérêts légitimes » qui nécessitent de restreindre l'accès à certains documents (protection des données personnelles, des intérêts essentiels de l'Union européenne et de ses États membres, notamment dans les domaines de la sécurité publique, de la défense et des questions militaires)[14] d'une part ; défendre les positions du Parlement d'autre part. Ce second point pose deux questions difficiles : Comment garantir la fiabilité des documents électroniques ? Pour un professionnel travaillant dans des archives institutionnelles, sont-ce les intérêts de l'institution ou l'éthique professionnelle qui doivent primer ?

Le droit d'accès aux documents communautaires : le public visé et le public réel

Le règlement n° 1049/2001 sur l'accès aux documents communautaires est utilisé par un public « averti », essentiellement établi à

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13 Conseil international des archives, *ISAD(G) : Norme générale et internationale de description archivistique*, Ottawa, CIA, 2000 ; Conseil international des archives, *ISAAR(CPF) : Norme internationale sur les notices d'autorité archivistiques relatives aux collectivités, aux personnes et aux familles*, 2004 ; Conseil international des archives, Comité des normes et bonnes pratiques (CBPS), *ICA-ISDF : Norme internationale pour la description des fonctions*, 2008. Ces normes sont disponibles sur URL : [http://www.ica.org] (23/02/2009).

14 Règlement (CE) n° 1049/2001, *op. cit.*, art. 4.

Bruxelles et impliqué dans la défense d'intérêts bien définis (lobbyistes, journalistes d'investigation, activistes).[15]

Le citoyen européen se tient, au sens propre comme au sens figuré, loin de Bruxelles et ne fait généralement pas valoir son « droit d'accès » aux documents des institutions européennes. Les limitations de ce droit et ses modalités d'application ne sont pas seules en cause, comme le prouve l'étude d'autres systèmes occidentaux.

La loi des États-Unis sur la liberté d'information (*Freedom of Information Act* ou FOIA) a été essentiellement utilisée par des opérateurs commerciaux[16] : la majorité des demandes d'accès présentées dans le cadre du FOIA émane d'entreprises qui tentent de rassembler des informations sur leurs concurrents (rapports concernant les produits d'une société, rapports d'enquête ou d'audit sur une entreprise, etc.).

L'application du droit d'accès aux documents administratifs en France a produit des résultats similaires à ceux des institutions européennes : les analystes estiment que « la demande de documents resterait limitée à une clientèle d'initiés qui rechercheraient des armes pour un contentieux futur ou poursuivraient impunément des fins exclusivement commerciales ».[17]

Les résultats américains, français et communautaires en matière de droit d'accès sont voisins et mitigés. Dans le dernier cas, c'est l'essence de ce droit qui est en cause, de même que son lien supposé avec la question de la légitimité de l'édifice communautaire.

Le CARDOC s'efforce de développer des outils pour que sa richesse documentaire soit exploitée par de nouveaux publics, tels que les journalistes (les journalistes dits « d'investigation », mais également ceux qui conduisent des recherches rétrospectives ou produisent des documentaires), les milieux académiques (professeurs, chercheurs, étudiants), les citoyens.

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15 Commission européenne, rapports de la Commission concernant l'application du règlement (CE) n° 1049/2001 au cours des années 2002-2008, URL : [http://ec.europa.eu/transparency/access_documents/index_fr.htm#]. Les rapports du Registre public du Parlement européen (2005-2008) sont disponibles à l'adresse : URL : [http://www.europarl.europa.eu/RegWeb/] (23/02/2009).

16 Verhoeven, A., « The Right to Information : a Fundamental Right ? », in European Institute of public administration, *An Efficient, Transparent Government and the Rights of Citizens to Information, Maastricht, 29-30 May 2000*, Maastricht, EIPA, 2000, p. 5.

17 Fillion, S., *Du secret à la transparence : pour un État plus proche des citoyens. Dans quelle mesure l'amélioration des relations entre l'administration et les administrés permet une réforme effective et efficace de l'État ?*, mémoire de fin d'études, Institut d'études politiques de Lyon, 2006, p. 68.

En somme, l'objectif du Parlement est de valoriser ses archives non seulement auprès des personnes *concernées* (parlementaires, lobbies, ONG, citoyens en conflit avec des institutions) mais également auprès des personnes *intéressées* (grand public et universités). C'est donc une *approche pédagogique* qu'il convient de mettre en œuvre, en s'adressant à un public à la fois plus jeune et moins sensibilisé aux questions européennes pour lutter contre un certain clivage entre les « *knows* »/initiés et les « *not knows* »/néophytes.

Les paramètres de l'opacité du système communautaire

Il convient de préciser que la question de l'accès aux documents n'est que l'un des aspects de la problématique de la transparence au sein des institutions européennes.

En effet, la transparence est parfois mise à mal par le manque de clarté – *voire* de cohérence – du processus décisionnel : la désaffection du public vis-à-vis des institutions européennes s'explique en partie par la difficulté à appréhender des processus complexes et dont les décisionnaires ne sont pas toujours aisément identifiables. Cette observation est capitale : comment comprendre une décision ou une directive si l'on ne connaît pas précisément les acteurs qui en sont à l'origine et les procédures qui la fondent ? Le citoyen a pu se sentir démuni face à un ensemble d'institutions, d'organes et de comités qui interagissent selon des règles compliquées.

Ainsi, la question de l'accès aux documents produits ou reçus par les institutions européennes ne constitue pas – à notre avis – le nœud du problème de la transparence. Comme le souligne le Parlement européen dans sa résolution sur la transparence dans la Communauté, « la transparence des différentes institutions reste insuffisante si l'ensemble du système communautaire demeure opaque aux yeux des citoyens ».[18]

Les facteurs qui rendent malaisée la bonne compréhension des processus exécutifs et législatifs de l'appareil communautaire sont nombreux. L'opacité se retrouve encore aujourd'hui dans le caractère technique des documents communautaires et le manque de convivialité des instruments censés les rendre accessibles au public (bases de données et registres), dans la question non résolue de la hiérarchie des normes, dans la procédure de comitologie et dans le secret persistant des réunions du Conseil.

Les trois derniers paramètres interviennent bien avant la production des documents et leur recherche. En effet, il s'agit des éléments consti-

[18] Parlement européen, résolution sur la transparence dans la Communauté, *Journal officiel des Communautés européennes*, C 128, 09/05/1994, p. 475.

tutifs de la « culture du secret » qui a longtemps prévalu au sein des institutions européennes. Le secret est alors présenté comme une garantie d'efficacité des processus de prise de décision. Ainsi, l'efficacité est invoquée pour justifier les réunions à huis clos du Conseil : « une levée systématique du secret de toutes ses délibérations ignorerait l'essence même du processus décisionnel communautaire et pourrait nuire à son efficacité ».[19]

Les difficultés d'accès aux documents et aux systèmes documentaires

Au-delà de l'opacité du système, le caractère peu convivial des documents et systèmes documentaires ne fait qu'entraver l'effort du citoyen pour repérer les informations recherchées.

La première difficulté réside dans le contenu particulièrement technique de l'abondante production documentaire des institutions européennes. Le recours à un véritable jargon communautaire, assorti de nombreux sigles et acronymes, constitue un premier obstacle pour le néophyte[20] : « Une […] difficulté majeure des textes communautaires est le jargon de l'UE qui emploie parfois des notions et des mots qui n'ont pas de sens hors du contexte européen, et ne sont pas toujours clairs pour les lecteurs (par exemple : intégration européenne) ».

Le considérable effort de traduction de certaines catégories de documents dans les vingt-trois langues officielles de l'Union est parfois anéanti par le caractère intrinsèquement rébarbatif – *voire* « creux » – des documents en question (la fameuse « langue de bois » communautaire).

Les traductions peuvent également nuire à la bonne compréhension du texte : les institutions européennes essayent de produire des textes « parallèles » et « réversibles » et appliquent les mêmes stratégies linguistiques à toutes les langues. Le caractère propre de chaque langue n'est alors pas forcément respecté, et des schémas linguistiques propres au français ou à l'anglais sont transposés dans d'autres langues (notamment en matière de collocations et de ponctuations),[21] ce qui explique le caractère confus de certaines traductions.

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19 Garin, A., « Affaire Sison : confirmation du refus d'accès aux documents du Conseil », *Centre d'études juridiques européennes : actualité*, 392, 20/03/2007.

20 Savva, E., « Langues faibles et langues puissantes : conclusions à partir d'une étude comparée de textes communautaires », in Aligny, F.-X. d', Guillaume, A., Nieder, B. et Rastier, F., *Plurilinguisme, interculturalité et emploi : défis pour l'Europe*, Paris, L'Harmattan, 2009, p. 115.

21 *Ibid.*, p. 114-115.

La deuxième difficulté concerne le caractère peu convivial des sites Internet et des bases de données créés par les institutions européennes et censés permettre un accès direct ou indirect (registres) aux documents. Ces systèmes documentaires sont généralement exploités par les personnes physiques et morales directement concernées par le fonctionnement communautaire (ONG, lobbies, citoyens en procès avec une institution), mais sont trop peu conviviaux pour être utilisés par le grand public.

Le troisième obstacle consiste en une série de savoir-faire qu'il convient de maîtriser pour obtenir l'accès à un document ou aux informations qu'il contient :

- *Savoir formuler et présenter sa requête.* – Ce qui implique (1) de connaître la nomenclature des documents accessibles et d'être en mesure de repérer ceux susceptibles de contenir l'information recherchée et (2) d'identifier l'entité administrative auprès de laquelle déposer sa requête.
- *Avoir des notions de recherche documentaire.* – Ce qui implique (1) d'avoir été initié au fonctionnement généralement peu convivial des registres informatiques et des bases de données documentaires, (2) de pouvoir, le cas échéant, se rendre physiquement dans les salles de consultation des services d'archives des institutions et (3) de savoir se débrouiller avec un fonds constitué de documents éventuellement non classés (« documents en vrac ») ou mal classés.
- *Savoir exploiter les informations contenues dans un document.* – Ce qui implique (1) de maîtriser la langue du document dont il peut n'exister qu'une seule version linguistique, (2) de savoir resituer un document dans son contexte et de connaître les règles et les procédures qui ont présidé à son élaboration et (3) de pouvoir appréhender son contenu, parfois extrêmement technique ou spécialisé.

Bien que les institutions européennes – et notamment la Commission avec CELEX[22] – aient été pionnières dans le domaine des systèmes d'information, force est de constater que les systèmes mis en place n'ont guère été satisfaisants quant à la participation des citoyens.[23] Ceci est dû à la complexité des informations gérées par ces systèmes, mais également au fait que nombre de citoyens ne savent tout simplement pas

[22] Gaskell, E., « Commission of the European Communities and its Information Services », *Unesco Journal of Information Science, Librarianship, and Archives Administration*, xxxii, 3, mai-juin 1978, p. 164-165.

[23] Deckmyn, V., « La transparence et l'information européenne », in *EIPAScope*, n° 2, 1994, p. 1-2.

qu'ils disposent d'un droit d'accès aux documents conservés par les institutions.

La responsabilité d'un service des archives au sein d'une institution européenne

Un objectif majeur : rendre les documents intellectuellement accessibles

Au vu des constats précédents, le droit d'accès aux documents ne sera effectivement exercé que si les documents sont *juridiquement*, mais également *intellectuellement accessibles*, et que l'information qu'ils contiennent est pertinente, accessible *via* une interface conviviale, facilement analysable et susceptible de se prêter à des interprétations différentes.

Les documents officiels ne sont qu'une partie des archives produites : leur témoignage ne sera donc que partiel. Cependant, il convient de dégager tout le potentiel informationnel de cette « information brute » en la replaçant dans son contexte de production et en mettant en lumière les agents qui en ont déterminé la substance, la forme, les destinataires.

Concrètement, même si la Cour de justice et le Médiateur européen contribuent à une application plus rigoureuse du droit d'accès, seule la volonté des institutions permettra de rendre leurs propres documents intellectuellement accessibles. C'est en effet aux institutions européennes qu'il revient de rassembler les ressources nécessaires pour faire ce travail de mise en contexte des archives : elles doivent mobiliser les moyens humains nécessaires – tant en quantité qu'en qualité, imaginer des solutions techniques (technologies avancées de la communication et de la gestion de l'information) et faire observer de bonnes pratiques d'enregistrement, de classement, d'indexation et de conservation des documents et des archives. Sinon, le droit d'accès sera difficilement applicable :

> Deciding how much access to allow is one thing. Physically enabling it is another. The EU already publishes all official texts and much of the supporting documentation along with vast amounts of explanatory information on its various Web sites. Finding a document can be like looking for a needle in a haystack.[24]

Permettre l'accès *intellectuel*, et non pas simplement *physique*, aux documents communautaires implique de :

[24] James, B., « EU Warily Approaches Demands for Increased Transparency », *The New York Times*, 15/05/2000.

- constituer des dossiers exhaustifs et bien structurés qui permettent de connaître tous les tenants et les aboutissants d'une affaire ou d'une procédure,
- rassembler et organiser les métadonnées relatives aux documents, à leurs producteurs et aux processus auxquels ils se rattachent,
- fournir à l'utilisateur un système informatique convivial lui permettant d'exploiter efficacement ces métadonnées,
- renvoyer l'utilisateur vers d'autres centres de ressources documentaires (archives, mais également bibliothèques, centres de documentation, musées) auprès desquels il pourra compléter ou relancer ses recherches.

Le principe de base : préserver les documents et les réinscrire dans leur contexte

La recherche de documents spécifiques diffère de façon significative de la recherche d'informations générales. Elle ne peut se satisfaire du repérage de quelques données, même pertinentes (recherche de type « Google ») : elle nécessite d'identifier des documents bien précis qui sont liés, d'une part, à d'autres documents et, d'autre part, aux procédures dont ils sont les fruits. Dans le contexte communautaire, une telle recherche est naturellement compliquée par la complexité des procédures en vigueur. Or, un document ne sera jamais pleinement compris s'il est appréhendé en dehors de son contexte (*approche archivistique vs documentaire*).[25]

Par exemple, un texte exprimant des opinions sexistes et homophobes a une « valeur » en soi : son contenu. Ce même texte prend une toute autre dimension si on peut le rattacher au site Internet d'un lobby ou d'un groupe politique, aux archives d'une commission parlementaire ou du président du Parlement européen, aux déclarations d'un candidat à un poste de commissaire européen. Ici, ce n'est pas seulement l'auteur qui diffère, mais également le contexte des informations et des interactions – contexte qui dote chaque document de sa « valeur de témoignage ». Car, l'histoire (digitale ou non) ne se fonde-t-elle pas sur une véritable « archéologie » de ces relations entre documents ?

La responsabilité d'un service comme le CARDOC ne peut se limiter à identifier et donner accès aux documents demandés. Elle consiste

[25] La collecte par les archivistes de métadonnées de description (documents, producteurs) est une pratique établie de longue date. Cette collecte implique la notion de « contexte » du document, appréhendée en tant que préalable pour sa future exploitation (Rousseau, J.-Y. et Couture, C., *Les fondements de la discipline archivistique*, Collection Gestion de l'information, Ste-Foy, Presses de l'Université du Québec, 1994, p. 72-74).

également à produire au demandeur toutes les informations lui permettant de comprendre les procédures et organes (commissions parlementaires, groupes politiques, directions générales, unités administratives, *etc.*) qui sont à l'origine de ces documents.

Comment atteindre cet objectif ?

Le CARDOC doit donner accès aux documents conservés par le Parlement d'une part et faire comprendre leur contexte de production d'autre part. Dans ce second cas, cela signifie : rapprocher les documents entre eux, resituer les documents par rapport aux personnes morales et physiques qui en sont les auteurs ou les objets et réinscrire les documents dans le contexte de procédures. Enfin, le CARDOC facilite l'appréhension des « forces » qui animent ces procédures.

Citons, à titre d'exemple, le rapport de Marc Galle (1992) qui est la première tentative au sein des institutions européennes de réglementation du lobbying au niveau communautaire.[26] Cette initiative s'est naturellement heurtée à des intérêts contradictoires et n'a finalement même pas été discutée en séance plénière. Cet échec est beaucoup plus riche d'informations qu'une simple résolution adoptée en séance plénière.

Quelles actions entreprendre ?

Le CARDOC ne peut donc se limiter à simplement accumuler les archives, mais doit :

- donner accès aux documents détenus (reçus ou produits) par le Parlement européen ;
- organiser (ou réorganiser) les documents de façon à constituer des dossiers permettant d'appréhender le contexte de leur production ;
- préparer les métadonnées descriptives tant des documents que de leurs producteurs et des procédures y afférentes ;
- permettre à l'utilisateur de naviguer à travers les métadonnées, en lui offrant un point de référence dans le temps et dans les procédures, de façon à ce qu'il puisse constituer ses propres dossiers ;
- constituer un fonds documentaire permettant d'éclairer les archives (par exemple, interviews des responsables passés et présents de l'institution) ;

[26] Parlement européen, Commission du règlement, de la vérification des pouvoirs et des immunités (Rapporteur : Galle, M.), *Propositions à l'intention du Bureau élargi sur une réglementation de la représentation d'intérêts auprès du Parlement européen*, doc. FR_DV/214/214673, PE 200.405/déf., 8 octobre 1992.

– se rapprocher d'autres dépôts d'archives et de tous les « *intensive information repositories* » (bibliothèques, centres de documentation, musées).

Le CARDOC a d'ores et déjà beaucoup œuvré concernant les trois premières actions susmentionnées. Il lui faut encore poursuivre la mise en valeur de son gisement documentaire.

Une obligation de principe

La nécessaire organisation des archives communautaires (notamment électroniques) ne répond pas seulement à un besoin de transparence, obéissant lui-même à des motivations politiques. Il ne s'agit pas uniquement que l'action politique se fasse sous le contrôle de l'opinion publique.

Non, c'est une obligation de principe : les institutions doivent rendre au citoyen ce qui lui revient, à savoir sa part d'histoire européenne.

La presse écrite généraliste française sous l'emprise du Web

Une ressource de l'histoire culturelle contemporaine ?

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Peut-être le journal du futur, comme le croit l'Association mondiale des journaux, sera-t-il « un quotidien ciblé et accessible sur le Web ». Quoi qu'il en soit, l'association mondiale des journaux croit en l'avenir, car la diffusion de journaux payés a augmenté de 1,3 % en 2008 et de 8,8 % sur cinq ans, grâce au développement de pays comme la Chine ou l'Inde.[1] Malgré ce discours optimiste, la presse française, et notamment quotidienne, va mal. Les chiffres de diffusion sont en baisse, les déficits s'accentuent, à tel point que Patrick Eveno pose la question dans son livre : « *La presse quotidienne nationale : Fin de partie ou renouveau ?* »[2] Pourtant, ce n'est pas – du moins directement – de la crise de la presse dont je parlerai ici, mais plutôt de la presse écrite française en tant que ressource de l'histoire contemporaine face à l'arrivée d'Internet. À la question de savoir si « le Web nous permettra de mieux appréhender l'Histoire », mes hypothèses, concernant la presse écrite, posent que les choses sont moins simples qu'il n'y paraît sur certains aspects. Quelles sont alors les modifications introduites par l'arrivée d'Internet en matière de presse écrite et quelles en sont les répercussions en ce qui concerne l'histoire contemporaine ?

Trois grands chapitres examineront successivement l'histoire contemporaine et son rapport avec les autres disciplines et les médias, puis

1 Ternisien, X., « Un quotidien ciblé et accessible sur le Web, c'est l'avenir de la presse, selon l'Association mondiale des journaux », *Le Monde*, 31/05-01/06/2009.

2 Eveno, P., *La presse quotidienne nationale. Fin de partie ou renouveau ?*, Paris, Vuibert, 2008.

comment l'arrivée d'Internet suscite des bouleversements dans la presse, pour examiner enfin quelques incidences en matière de recherche en histoire contemporaine.

L'histoire contemporaine et les médias : méthodes et outils

Sources et outils de l'histoire

Marc Bloch explique que l'histoire n'est pas « la science du passé »,[3] mais plutôt la « science des hommes »,[4] « des hommes dans le temps ».[5] Voyons quelle méthodologie adoptent les historiens. En 1954, Henri-Irénée Marrou affirme dans un titre de chapitre : « l'histoire se fait avec des documents ». Une fois la problématique posée, c'est cette question du document qui est importante. De plus, comme l'explique Marrou, les « documents conservés ne sont pas toujours (l'expérience suggère presque d'écrire : ne sont jamais) ceux que nous voudrions, ce qu'il faudrait qu'ils soient ».[6] Soit il n'y en a pas ou pas assez, ce qui est le cas de l'histoire ancienne, soit il y en a trop, comme souvent dans l'« histoire contemporaine, où le chercheur succombe sous le poids des archives accumulées et désormais trop bien conservées ».[7] Marc Bloch va dans le même sens et écrit :

> Qu'il s'agisse des ossements murés dans les remparts de la Syrie, d'un mot dont la forme ou l'emploi révèle une coutume, du récit écrit par le témoin d'une scène ancienne ou récente, qu'entendons-nous en effet par *documents* sinon une « trace », c'est-à-dire la marque, perceptible aux sens, qu'a laissée un phénomène en lui-même impossible à saisir ?[8]

La méthodologie historique consiste donc à poser une question, découper une période, problématiser, c'est-à-dire soulever des hypothèses, puis vérifier ces dernières, à l'aide des traces et témoignages du passé. Les historiens travaillent abondamment avec des livres, des récits, des documents, des archives, des journaux… voire aussi des médailles, des monuments, etc. pour apporter des réponses à leurs questions. Et c'est bien ce recours à différentes sources qui m'intéresse ici, dans la mesure où la presse constitue un de ces documents ou traces laissées par les hommes dans leur passé.

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3 Bloch, M., *Apologie pour l'histoire*, Paris, Armand Colin, 1974, p. 32.

4 *Ibid*., p. 36.

5 *Id*.

6 Marrou, H.-I., *De la connaissance historique*, Paris, Éditions du Seuil, 1954, p. 66.

7 *Ibid*., p. 67.

8 Bloch, M., *op. cit.*, p. 56.

Posant la question de l'histoire contemporaine, Gérard Noiriel intitule une sous-partie de son livre : « la méfiance des érudits pour l'histoire récente »[9] :

> En effet, dès qu'un événement s'est produit, on peut dire qu'il appartient à l'histoire. Mais pour qu'il devienne un élément de la connaissance historique savante, il faut souvent des années, voire des dizaines d'années. […] pour être utilisables, les traces du passé doivent avoir été archivées, c'est-à-dire sauvegardées, classées, répertoriées dans des registres, ce qui, là aussi, demande beaucoup de temps.[10]

L'auteur explique que l'histoire contemporaine, enjeu de luttes, se situe entre savoir et mémoire. C'est ainsi que l'histoire contemporaine, s'ouvrant à « l'histoire du temps présent », a connu un développement important et considère de nouveaux objets de recherches, comme les mutations économiques, l'histoire des groupes sociaux, l'histoire des femmes, l'histoire culturelle, l'histoire des médias, etc.,[11] et bien d'autres. Cette ouverture de l'histoire aux disciplines voisines s'accompagne d'une réciprocité de la part de ces dernières, comme la science politique, l'anthropologie, la sociologie, etc. qui prennent en compte les périodisations et le recours aux archives pour leurs travaux.

Histoire et médias : une relation pas si simple

En ce qui concerne le domaine de la presse écrite et des médias, Max Weber, sociologue allemand, appelle, dès 1910, à penser à une sociologie de la presse lors des premières assises de la sociologie allemande : « Permettez-moi simplement de vous suggérer un instant de penser le monde sans la presse ; que serait la vie moderne sans le caractère public spécifique engendré par la presse ? »,[12] « qu'est-ce que les journaux rendent public, et qu'est-ce qu'ils taisent ? »,[13] ajoute-t-il. En France, la presse est étudiée depuis lors par des historiens, des économistes, des politistes, des sociologues, des linguistes et des spécialistes des sciences de l'information-communication.

Le rapport entre historiens, chercheurs et journalistes, s'il est indispensable, n'en est pas pour autant toujours facile et, les historiens

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9 Noiriel, G., *Qu'est-ce que l'histoire contemporaine ?*, Paris, Hachette livre, 1998, p. 12.

10 *Ibid.*, p. 13.

11 La Société Pour l'Histoire des Médias (SPHM), société savante française, fête ses dix ans d'existence en 2010.

12 Weber, M., « Le premier des sujets… Allocution prononcée en 1910 à Francfort sur le Main à l'occasion des premières assises de la sociologie allemande », *Réseaux*, n° 51, CNET, Paris, 1992, p. 103.

13 *Id*.

notamment, se méfient des médias. En effet, comme le soulignent Roselyne Ringoot et Jean-Michel Utard, « s'il [le journaliste] mène des enquêtes dans le monde social, il vise plus la singularité des faits que la construction de vérités statistiques comme le sociologue ».[14] Et si le journaliste participe bien du processus de mise en récit de témoignage des événements du monde, c'est bien cette recherche de singularité qui suscite parfois (souvent ?) la méfiance des historiens.

Les journaux n'en constituent pas moins un des outils pour rendre compte de l'histoire contemporaine. Plus ou moins intentionnellement, utilisée comme « information secondaire », voire « primaire », l'utilisation de ces sources est fréquente. Yves Lavoinne a travaillé sur le rapport entre journalistes et historiens et identifie trois figures de journalistes : « le serviteur de l'historien futur, l'historien du présent, le médiateur de l'Histoire ».[15] Outre une certaine concurrence, le rapport parfois difficile peut au passage s'enrichir : « le journalisme élargit son enquête au passé, l'historien s'approprie le présent ».[16]

L'arrivée d'internet provoque des mutations dans la presse française

Bernard Miège, notamment, a montré, depuis longtemps, combien la « Société conquise par la communication »[17] était soumise à la fragmentation de l'espace public, que ce soit par un morcèlement des médias et des accès aux médias, à la culture, aux produits culturels, mais aussi par un plus grand éparpillement des publics… Bernard Miège parle même, en référence à l'espace public du XVIII[e] siècle mis en évidence par Jürgen Habermas,[18] d'un « espace public perpétué, élargi et fragmenté »[19] contemporain. L'arrivée d'Internet provoque donc des mutations, des reconfigurations, et ce dans bien des domaines. Voyons-en quelques-unes en matière de presse généraliste française.

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14 Ringoot, R. et Utard, J.-M., *Les genres journalistiques. Savoirs et savoir-faire*, Paris, L'Harmattan, 2009, p. 15.

15 Lavoinne, Y., « Le journaliste, l'histoire et l'historien. Les avatars d'une identité professionnelle (1935-1991), *Réseaux*, n° 51, Paris, CNET, 1992, p. 41.

16 *Ibid.*, p. 47.

17 Miege, B., *La société conquise par la communication*, 3 volumes, Grenoble, PUG, 1989, 1997, 2007.

18 Habermas, J., *L'espace public. Archéologie de la publicité comme dimension constitutive de la société bourgeoise*, Paris, Payot, 1978.

19 Miege, B., « L'espace public : perpétué, élargi et fragmenté », in *L'espace public et l'emprise de la communication*, sous la dir. de Pailliart, I., Grenoble, ELLUG, 1995.

L'arrivée de nouveaux acteurs

L'arrivée d'internet a vu de nouveaux acteurs s'introduire dans le champ de l'information jusqu'alors réservé aux médias et à l'information. Ces nouveaux entrants, pour divers qu'ils soient, peuvent *grosso modo* être classés en quatre grandes catégories.

Des portails, des moteurs de recherche, des agrégateurs de contenus, des sites de partages d'information, comme Wanadoo, Google, Netvibes, YouTube et bien d'autres. Ceux-ci se mettent, en concurrence avec les médias traditionnels pour proposer, agréger ou diffuser des informations.

Des sites d'informations disponibles uniquement sur le Web (appelés aussi pure players) comme Médiapart, Rue89, Slate, Bakchich, etc.[20] voient également le jour.

De nombreux blogs contribuent eux aussi à fournir du commentaire sur les informations et s'inscrivent ainsi dans l'espace public contemporain.

Des réseaux sociaux comme Facebook ou Twitter, qui fédèrent des communautés et diffusent des informations à leurs utilisateurs.

Tous ces nouveaux acteurs ont acquis une plus ou moins grande légitimité dans le domaine des informations et il convient de ne pas les négliger. Ainsi, certains agrégateurs de contenus proposent-ils en accès direct aux internautes des articles de journaux provenant des médias traditionnels. C'est notamment le cas de *Google News* ou *Yahoo News*. Citons également *Pressedd*, société commerciale qui propose un « traitement et une diffusion dématérialisée des contenus de presse ». Ce n'est plus alors le discours ou la légitimité du journal qui attire le lecteur, mais le titre, l'article ou le journaliste qui signe l'article. Tandis que le journal papier constituait une entité regroupant des journalistes (on parlait alors du *France-Soir* de Lazareff ou du *Monde* de Beuve-Méry) mais avec « un nom du journal [qui] reste l'énonciateur principal »,[21] Internet semble avoir brouillé cette visibilité, mettant des institutions médiatiques en concurrence avec des journalistes internes ou externes à la rédaction, écrivant des articles ou tenant un blog. Ce ne sont pas vraiment deux univers distincts, mais plutôt superposés, imparfaitement parfois, ou en voisinage. Par exemple, l'écrivain et journaliste

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20 *Bakchich*, à l'origine site Internet, propose une version papier à ses lecteurs depuis la fin du mois de septembre 2009. Essai éphémère ou complémentarité des deux formes de presse ?

21 Ringoot, R., « Discours journalistique : analyser le discours de presse au prisme de la ligne éditoriale », in Ringoot, R. et Robert Demontrond, Ph. (dir.), *L'analyse de discours*, Rennes, Éditions Apogée, 2004, p. 103.

Pierre Assouline, ancien directeur du magazine *Lire* (appartenant au groupe *L'Express*), auteur de nombreux livres, tient un blog pour *Le-Monde.fr* (*La République des livres*) et signe une chronique dans *Le Monde 2*.[22] De même, certains blogueurs commencent-ils à acquérir une réputation forte – du moins dans l'espace virtuel. Citons par exemple, l'*Huffington Post* aux États-Unis qui se présente comme « the internet newspaper : news blog video community » ; l'on notera, au passage, que le blog s'est transformé en journal.

Examinons aussi les acteurs de la deuxième catégorie, ces *pure players* ou journaux d'information uniquement sur le Web, dans la mesure où ils entrent directement en concurrence avec les médias traditionnels dans la production d'informations et non pas seulement la disposition ou l'agrégation de contenus. Ces nouveaux venus acquièrent une légitimité en se faisant connaître et accepter de leurs confrères et des différents publics. Donnons un exemple de cette reconnaissance, celui de la revue de presse de France Info, où le journaliste David Abiker cite parmi d'autres médias, Médiapart et Rue89.[23] Nous reviendrons sur les réseaux sociaux dans la partie suivante.

Tous ces nouveaux acteurs dans le domaine de l'information et du commentaire s'inscrivent donc en concurrence directe avec les médias traditionnels. Pourtant, certains auteurs, et notamment Bertrand Labasse, pensent que le problème ne réside pas entre anciens *versus* nouveaux médias, mais plutôt entre journaux généralistes *et* spécialisés, voire hyper-spécialisés. « L'axe essentiel est bien celui du degré de généralisation ou de spécialisation ».[24]

Remises en cause et nouvelles pratiques

Des attaques et remises en cause

Les journalistes sont parfois accusés de mal faire leur travail, notamment de publier des informations erronées, sans avoir procédé préalablement à la vérification. Certains, comme François Dufour notamment, indiquent qu'il ne s'agit pas d'une pratique nouvelle et que *Le Monde*, par exemple, avait déjà publié de fausses informations dans le passé.[25] « Il ne suffit pas de reprendre une information d'un autre média et

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22 La formule du *Monde 2* a été légèrement modifiée et s'appelle depuis le 19 septembre 2009 *Le Monde magazine*.

23 Audition du 2/09/2007.

24 Labasse, B., *Une dynamique de l'insignifiance. Les médias, les citoyens et la chose publique dans la « société de l'information »*, Lyon, Presses de l'ENSIB, 2002, p. 90.

25 Dufour, F., *Les journalistes français sont-ils si mauvais ?*, Paris, Larousse, 2009, p. 72.

s'abriter derrière les mots magiques de *selon le*… Si l'info était fausse, elle le reste. Quand Europe 1 a annoncé à tort la mort de Pascal Sevran, le 21 avril 2008, Laurent Ruquier sur France 2 et Jean-Marc Morandini sur Direct 8 ont repris une information… fausse. »[26]

De même, l'affaire du SMS prêté à Nicolas Sarkozi, dans lequel il aurait écrit « Si tu reviens, j'annule tout » à son ex-épouse Cécilia, publié sur le site du *NouvelObs.com*, le 6 février 2008.[27] La publication de ceci par le *NouvelObs.com* pose question. Le site bénéficie de la crédibilité du journal. L'information était-elle entièrement fausse et pourquoi un site sérieux l'a-t-il publiée ? La rédaction papier est-elle solidaire de la rédaction Web ? Sur le papier, une fausse information demande un démenti, publié ultérieurement, mais sur Internet, une information peut s'y trouver, être enlevée en quelques clics et apparaître comme n'ayant jamais existé. Cela donne alors une impression de « fragilité » des informations elles-mêmes. Ces questions de rumeurs et de fausses informations conduisent d'ailleurs certains auteurs, dont François Dufour, à prôner davantage de déontologie et de bonnes pratiques journalistiques.

En relation avec la question des informations vérifiées et sérieuses, se pose la question des sources d'agence de presse comme l'Agence France Presse (AFP). *La Provence* du groupe Hersant Média, par exemple, envisage de mettre fin à son abonnement AFP, parce que le journal n'utiliserait « que 20 dépêches par jour pour un coût annuel de 550 000 euros ».[28] D'autant que le statut de l'Agence France-Presse, issu de la loi du 10 janvier 1957, qui fixe qu'elle est « un organisme autonome doté de la personnalité civile et dont le fonctionnement est assuré suivant les règles commerciales »,[29] doit être prochainement revu. Une agence de presse qui jusqu'alors ne fonctionnait pas si mal, puisqu'elle entre dans le club très fermé des trois grandes agences de presse mondiales (avec *Associated Press* et *Reuters*). Ce qui pousse d'ailleurs Claude Moisy, ancien PDG de l'AFP à exprimer publiquement son inquiétude quant au nouveau statut prévu dans une tribune du *Monde.*[30]

À côté des sources traditionnelles, se développent de nouvelles pratiques, qui peuvent peut-être constituer de nouvelles sources pour la presse. Ainsi, le réseau social *Twitter* « émerge comme source d'information pour les médias » précise un article du *Monde*. En matière de

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26 *Id.*

27 *Id*.

28 Girard, L. & Ternisien, X., « La presse régionale est tentée de se passer des services de l'Agence France-Presse », *Le Monde*, 18/06/2009.

29 Albert, P. (dir.), *Lexique de la presse écrite*, Paris, Dalloz, 1989, p. 5.

30 Moisy, C., « L'AFP ne pourra pas résister au changement de statut qu'on lui prépare », *Le Monde*, 30/09/2009.

réseaux sociaux sur Internet, *Twitter*[31] propose un fonctionnement simple, consistant à envoyer des messages courts à des suiveurs. Ce serait surtout des professionnels qui y partageraient des informations, des réflexions, des liens internet. *Twitter* est fréquenté par des personnes très friandes d'informations et se spécialise dans les informations urgentes, « d'autant que certains n'hésitent pas à solliciter les usagers pour obtenir des informations en temps record, selon la méthode de l'approvisionnement par la foule (*crowdsourcing*) ».[32] Ainsi, dans le cas des événements de protestations qui ont suivi l'élection du président Ahmadinejad en Iran et la mort d'une jeune femme, appelée Néda, ce serait *Twitter*[33] qui serait à l'origine de l'information, largement reprise ensuite par les journaux français.

Une écriture multimédia multipliant progressivement les formes[34]

Google inquiète les éditeurs français parce qu'il numérise de nombreux livres à l'échelle mondiale. En France, Jean-Noël Jeanneney, ancien président de la Bibliothèque nationale de France (BNF) et historien, a proposé de lancer le projet de bibliothèque numérique *Europeana* pour contrer les pratiques hégémoniques de *Google*. Ce projet associe de nombreux pays, dont le Luxembourg notamment, et propose différents documents directement en ligne, provenant de grandes institutions de conservations de documents de la plupart des pays européens. Si l'entreprise *Google* est attaquée, elle se défend en citant des propos assez

[31] La direction du *Washington Post* a décidé d'encadrer l'expression de ses journalistes sur les réseaux sociaux. « Quand nous nous servons de ces réseaux, rien de ce que nous écrivons ne doit soulever la question de notre impartialité. Finalement, Raju Nasiretti [le rédacteur en chef incriminé] a fermé son compte Twitter ». (« *Au Washington Post*, interdiction de Twitter engagé », *Libération*, 29/09/2009) Constatons que les médias traditionnels ne voient pas forcément d'un bon œil l'arrivée des réseaux sociaux.

[32] Ternisien, X., « Le réseau Twitter émerge comme source d'information pour les médias », *Le Monde*, 11 juin 2009.

[33] Une expérience a été menée consistant à enfermer durant quelques jours cinq journalistes francophones s'informant uniquement par le truchement de *Facebook* et *Twitter* pour comparer si les informations y sont différentes ou non de celles des médias traditionnels. « Une expérience peu probante », un « huis clos [qui] a enfoncé des portes ouvertes », conclut la journaliste Isabelle Hanne de *Libération*. Voir Hanne, I., « "Huis clos sur le net" enfermé dans les clichés », *Libération*, 08/02/2010.

[34] Dans un article de recherche précédent, j'ai déjà eu l'occasion de souligner que ces mutations du fait des nouvelles technologies de l'information et de la communication ont une incidence sur la question de la forme et du temps, dont il faut en tenir compte. Nous abordons également ces questions ici. Voir Batard, A., « La critique journalistique des cédéroms, reflet de quelques mutations en cours », in Bouquillion, P., et Combès, Y., *Les industries de la culture et de la communication en mutation*, Paris, L'Harmattan, p. 107.

sévères de Rupert Murdoch. Ainsi, M. Drummond, vice-président de *Google* affirme-t-il :

> Rupert Murdoch, propriétaire de *Newscorp*., a déclaré très ouvertement que cette industrie [de la presse] n'innove pas assez ; qu'elle n'a pas réussi à imposer un modèle incontournable sur le Web. C'est exact. L'Internet existe depuis quinze ans, sous sa forme de produit de masse, et cette question est encore en suspens pour les journaux. Certains ont probablement été un peu lents à réagir. Avec un produit comme l'information, si vous vous contentez de prendre une version papier du journal et de la mettre en ligne, il ne faut pas ensuite être surpris si vous rencontrez de sérieux problèmes. Pour Google, c'est frustrant d'être souvent considéré comme responsable des difficultés des journaux. […] *Google* n'a pas vocation à créer du contenu.[35]

Ces propos indiquent combien les enjeux du numérique face à l'édition traditionnelle comportent clairement une dimension mondiale, dont Armand Mattelart notamment avait déjà souligné l'importance dans les phénomènes de communication.[36] De plus, la remarque de ne pas strictement transférer la version papier sur le Web a déjà quand même été prise en compte par certains comme *Libération*, *Le Monde* ou *Le Figaro* notamment. L'exigence des potentialités multimédias d'Internet conduit la presse écrite à proposer à ses lecteurs des articles jusqu'alors écrits et publiés sur papier, sous une forme autre (vidéo, audio, etc.), de manière autonome ou avec un partenariat.[37] Ces journaux proposent sur leurs sites des articles (sur papier et sur le site), avec une indication des articles les plus vus, commentés ou envoyés, c'est-à-dire s'insérant dans l'espace public médiatique avec le débat ainsi créé. Il y a donc une prise en compte des opinions et réactions du public. D'ailleurs, des forums de discussion sont également présents sur ces sites. Les journaux disposent aussi des blogs sur leurs sites, comme souligné précédemment, ainsi que des interviews audio ou vidéo. Citons par exemple celle du *Monde.fr* sur le « Tango, un rythme né en Argentine devenu universel »,[38] avec sons et images illustratives. Ces articles, édités sous forme sonore, audiovisuelle ou multimédia se font aussi en collaboration. Ainsi, *Le Figaro* indique-t-il dans son journal papier que l'interview enregistrée en vidéo, en partenariat avec *Orange*, appelée le *Talk-Orange* reçoit tel ou tel invité. Citons comme autre exemple *Libération*, qui, dans sa rubrique

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35 Lesne, C., « C'est frustrant d'être considéré comme responsable des difficultés des journaux », Interview de M. Drummond, vice-président de Google, *Le Monde*, 27/06/2009.

36 Mattelart, A., *L'internationale publicitaire*, Paris, La Découverte, 1989 ; *La communication monde. Histoire des idées et des stratégies*, Paris, La Découverte, 1992.

37 Nous développerons cette question dans un article spécifique en cours.

38 Consultation du 01/10/2009.

« Labo », propose aux internautes d'écouter le « duel du jour » réalisé en partenariat avec France-Info.

Une question de rapport au temps

Ainsi que nous venons de le voir, des éléments de formes changent, avec des modifications liées au temps. Comme le souligne la synthèse réalisée par Nicolas Pélissier et Denis Ruellan, l'arrivée de la presse en ligne a eu pour effet d'avoir « une information permanente qui se détache du fait pour se rapprocher de la donnée ».[39] C'est Roseline Ringoot qui soulève le triptyque : « périodicité, historicité et immédiateté » intervenant dans la mise en ligne de l'information. « Dans la presse en ligne, le moins qu'on puisse dire est que, à l'exception de certains sites d'information fonctionnant réellement en continu […] la périodicité se trouve occultée […], les organes d'information-communication sur le Web taisent leur rapport au temps ».[40] Les auteurs poursuivent :

> Notons que cette mise en ligne transforme de plus en plus le texte journalistique (information « chaude ») en « document » destiné à une mise en mémoire, une indexation et un traitement automatisé (information « froide »). Elle fait cohabiter dans un même espace deux temporalités autrefois différenciées : l'actualité (énoncés à valeur informative) et histoire (énoncés à valeur documentaire). On offre alors à l'internaute une « réversibilité temporelle » lui permettant de naviguer sans transition entre le présent, le passé et l'avenir. Une nouvelle unité d'information est bel et bien en train de naître : […] la donnée.[41]

Cela va dans le même sens que ce que je présentais ci-dessous sur les attaques des journaux en tant qu'entités au bénéfice de certaines individualités qui semblent émerger au sein de l'espace public médiatique. Cela peut être l'article ou la rubrique qui sont délaissés au profit de la donnée, ou plus tard, de l'archive.

Des questions qui concernent les historiens contemporains

De nouvelles opportunités

Grâce à internet, des journaux sont désormais en ligne, sous différentes modalités. La BNF s'est lancée dans un programme de numérisation de la presse depuis 2005. Il concerne vingt-sept titres au total.[42] Le

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39 Pélissier, N. et Ruellan, D., « L'information en ligne : un nouveau paradigme pour le journalisme ? », in Le Bœuf, C. (dir.), *Pragmatique des communications instrumentées*, Paris, L'Harmattan, 2002, p. 48.

40 *Id.*

41 *Ibid.*, p. 49-50.

42 *Chroniques de la BNF*, janvier-février 2009, n° 47, p. 8.

corpus va du lancement en 1836 du *Siècle* par Armand Dutacq et de *La Presse* par Émile de Girardin, à la Seconde Guerre mondiale qui voit le sabordage ou la suspension de nombreux titres. Les titres vont du *Petit Parisien* au *Figaro*, de *L'Aurore* à *L'Humanité* en passant par le journal mondain *Gil Blas*.

Comme le souligne l'historien Patrick Eveno, « L'accès rapide aux collections facilite tout d'abord les élémentaires vérifications (de dates, de citation) auxquelles tout historien est confronté. Mais surtout, la numérisation permet de situer les articles dans leur contexte journalistique, au sein de l'objet journal dans sa globalité ».[43] Cette numérisation de la presse pourra donc, dans une certaine mesure, faciliter certaines tâches du travail de l'historien, comme les vérifications et la contextualisation des articles, mais aussi peut-être susciter de nouvelles recherches pour les historiens qui auront ainsi un accès facile à ces sources.

Les journaux de la presse généraliste proposent également – du moins pour le moment – leurs éditions en ligne au jour le jour, essentiellement de manière gratuite, même si les archives sont payantes. Rien n'empêche alors les chercheurs de se constituer une documentation sur tel ou tel sujet.

Complexité croissante et fugacité

Les journaux disposent parfois certaines informations sur leur édition papier et d'autres directement en ligne. Le fait que la presse écrite propose des articles sous une forme autre (vidéo, audio, etc.) que celle du papier, parfois de manière éphémère, rend la collecte des informations difficile pour l'historien.

Tout cela pose donc un certain nombre de questions, outre celle de l'archivage ou la conservation du Web, sur l'évolution ou l'usage possible de ces sources médiatiques par les historiens contemporains.

> Plus fondamentalement, ces nouvelles pratiques induisent un état d'instabilité, de volatilité de l'information, et plus généralement, du document. En effet, les mises à jour de documents électroniques s'opèrent par substitution, par remplacement, à l'inverse des pratiques traditionnelles de l'imprimé qui opérèrent par accumulation, par sédimentation (les mises à jour ou errata viennent s'ajouter aux documents précédents, les anciennes éditions pouvant être archivées).[44]

Or, si les historiens sont bien armés pour analyser la complexité, il est moins évident pour eux de se confronter à la fugacité des « traces »,

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43 Eveno, P., *Chroniques de la BNF*, janvier-février 2009, n° 47, p. 9.

44 Heinderyckx, F., *La malinformation. Plaidoyer pour une refondation de l'information*, Bruxelles, Labor, 2003, p. 16-17.

puisque justement les historiens travaillent sur les « traces » qui ont acquis une légitimité due au passage du temps.

En guise de conclusion

L'arrivée d'Internet depuis un certain nombre d'années provoque donc bien des changements, même si tout n'est pas modifié pour autant, du moins pour le moment. Les médias traditionnels, et notamment la presse éditée sur papier, existent toujours. Internet suscite pourtant de nombreuses interrogations. L'édition papier (presse et livre) serait-elle appelée à disparaître face à l'édition électronique ? Nous ne sommes pas en mesure de faire des prédictions, mais il est probable qu'il faille déjà tenir compte du domaine considéré. Ainsi, les revues universitaires, à diffusion plutôt confidentielle, semblent déjà être fortement tournées vers l'édition électronique, tandis que les magazines, féminins par exemple, édités sur papier glacé, même s'ils proposent aussi des sites Internet, se portent encore globalement assez bien. Il est donc probable de voir une coexistence papier-électronique, du moins durant un certain temps. Certains s'interrogent toutefois sur la diminution de la pratique de la lecture traditionnelle (sur papier), qui serait plus « profonde », face à une lecture sur le Web qui ne ferait que « survoler », et à la désaffection des jeunes face aux médias traditionnels au profit des nouveaux médias, audiovisuels et électroniques. À ce sujet, le magazine *Books*[45] a publié un numéro consacré à cette question et intitulé, de manière provocante, *Internet rend-il encore plus bête ?* À suivre !

[45] *Books*, n° 7, juillet-août 2009.

Study, Store and Share Unpublished Primary Sources

The Example of the Parallel Archive

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The significance of the Internet is often compared to that of the invention of book printing.[1] One of the most important changes it has brought is the availability of a vast amount of data,[2] as well as new ways of communication and data transfer.

From the point of view of scientists, humanists and social scientists, the digital environment, computers and the World Wide Web, provide a number of new possibilities: immediate access to sources and literature, online publications with the option of hypertexting, and a variety of Web 2.0 services.[3] At the same time new problems emerge, such as the

1 Borgman, C.L., *From Gutenberg to the Global Information Infrastructure: Access to Information in the Networked World*, London, MIT Press, 2000; Briggs, A., Burke, P., *A Social History of the Media: From Gutenberg to the Internet*, Cambridge, UK and Malden, MA, Polity, 2005; Cohen, D.J. and Rosenzweig, R., *Digital History: A Guide to Gathering, Preserving and Presenting the Past*, Philadelphia, University of Pennsylvania Press, 2006; Norman, J.M., *From Gutenberg to the Internet: a sourcebook on the history of information technology*, Novato, California, Historyofscience.com, 2005; Turkel, W.J., *Digital History*, URL: [http://digitalhistory.wikispot.org/] (July 1, 2010).

2 Anderson, C., "The End of Theory: The Data Deluge Makes the Scientific Method Obsolete", *Wired*, Vol. 16, No. 7, July 2008, p. 108; Borgman, C.L., *Scholarship in the Digital Age: Information, Infrastructure, and the Internet*, Cambridge, Massachusetts and London, England, The MIT Press, 2007, p. 6-11; "The data deluge and how to handle it: A 14-page special report", *The Economist*, Vol. 394, No. 8671, 25 February 2010.

3 *The Digital Humanities Manifesto 2.0*, URL: [http://www.hastac.org/blogs/toddpresner/digital-humanities-manifesto-20-launched] (July 1, 2010); O'Reilly, T., *What is Web 2.0*, 2005, URL: [http://oreilly.com/web2/archive/what-is-Web-20.html] (July 1, 2010).

compatibility of different systems, the diverse quality of the information available on the Web, and the preservation of digital material.[4]

Of all the digital sources, this paper focuses on the digitized versions of archival primary sources. First, I review the major changes in the use of primary sources for modern history. In the second part of the paper I present the main features of the Parallel Archive, a new online repository for digitized archival sources.

Working with Archival Sources

Historical investigation, including the study of contemporary history, is based on the use of primary source materials.[5] Between 1827 and 1831 one of the key figures of modern historiography, Leopold von Ranke traveled from Berlin to Vienna, then all over Italy. He searched for archives and archival documents, although frequently faced problems while trying to gain access to them.[6] Ranke, often viewed as the father of "scientific" history,[7] worked out the foundations of modern source criticism around that time.[8] He started to use the method already applied by classical philologists for early modern and modern documents.[9] As a university professor, he introduced seminars as a new form of teaching. He educated future generations of historians how to preserve, organize and critically examine archival documents based on external and internal criteria.[10]

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4 Rothenberg, J., *Digital Information Lasts Forever – Or Five Years, Whichever Comes First*, URL: [http://www.amibusiness.com/dps/rothenberg-arma.pdf] (July 1, 2010).

5 Dobson, M. and Zieman, B. (eds.), *Reading Primary Sources: The Interpretation of Texts from Nineteenth- and Twentieth-Century History*, London and New York, Routledge, 2009; Howell, M. and Prevenier, W., *From Reliable Sources: An Introduction into Historical Methods*, Ithaka and London, Cornell University Press, 2001; Tosh, J. with Lang, S., *The Pursuit of History: Aims, Methods and New Directions in the Study of Modern History*, Harlow, Pearson Longman, 2006, p. 110.

6 Eskildsen, K.R., "Leopold von Ranke's Archival Turn: Location and Evidence in Modern Historiography", *Modern Intellectual History*, Vol. 5, No. 3, 2008, p. 425-453; Von Laue, T.H., *Leopold Ranke: The Formative Years*, Princeton, Princeton University Press, 1950.

7 Iggers, G.G., "The Image of Ranke in American and German Historical Thought", *History and Theory*, Vol. 2, No. 1, 1962, p. 18; see also Braw, J.D., "Vision as Revision: Ranke and the Beginning of Modern History", *History and Theory*, Theme Issue 46, 2007, p. 45-60.

8 For his method: Ranke, L. von, *Zur Kritik neuerer Geschichtschreiber*, Leipzig, Duncker & Humblot, 1874.

9 Vierhaus, R., "Rankes Verständnis der "neuesten Geschcichte": untersucht auf Grund neuer Quellen", *Archiv für Kulturgeschichte*, Vol. 39, No. 1, p. 81-102.

10 Dotterweich, V. and Fuchs, W.P. (eds.), *Leopold von Ranke, Vorlesungseinleitungen*, München, Oldenbourg, 1975.

Ranke worked primarily on state and church history based on memoirs, diaries, letters, legation reports, and accounts of eyewitnesses.[11] He was criticized already by some of his contemporaries for limiting historical research to these documents.[12] In the twentieth century historians associated with the French *Annales* school started to use a greater variety of sources,[13] including judicial records and statistical evidence.[14] Moreover, visual sources[15] and oral interviews[16] also became widely used by the end of the century.

The most important repositories of unpublished primary sources are the archives. They store and preserve records of the past, textual documents, pictures, sound recordings, films and videos, and more and more often born digital data as well. The organizing principle of the archives is the principle of origin (*Provenienzprinzip*) in most of the countries, which keeps the original structure of the documents. This way, their intellectual integrity is also maintained, and context is provided for the individual documents.

In a recent article social and urban historian Gábor Gyáni contrasted the needs of historians – especially of those dealing with serial, more precisely quantitative history – and the actual organizing principles of the archives, and provoked a vital discussion among historians and archivists in Hungary.[17] Gyáni, extensively referring to the standpoint of

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11 Ranke, L. von, *Geschichten der romanischen und germanischen Völker von 1494 bis 1514*, Leipzig, Duncker & Humblot, 1885, p. V-VI.

12 Droysen, J.G., *Historik*, Band 1: *Rekonstruktion der ersten vollständigen Fassung der Vorlesungen* (1857), *Grundriß der Historik in der ersten handschriftlichen (1857/1858) und in der letzten gedruckten Fassung (1882)*, Stuttgart and Bad Cannstatt, Fromman-Holzboog, 1977, p. 11-12; see also: White, H., *Ranke: Historical Realism as Comedy* and *Metahistory: The Historical Imagination in Nineteenth-Century Europe*, Baltimore, John Hopkins University Press, 1993, p. 163-190.

13 Bloch, M., *Apologie pour l'histoire ou métier d'historien*, Paris, Librairie Armand Colin, 1952, p. 48-79.

14 Burke, P., *The French Historical Revolution: The Annales School*, 1929-1989, Stanford, Stanford University Press, 1990; Clark, S. (ed.), *The Annales School: Critical Assessments in History I-IV*, London and New York, Routledge, 1999; Iggers, G.G., *Historiography in the Twentieth Century: From Scientific Objectivity to the Postmodern Challenge*, Middletown, Wesleyan University Press, 2005, p. 51-64.

15 Gaskell, I., "Visual History", in Burke, P. (ed.), *New Perspectives on Historical Writing*, University Park, Pennsylvania State University Press, 2001, p. 187-216.

16 Prins, G., "Oral History", in *ibid*., p. 120-155.

17 Gyáni, G., "Levéltári kánon és történetírói tapasztalat" [Archival Canon and the Historians' Experience], *Levéltári Szemle*, Vol. 58, No. 3, 2008, p. 4-9; the discussion: Bolgá, D., "Levéltári kánon és egy tapasztalatlan történetíró. Hozzászólás a Gyáni Gábor: Levéltári kánon és történetírói tapasztalat című tanulmánya nyomán kibontakozó vitához" [The Archival Canon and an Unexperienced Historian. Contribution to the Discussion of the Article of Gábor Gyáni, Archival Canon and the His-

François Furet, argued that the content of documents would be a much more relevant organizing principle from the point of view of social historians, than the existing *Provenienzprinzip* used by the Hungarian archives. It was one of the main conclusions of the discussion, that digitization of the sources is most likely to resolve the dichotomy between historians' demands and archival practice. Besides stressing the importance of the digital archives and metadata which can be handled separately from the physical order of the documents, one of the authors also pointed out, that the item-level description of the documents is an important precondition if one wants to digitally reorganize historical records.[18]

The traditional way of exploring archival materials usually consists of the following steps: researchers locate the archives with collections relevant to their study – using the help of colleagues, literature and reference books; we contact the archives via mail, phone or in person, and gather further information. The most important part is to visit the archives personally for a shorter or longer period, to study the documents themselves, and to make notes and copies of the documents of interest. The detailed study of the selected documents follows usually later, at home.

Access to archives is argued to be a right by the Council of Europe.[19] Practical problems, however, such as the expenses of a research trip, still limit the amount of time one can spend in the archives.[20] Since the number of Internet users is already estimated to 1.8 billion all over the world,[21] the possibility to do preliminary research, and find part of documents online, makes a great difference. In addition, as digital

torians' Experience], *Levéltári Szemle*, Vol. 59, No. 2, 2009, p. 52-60; Katona, C.S., "Szeriális történetírói kánon és levéltári tapasztalat" [The Serial Historians' Canon and the Archival Experience], *Levéltári Szemle*, Vol. 59, No. 1, 2009, p. 29-40; Nagy, S., "Levéltárak és használói igények" [Archives and Users' Demands], *Levéltári Szemle*, Vol. 59, No. 1, 2009, p. 25-27; Takács, T., "Sancho Panzától az álmok palotájáig: néhány megjegyzés a levéltárról" [From Sancho Panza to the Palace of Dreams. Some Remarks about the Archives], *Levéltári Szemle*, Vol. 59, No. 2, 2009. p. 61-68; see also: Kaposi, Z., "A gazdaságtörténeti kutatások és a levéltári szolgáltatások (gondolatok a kutatói vágyakozásokról)" [Researches on the History of Economics and Archival Services – Some Reflections on Researchers' Desires], *Levéltári Szemle*, Vol. 58, No. 3, 2008, p. 10-15.

18 Bolgár, *op. cit.*, p. 56, 58.

19 Kecskeméti, C. and Székely, I., *Access to Archives. A Handbook of Guidelines for Implementation of Recommendation No. R (2000) 13 on a European Policy on Access to Archives*, Belgium, Council of Europe Publishing, 2005, p. 12.

20 Kaposi, Z., *op. cit.*, p. 13.

21 International Telecommunication Union, *Measuring the Information Society*, Geneva, 2010, p. 2.

historian William J. Turkel pointed out, nowadays it is hardly possible to do scholarship without using digital techniques. One has to use at least digital finding aids and prepare an electronic version of their work before publication.[22]

Contextual research is almost always carried out online with the help of digital book and article collections. The massive digitization of books, primarily by Google Books and the Open Content Alliance, the Project Gutenberg in different countries, the French Gallica project, the German Digital Library (*Deutsche Digitale Bibliothek* or DDB) or – on a smaller scale – the Hungarian Electronic Library (Magyar Elektronikus Könyvtár) and the most important collections of online available scholarly journals such as JSTOR and Project MUSE help scholars in this process.

Besides literature and finding aids, primary sources are also available online. On the one hand, there are born digital items, such as e-mails, SMSes, digital pictures, audio and video recordings and Web pages. The Internet Archive archives the World Wide Web, "building a digital library of Internet sites and other cultural artifacts in digital form".[23] On the other hand, one can find online digitized versions of primary sources housed in physical archives, research libraries and museums. The above-mentioned Gallica and DDB also digitize primary sources on a large scale, and Europeana is a platform for books and other source types as well. The content of Europeana is provided by major European institutions.[24] The American Memory from the Library of Congress collects digitized historical materials documenting history and culture of the United States.[25]

Several decades ago working with sources almost always involved paper: notes were written on the margins of books, notecards or Post-its. Today digital note-taking systems include Scribe,[26] Evernote,[27] and there are Desktop or Personal Wikis – WikidPad, Zim, TiddlyWiki for similar purposes. Referencing systems such as Endnote,[28] Reference Manager,[29] and Zotero[30] help to manage bibliographies and references.

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22 "Interchange: The Promise of Digital History", *The Journal of American History*, Vol. 95, No. 2, 2008, p. 478.

23 URL: [http://www.archive.org/].

24 URL: [http://www.europeana.eu/].

25 URL: [http://memory.loc.gov/ammem/index.html].

26 URL: [http://chnm.gmu.edu/tools/scribe/].

27 URL: [http://www.evernote.com/].

28 URL: [http://www.endnote.com/].

29 URL: [http://www.refman.com/].

30 URL: [http://www.zotero.org/].

While working in archives, instead of note-taking, ordering photocopies or film-based photographs as before, scholars – whenever the condition of the documents and the institution preserving them allows it – choose to scan the selected sources or take digital photos of them. Dealing with topics of contemporary history students and researchers often accumulate a great amount of digital copies of original sources. These archival documents are digitized for the purpose of individual research – almost always outside the scope of large-scale digitization projects. After having been used, they often end up on personal computers and are typically forgotten.

The Parallel Archive

The creation of "a distributed collaborative historical archive" was officially proposed in 2007.[31] The Parallel Archive (PA) was designed by the Open Society Archives at Central European University.[32] The prototype was developed with the generous support of the Institute of Record in 2008. It is based almost entirely on open source software. The system currently works in beta version, and is being tested within the community of the Central European University.

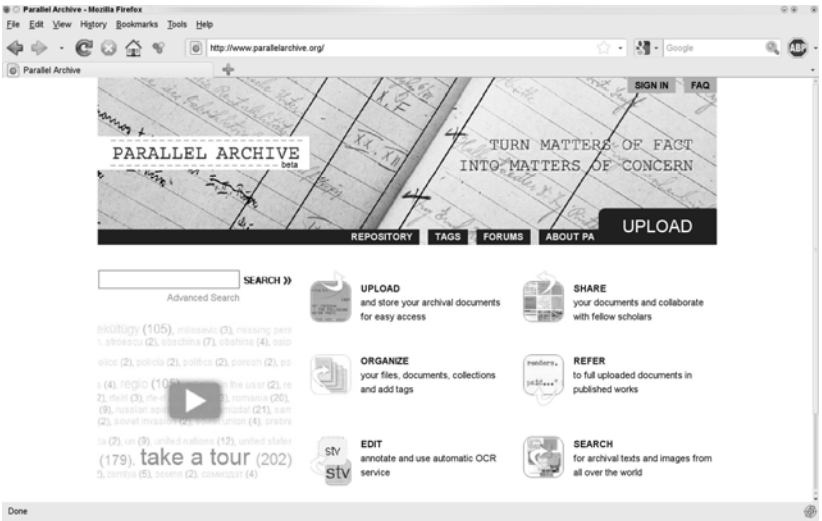
PA was designed for researchers and students in the humanities and social sciences who use archival material in their study, research or teaching. The original vision was an alternative, online space, where scholars can store, and also make public their digitized copies of archival materials from all over the world.[33] Beyond online storage, PA offers a variety of tools to facilitate convenient work with archival sources. The title page of PA can bee seen in Figure 2. In the following the main features of PA will be reviewed.

31 Rév, I., *Project proposal*, May 2007 (manuscript).

32 URL: [http://www.osaarchivum.org/].

33 URL: [http://www.parallelarchive.org/content/vision] (July 1, 2010).

Figure 2 – The homepage of the Parallel Archive

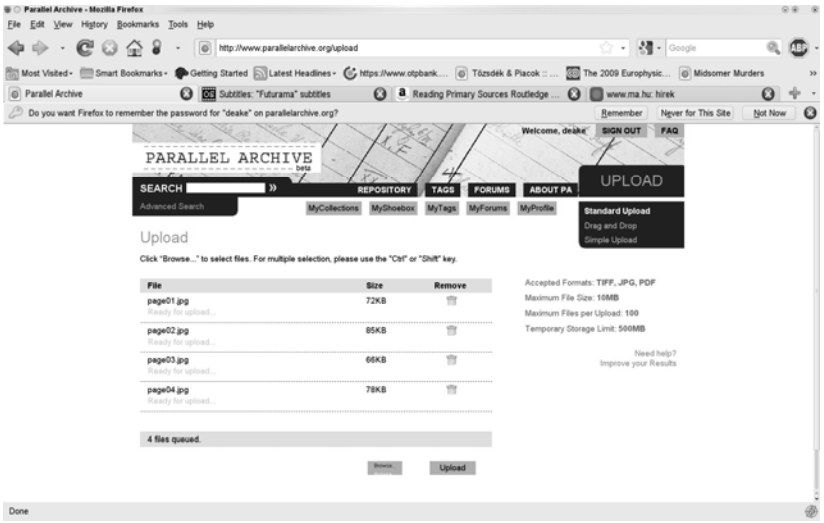


A key step while using PA is uploading new sources. The upload page is shown in Figure 3. PA currently accepts documents in forms of digitized texts or images. The accepted file formats include BMP, JPEG/JPEG 2000, PDF, TIFF, PCX, DCX, PNG, and DjVu.[34] It is also possible to convert multiple digital pages into a single PDF file during the upload process. The three main steps of creating new PA documents are the following. First the individual files are selected for upload from the user's computer. In the next step the uploaded files are assembled together. The last and probably most important step is the detailed description of the new document. The required and optional fields are based on professional standards.

The detailed description is stored as metadata linked to the documents and helps to contextualize them. It is mandatory to provide the full name and country of the institution where the original record is stored. This makes it possible to trace all documents back to the archive where the original of the digital copies is stored, helping to locate not only the original document of the digital copy, but also the whole collections to further contextualize the source or even lead to relevant new sources. The title and date of the document are also required fields. It is important to note that the descriptions are attached to every single document, which is not typical of archival collections.

34 URL: [http://www.parallelarchive.org/content/collection_policy].

Figure 3 – The upload page (standard upload)



Once our documents are uploaded, the first thing PA offers is long term storage. The extensive use of open archival content provided by individuals as well as institutions is encouraged. Small collections deserving long term preservation, such as family archives, and samples from more comprehensive holdings can also be saved here.[35]

There are several tools that make the work with the uploaded documents more convenient. Probably the most often used one is the extensive search function. On Figure 4 one can see the 'Advanced search' page: we can search in the text of the document as well as in the metadata. The range of the search can be restricted by date, language or document type. The built-in optical character recognition (OCR) software can generate searchable text from the uploaded images in diverse languages. Moreover, note-taking is supported: document pages can be individually annotated.

[35] URL: [http://www.parallelarchive.org/content/collection_policy].

Figure 4 – The search page (advanced search)

Figure 5 – The tag cloud

Tools for organizing documents are also available within the system. It is possible to create virtual collections and assign documents to them. One can manage not only the documents uploaded by themselves, but also documents collected from the repository. Tags attached to the

sources are particularly useful to locate connected documents. Figure 5 shows the tag cloud with the most often used tags in PA.

An important motivation behind PA is to encourage collaborative work between users. At the moment users have the possibility to participate in forum discussions on specific documents or general research topics, network around documents by adding comments and tags, and find colleagues working on similar research topics. An informal peer review system between the users helps to maintain the high quality of uploaded documents.

During the upload process the users have to decide whether to keep the documents private or make them public. The general idea of PA is that users share their documents with the public. Therefore, the use of PA for private storage of sources is only supported for a limited period: originally private documents will become public after two years.

The language of the PA interface is solely English at the moment. The uploaded documents, however, can be of any language. Accordingly, the built-in OCR software supports most languages and alphabets, with best results expected from major European languages.[36]

The accessibility of the public documents is aided by permanent and unique URL's assigned to them. This provides a secure digital signature to all uploaded material, thus guaranteeing their integrity and permanence. Furthermore, this makes citations in research papers remarkably simple. As an early example, the full source material for two of the articles in a special issue of the journal *Regio: A review of Studies on Minorities, Politics, and Society* is available in digital form in PA.[37] While the original documents are located in different Hungarian archives: the Historical Archives of the Hungarian State Security, the National Archives of Hungary, the MTI Hungarian News Agency Corp., and the Open Society Archives, the full source material is available in digital form in PA. Most of the sources are published for the first time. Every document can be easily cited by just copying their unique URL from PA.

Copyright is a particularly delicate issue. Access to primary sources preserved in the archives does not necessarily include the permission to publish the documents online. Besides a rather general copyright[38] and privacy[39] policy, professional guidance – legal advisors answering

[36] URL: [http://www.parallelarchive.org/content/collection_policy] (June 30, 2010).

[37] Révész, B., "'Out of Romania!' Reasons and Methods as Reflected in State Security Documents 1987-1989", *Regio*, Vol. 11, p. 8-66; Kaszás, V., "Diplomatic Way to the 1951 Geneva Convention", *ibid.*, p. 67-96.

[38] URL: [http://www.parallelarchive.org/content/copyright_policy] (June 27, 2010).

[39] URL: [http://www.parallelarchive.org/content/privacy_policy] (June 27, 2010).

questions of the users – is planned to help scholars determine which documents they are allowed to make public.

Although the system is already functional, it is still in beta version. There are various plans for improvement. To ensure the quality of materials, curation is planned to be introduced. At the moment the system only accepts digital versions of textual documents, photos and images. This will be extended in the near future to support sounds and videos. The collaborative aspects will also be improved by implementing new features for group work, for example closed forums and documents only available to selected members.

Acknowledgment

I thank Kathryn Máthé and Katalin Gádoros for our long discussions about PA and Gabriella Ivacs for reading and commenting my paper. The sections describing the Parallel Archive are based on documents which are the common work of the PA team.

Capitaliser les ressources sur l'histoire socio-politique de la justice belge (1795-2005)

Le portail just-his.be

Aurore FRANÇOIS

Chargée de recherches F.R.S.-FNRS au Centre d'histoire du droit et de la justice *(Université catholique de Louvain, Louvain-la-Neuve)*

Les historiens contemporanéistes ont assurément mis un certain temps avant d'investir l'ère digitale et d'explorer les possibilités offertes par l'informatique et les réseaux. Il n'en demeure pas moins vrai que des initiatives ont fleuri ces dernières années dans nombre de départements d'histoire, centres de recherche et de documentation. Ces initiatives, que l'on pourrait qualifier de pionnières en leur temps, se voient aujourd'hui confrontées à de nouveaux enjeux. Pour certaines, attachées à un domaine pointu de la recherche scientifique et consultées par un cercle restreint d'initiés, se pose la question de l'intégration dans des structures plus globales, qui leur permettrait d'accroître la visibilité dont elles bénéficient. Pour nombre de ces applications existantes, la question qui se pose est plus cruciale encore : que deviennent ces réalisations informatiques une fois les projets terminés et les financements interrompus ? Ces applications techniques innovantes reposent en effet souvent sur une structure organisationnelle sinon éphémère, du moins provisoire. Il s'agit la plupart du temps de projets qui bénéficient d'un financement limité dans la durée, reposant sur du personnel qualifié mais temporaire, associant parfois plusieurs institutions.

En 2007, un partenariat associant plusieurs universités et établissements scientifiques belges et étrangers décrochait un budget PAI (Pôles d'attraction interuniversitaires) de la Politique scientifique fédérale belge pour son projet sur l'histoire sociopolitique de l'administration de la justice en Belgique depuis 1795.[1] Parmi les délivrables de ce projet

[1] Le projet *just-his.be* associe les partenaires suivants : Centre d'Histoire du Droit et de la Justice (Université catholique de Louvain), Instituut voor Rechtsgeschiedenis

figurent une dizaine de thèses de doctorat portant sur ce segment de l'histoire contemporaine, et un portail Web de ressources documentaires destiné à fédérer des contenus numériques très hétérogènes, résultats du regroupement de projets neufs avec d'autres, plus anciens. En termes de gestion de projet, le portail *just-his.be* présente à ce titre un double défi : celui du développement d'une solution technique neuve, regroupant des modules reposant sur des technologies diverses, et celui de la refonte d'applications existantes qui, pour de multiples raisons sur lesquelles nous reviendrons, ne répondent plus (totalement) aux besoins des chercheurs qui les utilisent.

Des contenus hétérogènes

L'analyse des besoins, menée au lancement du projet, a mis en évidence deux grands objectifs, l'un purement organisationnel – assurer la gestion des informations relatives au projet « Justice and Society » –, l'autre scientifique, à savoir fournir un outil de diffusion des savoirs sur l'histoire de la justice en Belgique.

Délimiter les contours de la première mission du portail, à savoir la mise en place d'un outil de support à la gestion de projet, constituait la partie la plus simple, puisque devenue nécessaire aujourd'hui au bon fonctionnement de tout projet scientifique, *a fortiori* lorsqu'il réunit un partenariat géographiquement dispersé. Il s'agit d'assurer une visibilité au projet (décrire ses missions, le partenariat, les manifestations organisées, les rapports d'activités, etc.), mais aussi de faciliter la communication interne, en mettant à disposition des membres du partenariat une série de ressources utiles (agenda, procès-verbaux de réunions, feuilles de styles, etc.), via un extranet, moyennant authentification.

Mais le volet le plus énergivore du projet résidait assurément dans la deuxième mission du portail, s'agissant de fournir à ses visiteurs un accès centralisé à des ressources de nature diverse : un large corpus de données bibliographiques sur l'histoire de l'administration de la justice en Belgique (références de contributions belges ou étrangères, passées et présentes), des instruments de recherche (inventaires d'archives), de la « littérature grise » (thèses, mémoires, rapports de recherche), des sources éditées et inédites numérisées (discours, circulaires, sources iconographiques, etc.), des bases de données accessibles par intégration ou

(Universiteit Gent), Centre de recherches en histoire du droit et des institutions (Facultés universitaires Saint-Louis à Bruxelles), Archives Générales du Royaume et Archives de l'État dans les provinces, Centre d'études et de documentation Guerres et Sociétés contemporaines, Institut de recherches historiques du Septentrion (Université de Lille 3), afdeling rechtstheorie en rechtsgeschiedenis (Vrije Universiteit Amsterdam).

redirection (*base de données prosopographique des magistrats belges* ou corpus statistiques du projet « Quetelet.net »).[2]

Cette diversité des ressources se double d'une diversité des moyens techniques mis en œuvre, dans la mesure où, aux côtés de modules déployés par et pour les besoins du projet, le portail entendait intégrer d'autres applications existantes, issues de projets plus anciens auxquels il s'agissait ici de donner une seconde jeunesse.

Une autre contrainte résidait dans la restriction des accès sur toute une série de ressources : aux côtés de working papers et de pièces d'archives numérisées dont la consultation est provisoirement réservée aux doctorants, il convenait, pour une série de ressources, de conformer l'accès numérique aux dispositions légales en matière de protection de la vie privée. Pour ces différents cas de figure, il s'agissait donc de mettre au point des procédures d'authentification, procédures qui se devaient d'être souples et évolutives.

Le module « catalogage des ressources » : adoption de la technologie *Eprints*

S'agissant des ressources documentaires et bibliographiques, l'un des premiers choix opérés fut celui de l'adoption d'une solution la plus globale possible, permettant de regrouper dans un même module la plus grande variété de ressources, que ces ressources soient digitalisées dans leur intégralité ou simplement décrites par un jeu de métadonnées.

Les démarches préliminaires auprès des promoteurs et chercheurs du projet ont mis en avant une série d'autres exigences, liées à la gestion des accès et aux modes de recherches souhaités (recherches classiques sur les métadonnées et dans le contenu des ressources lorsqu'elles sont disponibles en *full text*, mais également navigation dans une arborescence thématique). Cette double exigence a entraîné la nécessité, pour les historiens du projet de définir une politique d'accès aux ressources et d'élaborer une structuration des savoirs relatifs au domaine couvert, tâche complexe s'il en est, ainsi résumée par son auteur, Jonas Campion (UCL) :

> The scientific stakes were high in this process of elaboration of a document tree : it needed to be as comprehensive and logical as possible, to cover two centuries of justice history in Belgium and take into account the various leg-

[2] Quetelet.net est un système critique d'intégration, de numérisation et d'accès à des données statistiques. Détienne, V., Vesentini, F. et Bernard, B., « Entre archivage électronique, bases de données temporelles et e-learning : "Quetelet.net", plate-forme de diffusion des statistiques pénales », dans Vesentini, F. (dir.), *Les chiffres du crime en débat. Regards croisés sur la statistique pénale en Belgique (1830-2005)*, Louvain-la-Neuve-Bruxelles, 2005, p. 147-158.

> islative, judicial and administrative levels, their historical development and personnel, as well as the practices of different actors (victims, law enforcement personnel, judges, defendants and convicted criminals, etc.). At the same time, it needed to reflect the diversity of successive political regimes (French and Dutch period, independent Belgium, federal Belgian State), practices in both times of peace and political crisis (war, occupations, etc.), as well as the international dimension of justice administration. Finally, it needed to account for the typological diversity of information resources available on these issues.[3]

Un premier projet d'arborescence thématique a ainsi été réalisé sur la base d'initiatives similaires – numériques ou classiques – en Belgique et à l'étranger, puis raffiné au gré de séances de travail collectives et enfin validé.

Par ailleurs, un scénario idéal d'encodage des ressources a été mis au point, attribuant un rôle précis à chaque acteur. Ce *workflow* prévoit l'encodage, par un large panel d'utilisateurs, des métadonnées et des ressources, leur classement dans l'arborescence thématique, et leur publication après validation par un membre appartenant à un groupe de « validateurs experts ».

Au final, ces besoins mis en avant ne sont pas apparus particulièrement spécifiques à notre domaine ; ils sont partagés par nombre d'institutions scientifiques ou académiques, centres de recherches, bibliothèques, désireuses de mettre des ressources électroniques à disposition du public. Aussi une série de solutions existantes open-source ont été testées, pour finalement adopter la plate-forme Eprints, développée par l'université de Southampton.[4]

Eprints est une plate-forme de mise à disposition de ressources sur le Web, déployée selon cette architecture : une base de données contenant les corpus de ressources, des traitements rédigés sous forme de scripts perl, et un serveur Web qui met les pages à disposition de l'utilisateur. Open-source, elle permet d'être adaptée en fonction des besoins des utilisateurs. Dans le cas du portail *just-his*, les deux adaptations majeures consistent en une personnalisation des aspects graphiques (look-and-feel branding) et surtout en la création d'un type d'item *Archives* et

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3 *IAP P6/01 Justice & Society : Socio-political History of Justice Administration in Belgium (1795-2005). Overview report 2007-2009*, 30 avril 2010. L'arborescence thématique à même de permettre la classification des documents de *just-his.be* a été rédigée par Jonas Campion (UCL), chercheur post-doctoral sur le projet, avec la collaboration de Dirk Luyten (CEGESOMA), co-promoteur du projet.

4 *Open Access and Institutional Repositories with EPrints*, URL : [http://www.eprints.org] (6 mai 2010) Millington, P. et Nixon, W., « Eprints 3 Pre-Launch Briefing », in *Ariadne*, Issue 50, juin 2007, URL : [http://www.ariadne.ac.uk/issue50/ eprints-v3-rpt/] (31 mai 2010).

d'un jeu de métadonnées permettant de décrire des documents d'archives, ce type de données n'étant pas prévu dans la version originale d'Eprints. Le jeu de métadonnées mis au point s'inspire de la norme de description archivistique ISAD(G).[5] Techniquement, les modifications portent sur les scripts perl et certains fichiers de configuration XML.

Le module « prosopographie des magistrats » : rénover et « généricizer » l'existant

La base de données « prosopographie des magistrats belges » est à son origine, en 2005, un projet financé par le Fonds national de la recherche scientifique, construit sur un partenariat entre le Centre d'histoire du droit et de la justice de l'université catholique de Louvain, et les facultés universitaires Notre-Dame de la Paix à Namur et Saint-Louis à Bruxelles.[6] L'application était destinée à l'origine à recueillir une multitude d'informations sur les magistrats belges de l'indépendance du pays à 1914, et ce sur une série d'aspects : données personnelles, relationnelles, intellectuelles, parcours de carrière, procédures de nomination, etc. Elle offrait en outre à ses utilisateurs une vision panoramique des juridictions belges existant durant cette période, leur structuration et leur personnel. Conçue pour et – en partie – par des historiens, chaque information publiée dans la base devait être accompagnée d'une identification de la source et, le cas échéant, d'un apparat critique.

Au fil du temps et des financements, le projet a élargi son domaine d'application à d'autres champs et d'autres périodes de l'histoire judiciaire, notamment celles qui précèdent l'indépendance du pays, avec les occupations française puis hollandaise, périodes qui chacune correspondent à une structuration différente des institutions judiciaires. L'élargissement de la période couverte ne s'est pas uniquement fait vers le passé mais également vers le présent, intégrant alors des modifications plus récentes de la hiérarchie des juridictions en Belgique, comme la création, il y a une quarantaine d'années, de cours d'appel supplémentaires. L'intégration de données plus récentes posait par ailleurs un nouveau problème : celui de la confidentialité de certaines informations, qui légalement ne pouvaient être rendues accessibles qu'aux seuls chercheurs autorisés.

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5 Conseil international des archives, *ISAD(G). Norme générale et internationale de description archivistique*, 2e éd., Ottawa, 2000, URL : [http://www.wien2004.ica.org/sites/default/files/isad_g_2f.pdf] (27 mai 2010).

6 Une première version de l'application a été développée, entre 2005 et 2007, par Xavier Cuvellier puis Pascal Dumoulin, en collaboration avec Françoise Muller, historienne engagée sur le projet.

Ajoutons à ces changements la découverte, dans les archives, de nouveaux types de données dont on ne soupçonnait pas l'existence, le désir d'élargir encore le domaine d'application à d'autres secteurs du judiciaire (les cours militaires et la justice coloniale par exemple), et la nécessité de corriger quelques imperfections ou approximations de la première version de la base, alors que quatre années s'étaient écoulées depuis la création de l'application initiale, que les premiers intervenants techniques ne faisaient plus partie de l'équipe de recherche et qu'il fallait se rendre à l'évidence et poser le constat suivant : la base de données, bien que toujours opérationnelle, ne satisfaisait plus aux exigences des chercheurs qui travaillaient quotidiennement avec elle. Sa structure même ne correspondait plus au domaine d'application.

Grâce à son intégration dans le portail *just-his*, cette base de données a pu connaître un second souffle. Une réingénierie complète du système en place a été menée à bien en duo avec Françoise Muller, chercheuse sur le projet initial. Ce processus a tout d'abord nécessité une réappropriation du schéma originel, préalable nécessaire à son évolution vers une structure susceptible de prendre en compte les nouvelles réalités apparues depuis lors. Le modèle relationnel,[7] intuitif et précis, a permis de formaliser et de structurer le domaine d'application et de faciliter le dialogue entre historiens et informaticiens.[8] L'utilisation de l'outil case DB-Main a permis de procéder à l'extraction du schéma relationnel originel à partir du code, de réaliser les manipulations nécessaires afin de le rendre conforme aux nouvelles exigences et de générer le nouveau schéma logique correspondant.[9]

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7 Les bases théoriques du modèle relationnel ont été énoncées par Codd : E.F. Codd, « A Relational Model of Data for Large Shared Data Banks », in *Communications of the ACM*, vol. 13, n° 6, juin 1970, p. 377-387.

8 Il n'est sans doute pas exagéré d'affirmer que les différents membres de l'équipe ont atteint, autour du schéma entités-associations, ce fragile et efficace équilibre évoqué par Boonstra, Breure et Doorn : « Taking two important disciplines in this field as an example, history and computer science, the unifying computing perspective lies in reaching an intermediate level of abstraction with regard to formulating problems and solutions. Historians are inclined to overestimate the uniqueness of their problems, while computer scientists live with the beauty of universal solutions for rather abstract problems. Problems will grow more complex (but also more meaningful) when defined closer to practice. Finding the right balance will require an organisational context where scientists of different denomination meet and work together », in Boonstra, O., Breure, L. et Doorn, P., *Past, present, and future of historical information science*, Amsterdam, 2004, p. 99.

9 Mis au point par le Laboratoire d'Ingénierie d'applications de bases de données (Institut d'informatique, Facultés Universitaires Notre-Dame de la Paix à Namur), l'atelier de génie logiciel DB-Main est un outil de support qui facilite le processus de développement et de maintenance d'une base de données. Englebert, V., Henrard, J., Hick, J.-M., Roland, O. et Hainaut, J.-L., « DB-MAIN : un atelier d'ingénierie de

Cet effort a en outre pu être mis à profit pour rendre plus générique encore la structure des données et élargir son potentiel, dont la concrétisation dépendra de l'octroi, dans le futur, de budgets pour l'encodage des données. Des scénarios de migration des données ont été élaborés pour transférer le contenu de l'ancienne base de données vers la nouvelle. Enfin, les écrans d'encodage et de consultation ont été repensés. L'implémentation technique a été confiée à une entreprise sous-traitante.

En pratique, le schéma relationnel conçu au terme de ce processus comporte une centaine de tables, réparties en trois grandes zones interconnectées, chacune correspondant à une partie du domaine d'application. La première concerne la représentation des données personnelles (noms, prénoms, langue, relations, titres, études, mandats politiques et autres, etc.). La deuxième décrit les structures relatives à la pyramide des juridictions, aux fonctions à pourvoir dans ces juridictions et au processus de nomination des magistrats à ces fonctions. La troisième zone, vers laquelle la plupart des autres structures convergent, recouvre les références (ouvrages, archives, textes normatifs, etc.) qui ont permis d'établir les informations contenues dans la base.

La complexité du schéma obtenu tient à la fois aux subtilités du domaine d'application et à la dimension historique forte de la base. L'inscription de toutes les informations dans une temporalité précise est une nécessité première. La gestion des dates, et par conséquent la traduction des requêtes qui portent sur celles-ci, est relativement difficile : dans les sources, l'information est souvent incomplète (ne mentionnant que l'année ou le mois) et imprécise, requérant une certaine créativité pour représenter des contours incertains, des intervalles de temps ou encore des *termini post quem* et *ante quem*. Le système doit non seulement pouvoir accueillir des données initialement représentées dans les sources par une large variété de termes tels qu'« environ », « autour de », « à partir de cette date », « au moins jusque cette année », mais il doit également traduire ces nuances et permettre des opérations rigoureuses telles que fournir la situation d'une juridiction et du personnel qu'elle occupe à une certaine date ou dans un intervalle de temps donné.

Rares sont en effet les affirmations dont la validité est pérenne, même à l'échelle d'une seule personne. L'adresse des magistrats, leurs rela-

bases de données », *Ingénierie des systèmes d'information*, vol. 4, n° 1, p. 45-364 ; Initialement développé par le Laboratoire d'ingénierie d'applications de bases de données (LIBD) des Facultés Universitaires Notre-Dame de la Paix à Namur auquel il appartient toujours, DB-Main est depuis janvier 2004 développé et distribué par Rever SA. À propos du LIBD et de Rever SA : *Laboratory of Database Application Engineering* dans FUNDP, *Site des Facultés Universitaires Notre-Dame de la Paix à Namur*, URL : [http://www.info.fundp.ac.be/libd] (5/5/2010) ; Société Rever SA, URL : [http://www.rever.eu] (5/5/2010).

tions, affinités, inimitiés, leur situation familiale, les opinions politiques, les mandats qu'ils endossent, constituent autant d'informations susceptibles de connaître des évolutions dans le temps, que la structure doit pouvoir assumer. Ainsi les magistrats peuvent déménager, se marier, divorcer ou être veufs puis se remarier, peuvent adhérer à la philosophie libérale puis devenir catholiques pour redevenir libéraux. Toutes ces informations doivent trouver leur place dans la structure, et être accompagnées d'un intervalle de temps représentant leur période de validité. Ils endossent au cours de leur carrière une série de mandats ou de fonctions dans une structure qui elle aussi est amenée à évoluer.

La hiérarchie des institutions judiciaires connaît en effet régulièrement des réformes d'importance plus ou moins grande. Depuis la fin de l'Ancien Régime, les territoires formant l'actuelle Belgique sont passés sous domination française ou hollandaise, engendrant la création, la suppression ou la modification des institutions chargées de rendre la justice. La pyramide des juridictions a encore évolué depuis la création de l'État belge en 1830, comme l'illustre la création de cours d'appel supplémentaires, à l'exemple de celle de Mons en 1975. La création d'une nouvelle cour entraîne une série de modifications notoires qu'il faut supporter sur le plan technique. Ainsi les tribunaux de première instance d'une série d'arrondissements, celui de Tournai par exemple, sont transférés du jour au lendemain du ressort de la cour d'appel de Bruxelles à celui de la cour d'appel de Mons. À nouveau, il importe que la base de données puisse refléter ces modifications. Par ailleurs, lorsqu'une requête est faite sur une juridiction à un instant donné ou durant un intervalle de temps, le système doit être en mesure de produire tous les scénarios valables et fournir à l'utilisateur une vue correcte non seulement des informations relatives à l'institution recherchée, mais également de l'institution supérieure dont celle-ci dépend, de même que toutes celles de rang inférieur qui dépendent d'elle.[10]

Autre facteur de complexité, inhérent à notre rigueur d'historiens : la nécessité de renseigner l'origine, la source de chaque information. Dans le cas belge, cette complexité est d'autant plus importante qu'il n'existe pas de dossiers personnels de magistrats et que les informations pour un même magistrat sont glanées dans un éventail de sources très large. Cette situation se complique encore du fait de contradictions qui émargent d'une source à l'autre. Des données aussi essentielles que le nom, ou les prénoms de certains magistrats connaissent des variations ortho-

[10] Au sujet de la gestion du temps et des intervalles de temps dans le modèle relationnel : Date, C.J., Darwen, H. et Lorentzos, N., *Temporal Data and the Relational mode. A Detailed Investigation into the Application of Interval and Relation Theory to the Problem of Temporal Database Management*, San Francisco, Morgan Kaufmann, 2002.

graphiques parfois nombreuses d'une source à l'autre. Les chercheurs les encodent toutes, et laissent à leur propos une évaluation permettant d'en mesurer la pertinence.

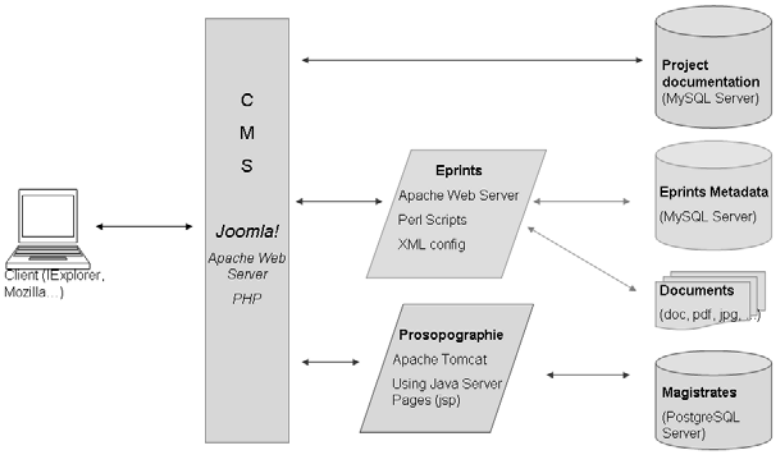
Amorcé à l'automne 2008, ce projet de correction et de généricisation de l'application initiale a été mis en production début 2010. Aujourd'hui, l'opportunité de transférer cette technologie à d'autres domaines d'application fait l'objet d'une réflexion, de même que son ouverture aux techniques de Web collaboratif.

Choix techniques

D'un point de vue strictement technique, l'hétérogénéité des applications appelées à être regroupées dans le portail *just-his.be* explique l'adoption d'un *Content Management System*. Le portail just-his est composé de plusieurs modules séparés et autonomes intégrés dans un CMS *Joomla* !, qui donne à l'ensemble une allure la plus cohérente possible, bien que recouvrant des réalités fonctionnelles et techniques très hétérogènes.

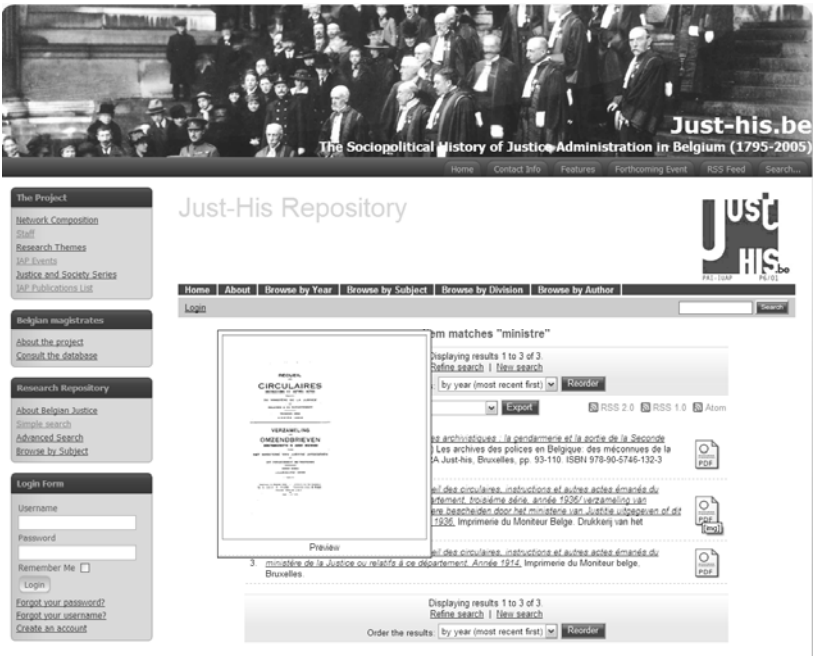
Le CMS gère donc l'encapsulement des modules, de même que les fonctionnalités liées à la gestion des informations relatives au projet (communication extérieure mais aussi interne, via une procédure d'authentification). Le CMS donne par ailleurs accès aux deux modules indépendants qui participent à la mission de diffusion des savoirs sur le Web, à savoir la base de données relationnelle « répertoire prosopographique des magistrats belges » et le Research Repository Eprints qui gère le corpus documentaire.

Figure 6 – Architecture générale du portail *just-his.be*



L'architecture obtenue représentée révèle donc une première couche renfermant les données, avec trois bases de données contenant respectivement les données du projet, les métadonnées et documents du répertoire Eprints, et les données biographiques des magistrats (Figure 6). Ces trois corpus de données sont gérés par des systèmes de gestion de bases de données différents (postgreSQL pour les magistrats, MySQL pour les autres). Vient ensuite une couche métier réunissant également des technologies différentes : Java Server Pages (JSP) pour les magistrats, scripts perl pour le Research Repository ou encore PHP pour les données du projet gérées par le CMS *Joomla !* Ce dernier encapsule tous ces modules via un système de *wrappers*, ce qui donne à l'ensemble, du point de vue de l'utilisateur, une impression de cohérence[11] (Figure 7).

Figure 7 – Intégration du catalogue Eprints dans just-his.be



[11] Les trois modules techniques sont maintenus par le Service général du système d'information de l'UCL, plus particulièrement par Fabian Boldrin, gestionnaire technique du service d'hébergement et Fabienne Delbrouck, administratrice système.

Conclusions

« Perhaps more than in the sciences the humanities will need digitized resources of all sorts »,[12] soulignaient en 2007 Patricia Alkhoven et Peter Doorn, dans le cadre d'une réflexion sur les nouvelles perspectives de recherche autour des Humanities. Les défis relevés par le projet *justhis.be* incarnent parfaitement cette constatation des auteurs. Le portail agrège en effet des contenus divers (jeux de métadonnées, iconographie, documents digitalisés, etc.) pour lesquels des options différentes ont été prises en termes de formalisation, de la digitalisation et l'indexation de documents en *full-text* à l'encodage de données dans des structures semi-structurées ou très structurées. Ces choix, lourds de conséquences sur le plan technologique, étaient édictés par la nature des documents et surtout par les ambitions des chercheurs concernant l'analyse de ces données. Sans doute loin d'être idéale, l'architecture ainsi dessinée permet de répondre aux demandes actuelles, tout en ménageant l'existant.

C'est justement en choisissant d'intégrer certaines applications plus anciennes et des nouveaux modules que le projet s'est très vite confronté à une autre réalité informatique bien connue : la nécessité d'assurer une maintenance corrective et évolutive du système, tâche rendue peu aisée dans le contexte politique et organisationnel actuel de la recherche, qui favorise un fonctionnement par projet entraînant un turnover important des équipes, surtout des éléments techniques. Les projets de recherche historique, pourtant, sont eux aussi susceptibles de connaître une évolution de leur domaine d'application, ne fût-ce que suite à la découverte de nouvelles données ou consécutivement à l'extension chronologique ou géographique du thème couvert. Soit autant de besoins dont l'apparition constitue avant tout un témoignage du dynamisme des projets et des équipes qui les portent. La pérennisation de ces applications, qui fleurissent aujourd'hui sur la toile, constitue à cet égard l'un des défis majeurs des *digital humanities :* « Underlying all of these ideas is the problem how we can preserve the results of these new research projects. The digital preservation and permanence of access is a major challenge that needs to be solved very soon ».[13]

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12 Alkhoven, P. et Doorn, P., « New Research Perspectives for the Humanities », *International Journal of Humanities and Arts Computing*, vol. 1, n° 1, 2007, p. 41.

13 *Ibid.*, p. 42.

How Are European National Libraries Responding to "Big Digitization"?

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In this paper on a fast-moving topic, I wanted to investigate how National Libraries can respond to what the National Library of Wales head librarian Andrew Green has called 'big digitisation'.[1] Originally an undertaking developed in America from 1971 under the 'Project Gutenberg', digital libraries constitute an area that is changing at a sidereal pace, part and parcel of what Robert Darnton considers the most recent of the four fundamental revolutions in information technology since human beings learned to speak, here the invention of electronic communication from 1969.[2] The statistics I compiled in September 2008 monitoring the quantity of digital information in the form of books scanned and held on national library servers are now woefully out of date (see the Appendix *Report for Task Force 3 of the European think-tank CLIOHnet2 on European Digital Resources for History*), but serve perhaps as a snapshot of general directions at a particular moment in time not too far removed from the present.

Perhaps we need to begin by making clear the small role in digitisation played hitherto by National Libraries, particularly European ones, despite the EU Commissioner for Information Society and Media Viviane Reding's strong intervention in 2005 at the CENL (Conference of European National Librarians) conference in Luxembourg in September 2005, where she argued that national libraries should use their influence in the debate on the digitisation of European resources for access

1 Green, A., "Big digitisation: Origins, progress and prospects", in *International Journal of Humanities and Arts Computing*, Vol. 4, p. 55-66, DOI 10.3366/ijhac.2011.0007.

2 Darnton, R., "The Library in the New Age", in *The New York Review of Books*, June 12, 2008.

through the Web.[3] Wikipedia's list of 'leaders in the field' with regard to digital libraries fails even to list one European national library.[4] Rather the initiative was first taken by Google Book Search, as announced in October 2004 in a press conference at the Frankfurt Book Fair. A year later, a consortium of North American libraries known as the Open Content Alliance sponsored initially by yahoo! responded by entitling itself to administering the Internet Archive, which provides permanent storage and access through its website. European National Library digital projects have, however, been picking up steam: from the time I compiled information relating to digitization conducted by European National Libraries in September 2008 until the moment I wrote the initial draft of this paper in October 2009, the Polish National Library had engineered a 9.16% greater digital acquisition, and the Hungarian National Library had improved upon their digital holdings by 20%. These are impressive steps forward. We are nonetheless still talking about small digital holdings relatively speaking: the Polish National Library weighed in at 29,243 digital documents, compared with one million documents in the Carnegie Mellon Universal Digital Library, the five million items online as part of the Library of Congress's digital collection 'American Memory' and structured in more than one hundred thematic collections,[5] Google's six million document database,[6] or the San Francisco start-up's Internet Archive of circa one million texts (over 0.5 petabytes of information).[7]

What then of the fate of Europe's National Libraries? Will they be little more than storekeepers of dusty tomes that nobody wants to read *in situ*? Or coffee shops and gift shops, with a few guest lectures and book exhibitions going on? Many of Europe's national libraries have been recently built, President François Mitterrand, for example, announcing the unveiling of the new Bibliothèque Nationale in July 1988 (opened December 1995), and the British Library in St. Pancras opening its doors in June 1998. The hubris and expectation surrounding the completion of these new (but venerable) national institutions was enormous, the Bibliothèque Nationale de la France designed to be 'one of the largest and most modern libraries in the world, intended to cover all fields of

3 URL: [http://www.theeuropeanlibrary.org/portal/organisation/cooperation/archive/edlproject/] (25 April, 2010).

4 URL: [http://en.wikipedia.org/wiki/Digital_libraries].

5 URL: [http://memory.loc.gov/ammem/about/index.html] (11 June, 2010).

6 Skidelsky, W., "Google's plan for the world's biggest online library: philanthropy or act of piracy?", *The Observer*, Sunday 30 August, 2009.

7 URL: [http://www.archive.org/] (11 June, 2010).

knowledge, and designed to be accessible to all'.[8] And yet, when I visited one of Europe's National Libraries recently in Helsinki on June 2, 2010 at 3.40 pm (i.e. in the middle of the day), there were only three researchers working in the main reading room (*Eteläsal*). Filling the reading rooms is a problem that university libraries are already struggling with, finding themselves constrained to offering armchairs for lounging and chatting, even drinks and snacks, never mind about the crumbs. Modern (or should we say postmodern) students clearly prefer to conduct their research at computers in their rooms. National libraries offer prime real estate, fine public buildings that urban planners, lobbying political authorities, would prefer to see turned into Central Business Districts (CBDs), with the book storing and consultative functions farmed out to suburban locations. This is the plan in the great ongoing furore surrounding the future of the Sorbonne in Paris, and the development of the Campus Condorcet in Aubervilliers just north of Paris.[9]

Google of course has teamed up with many of the world's largest research libraries since 2006 in an agreement with five great research libraries – the New York Public Library, Harvard Library, Michigan Library, Stanford and Oxford's Bodleian. Following Jean Noel Jeanneney, the Director of the Bibliothèque Nationale de la France's polemical book *Google and the Myth of Universal Knowledge* published in 2007, Google has extended this agreement to many libraries in continental Europe and Japan, amounting to a total of nineteen libraries in its consortium (Google itself suggest the figure is 28 partners, including seven international libraries).[10] Thus, in some regards we need to view it as a partner rather than a rival to National Libraries as storeholder of the

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8 Kenny, A., *The British Library and the St. Pancras Building*, London, British Library, 1994; Le Roy Ladurie, E., *Histoire de la Bibliothèque Nationale*, Livre qui Parle, 2008; "1988-1994, D'un grand projet à la BNF", URL: [http://www.bnf.fr/fr/la_bnf/histoire_de_la_bibliotheque/a.naissance_bnf.html#SHDC__Attribute_BlocArticle1BnF].

9 On policy perspectives for universities in the greater Paris region, see the *Cours des comptes*' official recommendations in its 'Rapport public thématique sur la carte universitaire d'Île-de-France: une recomposition nécessaire', 10 Dec. 2006, URL: [http://www.ccomptes.fr/fr/content/download/2242/22396/version/1/file/CarteUniversitaire.pdf]. As a consequence of such pressure, French higher education institutions are rapidly constituting loose associations with partner schools. Paris 8 for example is currently participating in one such partnership with Paris 1, Paris 13, the École des Hautes Études en Sciences Sociales, the École Pratiques des Hautes Études, the École des Chartes, and ground will in principle soon be broken on a Campus Condorcet in Aubervilliers just north of Paris. See 'Préfiguration du schéma directeur du Campus Condorcet. Rapport final' (2 Feb. 2009), available at URL: [http://www.ehess.fr/fileadmin/Projet_Campus_Condorcet/Campus_Condorcet_rapport_final_de_la_SCET.pdf].

10 URL: [http://books.google.com/intl/en/googlebooks/history.html].

world's texts. However, given the ongoing legal disputes over remunerating copyright holders,[11] most head librarians see Google charging fees for book consultation within the short to medium term.

Then there is an increasing penumbra of 'pirate' sites like Scribd, Calaméo and Wattpad, which see themselves as the YouTube for documents, and which allow the uploading of all kinds of digitised texts by members of the public. The blueprint as to how to resolve copyright issues varies according to the site, but sites like Calaméo make document removal contingent upon the filing of a written complaint.[12] As pirate sites, they are the equivalent of the free access music-sharing site Napster, which was closed down after legal lobbying by the music industry three years ago. On 19 September 2009 a legal challenge was launched by the Camara and Sibley legal partnership of Houston, Texas on the basis that these companies cling to the notion that commercial copyright infringement is not illegal 'unless and until the injured party discovers and complains of the infringing activity'. Observers think this promises a landmark ruling, but partners Camara and Sibley do not represent the clout of the contemporary music industry.

Different Strategies towards Digitization on the Part of European National Libraries

In this section, I shall try to create different typologies representative of different European national libraries' approaches to 'big digitisation'.

(a) Digitization as a Non-priority

Some National Libraries do not really seem to see digitisation as much of a priority. This is true of the Koninklijke Bibliotheek van België in Brussels (www.kbr.be), whose e-depot is constituted of 9,000 'ephemera and reprints', the choice of the word ephemera suggesting they are not planning one of the three conventional pillars of ongoing digitisation projects, which alongside the making available and storage is the preservation of text. Unfortunately, 'ephemera' is now a term that has been adopted by other national libraries, such as that of Finland.

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11 Case No. 05-CV8136-DC. The Authors Guild Inc. *et al*., v. Google Inc., April 13, 2009.

12 See for example, copyright notices at URL: [http://www.scribd.com/copyright] and URL: [http://en.calameo.com/copyright_notices.php]. I have myself posted documents there illegally and have – over the course of six months – not received any reprimands or instructions for content removal.

(b) The 'Trophy Text' Approach

This was the strategy of the National Library of Wales ten years ago, which chose to showcase certain medieval treasures at the heart of Welsh national identity, such as the 'Black Book of Carmarthen', the 'White Book of Rhydderch' and the 'Book of Llandaff' (http://www.llgc.org.uk/). Since then it has moved on to mass digitization (see below) thanks to its 'Historic newspapers and journals' scanning programme, a project aiming to digitize 2 million pages of historical newspapers and periodicals relating to Wales and the Welsh.

(c) Mass Digitization

This was the approach undertaken by the Koninklijcke Bibliotheek in the Netherlands in its initial phase of digitisation inaugurated in 2000 and entitled 'Memory of the Netherlands', the national programme for digitisation of Dutch cultural heritage.[13] Since that debut, the Dutch Royal Library has gone on in 2006 to run large-scale digitisation projects, namely the complete run of Dutch parliamentary papers and a second mass digitisation project, the Databank of Digital Daily Newspapers (http://www.kb.nl/hrd/digi/ddd/index-en.html). This project will digitise Dutch newspapers from 1618. Meanwhile, just last month, the British Library's Chief Executive, Dame Lynne Brindley, announced a major new partnership between the Library and online publisher brightsolid, owner of online brands including findmypast.co.uk and Friends Reunited. The ten-year agreement will deliver the most significant mass digitisation of newspapers the UK has ever seen: up to 40 million historic pages from the national newspaper collection will be digitised, making large parts of this unparalleled resource available online for the first time.[14] The small print of this partnership has not been fully divulged, so it is difficult to say whether brightsolid has won the same kind of rights from the British Library as Google in its partnership deals, but the fact that the announcement speaks of a 'paid-for website' suggests that this is not the case.

Current newspaper digitization projects are otherwise listed on the webpage for ICON, the International Coalition on Newspapers (http://icon.crl.edu/digitization.htm). National libraries only occasionally take the lead in these projects: often they involve partnerships with private corporations, such as Readex, a division of NewsBank, which has collaborated with the Centre for Research Libraries community in the creation of the World Newspaper Archive.

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13 URL: [http://www.geheugenvannederland.nl/?/en/homepage].

14 URL: [http://www.bl.uk/news/2010/pressrelease20100519.html].

(d) Agreements with Commercial Companies to Manage Digitization

This is largely true in the German case with the Springer Link database (http://www.springerlink.com) (208,616 documents) and in England with for historians Early English Books Online (118,715) and Eighteenth-Century Collections Online (150,000 works). In some cases, even current books within copyright have been farmed out, with watertight rights' settlements having been facilitated via a national agreement, as in Norway.

(e) The Creation of Supranational Repositories

In 2005, the French Ministère de l'Enseignement et de la Recherche launched Persée (Portail de Revues en Sciences Humaines et Sociales) at http://www.persee.fr/, which is an online free access database of 72 French-language journals, and was designed to supplement their own digital book repository, Gallica. Problems with the latter were specifically an irritating overlap between variants of this repository, Gallica 1 and 2. In the last two years, French library authorities have been trying to direct other collections of digital resources to supranational digital repositories. The French, for example, became the major contributor to the free access portal europeana.eu, with over 50% of the contributions (cf. Germany, which is as little as 1%).[15] Another supranational repository which the French seem to be sponsoring recently is Wikisource, founded in 2003, which currently holds 50,000 texts in the public domain or under free licence, and which has been promised an extra 1,400 works previously stored on Gallica. The French digital authorities seem to rationalize this in terms of being able to 'participate in the correction of texts so that they can conform to the originals' (*à la correction des textes afin que ceux-ci soient en tout point conformes avec la version originale*), in other words a superior platform that offers the possibility of external amelioration on the Wikipedia model.[16] However, the turn to Wikisource, another American giant as repository of European digital information, also constitutes another political setback to the European movement and its own challengers. Like the sorry history of Quaero and Europeana, European meta-projects, if bold in conception,

[15] Europeana eNews, *My Europeana Reopens*, press release, Wednesday, 25 March 2009.

[16] '1,400 ouvrages de Gallica seront versés dans Wikisource', URL: [http://blog.bnf.fr/gallica/?p=1399].

consistently fail to persuade its subsidiary contributors and deliver what they promise.[17]

Newspapers had previously reported that 750 million euros had been earmarked for a national investment scheme for the digitisation of French culture, including books, in what could turn out to be state-funded rival book scanning project to Google's book programme. This marks a U-turn on the announcement in August 2009 that the National Library of France had opened negotiations with Google about a contract to digitize part of its collection, rather than using an under-resourced French public sector alternative.[18]

Meanwhile another 26 of the world's great national libraries have provided materials for an ambitious venture sponsored by the Library of Congress and UNESCO, the World Digital Library (www.wdl.org). However, rather than aiming at mass, but not satisfactorily delivering the scale promised – as is the case with Europeana – the WDL has adopted a trophy text approach, displaying 1,250 'essential cultural treasures' including the Columbus Letter, the Bay Psalm Book, and the earliest depiction of Mexico City.[19]

(f) Total Digitization

The Norwegian National Library (http://www.nb.no/) in 2005 declared its intention to scan all of its holdings. This is a formidable task, as it intends to cover audio, photographic, film and electronic media as well as written material. Further to this the National Library has taken on the task of preserving large portions of the Norwegian digital public domain. In Spring 2008, this entailed 1.8 billion files being downloaded from the Internet. However, problems are now being faced in the making available of this vast store of information.

The Battle over Different Digital Online Reader Platforms and File Formats

In this section, I discuss the various platforms that are being used to display digitized books, their respective strengths and weaknesses. What seems to be happening is that open file formats (Project Gutenberg) are being increasingly challenged by a gamut of proprietary formats (such

17 URL: [http://en.wikipedia.org/wiki/Quaero] (25 April 2010). EU Commissioner Reding has set a target of 10 million items to be stored on Europeana by 2010, though we shall see whether this is realizable.

18 Ben Hall, D.G., "Sarkozy proposes ad tax on Google", *Financial Times*, January 7, 2010.

19 "JCB joins World Digital Library", in *JCB. An Occasional Newsletter of the John Carter Brown Library*, Fall 2009.

as offered, say, by Google books). Gutenberg started out offering its texts as plain text with ASCII character set encoding, with consequent problems reproducing diacritics, and quite a lot of interference from manuscript damage, which was getting transferred into ASCII characters. Plain text, however, did have its proponents, however, who insist that it opened books to adaptive technologies such as screen readers and Braille display, allowing visually impaired users to read these books just as easily as users with sight. Rival proprietary formats like that offered by Google do not offer the possibility to copy and paste onscreen text, but offer search functions and hyperlinks to the beginning of individual chapters. Its book search interface is available in over 35 languages, from Japanese to Czech to Finnish. Google's 2007 User Interface (UI), moreover, experimented with new ways for people to interact with books. These included 'Places in this Book', a mashup with maps that lets people browse books by locations mentioned in the text (later, Google released an experimental KML layer for Google Earth that does the reverse, the user picking a location and Google then mapping books on to it). 'Popular Passages' was a way to navigate between books, tracking the use of a single passage through a collection of books. 'My Library' helped people harness the power of Google search within their own personal book collections. Users began to curate and share their personal libraries, reviews and ratings with others.[20]

Many of the formats championed are still very much in an experimental 'beta' phase, such as DjVu and 'Daisy' or 'EPUB', Plucker, Mobipocket and Qi00 Mobile. DjVu is a computer file format designed primarily to store scanned documents, especially those containing a combination of text, line drawings, and photographs. It uses technologies such as image layer separation of text and background/images, progressive loading, arithmetic coding, and lossy compression for bitonal (monochrome) images. One of its advantages is that it offers a .pdf like quality of appearance, yet at lower storage sizes. Many of the problems previously encountered by users of the Internet Archive include the fact that its massive files were simply too big and slow to download in a manageable way: I remember as recently as September 2009 leaving my computer on all night to download texts for the morning. Other file formats offered by the Internet Archive, like 'Kindle' format – a software and hardware platform developed by amazon.com – are for saving on to a hand-held reader, and are thus transportable rather than consultable online. Other such formats, like Qi00 Mobile, are specifically for downloads to mobile telephony.

[20] URL: [https://books.google.com/intl/en/googlebooks/history.html] (11 June, 2010).

Within this expanding horizon of different file formats, watchdog bodies have emerged to judge and rate competing standards. Originally sponsored by three scholarly societies, the Text Encoding Initiative (TEI), a consortium of institutions and research projects, is now an independent membership consortium, hosted by academic institutions in the US and in Europe. Its major deliverable is a set of guidelines, which specify encoding methods for machine-readable texts. Since 1994, these guidelines are a widely-used standard for text materials for performing online research and teaching, and TEI is now the de facto standard for the encoding of electronic texts in the humanities academic community. The current standard to be achieved by aspiring digital libraries publishing XML (eXtensible Markup Language) documents is TEI 5.[21]

If we move on to functionality, whereas some open access search engines like Project Gutenberg, for example, have clear search rubrics for finding relevant documents (author, title), others are more holistic, less specific and consequently approached by users with a bit more uncertainty. This is the case with the Internet Archive, which hosts media across a wide range of types and formats, and also features vast repositories such as the *Way Back Machine*, purporting to save copies of superseded Web-pages across the entire World-Wide Web – what the Archive calls a "three dimensional index".[22]

Some of the interfaces like that offering the 2,800 books provided by the American Council of Learned Societies offer page-by-page text with a number of additional tools placed on a bar above the document. These include full text records in MARC format, a text size choice, an option to return to the contents page, possibilities to save searches and citations, and even a selection of book reviews. Institutional subscriptions need to be paid, however, for ACLS access, and the size of the project remains relatively small.

Two issues remain to be postulated. Firstly, file format issues are important for reasons of digital preservation. Technological standards change over time and forward migration must be a constant consideration of every library. Migration is a means of transferring an unstable digital object to another more stable format, operating system, or programming language.[23] Obviously, some formats within this never-ending race to transfer digital objects to new and more stable formats are better

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21 The guidelines themselves are available online at URL: [http://www.tei-c.org/release/doc/tei-p5-doc/en/Guidelines.pdf], and the TEI home website is at URL: [http://www.tei-c.org/index.xml].

22 URL: [http://en.wikipedia.org/wiki/Wayback_Machine].

23 Cain, M., "Managing technology: being a Library of Record in a Digital Age", in *Journal of Academic Librarianship*, Vol. 29, No. 6, 2003.

suited to migration. It is not just a question of file format, however. Organisations are expected to pay a subscription and subsequently meet contractual obligations in order to register their holdings with Digital Object Identifiers (DOIs). A digital object identifier (DOI) is a character string used to uniquely identify an electronic document or other object. Metadata about the object is stored in association with the DOI name and this metadata may include a location, such as a URL, where the object can be found. The DOI for a document is permanent, whereas its location and other metadata may change. Referring to an online document by its DOI provides more stable linking than simply referring to it by its URL, because if its URL changes, the publisher need only update the metadata for the DOI to link to the new URL.[24]

Secondly, there is the question of metadata and how that fits in to object cataloguing and identification. Different interfaces accord differing levels of priority to metadata collection, and some do not choose to expose their metadata to other digital libraries via the Open Archives Initiative Protocol for Metadata harvesting (OAI-PMH), prefer deep Web (or invisible Web) resources, and thus do not allow their cataloguing to come to light.[25] Some common problems here for researchers include finding texts which are translations of other texts, linking texts published under pseudonyms to the real authors (Samuel Clemens and Mark Twain, for example) and differentiating genre, fiction from non-fiction for example. Serialssolutions, a ProQuest company, has estimated that in a typical library 50% of records may be considered 'simple', requiring around two minutes to process, while 45% are to be considered 'difficult' (i.e. require the attention of a library paraprofessional to be resolved), and 5% are to be considered 'most complex records', requiring the attention of a cataloger or other technical services expert).[26] Digital libraries not associated with libraries, but run rather as companies on enterprise foundations, often cut corners on the last two categories and often do not have professional librarians on hand to help them with complex cataloguing.

Here are some screen captures of commonly used digital libraries and their respective interfaces:

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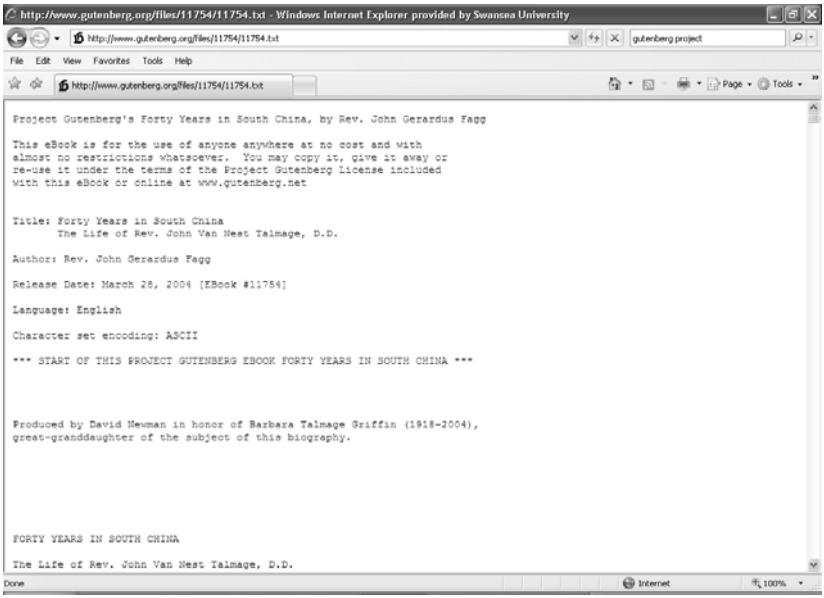
[24] Langston, M., Tyler, J., "Linking to journal articles in an online teaching environment: The persistent link, DOI, and OpenURL", in *The Internet and Higher Education*, Vol. 7, No. 1, 2004, p. 51-58; "How the 'Digital Object Identifier' works", *Bloomberg BusinessWeek*, 23 July 2001, URL: [http://www.businessweek.com/magazine/content/01_30/b3742032.htm], (11.06. 2010).

[25] Koehler, A.E.C., "Some Thoughts on the Meaning of Open Access for University Library Technical Services", *Serials Review*, Vol. 32, No. 1, 2006, p. 17.

[26] URL: [http://www.serialssolutions.com/360-marc-updates-cost-calculator/] (11.062010).

Figure 8 – The Gutenberg reader (plain text, open access) and The Google Books reader (a proprietary format)



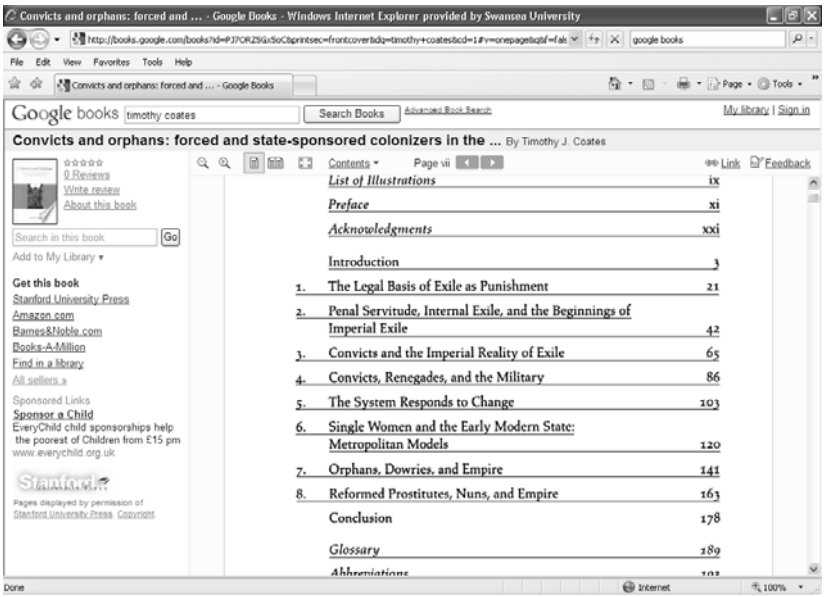
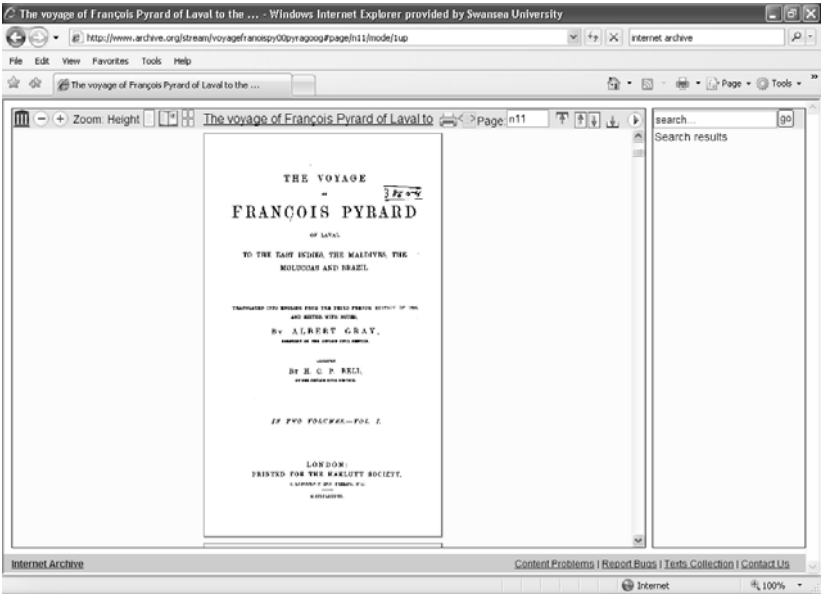


Figure 9 – The Internet Archive
(another proprietary "read online" format)



The 2009 Google Book Settlement and National Libraries

Google's stated aim is to 'organize the world's information'. It has persuaded libraries across North America and Europe to allow the company access to its holdings, which it then sets to scanning systematically. Marissa Mayer, a vice-president at Google who is in charge of the books project, said in February 2007 when asked whether it could scan an estimated thirty-two million books in existence from the days of Sumerian clay tablets: 'We think we can do it all inside ten years'.[27] As part of this hubris, libraries are described in Google Speak as 'partners' rather than rivals. Section 5 of Google's 'groundbreaking agreement' of 2009, established following two challenges filed by the Authors Guild and a group of publishers in a federal court in New York in 2007 were settled, sets out what the future means for libraries and universities.[28] While it thanks the public libraries and universities for preserving these books, it then proceeds to detail its scheme for 'institutional subscrip-

[27] "Google's Moon Shot. The Quest for the Universal Library", in *The New Yorker*, February 5, 2007.

[28] Google Books Settlement Agreement, URL: [http://books.google.com/googlebooks/agreement/] (25 April 2010).

tions', whereby users will be granted access to 'the complete text of millions of titles, while compensating authors and publishers for the service'. In other words, libraries will have funded much of Google's activities.

On the whole, libraries have gone along with developments without protest and in a spirit of acquiescence. Only in certain quarters can one detect raised voices. I will try to outline three lines of protest that I have identified. Jean-Claude Guédon, Professor of Comparative Literature at the University of Montreal, for example, has protested against Google's stipulations that the 'Universal Digital Copy' of digitized books it provides must be protected from non-Google Web software, and that only Google can aggregate collections of different libraries in order to create the larger digital database that is the most valuable part of the consortium project. To Guédon, giving 'a single company such a grip on the collective memory of the world, its analysis, and even its meaning is frightening to say the least'.[29] Robert Darnton, the head of Harvard University's library, in a recent essay for the *New York Review of Books*, argued that because such books are a common resource – the possession of us all – only public, not-for-profit bodies should be given the power to control them. Andrew Green at the National Library of Wales continues this line of defence in a recent interview with the BBC, arguing his case against the privatisation of Wales' printed heritage. 'The people of Wales own this collection, they have paid to build it up over the years, why should it just be handed to Google?' He points out that commercial companies – even those as powerful as Google – can come and go, while the National Library of Wales is likely to be around in the 22nd Century.[30] The most vociferous and outspoken of the three lines of criticism has come, however, from the Head of the French Bibliothèque Nationale, Jean-Noël Jeanneney, whose book of 2007 *Google and the Myth of Universal Knowledge* thinks that Google's dreams of a universal library 'affirms the risk of a suffocating domination by America in the definition of the idea that future generations will hold as to the world' (*s'affirme le risque d'une domination écrasante de l'Amérique dans la définition de l'idée que les prochaines générations se feront du monde*).[31] Google's search technology will favour the 'gondola end' of the vast collection resulting from its scanning efforts 'in favour of the

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29 Guédon, J.-C., "Who will digitize the world's books?", in *The New York Review of Books*, August 14, 2008.

30 Cellan-Jones, R., "A librarian takes on Google Books" at *dot.Rory, A Blog about technology*, BBC website, Monday, 7 June 2010, URL: [http://www.bbc.co.uk/blogs/thereporters/rorycellanjones/2010/06/a_librarian_takes_on_google_bo.html].

31 Jeanneney, J.-N., *Quand google défie l'Europe. Plaidoyer pour un sursaut*, Paris, Mille et une Nuits, 2005.

already known and established, through a natural cybernetics' (p. 44). He thinks that the American technology company's exploration of new cultural territory amounts to a 'challenge to Europe' requiring both an affirmation of 'library values' and a mandate to mount alternative projects built on them as a foundation.[32]

Partly out of these criticisms and fears, or should I say directly out of some of these criticisms and fears, the OCA or Open Content Alliance was born.[33] The alliance includes the British Library, the National Library of Australia, the Boston Library Consortium, Columbia University, the University of Toronto, the University of Chicago, Johns Hopkins and the University of California libraries, to name but a few.[34] Like Google Books, and unlike most other digitization projects that operate on a much smaller scale, the OCA seeks to promote large-scale digitization, but it does so without putting shackles on the participating libraries. In a departure from Google's approach, the Open Content Alliance will make the books accessible to any search engine, including Google's (under Google's program, a digitized book would show up only through a Google search). And by focusing at first on works that are in the public domain – such as thousands of volumes of early American fiction – the group is sidestepping the tricky question of copyright violation. As Brewster Kahle, the founder of the Open Content Alliance, appeals: 'Let's free the orphans, not have them pass from their legal limbo into a life controlled by Google'. The movement has benefited from such events as the disgruntled National Writers Union joining the OCA on 4 September 2009, in reaction to the protracted legal dispute over rights and authorial remuneration with google. However, the OCA has nothing like the financial resources behind Google. Yahoo!'s contribution was primarily in terms of indexing and providing the search engine, but nonetheless amounted to an estimated $300,000-$500,000 in the first year, but that occurred right at the beginning of the project.[35] The announcement of the withdrawal of a later partner, Microsoft, from the alliance, which had largely sponsored digitization between 2006-8, makes the OCA's position more difficult.[36]

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32 See also some reviews of Jeanneney's book, for example, Lowood, H., in *Technology and Culture*, Vol. 49, No. 1, 2007, p. 298-300; Jagodzinski, C.M., in *College and Research Libraries*, Vol. 69, No. 2, 2008, p. 190-191.

33 Video from Open Content Alliance Launch, October 2005 (via Wikipedia).

34 For a full list, see "Open Content Alliance", wikipedia.org.

35 Hafner, K., "In Challenge to Google, Yahoo Will Scan Books", *New York Times*, Oct. 3, 2005, URL: [http://www.archive.org/details/yahoo_books].

36 "Book search winding down", *Live Search Blog*. Official announcement from Microsoft (23 May 23, 2008).

By mid-2009 Google seemed unstoppable. On August 28, 2009, the European Commissioner Viviane Reding hit newspaper headlines for 'backing Google Books plan' even as the European Council of Ministers, prompted by complaints from Germany, voiced their opposition to google's book plan, declaring it 'irreconcilable with the principles of European copyright law'. Reding's position was that European copyright law should be urgently updated in line with the American system and that clearer guidelines on the status of digital works are needed (in the case of 'orphan works' and 'out of print' books). Google's digitization strategy could be employed for the benefit of the flagging Europeana and as an engine for harnessing and collecting EU documentation.[37] Even in France, the National Library chose in August 2009 to approach Google regarding a contract to digitize part of its collection, rather than using under-resourced French public sector alternatives. It was the literary establishment that led the protests against the move, triggering a government review.[38] On 9 April 2010, a new direction was announced by which the French National Library signed a partnership agreement with Wikimédia France. 1,400 texts previously made accessible to 'internautes' via Gallica will now become available via Wikisource.[39] Gallica, it seems, after a successful integration, is steadily being wound up by the French authorities responsible for digital repositories.

Guédon's conclusions constitute a call to arms for digitization clubs to emerge at grass-roots level, not only in public libraries but in schools and museums. Much of this replicates the founding spirit of the digitization movement with which Michael Hart established the Project Gutenberg back in 1971, and which motivated volunteerism by high social ideals, principally the struggle for literacy.[40] Libraries have already responded individually to this call, from the Museo Galileo, the Institute and Museum of the History of Science in Florence, with its various subsidiary digitalization projects divulging texts from the history of glass-making to ancient mathematics; to the library of the Universidade Complutense de Madrid, which has as many as 30,000 digitalised

37 "EC Commissioner Backs Google Books Plan", URL: [http://bit.ly/B8uEV] (11 June, 2010).

38 Ben Hall, D.G., "Sarkozy proposes ad tax on Google", *Financial Times*, January 7, 2010.

39 "1 400 ouvrages de Gallica seront versés dans Wikisource", URL: [http://blog.bnf.fr/gallica/?p=1399].

40 "Gutenberg Mission Statement by Michael Hart", URL: [http://www.gutenberg.org/wiki/Gutenberg:Project_Gutenberg_Mission_Statement_by_Michael_Hart]. (25 April 2010).

antique books for use in research and teaching.[41] In terms of the social role of national libraries as we move into the future, Andrew Green believes he has found a new cause for his profession, to give a secure home to digitised texts produced with the highest quality standards and available freely to all. "These are huge benefits," he says, "and should be fought for by all of those who care about unimpeded public access to knowledge."[42] Microsoft has wisely shared this rhetoric and vision as it departs from the arena of the digitization movement: it has removed any contractual restrictions on the content they had scanned and they relinquished the scanning equipment to their digitization partners and libraries to continue digitization programs. Libraries must play an important role in promoting these projects and enforcing the standards that must accompany them, and not simply consumers of Google's apparent largesse. At the same time, legislative bodies such as the United States Congress need to take action to align the digital landscape with the public good and ensure that corporate interests, flawed copyright laws, unfair restrictions on fair use and many other obstacles do not block the public's access to this public good.

Report for Task Force 3 of the European Think-tank CLIOHnet2 on European Digital Resources for History (September 2008)

France

Gallica = 90,000 works (http://gallica.bnf.fr)

Gallica 2 = 1,200 works (http://gallica2.bnf.fr)

Other collections of literary works in the public domain such as http://abu.cnam.fr/BIB (288 texts)

Spain

Hemeroteca = 4 million pages c. 66,666 works on basis that each work contains an average of 60 pages (http://hemerotecadigital.bne.es).

Memoria Digital de las Canarias: http://mdc.ulpgc.es/portal/mdc/?id=1 (2,060 works).

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41 URL: [http://fermi.imss.fi.it/rd/bd?lng=en] (Florence, 10.06.2010); URL: [http://pendientedemigracion.ucm.es/centros/webs/en/index.php?tp=Community%20Services&a=dir7&d=17754.php] (Madrid).

42 Cellan-Jones, R., "A librarian takes on Google Books" at *dot.Rory, A Blog about technology*, BBC website, Monday, 7 June 2010, URL: [http://www.bbc.co.uk/blogs/thereporters/rorycellanjones/2010/06/a_librarian_takes_on_google_bo.html].

Italy

No digital databases associated with the National Libraries.

However, the privately sponsored database www. liberliber.it contained in December 2007 11 GB of data in the form of 1,800 e-books, 2,000 music excerpts, 15 audiobooks.

Poland

Polska Biblioteka Internetowa = 29,243 documents (http://www.pbi.edu.pl/index.html).

Croatia

Digitalizirana baština = 726 documents (http://www.nsk.hr/Heritage.aspx?id=25).

Hungary

Magyar Elektronikus Könyvtár = 6,150 documents (http://mek.oszk.hu/).

Germany

No digital databases associated with the federal national libraries.

Portugal

Biblioteca Nacional Digital = 8,350 books (http://pacweb.bn.pt/bnd.htm).

For Comparison

EEBO (Early English Books Online) = 118,715 documents.

(ECCO) EIGHTEENTH-CENTURY COLLECTIONS = 150,000 works.

ELECTRONIC ENLIGHTENMENT = 56,793 letters and documents.

PROJECT GUTENBERG = 30,000 items (www.gutenberg.org).

The libraries scrutinised are quite selective. The Google Book Library (http://books.google.com/books) has also picked up a great amount of steam over the last 18 months, with hundreds of thousands of books being placed on the Web. Most of these are outside copyright, but Google has also persuaded many big publishers to place new books in their online library. Unfortunately, Google will not say exactly how large their library is, partly because the figure is changing so exponentially.

Heterographies[1] in Historiography

The Web and Perspectives on Historical Writing

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There is a widespread feeling of uncertainty among those who have tried to predict the long-term impact of digital media on contemporary societies. If profound transformations are underway and palpable, attempts to offer a prognosis on how new technology and communication will reshape human lives are usually dismissed either as vaguely fictional or as entertaining, yet unproductive, speculative mind games. Some cautiousness is justified; after all, both science and science-fiction have a shared history of failed prophecies.

Within this debate, Historians have found relatively less space than fellow journalists, political scientists, sociologists, writers and visual artists in which to share opinions on this topic in the public sphere, probably due to their conventional association as professionals trained only to predict the past. Yet, as the growing numbers of papers, journals and symposia can attest, research on the challenges and possibilities offered by digital media not only grows among historians but also, History studies can already claim to be adding original contributions to the debate.

In the following pages, I will discuss exciting interfaces between historiography and one specific digital revolution: the Internet. I will try avoiding, though, any long-term conjectures, opting rather to discuss the scope and limitations of digital history experiences and Web technologies currently underway or in the process of emergence.

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1 The word heterography is understood here not in its common definition as "a method of spelling in which the same letters represent different sounds in different words, as in the ordinary English orthography" (Merrian-Webster on-line: URL: [http://www.webster-dictionary.net/definition/Heterography]), but rather as a direct combination of the prefix "hetero" (from the Greek word *heteros*, meaning "different") and the suffix "graphy", meaning both "writing" or a "field of study". Heterography, then, as a *different writing* approach within a field of study.

More specifically, I will show how accessible computer graphics and Web development tools can offer creative and critical ways to rethink a fundamental concept in historiography: *writing*.

Historians from all parts of the globe have been challenged by a simple question, but one which offers complex answers: "Will the Web provide us with a better understanding of history".[2] If consensus seems implausible for such a philosophical inquiry, provisional answers can be attempted by reformulating it into a second question, one on which historians certainly have more data to rely: has *any previous* media revolution provided historians with "better" Histories?

Unanimity is again improbable. Naturally, evaluations on the "positive" or "negative" effect of media on History scholarship (and on human knowledge as a whole) will usually depend on the Historian's moral and political viewpoints. If optimists agree that western print revolution had an important consequence in undermining the medieval monopoly of knowledge by the Catholic Church's manuscripts, monasteries, monks and other literate elite, skeptics can argue, on the other hand, that the massive printing of books led to an authoritarian interpretation of the text as the most reliable form of expressing human knowledge which, as a consequence, suppressed countless traditions successfully based on oral, graphic, weaving, carving, musical and corporal languages during the era of imperial conquest.

The examples seem endless. Did photography offer more faithful ways of registering historical scenes, or did it simply present what realistic historical paintings had achieved previously, using its powerful techniques of illusion to induce audiences to disregard all subjectivity, selection, intervention into reality and political bias present in every photographer's actions? Has television's mass audience appeal helped introduce historical themes to people intimidated by the historian's rhetorical writings? Or is TV responsible for spreading old-fashioned debates which, in effect, direct these audiences away from current and more fruitful History research? Are historical blockbuster movies enhancing and dignifying our discipline amidst worldwide crowds, and possibly opening new professional opportunities for historians such as scriptwriting? Or is the film industry's subservience to market demands and companies' profits threatening decades of judicious, independent History education backed by academic research?

In order to avoid analogous controversies regarding the internet, teaching and research demands seem to have been joining "techno-skeptics" and "cyber-enthusiasts" into a more pragmatic position of

[2] This exact question was proposed as a main discussion topic in the Symposium "Contemporary history in the digital age" (Luxembourg, 15th-16th of October, 2009).

simply accepting the Web as a mode of communication which, in spite its recent emergence, will have enduring consequences for contemporary societies. Despite a polarised initial debate, instead of the moral quest for evaluating supposed "benefits" or "disservices" offered by the internet, many historians are now instead opting to investigate how to optimise hyperspace use in convergence with academic research. This more realistic and practical attitude has been summarised by Daniel Cohen as way "to find a middle ground where we could make optimal use of new technology to further our own scholarly end".[3]

Again, it is worth returning to our point: if no technology of communication, *in itself*, should be held responsible for delivering "better" or "worse" forms of histories, it would be naive to expect that digital media could, spontaneously, be of benefit for the historians' work. In this sense, maybe the initial question "will the Web provide us with a better understanding of history?" can be again reformulated: what will a *better understanding of the Web* provide to historians?

After all, beyond the difficulties in judging supposed positive or negative effects of technologies over any field of expertise, historical examples also suggest that no previous generation of knowledge producers has been successful without an astute understanding and fluent use of the most up-to-date communication technologies at their disposal. Ancient Greeks could not hope to be persuasive in Agora (Ἀγορά) debates without years of learning rhetoric and other oratorical skills required by classical society. Medieval minstrels would never achieve recognition without a comprehensive grasp of lyric poetry and the rules of musical composition, as well as the virtuous practice of at least one instrument, such as the harp, fiddle, flute, flageolet or cittern. Griots all through African History had to be trained in sophisticate mnemonic techniques, body languages and storytelling performance in order to be respected as repository of collective oral traditions.

In analogous ways, this is in part why historians have been arduously training how to write for the last centuries.

Yet, if historians have had indisputable success publishing works in print media – as it can be attested by the diverse and ever-growing number of journals and books consumed worldwide – the same cannot be said, yet, about attempts made using digital media, including the Internet.

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[3] Cohen, D., "Pragmatic as well as Prescient: Digital History Education at George Mason University", in *Perspectives on History*, American Historical Association. URL: [http://www.historians.org/Perspectives/issues/2009/0905/0905for17.cfm] (26/02/2010).

Ironically, it could be argued that a great part of historians' recent impasse may lie within our long-established strength: historians' renowned expertise in writing texts is being challenged by a redefinition of the concepts of writers and readers. In particular, historians' celebrated proficiency in manipulating words has been proving, more and more, unsatisfactory to contemporary platforms of publishing such as the Internet, which, by definition, demand multimedia skills.

If, indeed, adequate communication throughout human eras has always demanded from individuals familiarity and mastery of the most influential means of communication of their specific historical context, it seems only reasonable for historians to rethink their concepts of history in accordance to emergence of the Internet and the other multiple digital formats.

E. H. Carr's famous question almost half a century ago has been inevitably upgraded: What is *digital* History?[4]

Daniel Cohen and Roy Rosenzweig's recent *Digital History: A Guide to Gathering, Preserving, and Presenting the Past on the Web*[5] is arguably the work which best advanced the debate on the dilemmas and opportunities faced by academic historians who publish (or plan to publish) on the Web. Beyond its competent evaluation of the rapid technological changes of our Era and its pressures on academic history, the book has also a comprehensive and didactic discussion on "technical" issues of Web publishing, covering subjects as different as choosing domain names, Web hosts, general principals of design, building audiences and even finding funding for a Web project.

Curiously though, as much as *Digital History* raises relevant and up-to-date examination on changes in the production of knowledge which effect historiography, a large number of its pages seems to be dedicated to what can be characterized as a *general* discussion on digital media. In other words, although the "qualities of digital media and networks" referred in the book undeniably allow "us to do things better", they seem helpful not only to the work of historians but to potentially every other person willing to use the Web as a way to enhance professional practices. Thus, most characteristics highlighted by Cohen and Rosenzweig, such as capacity, accessibility, flexibility, diversity, manipulability, interactivity and hypertextuality, are more accurately seen as potentially useful not only to Digital History but to any forms of digital scholarship. Being *universal* qualities of digital media, they offer opportunities for

4 Carr, E.H., *What Is History?*, New York, Random House, 1961.

5 Cohen, D. and Rosenzweig, Roy, *Digital History: A Guide to Gathering, Preserving, and Presenting the Past on the Web*, Philadelphia, University of Pennsylvania Press, 2006.

any professionals hoping to optimize their works using the Web, historians included.

Indeed, it seems only reasonable to understand why historians, similarly to other human scientists and educators worldwide, are increasingly more aware of other emerging general digital skills, such as:

- Developing proficiency with the tools of technology;
- Building relationships with others to pose and solve problems collaboratively and cross-culturally;
- Designing and sharing information for global communities to meet a variety of purposes;
- Managing, analysing and synthesising multiple streams of simultaneous information;
- Creating, criticizing, analysing, and evaluating multi-media texts.[6]

Yet, without disregarding all the self-evident merits of Cohen and Rosenzweig's book, an unavoidable discussion remains latent throughout its pages: what are historians' particular responsibilities/contributions to this dynamic hyperspatial landscape? Just as general characteristics of digital media have to be discussed within the context of historiography, is it not also propitious moment to try to anticipate some *specificities* in digital history writing?

After all, if historians' texts have differed in content and style from those created by journalists, sociologists, political scientists, educators and other writers, many of our disciplinary idiosyncrasies will also tend to continue with the production of Web pages, blogs, animations, games, movies and any other forms of digital writing. How will the stages from planning to presenting our digital works differ from those of other knowledge producers?

As an attempt to contribute to some of the above questions, I have been developing and adopting the concept of *historiomediography*: a multimedia approach to writing history.

Different from a widely adopted verbocentric definition of writing, historiomediography focuses on the open debate of how to overcome historians' relatively restricted training only in word editors, such as Microsoft Word or Open Office Writer, toward a broader preparation in audio, visual, animation and Web software. The adoption of this neologism has assisted me, both in my research and teaching activities, to

6 The NCTE Definition of 21st Century Literacies, URL: [http://www.ncte.org/positions/statements/21stcentdefinition] (26/02/2010).

maintain a permanent focus on this potential multimediality of writing history.

By proposing a historiomediographic approach, I have been insisting on how multimedia resources, apart from irrefutable general uses for "gathering, preserving and presenting" history on the Web, can encourage historians to produce digital narratives which will demand, as a consequence, a more complementary/hybrid use of verbal, visual and aural languages in History's academic research.

Just as past generations of historians have been competently taught how to write textual works, there is an emerging demand to rethink the very frontiers of historians' erudition. Historiomediography's focus, in this sense, is rather different from finding strategies that allow typical (read textual) academic scholarship to be reproduced and publicised in digital forms. Different from indisputably important tasks such as creating on-line magazines, virtual archives and data-base of articles, which make our conventional texts and documents available in the forms of ".pdf" files or scanned documents, a Historiomediographic approach is rather concerned with how our literacy skills will be transformed within this emerging multimedia context. As a result, historiomediography aims less to *upload* History from its analog platforms than on how to *upgrade* it to a digital form. The question here is not how to distribute History *in* new media, but how to express it *as* new media.

Yet, if any productive theory is always a practice, as Foucault has suggested,[7] none of these historiomediography conjectures could be taken seriously without correspondent practical exercises.

Many of my historiomediographic sketches have been taken place throughout the development and updates of the experimental website www.genaro.me:

[7] Foucault, M., *Microfisica del Poder*, Madrid, La Piqueta, 1979.

Figure 10 – Homepage of http://www.genaro.me (02/05/2010)

This website has served me as an open and in progress laboratory for blending textual, aural and visual elements. It has proved to be a resourceful digital territory to converge my pedagogical and research needs; providing me both a place to invite colleagues to debate historiographical epistemologies and where my students can find multimedia alternatives to some of my classes on Brazilian History.

Ultimately, my quixotic hope is that this on-line investigation on multimedia narratives could one day contribute to the larger (and necessary) dialogue between academic History producers – still largely relying on verbal tradition – and the general public – increasingly receptive to new media-based communication. Yet, admittedly, until now it has had a more limited role of only supporting my professional activities, above all by relentlessly challenging my own concept of writing history.

Thus, since the earliest drafts of this Website until today, my definition of "software for writing" has extended dramatically from standard text editors to include also image, Web, animation, audio, and video editors. As a result, my everyday jobs in front of the computer have been more and more marked by a complementary use of programs like Word and Open Office Writer together with others such as Photoshop, Gimp, Flash, Dreamweaver. In similar ways, my already considerable struggles with syntax and grammar, until then associated solely with the

English language, were aggravated by the obligation of maintaining coherency also in other codes such as HTML, Action Script and CSS. My stylistic aspirations, once exclusively linked to finding precise words and imaginative metaphors, now embody the needs of harmonizing shapes, respecting theories of colours, thinking about the different effects of fonts, etc.

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After so much consideration of possible changes to historiographical literacy, it is also important to note that a multimedia concept of writing does not threaten or undermine text production. Despite some initial alarming speculation, it is becoming clear that the emergence of multimedia context will not mean extinction of text, nor of print media as a whole, but only its transformation:

> Like all media revolutions, the first wave of the digital revolution looked backward as it moved forward. Just as early codices mirrored oratorical practices, print initially mirrored the practices of high medieval manuscript culture, and film mirrored the techniques of theater, the digital first wave replicated the world of scholarly communications that print gradually codified over the course of five centuries: a world where textuality was primary and visuality and sound were secondary (and subordinated to text), even as it vastly accelerated the search and retrieval of documents, enhanced access, and altered mental habits. Now it must shape a future in which the medium-specific features of digital technologies become its core and in which print is absorbed into new hybrid modes of communication.[8]

Even to some of the most active advocates of the necessity of incorporating digital forms into human science scholarship, the focus seems never on any supposed opposition between new and old media, but rather on possibilities of media convergence:

> Centuries of text-based scholarship and the primacy of the press created the context within which print culture became naturalized. Needless to say, we are NOT arguing for the abolition of books; on the contrary, we are advocating for a *neo-or post-print model* where print becomes embedded within a multiplicity of media practices and forms of knowledge production.[9]

Naturally, affirming the possibility of writing simultaneously with words, images and sounds pushes the historiography debate toward a broader discussion on the so-called "21st century literacies":

> Literacy has always been a collection of cultural and communicative practices shared among members of particular groups. As society and technology change, so does literacy. Because technology has increased the intensity

[8] *The Digital Humanities Manifesto 2.0,* URL: [http://dev.cdh.ucla.edu/digital humanities/2009/05/29/the-digital-humanities-manifesto-20] (26/02/2010).

[9] *Idem*.

> and complexity of literate environments, the twenty-first century demands that a literate person possess a wide range of abilities and competencies, many literacies. These literacies – from reading online newspapers to participating in virtual classrooms – are multiple, dynamic, and malleable.[10]

Yet, understandably, the aspiration for a multimedia literacy to professional historians may sound overwhelming or chimerical, especially for those considering how difficult it is to master the verbal alphabet in the first place. If we are still learning how to write texts, why bother seeking proficiency in Web design? After all, specific skills from Web masters, programmers and graphic artists seem to be always available to help historians to execute these "technical" works.

Of course partnerships will always be welcomed and necessary in any transdiciplinary enterprise. Given the Web's growing complexity and ever changing development, division of labour is inevitable. It is unrealistic to think that historians (or any other professional as a matter a fact) could have expertise in the countless Web languages and technologies.

Nonetheless, just as historians are able to perform basic structuring and formatting in text editors, which can be easily and autonomously published with the help of any printer, it is reasonable to think that historians should work on gaining basic abilities to perform digital publishing by themselves. A basic do-it-yourself ability is especially recommended given the increasing centrality of the Web for daily education and research tasks, the growing number of potential readers and the unpredictable price fluctuation for hiring so-called "technical" services. As William Turkel and Alan MacEachern have correctly summarised when asking "why you might want to learn to program":

> We think that at least some historians really will need to learn how to program. If you don't program, *your research process will always be at the mercy of those who do*. (…). What we're suggesting is that the rest of your scholarly life has already gone digital. To use another food metaphor, imagine that digital sources are like sugar (and who wouldn't like to think of them that way?) In medieval Europe, sugar was a rare and expensive spice. Although some people might know how to use it in a dish, most people didn't ever need to think about it. Fast forward to the late 19th century, when sugar made up a relatively large proportion of many European diets. Not everyone needed to know how to make dessert, but it was no longer a rare

[10] The NCTE Definition of 21st Century Literacies, URL: [http://www.ncte.org/positions/statements/21stcentdefinition] (26/02/2010).

> skill. In the 21st century, some forms of sugar (e.g., high-fructose corn syrup) have become very difficult to avoid. (Italics added)[11]

But if the autonomy and familiarity with a technology which will be as common as "sugar" in a near future are definitely factors to be considered, probably the only essential motivation for learning multimedia should be its relevance to each historian's specific research. As coercive as they might be, pressures from the technological market or from the "digital native" generation should not be the main worries of historians deciding whether or not to embrace multimedia literacy: the possibilities of using it critically, creatively and contextually in research and teaching activities should be their concern.

In a world of compulsive marketing and invented demands, it is valuable to keep a permanent eye on the intricate frontiers between using technologies and being used by them. Or to return to Turkel and MacEacherns' gastronomic metaphor: it is always useful to remember that sugarless diets are still a common and worthy option, as well as the use of honey, maple syrup or other molasses to sweeten daily life. Just as a cook's recipe will anticipate the ingredients to be used, so will each historian's goals be decisive for what kind of multimedia writing skills he or she will decide to adopt or to ignore. The desire to bake a chocolate cake should come before the necessity of buying sugar, not the opposite. Historiographical projects are to decide the use of multimedia, not the caprices of the technological industry.

Indeed, my historiomediographic writings started at the moment I had to plan didactic strategies to teach new theories and interpretations on Brazilian history to ten and eleven-year-old students. As smart and creative as those children were, they could not stand my verbocentric lectures for more than a couple of minutes without falling into complete boredom.

In this sense, as general and brief as this presentation of historiomediography may have seemed, it is important to note that this concept has been coined and applied in the context of my particular research and teachings on Brazilian history for the past few years. If a historiomediographic approach can eventually inspire other historians, this concept until now has been organically and specifically linked with my attempts to re-narrate chapters in Brazilian nineteenth-century visual history, especially by showing how computer graphics and Web design can be productively used for the manipulation, critique and visualization of the

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[11] Turkel, W.J. and MacEachern, A., *The Programming Historian*, 1st ed. NiCHE: Network in Canadian History & Environment, 2007-08 [http://niche-canada.org/programming-historian].

relative subservience and absence of indigenous, Afro-Brazilian and poor populations in most paintings produced at this period.

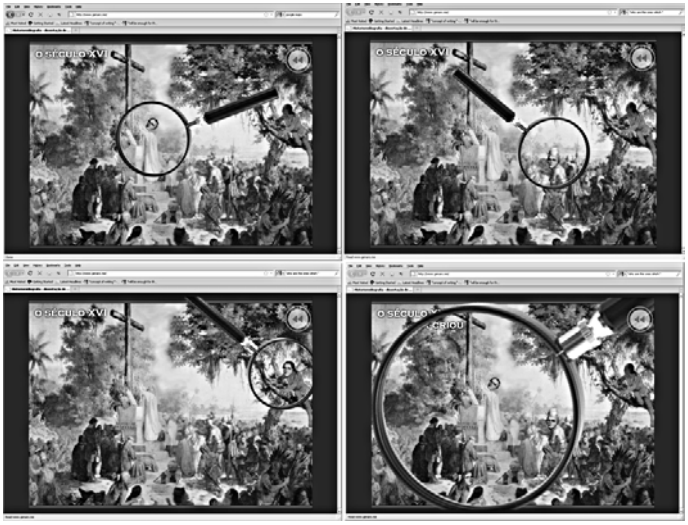
Most Brazilian paintings during the post-independent context were deeply influenced by the political, moral, artistic and epistemological debates of the nineteenth century. As expected, since then, generations of historians have been dealing with what is often described as Eurocentrism, elitism, misogyny characteristics inherited from that period. Several books have been investigating how influential imperial institutions, such as the Brazilian Historical and Geographical Institute (IHGB) and the Imperial Academy of Fine Arts (AIBA), among others, played central roles in disseminating what can be called an official history of Brazil.

Of course, many of these nineteenth-century characteristics have been competently tackled by contemporary historians. Yet, symptomatically, most academic criticism has been expressed fundamentally through the use of words. The concept of historiomediography, in this sense, emerged as a way to focus on possibilities of expanding critiques of Brazilian history through the use of non-textual (or post-textual) media, especially as a way to dialogue with younger generations.

What better way, for example, to emphasize how the nineteenth-century historiographical imagination played a crucial role in "inventing" a Brazilian national history beginning in the year 1500 (canonized by the Eurocentric image of brave Portuguese sailors "discovering" the Indigenous Tupis) than to "quote" these early historians within their own representations of history:

Figure 11 – Victor Meirelle's original painting, the First Mass in Brazil (1860), in which Portuguese sailors celebrate the so-called "Discovery" of Brazil

Figure 12 – The face of Francisco Adolfo Varnhagen (for many considered the founding father of Brazilian Historiography) "quoted" inside Victor Meirelle's painting



What might seem at first as an iconoclastic approach to a classic painting, can also be seen as a complementary path to the (verbal) critical analyses that historians have already been producing whenever examining any historical sources, paintings included. Yet if historians feel comfortable enough to intervene and to deconstruct historical paintings, using for this purpose a customary erudition based on words, why should it be different to rigorously re-interpret these same paintings using the visual codes from which they are essentially made up, that is, lines, shapes, textures, colors, etc.? In short: beyond our attachment to the traditional academic concept of (*textually*) writing history, are there any genuine theoretical barriers to stop us from attempting to analyse visual (or aural) media through the use of *new images (or sounds)*?

If, indeed, the call for a historio*medio*graphy can lead to epistemological and literacy dilemmas as the ones above, with no clear answers, its pedagogical appeals seem a little more straightforward.

As recent as my experiments have been, I have been more and more convinced that well planned historiomediographic writings are likely to have good acceptance and catch the attention of an existing generation of students which is, so frequently, accused of being impatient or resistant to intellectual learning.

In fact, students' supposed instability seems to be a common problem raised by educators worldwide, not only for history teachers. One of the most common concerns appears to be the growing difficulty to engage students in reading and writing activities. Many teachers confess their inability to motivate students to read a basic bibliography, such as textbooks, or to write a minimum number of lines of texts. There are frequent and nostalgic comparisons between this "indisposition" of contemporary students if compared to previous generations.[12]

Curiously, a supposed increasing indifference towards verbal fluency is often associated with the popularity of mass communication and, more recently, with digital culture related to video games and to mass media:

> Concerned adults fret over young people's perceived lack of interest in reading, predicting all kinds of dire intellectual and social outcomes as society is "dumbed down" and kids blank out over video games and stupid television rather than honing their wits on reading.[13]

The speed, ease and abundance with which contemporary media provide information is often assumed to have helped younger generations to became "unstable" and "passive", unfamiliar with the concentration required to enjoy a romance novel, or bored with the slow pace of the construction of a written argument.

I initially started using the concept of historiomediography as a way to alter the "location" of this supposed educational problem: what if it is actually *we* teachers and researchers, who have enormous difficulties with reading and writing?

After all, if we are to seriously address the alleged "loss" of motivation of many students to traditional learning of verbal language, we must also admit, as a corollary, that most of them are fully motivated to acquire learning experiences based in on sound, image and multimedia formats which are frequently incomprehensible to us. If we are to lament any "lack" of focus from our contemporary students, we should also recognize that this existing generation has an extraordinary concentration on non-formal education delivered by digital culture formats – such as music clips, iPods, videogames, comic books, LAN centers, podcasts – which the majority of researchers/educators do not follow.

If the vocabulary of many students might seem to many as disappointing[14] when they are asked to write conventional essays or read

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12 Schroeder, C.C., *New Students, New Learning Styles*, URL: [http://www.virtualschool.edu/mon/Academia/KierseyLearningStyles.html] (26/04/2010).

13 MacKey, M., *Risk, Safety, and Control in Young People's Reading Experiences*, URL: [http://www.iasl-online.org/files/jan03-mackey.pdf] (26/04/2010).

14 Snow, C., URL: [http://www.gse.harvard.edu/blog/uk/2009/05/building-vocabulary-to-improve-reading-in-middle-school-2.html] (26/04/2010).

books, no other generation has been raised with such familiarity with image-sound based environments[15] and to non-linear forms of textual writing.[16] If, indeed, chances of finding youngsters inclined to become traditional poets or novelists might be seen as progressively decreasing in today's classrooms, on the other hand, it is ever more common to find aspiring bloggers, designers, graffiti artists, musicians, cartoonists, dancers, hackers and other destinations which prioritize non-verbal and post-textual communication.

By arguing in favour of a historiomediographic approach, it also became inevitable to adopt two premises to my teaching and researching activities: 1 – instead of blaming students for any of their supposed defects, it is actually *we*, teachers and researchers, who urgently have to broaden our abilities to read and write. 2 – literacy, naturally, being defined as an ability to interpret and produce meaning simultaneously through verbal, aural and visual codes.

Or, to come back for the last time to the structural question of this article: "will the Web provide us with a better understanding of history?" Most likely, not. Yet, a better understanding of how to write multimedia History in the Web, for the Web and, above all, how to write it as Web, will probably lead us to a much more direct, compelling and mutually respectful relation with a great number of contemporary (online) readers.

If it seems chimerical to expect the Web to provide *us* with a better understanding of *History*, its competent use may help achieve another equally important task: provide *others* with a better understanding of *historians*.

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15 Alvermann, D.E., Hagood, M.C., "Media Literacy: Research, Theory, and Practice in 'New Times'", *The Journal of Educational Research*, Vol. 93, No. 3.

16 URL: [http://www.physorg.com/news174577580.html] (26/04/2010).

Une plate-forme collaborative pour la redocumentarisation d'un fonds photographique historique

Patrick PECCATTE

Soft Experience

Le Web 2.0 a permis l'apparition de nouveaux modes de traitement de l'information. Dans le domaine de la description documentaire de fonds photographiques, différentes pratiques sont apparues dont plusieurs font appel aux usagers et témoignent de la mutation des outils de traitement. L'article décrit, dans ce contexte de transformation profonde du champ documentaire, le retour d'expérience du projet *PhotosNormandie*.

Présentation du projet PhotosNormandie

Le projet *PhotosNormandie* a pour but d'améliorer la description documentaire d'un fonds de photographies historiques sur la bataille de Normandie qui s'est déroulée du 6 juin à fin août 1944 durant la Seconde Guerre mondiale. Il s'agit d'un travail collaboratif à finalité patrimoniale. Le projet est actif depuis janvier 2007 et utilise la plateforme de partage de photos et vidéos *Flickr*.[1]

Origine des photos

Le site *Archives Normandie 1939-1945* (www.archivesnormandie39-45.org) est un service public du Conseil Régional de Basse-Normandie mis en place en 2004 à l'occasion de la commémoration du soixantième

[1] Description du projet, URL : [http://www.flickr.com/people/photosnormandie/] ; Accès direct aux photos, URL : [http://www.flickr.com/photos/photosnormandie/] ; Tutoriel « Comment débuter sur PhotosNormandie ? », URL : [http://www.ranes 1944.org/PhotosNormandie/Aide.html]. Je remercie tous les intervenants au projet pour leur participation compétente et désintéressée, en particulier Michel Le Querrec, co-responsable du projet, qui réalise un travail considérable et sans qui rien n'aurait été possible.

anniversaire de la libération de la Normandie. Ce site propose près de 13 000 photos sur l'occupation, la libération et la reconstruction de la région.

Chaque photo possède une référence de la forme *pxxxxxx* (où *xxxxxx* est un numéro à six chiffres) permettant un accès direct. Il est également possible d'effectuer une recherche sur un sujet, un lieu, un personnage, etc.

Ces photos sont aussi disponibles sur le site commercial *Archives de Guerres* à l'adresse www.archives-de-guerres.fr.[2]

Conditions d'utilisation des photos

Les photos du site *Archives Normandie 1939-1945* proviennent des Archives nationales des États-Unis et du Canada. Certaines sont déclarées *libres de droits* (cf. www.archivesnormandie39-45.org/conditions.html). Le *libre de droits* (*royalty-free*) est une forme d'autorisation simplifiée de vente où le prix est forfaitaire. Une image *libre de droit* n'est pas, en général, gratuite, et n'est pas non plus du domaine public. Les conditions d'utilisation sont fixées par l'éditeur et l'acheteur peut utiliser la photo autant de fois qu'il le souhaite tant que ces conditions sont respectées. Ce mode de licence se distingue du *droit géré* (*rights managed*) qui est une solution d'achat sur mesure en fonction de l'utilisation envisagée de la photo. Les photos en haute définition proposées par le site *Archives Normandie 1939-1945* sont à la fois gratuites et libres de droit, et comme telles la mention d'origine est obligatoire.

Cette condition concerne 2 763 photos disponibles en haute définition qui sont reprises dans le projet *PhotosNormandie*.[3]

Pourquoi ce projet ?

Si la qualité des numérisations proposées sur le site *Archives Normandie 1939-1945* est correcte, il n'en est pas de même des légendes qui comportent de nombreuses inexactitudes et incohérences. Certaines erreurs sont très importantes du point de vue historique ou même tout simplement descriptif et diminuent grandement l'intérêt documentaire

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2 *Archives Normandie 1939-1945*, *Archives de Guerres* et *PhotosNormandie*, utilisent les mêmes références *pxxxxxx* pour identifier les photos ; le lecteur peut donc facilement comparer sur ces trois collections les descriptions des photos proposées.

3 Les conditions sont stipulées sur la page de description du projet et les titulaires des droits sont mentionnés dans le champ *Copyright* de chaque photo haute définition. La licence d'utilisation transposée sur *Flickr* est de type *Creative Commons :* paternité (vous devez citer le nom du titulaire des droits, le Conseil Régional de Basse-Normandie et National Archives USA ou National Archives Canada), pas d'utilisation commerciale, pas de modification.

de cette collection accessible au grand public.[4] À la fin de l'année 2006, Michel Le Querrec – un passionné de l'histoire de la bataille de Normandie, co-responsable du projet – et moi-même avons décidé dans un premier temps de corriger les descriptions de ces photos puis de les améliorer.

Après quelques essais sur différents sites de partage de photos, la plate-forme *Flickr* s'est avérée la plus adaptée pour le travail que nous souhaitions réaliser, essentiellement par ses possibilités de discussion sur une photo et sa capacité à exploiter un sous-ensemble significatif du standard de métadonnées IPTC/IIM (voir ci-dessous).

Description succincte de la plate-forme de partage de photos Flickr

Flickr est un site Web de partage de photos et de vidéos. Les fonctionnalités de base, limitées en capacité de stockage, sont gratuites. Les fonctionnalités non limitées sont payantes (compte « Pro » à 24,95 dollars par an). Le site permet à la fois un stockage privé ou public ; les photos du projet *PhotosNormandie* sont bien entendu publiques.

Flickr a été développé par la société canadienne Ludicorp en 2002 et racheté par Yahoo ! en 2005. Le site héberge actuellement plus de 3 milliards de photos.

Chaque photo peut être décrite par un titre, une description, des *tags*, des commentaires, des notes associées à des zones choisies de la photo. Le titre et la description sont modifiables uniquement par le gestionnaire du compte ayant téléchargé la photo tandis que les *tags*, les notes et les commentaires peuvent être ajoutés aux photos par tout visiteur si le gestionnaire du compte l'a autorisé. La recherche de photos s'effectue sur les titres, les descriptions et les *tags*, mais pas sur les commentaires ou les notes. L'utilisateur peut organiser ses photos par albums et classeurs (ensembles d'albums). Il est aussi possible de créer ou de participer à des groupes d'utilisateurs réunis sur des thématiques très variées et d'ajouter des photos à ces groupes. *Flickr* maintient aussi des flux RSS divers permettant de suivre l'activité d'un utilisateur, d'un album, d'un

[4] Par exemple les photos de la série p012514 à p012524 prises à la pointe du Hoc aux premiers jours du Débarquement sont localisées au Berghof (*sic*), et la p012015 figure un bord de mer situé à Condé-sur-Noireau, à 60 km de la mer environ ! D'autres descriptions, imprécises ou minimales, témoignent aussi d'un manque de connaissance manifeste du sujet et d'une pratique documentaire déficiente – ainsi celle de la p012377 légendée « Sainte Mère Église pendant la Seconde Guerre mondiale » alors qu'il s'agit d'un portrait du général Théodore Roosevelt pourtant facilement reconnaissable.

groupe, etc., et propose une API[5] permettant aux programmeurs de développer des services. On peut enfin choisir des contacts parmi les autres utilisateurs de *Flickr* et ajouter des photos quelconques à ses favoris.

Cet ensemble de possibilités que l'on vient de résumer rapidement permet de constituer un réseau de relations multiples entre les utilisateurs et leurs photos et justifie que *Flickr* soit souvent considéré comme l'un des sites exemplaires du Web 2.0.

Les métadonnées utilisées dans le projet PhotosNormandie

Rappel sur les métadonnées IPTC/IIM et la technologie XMP

L'IPTC[6] est une organisation internationale créée en 1965 pour développer et promouvoir des standards d'échange de données à destination de la presse. En association avec la NAA,[7] l'IPTC a défini un modèle global de données appelé *IPTC-NAA Information Interchange Model* (*IIM*).

La société Adobe a utilisé ce modèle en 1994 pour définir dans son logiciel Photoshop les informations associées à une image et communément appelées métadonnées IPTC ; il s'agit de champs textuels (Titre, Description, Mots-clés, Ville, Pays, Copyright, etc.) qui sont stockés à l'intérieur de l'image.

XMP (*eXtensible Metadata Platform*) est un format créé par la société Adobe en septembre 2001. XMP repose sur une version simplifiée de RDF (*Resource Description Framework*) qui est un formalisme défini par le W3C[8] permettant d'encoder, échanger et réutiliser des métadonnées structurées. XMP est extensible, c'est-à-dire que l'utilisateur peut définir ses propres schémas de métadonnées.[9]

Le codage des métadonnées dans les photos du projet

Le modèle IIM est à présent considéré par l'IPTC comme un « standard obsolète » qui sera progressivement remplacé par la technologie

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5 *Application Programming Interface* – bibliothèque de méthodes de base permettant à un programme d'accéder aux fonctionnalités d'un système ; l'API de *Flickr* est décrite sur : URL : [http://www.flickr.com/services/api/]. Nous avons développé pour *PhotosNormandie* deux petits programmes utilisant l'API Flickr. Le développement de ce genre d'outil n'est pas difficile pour un informaticien maîtrisant un quelconque langage supportant les requêtes REST (*Representational state transfer*).

6 *International Press and Telecommunications Council*, URL : [http://www.iptc.org/].

7 *Newspaper Association of America*, site Web, URL : [http://www.naa.org/].

8 *World Wide Web Consortium*, site Web, URL : [http://www.w3.org/].

9 Peccatte, P., *Métadonnées : une initiation. Dublin Core, IPTC, Exif, RDF, XMP, etc.*, 2007, URL : [http://peccatte.karefil.com/software/Metadata.htm].

XMP. Les métadonnées IPTC/IIM restent néanmoins très largement utilisées par les professionnels de l'image numérique.

Nous avons choisi d'encoder les métadonnées descriptives des photos de notre projet à la fois en IPTC/IIM et en XMP de façon à garantir la pérennité du travail réalisé.

Le projet s'appuie sur une fonctionnalité relativement peu connue de *Flickr :* sa capacité à exploiter un sous-ensemble du standard IPTC/IIM ou de son *mapping* en XMP. Plus précisément, nous utilisons :

- le champ IPTC/IIM nommé *Object Name* (n° 5) pour la référence originale de la photo, de la forme *pxxxxxx ;* cette référence s'affiche automatiquement comme Titre en haut de la photo sur *Flickr* ;
- *Caption* (n° 120) pour la description qui s'affiche sous la photo sur *Flickr* ;
- *Copyright* (n° 116) qui contient soit « Conseil Régional de Basse-Normandie/National Archives USA » soit « Conseil Régional de Basse-Normandie/National Archives Canada » ;
- *Keywords* (n° 25) contient en général un seul mot-clé : « Seconde Guerre mondiale » qui s'affiche comme *tag* à droite de la photo sur *Flickr* ;
- *City* (n° 90) contient le nom de la ville où la photo a été prise ; *Province/State* (n° 95) contient le nom du département français où la photo a été prise ; *Country Name* (n° 101) est en général vide excepté pour les rares photos qui ont été prises en Angleterre avant le Débarquement. Ces trois champs s'affichent également comme *tags* à droite de la photo sur *Flickr*.

Attention : seules les photos originales, qui sont accessibles par le menu *Toutes les tailles* puis *Originale*, possèdent des métadonnées IPTC/IIM et XMP.

Avantages et inconvénients de la méthode de codage des métadonnées dans les photos

Lors du chargement sur *Flickr* d'une photo contenant des métadonnées IPTC, celles-ci sont automatiquement décodées et utilisées pour renseigner le titre, la description et les *tags* selon la correspondance donnée ci-dessus. On retrouve ainsi les avantages bien connus qui ont fait le succès de cette technique d'encapsulation des métadonnées dans les images : la description textuelle de l'image est toujours disponible avec celle-ci et facilement réutilisable, le risque de perdre des métadonnées n'existe plus, et l'utilisateur reste ainsi libre de la technologie de base de données utilisée pour l'exploitation de son fonds. Autrement dit,

notre projet est totalement indépendant de *Flickr* que nous pourrions très facilement remplacer, le cas échéant, par une autre plate-forme de partage supportant le standard IPTC. Le travail rédactionnel demeure contrôlé en local puisqu'il est stocké dans les photos. Nous ne sommes pas captifs de la plate-forme de partage.

La mise à jour d'une description est par contre lourde puisqu'il est alors nécessaire de recharger la photo contenant la nouvelle description.

Le processus documentaire et rédactionnel

Mode de fonctionnement

Tout visiteur peut rechercher, afficher, télécharger les photos en haute définition. Pour commenter les photos et participer ainsi à l'amélioration de leurs descriptions, l'utilisateur doit ouvrir un compte gratuit sur *Flickr* et propose alors ses corrections dans le champ *Ajoutez votre commentaire*. Une discussion peut s'établir entre les divers participants du projet et se termine par la validation éditoriale des modifications proposées.

Pour faciliter le suivi des discussions, nous avons créé un groupe *Discussions sur PhotosNormandie* qui donne une vue d'ensemble sur les photos où une discussion est en cours. Ce groupe est alimenté automatiquement par un programme développé à l'aide de l'API *Flickr* à partir du flux RSS permettant de suivre les commentaires postés par les utilisateurs ; la consultation d'un groupe *Flickr* est en effet plus simple pour les utilisateurs qui ne maîtrisent pas la technique des flux RSS.

Quand la discussion est terminée, l'administrateur rédige une nouvelle description dans les métadonnées IPTC de la photo, sur sa base locale de photos. Puis un autre programme développé à l'aide de l'API efface l'ancienne photo sur *Flickr* en se basant sur la référence et télécharge la même photo contenant la nouvelle description IPTC. La photo mise à jour avec sa nouvelle description apparaît alors automatiquement au début de la galerie *PhotosNormandie*.

Les photos sont classées dans différents albums : *Manche*, *Calvados*, *Orne*.

Bilan documentaire

Depuis le début du projet en janvier 2007,[10] la galerie et les 2 763 photos de *PhotosNormandie* sur *Flickr* ont été vues plus de 5 millions de fois ce qui correspond à plus de 3 000 visites quotidiennes.

[10] Les chiffres fournis ici datent de la fin du mois d'avril 2010. Le projet étant toujours actifs, ils sont susceptibles d'évoluer.

Le groupe *Discussions sur PhotosNormandie* compte 45 membres dont une dizaine participe régulièrement au projet en postant des commentaires.

Nous avons complété, corrigé et mis à jour plus de 5 000 descriptions. Ce nombre plus grand que celui des photos s'explique parce que certaines légendes ont été corrigées plusieurs fois.

La typologie des améliorations peut être résumée ainsi :

- identifications de localisations, ex. p011719 et p013151 (recherches sur des photos aériennes). Nous avons également créé un groupe intitulé *D'hier à aujourd'hui* qui met en relation des photos de la collection *PhotosNormandie* avec des photos récentes prises aux mêmes endroits ; ceci permet de mieux connaître ces localisations et de comprendre leur évolution dans le temps ;
- identifications de personnages, ex. p013416 (le général Davis, premier général noir de l'US Army), p013400 (le secrétaire au Trésor Morgenthau), p013391 (l'acteur Edward G. Robinson). Il ne s'agit pas toujours de personnalités et nous avons aussi tenu à citer les noms de soldats « de base » et de civils lorsque nous avons pu les connaître ;
- identifications d'unités militaires, ex. p013094 ;
- précisions de dates, ex. p011628 ;
- précisions descriptives sur l'image, ex. p013233 ;
- références : renvois à des livres, à des sites ;
- identifications des photos censurées, des photos en couleur, des photos en doubles et des séries. Il suffit ainsi de rechercher sur le mot « censure » pour retrouver la trentaine de photos que nous avons repérées comme « caviardées », c'est-à-dire présentant une ou plusieurs surfaces volontairement effacées ;
- contextualisations historiques : précisions sur un mouvement d'unité, une action, etc. en rapport avec l'image, ex. p013341 ;
- contextualisations iconographiques à l'aide d'autres sources (autres photos et films, voir ci-dessous).

Les descriptions proposées sont pratiquement toutes factuelles et objectivées. Pour quelques-unes d'entre elles néanmoins nous avons obtenu et rapporté des informations plus subjectives.[11]

[11] Ainsi pour la p000713 où l'on voit un couple de vieux Normands se recueillir sur la dépouille d'un parachutiste américain. Sur cette photo, la censure a voulu renforcer l'aspect émotionnel en effaçant un caméraman ; mais nous avons appris par un arrière-petit-fils de ce couple que leur recueillement était bien spontané et que la photo n'est pas une mise en scène comme le seul examen de l'image pourrait le laisser penser.

Organisation du travail – légitimité et validité du projet

Les conditions de validation et de légitimation des informations dans *PhotosNormandie* ne peuvent en aucune manière être comparées à celles d'un projet de *crowdsourcing* comme l'encyclopédie *Wikipedia* ou à la circulation des informations sur *Twitter* pour lesquels on invoque habituellement une « intelligence » du grand nombre d'intervenants permettant d'identifier et de corriger rapidement les erreurs. Ce dernier modèle n'est pas celui de *PhotosNormandie* où les contenus sont rédigés par une seule personne à partir d'informations fournies par un faible nombre d'intervenants ou collectées sur d'autres sources.

La validation des informations recueillies est effectuée collectivement par l'ensemble des participants, puis une nouvelle description est rédigée quand la discussion est terminée. Nous avons observé peu de désaccords lors des échanges, et lorsqu'un désaccord survient, généralement sur le choix d'un terme, un consensus est rapidement trouvé.

Deux objectifs principaux, totalement liés, ont été poursuivis lors du lancement du projet : faire connaître ces photos en les exposant sur une plate-forme très populaire et facile d'accès, et obtenir grâce à cette nouvelle visibilité des informations permettant d'améliorer leurs légendes. Le projet devait être attractif à la fois pour les visiteurs curieux de cette période historique mais qui n'ont pas de commentaire particulier à exprimer sur les photos et pour les passionnés qui peuvent apporter des informations. *PhotosNormandie* n'est donc pas un projet confidentiel et réservé à des spécialistes. Il est ouvert à tous et hébergé sur une plate-forme bien connue et indexée par les principaux moteurs de recherche d'images comme *Google Image Search*. Il s'inscrit délibérément dans ce Web public qui se nourrit des contenus générés par les usagers et fait apparaître de ce fait de nouvelles pratiques des amateurs.

La dizaine de participants réguliers connaissent très bien l'histoire de la bataille de Normandie et possèdent de nombreux ouvrages ou revues de référence sur le sujet. Ils sont d'ailleurs pour la plupart originaires de Normandie et ont donc aussi une bonne connaissance locale et familiale de ces événements. Nous comptons parmi eux des archivistes et des documentalistes. Ce sont des amateurs passionnés qui ont développé une compétence souvent très pointue sur tel ou tel aspect du sujet. L'un des intérêts du projet est en effet de faire appel à des spécialistes aux compétences complémentaires. C'est ainsi qu'un participant régulier est un expert sur les diverses unités combattantes de l'époque tandis qu'un autre possède une excellente connaissance de l'aviation durant la Seconde Guerre mondiale. Nous avons aussi obtenu de nombreuses informations précieuses de la part d'un spécialiste des vues aériennes, plusieurs intervenants nous ont aidés sur le mur de l'Atlantique, et un

collectionneur de cartes postales anciennes a identifié de nombreuses localisations. Peu d'historiens professionnels possèdent ces diverses connaissances à ce degré de détail, conjuguées qui plus est à la connaissance précise des lieux où se sont déroulés ces événements. De plus, ils n'ont probablement pas le temps d'effectuer des recherches aussi minutieuses, qui, de fait, relèvent probablement plus de la mémoire locale de ces événements que du travail universitaire proprement dit. On ne doit pas oublier en effet que le projet *PhotosNormandie* a obtenu des résultats parce que les photos en ligne relèvent d'un patrimoine local et relativement récent.

La méthodologie mise en place peut être résumée en quelques points. En premier lieu, nous mentionnons le maximum d'informations intéressantes, significatives et vérifiables repérées grâce à l'observation attentive d'une photo : topographie et lieux reconnaissables, noms des personnes, marquages des matériels, insignes des personnels, etc. Le corpus initial comportait par exemple de nombreuses erreurs d'identification d'unités qu'une simple observation permet de rétablir (voir par exemple la légende de la photo p013077 comparée à la légende d'origine sur le site Archives Normandie 1939-1945).

En second lieu, de nombreuses photos ont été publiées dans des livres (p013437), articles de revues (p011846) ou sites Web (p012922). Nous essayons alors de collecter et compiler les différentes informations en mentionnant toujours nos sources.

Ensuite, les hypothèses formulées à partir de l'examen d'une ou de plusieurs photos sont mentionnées comme telles (p013245).

Pour l'identification des unités, l'un des participants au projet dispose d'une multitude de « livres des opérations » de différentes unités américaines détaillant les mouvements à l'échelon des bataillons sur le théâtre des opérations. Les identifications proposées à partir de ces archives doivent être conformes aux marquages des matériels ainsi qu'aux insignes et patches des personnels lorsqu'ils sont visibles sur les photos. S'ils ne sont pas visibles, nous le mentionnons explicitement (p013409).

Par ailleurs, les photos américaines possèdent au verso des légendes tapées à la machine à écrire. Lorsque nous obtenons une telle légende, ce qui est malheureusement rare, nous fournissons un lien vers une reproduction du verso de la photo (p000009) et nous complétons la légende avec nos propres informations toujours plus précises.

L'identification des lieux constitue une part importante du travail. Un collectionneur de cartes postales anciennes participant au projet a ainsi identifié de nombreuses localisations (p004632). Pour ces identifications de lieux, les outils du Web tels que *Google Earth*, *Géoportail* ou

Google Masp Street View sont également indispensables. Nous avons également utilisé la recherche inversée d'images avec le logiciel *TinEye* de la société *Idée* qui nous a permis d'identifier des scènes ou des personnages (p013390). Ces exemples montrent que la dimension collaborative permise par la plate-forme *Flickr* et par les forums spécialisés n'est pas la seule à prendre en compte. Un projet de redocumentarisation doit aussi convoquer tous les outils du Web permettant la recherche et la mise en relation de données diverses.

Le repérage d'autres photos similaires prises au même endroit et durant la même période aide également à l'identification et constitue une partie importante du travail qui doit aller au-delà de la rédaction de descriptions purement textuelles. Nous donnons ainsi des liens vers plusieurs photos de la collection *Life Magazine* (p011606) ou des photos prises par Robert Capa (rechercher sur son nom), en particulier la p013283 où nous avons découvert le célèbre photographe en train de changer la pellicule de son appareil.

De même, comme les photographes américains du *Signal Corps* étaient la plupart du temps accompagnés par des cameramen, nous recherchons des films tournés en même temps que les photos étaient prises. Nous en avons retrouvé certains sur *YouTube* (p013292), *Dailymotion* (p012877), le site de l'Institut National de l'Audiovisuel (p012331), etc.

Malheureusement, la déception principale concernant ce projet est que nous n'obtenons que très peu d'informations directes de la part de témoins de cette époque parce qu'ils deviennent de plus en plus rares et sont généralement peu familiers avec le Web. Nous avons néanmoins obtenu quelques témoignages directs (p012405).

Usages de Flickr et redocumentarisation

Une pratique de redocumentarisation

Plusieurs études récentes ont montré que les usages de *Flickr* sont variés, et aucun de ces usages divers n'est majoritaire. De plus, les relations multiples permises par le système concernent en réalité peu de monde. Une très petite minorité d'utilisateurs produit la majorité du contenu public et organise ce contenu par leur activité sur les groupes et les photos.[12] On peut d'autre part distinguer deux types de pratiques sociales selon que l'utilisateur est plus intéressé par les contacts ou par

[12] D'après Prieur, C., Cardon, D., Beuscart, J.-S., Pissard, N., Pons, P., *The Strenght of Weak cooperation : A case study on Flickr*, 2008, URL : [http://www.scribd.com/doc/3008294/Case-study-for-Flickr].

la socialisation des contenus.[13] L'usage de *Flickr* dans notre projet est donc très minoritaire et certainement atypique. Il se caractérise certes par un faible nombre de contacts actifs, mais surtout par une activité de commentaires rapidement caducs et orientés vers un but précis, ainsi que par un grand nombre de mises à jour. *PhotosNormandie* correspond en fait à une démarche documentaire et rédactionnelle, à un travail collectif avec un objectif de production, et non à une folksonomie caractéristique du Web social.[14]

Le corpus présenté ne correspond d'ailleurs pas aux images habituelles sur *Flickr* qui apparaissent faiblement contextualisables pour la plupart des visiteurs, et sont habituellement décrites à l'aide de *tags* non contrôlés. De fait, nous n'utilisons pas le *tagging* si ce n'est de manière indirecte puisque les informations de localisation IPTC apparaissent comme des *tags* après chargement. On doit plutôt considérer que ce fonds est véritablement éditorial, fortement contextualisé pour une majorité de visiteurs, et nécessite des descriptions riches et soigneusement rédigées.

Par ailleurs, les commentaires écrits par les divers intervenants ne sont pas conservés puisque l'ensemble du processus conduit à effacer une photo pour la mettre à jour avec une nouvelle description. Deux des principaux vecteurs de la popularité sur *Flick*, les *tags* et les commentaires,[15] ne sont donc absolument pas utilisés selon le mode cumulatif habituel sur les sites sociaux. En bref, la course à l'*interestingness*[16] – si l'on suit le jargon flickerien – n'est pas notre but. *Flickr* apparaît donc dans ce projet comme un outil, et seulement un outil, intégré à d'autres usages du Web (forums et autres sources d'information, recherche de documents, etc.) dans un processus de redocumentarisation, c'est-à-dire dans une entreprise collective qui vise à traiter à nouveau une collection de documents ;[17] il s'agit bien de réindexer un corpus iconographique

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13 *Ibid.*

14 Ertzscheid, O., *Indexation sociale et folksonomies : le monde comme catalogue*, Journées ABES, 20 et 21 mai 2008, sur le blog *Affordance*, URL : [http://affordance.typepad.com/mon_weblog/2008/05/journes-abes-fo.html].

15 Cox, A.M., *Flickr : What is new in Web2.0 ?*, in *Proc. Of Towards a social science of web2.0, Workshop « Towards as social science of Web2.0 »*, University of York, 2007, URL : [http://www.shef.ac.uk/content/1/c6/04/77/66/flickr%20paper.pdf] ; Prieur, C. *et al.*, *The Strenght of Weak cooperation…*, *op. cit.*

16 Il s'agit de l'intérêt accordé par *Flickr* à une photo selon des critères variés liés à l'activité autour de la photo, URL : [http://www.flickr.com/explore/interesting/].

17 Zacklad, M., « Réseaux et communautés d'imaginaire documédiatisées », in Skare, R., Lund, W.L., Varheim, A., *A Document (Re)turn*, Peter Lang, Frankfurt am Main, 2007, p. 279-297, URL : [http://archivesic.ccsd.cnrs.fr/docs/00/18/01/85/PDF/imaginaire___document_Skare_Lund_Varheim.pdf] ; Salaün, J.-M., « Éclairages sur la redocumentarisation », *Bloc-notes de Jean-Michel Salaün*, 2007, URL :

avec les possibilités ouvertes par les technologies numériques et Internet pris dans son ensemble et non pas seulement le Web social.

L'activité régulière du projet a permis d'améliorer de façon substantielle la qualité des descriptions, et même, pensons-nous, de les enrichir d'informations probablement inédites ; à preuve, nos légendes sont maintenant reprises dans certains ouvrages spécialisés. Ce fonctionnement qui s'est avéré efficace repose sur la simplicité et la souplesse de l'outil collaboratif qu'est *Flickr*, sur la qualité des intervenants, mais aussi sur un travail important de la part des co-responsables, et il est important de bien prendre en compte cette charge de travail quand on envisage un tel projet d'indexation sociale. Notre organisation a conduit à définir deux fonctions indispensables.

La première fonction est celle d'un rédacteur en chef capable de synthétiser les informations recueillies dans une discussion ou sur d'autres sources et de rédiger une description précise et cohérente. Dans notre mode de fonctionnement, ce n'est pas un animateur ou un coordinateur proposant de nouvelles descriptions au groupe. Il décide seul de son texte final à partir des éléments recueillis.

En second lieu, un administrateur technique doit effectuer un travail régulier malgré les automatismes mis en place et décrits ci-dessus.

Les possibilités ouvertes par la numérisation généralisée des documents et l'usage collaboratif du Web engendrent un travail important. Si les deux fonctions évoquées – qui peuvent être assurées par une même personne ou non – ne sont pas définies avec précision dès le démarrage et assurées avec constance, toute tentative de redocumentarisation de ce genre nous semble impossible.

Autres projets similaires sur Flickr

La *Library of Congress* a mis en ligne sur *Flickr* plus de 3 000 photos en janvier 2008,[18] soit un an après le démarrage de *PhotosNormandie*. Près de 9 000 photos sont actuellement disponibles. La *Library of Congress* encourage les utilisateurs à ajouter des *tags*, des commentaires, des notes aux photos dans le but d'obtenir des informations ou des identifications inédites. La Bibliothèque a conclu un partenariat avec

[http://blogues.ebsi.umontreal.ca/jms/index.php/2007/05/05/252-eclairages-sur-la-redocumentarisation] ; Salaün, J.-M., « La redocumentarisation, un défi pour les sciences de l'information », *Études de communication*, n° 30, 2007, URL : [https://papyrus.bib.umontreal.ca/jspui/bitstream/1866/1724/1/salaun-jm-redocumentarisation-etudes_de_communication.pdf].

18 URL : [http://www.flickr.com/photos/library_of_congress/].

Flickr appelé *The Commons*[19] auquel participaient fin avril 2010 trente-huit autres institutions, dont la *Bibliothèque de Toulouse*.

L'équipe en charge du projet compte 12 personnes. Ils reconnaissent que le travail d'exploitation et d'évaluation des commentaires laissés par les utilisateurs est lourd et prend beaucoup de temps.[20]

Vers une plate-forme professionnelle pour la redocumentarisation des fonds iconographiques

L'expérience acquise au cours de ce projet est très positive et certainement applicable à de nombreux domaines qui nécessitent la participation de spécialistes disséminés dans le monde entier. Nous l'avons un moment envisagé avec un groupe d'experts en numismatique sur une collection de photos de pièces de monnaies anciennes. Ce dernier projet n'a pas abouti pour le moment parce qu'il n'a pas été possible de trouver une personne suffisamment disponible et motivée pour assurer la tâche de rédacteur en chef telle que nous l'avons définie.

Des initiatives comme *PhotosNormandie* et *The Commons* ouvrent de nouvelles perspectives dans la valorisation des fonds historiques ou patrimoniaux – et probablement au-delà de ces secteurs. Elles s'inscrivent résolument dans un vaste mouvement d'émergence de nouveaux médias issus de la redocumentarisation du monde[21] où les métadonnées descriptives ne sont plus figées mais deviennent de véritables contenus publics perfectibles. Dans un tel processus, les métadonnées ne sont définitivement plus considérées comme des fiches documentaires statiques. Il s'agit de contenus à part entière qui évoluent selon la dynamique collaborative mise en place.

L'expérience devrait néanmoins être approfondie dans différentes directions telles que la simplification des procédures actuelles, le traitement des descriptions multilingues, le support de schémas de métadonnées spécifiques ou orientés métiers, la géolocalisation des images, la sécurisation, l'utilisation de vocabulaires contrôlés pour les *tags*, le développement d'une ontologie sur le domaine couvert, le traitement de corpus plus importants et moins homogènes, etc.

Nous pensons que le développement de la technologie XMP permettrait d'améliorer considérablement l'ensemble du processus décrit en ce

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19 URL : [http://www.flickr.com/commons/].

20 Springer, M., *For the Common Good : The Library of Congress Flickr Pilot Project*, The Library of Congress, 30.10.2008, URL : [http://www.loc.gov/rr/print/flickr_report_final.pdf].

21 Pédauque, R.T. (collectif), *La Redocumentarisation du Monde*, Paris, Éditions Cépadues, 2007.

qui concerne les trois premiers points qui nous paraissent les plus importants : simplification, multilinguisme et schémas de métadonnées orientés métiers. Les technologies permettant d'indexer professionnellement en XMP existent pour le poste individuel ou la production de masse (agences), mais pas à notre connaissance dans un contexte collaboratif. Il nous semble ainsi possible (et souhaitable) d'aller plus loin que les possibilités d'indexation sociale permises par *Flickr* en définissant une véritable plate-forme collaborative facilitant le travail d'experts associés à la redocumentarisation de fonds iconographiques divers par la maîtrise intégrale de leur processus documentaire et rédactionnel. L'expérience de *PhotosNormandie* est suffisamment significative pour contribuer au cahier des charges d'un tel outil.

TROISIÈME PARTIE
MÉTHODES ET ÉCRITURES

PART III
METHODS AND WRITINGS

Digital History 2.0

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Introduction: a Few Web 2.0 Principles

Tim O'Reilly, who is generally credited with having spawned the term 'Web 2.0', said:

> […] one of the central differences between the PC era and the Web 2.0 era is that once the internet becomes platform […], you can build applications that harness network effects, so that they become better the more people use them. I've used the phrase 'harnessing collective intelligence' to frame this phenomenon.[1]

With this point before us, we need to give thought to the changes that have come with the advent of new practices springing from the use of second-generation Web technologies in the humanities and, where we are concerned, in history.

The more or less stable hypertext architecture which had previously been a critical feature of human and social science content on the Web – the Web as a compendium of texts and documents – is changing and giving way to new types of architecture which encourage interaction and knowledge exchange: a transformation is taking place in the roles of those who write and those who read. These new forms of Web architecture are a response to new needs for participation in Web network activities on platforms where multimedia information can be shared and participants can interact to create the kind of collective content that results when the roles of writers and readers mesh.

'Crowdsourcing', a neologism associated with Web 2.0 that is being increasingly talked about in 2010,[2] on the one hand allows tasks to be

1 O'Reilly, T., "Harnessing Collective Intelligence" in *O'Reilly Radar*, 10 November 2006, URL: [http://radar.oreilly.com/2006/11/harnessing-collective-intellig.html].

2 Howe, J., "The Rise of Crowdsourcing", in *Wired Magazine*, No. 14, June 2006, URL: [http://www.wired.com/wired/archive/14.06/crowds_pr.html].

delegated to individuals or groups by using technology, and, on the other, makes it possible to envisage an individual or a group taking a particular Web activity or content further forward as they respond to the challenge before them.

Merging the network activity of crowds of people and their ability to respond to a digital challenge and devise content on the new work platforms supplied by Web 2.0 social networks means that surfers can be involved directly in updating and creating content. Such forms of collaboration are also being orchestrated by libraries and archives as a way of collectively describing or expanding their holdings. In the digital history field, the object is primarily to work together to supply original content in the form of comments, primary sources or oral testimony.

Tim O'Reilly described this great innovation of Web 2.0 as 'user-generated content'. As far back as 2001, when Wikipedia was set up, we saw the emergence of a worldwide phenomenon in which Web surfers directly added content themselves: Internet users were working together to create an open encyclopaedia. Being open, it incorporated a large number of readers, who also became collaborators and writers, often anonymous. Wikipedia opened the Web and the world of information up to people who had been accessing content and fixed pages on it from the outset but had not been able to display their own creativity and show that they could improve the content directly. Wikipedia – a collective undertaking which creates scientific problems for historians – propagated a spirit conducive to useful, informed collaboration, a form of 'collective intelligence' which went beyond merely 'reading' mainly static hypertext Web content. Until then, users had been able to contact website authors indirectly by e-mail, which was also used in historiographical sites. With the Wiki system, people worked directly on text after reading it, without informing the webmaster. Reading became active writing with Web 2.0.[3]

In this book, Marin Dacos, director of CLEO,[4] discusses the problem of building a 'cyberinfrastructure', which has become a necessity central to the discipline of writing Web 2.0 history, so that what he calls 'source sharing' can happen and everyone can have access to it. Gino Roncaglia writes that Web 2.0 tool sharing for creating and maintaining new

[3] Active, creative surfer participation also takes place in the area of heritage, creating 'active' consumers of cultural products. See Granelli, A., "Implicazioni organizzative e sociologiche della transizione delle istituzioni culturali sul Web", in Galluzzi, P. and Valentino, P.A. (ed.), *Galassia Web. La cultura nella Rete*, Florence, Giunti, 2008, p. 31.

[4] *Centre pour l'édition électronique ouverte* (Centre for Open Electronic Publishing), URL: [http://cleo.cnrs.fr/].

research networks is becoming a key issue.[5] In point of fact, we believe that Web 2.0, as it has been designed, also means letting people collaborate on building software – the diffuse Open Source philosophy – which is useful in history or the humanities. If we think of Zotero and Omeka,[6] they answer the specific calls from their creators to users to appropriate the technology for their own use. This is also the idea behind Open Archives, made 'open' by their creators so as to make it easy to collaborate, or the idea behind digital libraries that are useful for sharing information and documentation – the primary sources in history – making it possible, including in the humanities, to organise and disseminate knowledge which does not always have an academic pedigree.

Open spaces where forms of collective participation (user-generated content – UGC) can take place are, then, the main characteristic of Web 2.0, aside from its technical aspects. Taking charge of them by setting them going and steering them, and making 'good use' of them, have become a necessity for digital historians who create projects or take part in online history projects leading to forms of collaboration which then have to take advantage of new types of peerage.

Web 2.0, though, is not just an opening up to Internet user collaboration; it is, more than anything else, a delivering of technology based on what are called Rich Internet Applications (RIAs) using AJAX language (Asynchronous Java Script combined with XML), which are the basis of 'social networks' and enable groups to take part; on history sites it also propagates the principle of making recommendations which is common practice in e-commerce portals like Amazon. They now emphasise the transition to the more specifically 'semantic' aspect of the Web ('If you liked that, you should take a look at this');[7] the appearance of blogs,[8]

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5 Cf. the contributions by Marin Dacos and Gino Roncaglia in this book.

6 On Zotero, Cohen, D.J., "Zotero: Social and Semantic Computing for Historical Scholarship", in *Perspectives Online*, No. 45/5, May 2007, URL: [http://www.historians.org/Perspectives/issues/2007/0705/0705tec2.cfm]; Rosenzweig, R., "Zotero. Fare ricerca nell'età digitale", in *Contemporanea*, No. 4, 2007, p. 739-744; "Omeka", URL: [http://omeka.org/]. An example of the use of Omeka is the University of Rennes 2's digital library, URL: [http://bibnum.univ-rennes2.fr]. See Leroux, L., and Sicot, J., "Omeka ou comment réaliser une bibliothèque numérique à l'échelle d'un SCD", URL: [http://www.abes.fr/content/download/1070/5099/version/1/file/projet_innovant_1.3_omeka_JABES10.pdf].

7 On the British site British History Online, readers are asked to annotate their work with references to digitised primary sources. URL: [http://www.british-history.ac.uk/journal.aspx?task=1].

8 Bertrand, P., "Les blogs et l'écriture de l'histoire", in *Memoria e Ricerca Online*, URL: [http://www.fondazionecasadioriani.it/modules.php?name=MR&op=body&id=443]. For a journalist's view, see: Granieri, G., *Blog Generation*, Bari, Laterza, 2005 and *La società digitale*, Bari, Laterza, 2006.

which superimpose new information and stratify it chronologically; the use of podcasts;[9] participation in Web data indexing with keywords – tags – supplied by each user, etc. Technologically, Web 2.0 uses service-oriented architecture (SOA), RSS feeds which give notice of new features on sites; it makes use of mash-up – merging different applications – and applications embedded in other applications (widgets or applets).[10] These technical features of Web 2.0 encourage a social, shared way of looking at the activity of individuals on the Web via browsers, but also make it possible to combine a range of different technical achievements in order to refine the content and the presentation of digital data, by, for example, incorporating Google maps into digital history sites to 'locate' information.[11]

Libraries have been involved in the changes brought about by Web 2.0. For them, since the spread of digital information in the early 1980s, the sensitive area has certainly been their cataloguing system (OPAC).[12] Since Web 2.0 was set up and users began joining social networks, how can these users be kept on the website and in the catalogue? Libraries sensitive to their relationship with their users reply that they need to go and look for users where they can be found: in 'social networks'. The major academic libraries in America have therefore opted for Facebook as a means of access to their OPAC and, more recently, Twitter as a distribution platform for their information and new additions. Putting library catalogues onto networks is one response to the changes going on in the Web, but it does not go far enough. The impact that Web 2.0 is having on surfers is such that 'new catalogues' have had to be developed, catalogues which also offer techniques for participation and semantic refinement. Taking the example of the Encore library catalogue offered by the American firm Innovative,[13] we find ourselves in a search environment close to that of Amazon and

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9 Podcasts are a type of audio program incorporated into digital audio (MP3) players or directly into websites. Salvatori, E., "Hardcore history: ovvero la storia in podcast", in *Memoria e Ricerca*, No. 30, 2009.

10 Ciotti, F., and Roncaglia, G., *Il mondo digitale. Introduzione ai nuovi media*, 12th edition, Bari, Laterza, 2008.

11 Regnum Francorum Online, URL: [http://www.francia.ahlfeldt.se/].

12 Calhoun, K., *The Changing Nature of the Catalog and its Integration with Other Discovery Tools*, March 2006, a report prepared on behalf of the Library of Congress in Washington DC, URL: [http://www.loc.gov/catdir/calhoun-report-final.pdf]. The Web 2.0-type semantic recommendations are designed to help users find new things in the catalogues. See Mönnich, M., and Spiering, M., "Adding Value to the Library Catalog by Implementing a Recommendation System", in *D-Lib Magazine*, May/June 2008, Vol. 14, No. 5/6, URL: [http://www.dlib.org/dlib/may08/monnich/05monnich.html].

13 Encore, URL: [http://encoreforlibraries.com/].

Google, and the traditional descriptive parameters (title, author, imprint, etc.) have all been merged to enable users to browse through whole bibliographical formats. Users actually submit queries as they would with Google, and Encore's replies, retrieved from the bibliographical database content, come with tag clouds of keywords, a concept with which Web 2.0 users are very familiar.[14]

Whereas a double click to get the information users were looking for was the speciality of Web 1.0, now these users do not just let themselves be led along by hypertext links as they read; added 'meaning' is provided by suggestions to supplement the search with other content linked to it, like the advertisements posted by Google, Amazon or Facebook. We are, of course, in the realm of e-commerce here, but it has certainly been mainly down to multinational American companies that 'lateral' semantic searching has been able to be refined, and it was private companies that launched the social networks which have devised these kinds of practices.

In the digital history field, documentation searches can also be supplemented by bouncing from one site to another under remote control or by combining a very wide range of different kinds of content directly.[15] The British call this linking together of useful information 'connected histories': if you look up the 17th-century philosopher John Locke[16] in the Oxford Dictionary of National Biography, it will offer to widen your search outside the ODNB and, in the case of Locke, it will point you towards the site of the National Portrait Gallery, the National Register of Archives and the Royal Historical Society bibliography. Surfers car see a portrait of Locke from the National Gallery,[17] consult documents about him from archives in Britain and find out what historians have written about him to supplement the information they have.[18]

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14 Cloud tagging is said to have been used for the first time in Flickr in 2004. It is now a common way of improving and narrowing down search results, particularly in 2.0-generation library OPACs. ("Tag Cloud", in *en.Wikipedia*, URL: [http://en.wikipedia.org/wiki/Tag_cloud].

15 The project is that of the Humanities Research Centre at Sheffield University in the United Kingdom: *Connected Histories: Sources for Building British History, 1500-1900*, URL: [http://www.shef.ac.uk/hri/projects/projectpages/connectedhistories.html].

16 Milton, J.R., "Locke, John (1632-1704)", in *Oxford Dictionary of National Biography*, Matthew, H.C.G., and Harrison, B. (eds.), Oxford, 2004, URL: [http://www.oxforddnb.com/view/article/16885].

17 Locke, J. (1632-1704), philosopher, in the *National Portrait Gallery*, URL: [http://www.npg.org.uk/collections/search/person.php?LinkID=mp02773].

18 Locke, J. (1632-1704), philosopher, in the National Register of Archives, URL: [http://www.nationalarchives.gov.uk/nra/searches/subjectView.asp?ID=P17725].

So what we are seeing today is a combination of the semantic Web and social networks, the platform sites of new companies which sprang up between 2004 and 2005 and which are building forms of 'collective knowledge'.[19] Collaborative filtering in social networks brings 'similar' users together in collective platforms. Without going into the details of how they work, we could cite a number of social networks which are also of use to historians such as Flickr, Delicious, Facebook, YouTube and Twitter. Surfer involvement in creating the content of these sites no longer relies on e-mail but on direct contact via the browser, the insertion of multimedia documents, text, comments and forms of indexing on sites which are primarily dynamic: the constant updating of them is interactive – users make comments and put in new content – unlike the static sites we saw with Web 1.0.

People working with the Web – even historians – no longer just consume it passively; they play an active part. Surfers get involved and make suggestions for services, content, tags, comments, bookmarks, images, videos, etc. The introduction of technology which gets nearer and nearer to surfers has generated new, user-friendly tools like blogs, which give any user the feeling of being a lead player on the Web and of being listened to and read. What is more,

> […] all these Web 2.0 services – Wikipedia included – are not just associated with the emergence of new technologies but are part of a fundamental cultural trend which encourages the clarification of each person's skills and knowledge and promotes the development of collective intelligence. In an uncertain world, knowledge becomes democratised and hybrid forms which brush aside the traditional distinction between scholarly knowledge and layman's knowledge come into being.[20]

If we wanted to paraphrase the distinction Marshall McLuhan drew between different types of media – what he called the hot and cold media, depending on the effect they have on the 'senses' of the average person – we could certainly talk of a move from media which call for 'minor' user/surfer participation – going with the flow suggested by the semantic and functional links in a website – to more open types of media, which require active, constructive participation, not just from surfers but also from Web technicians with the skills to modify, alter

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19 Kolbitsch, J., and Maurer, H., "The transformation of the Web: how emerging communities shape the information we consume", in *Journal of Universal Computer Science*, No. 2, 2006, p. 187-213, URL: [http://www.jucs.org/jucs_12_2/the_transformation_of_the/jucs_12_02_0187_0214_kolbitsch.pdf].

20 Endrizzi, L., *La communauté comme auteur et éditeur: l'exemple de Wikipédia. Journée d'études des URFIST 31 janvier 2007, Paris*, URL: [http://edutice.archives-ouvertes.fr/docs/00/18/48/88/PDF/urfist0107_endrizzi_contrib.pdf], p. 11.

and improve the technological structure of the social platforms which are a feature of Web 2.0.

McLuhan distinguished between two types of media. Television, which manufactures the passive universe viewers live in and offers few opportunities for interaction (turning the TV on and off, sending a text message, telephoning, etc.), is a 'reassuring' medium; what it can do is put together a one-way message. Web 2.0, on the other hand, offers interactive Web services and sites and stimulates practices which not only do away with the linear structure of the writing in traditional books (Web 1.0 had already moved away from it by using hypertext) but stand midway between the technological construct – the site, the program – and the cultural construct, the content, as an unfinished object undergoing continuous change and without necessarily a specific author to refer to.[21] Web 2.0, from this point of view, is an interlocutory medium which questions its users and acquires its meaning through being constantly modified. It can sometimes be enriched through the social activities that the Web generates in the global village.

What are seen to be the advantages and disadvantages of Web 2.0 in a discipline such as history, supposing we agree, of course, that these new forms of collective writing, using technologies accessible to anyone, have led to a transformation not only of Web content but also of the way this new medium is now being used by Web surfers?

Dan Cohen, a digital historian, is now director of the Center for History and New Media (CHNM) at George Mason University, one of the university institutions at the forefront of innovation in the field of Web 2.0 history. Cohen wonders how to maximise the advantages of the Web and minimise its shortcomings, so as to obtain 'the best forms of online history'.

What does Cohen think are the advantages of Web 2.0? To start with, the Web brings several 'Web actors' into 'creative' communication, regardless of where they are, thereby letting them communicate with each other synchronously and non-synchronously. Most of all, the Web is the prime forum for easier collaboration between researchers and between students and teachers. The Web offers an accumulation of information, skills and knowledge put together by surfers who develop the content of it through the process known as user-generated content. The Web – and this is one of the fundamental concerns of the historian – is a way of uploading very large quantities of documents and primary sources onto servers and transmitting them everywhere. Cohen, with one of his associates, by setting up a huge 'crowdsourcing' operation, actu-

[21] McLuhan, M., *Understanding Media: The extensions of Man*, New York, McGraw-Hill, 1964.

ally devised, in one week, a book published online by George Mason University, on new technologies in the field of the digital humanities. The point of rising to a challenge like this was, of course, to show how new channels for intellectual production are now coming into being, helped on by new technologies, blogs and social networks which look to university-level expertise in the digital humanities context. The main objective of this scholarly exercise was to demonstrate the effectiveness of a crowdsourcing activity, run by two specialists, designed to produce an entire book put together by asking qualified members of the public to take part in creating it over a very short space of time.[22] Nowadays information is directly encoded through the work done by surfers, if one thinks of Delicious or LibraryThing, sites which ask their readers to confirm, add to and index the knowledge on offer. So why not put together a book directly, outside the traditional channels, from the work done by surfers' intellectual output in blogs and alternative websites?

Cohen and Scheinfeldt's 'provocation' highlighted how the Web can be a way of eliminating the barriers put up by traditional academic publications. They tried to build a new type of scholarship by making it easy to acquire digital content directly, translate it perhaps, revise it constantly and update it on an ongoing basis – in short, bring new forms of knowledge dissemination into being. To Cohen's points cited above, let us add that Web 2.0 offers programs open to all kinds of other technological solutions which provide better ways of interacting directly with digital content in the browser, as happens with a knowledge management application like Zotero, which was in fact developed by the CHNM in Virginia.

There are, however, also many disadvantages and critical issues raised by the Web in general which are proliferating in the Web 2.0 age. Since it was created, the Web has suffered from the instability and precariousness of digital information and the rapid obsolescence of technologies. This precariousness not only affects searching for online sites; in particular – and historians are, of course, more sensitive to this issue – it makes it harder to conserve digital data so that the same sources can be consulted later.[23] History texts which are easy to read on the computer are still difficult to distribute to a large number of readers, as compared with the traditional forms of publication and distribution of historical writing: Umberto Eco points out that 'a paper book is autonomous, whereas an e-book is a dependent tool, even if it depends only on

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22 Cohen, D. and Scheinfeldt, T. (ed.), *Hacking the Academy, a book crowdsourced in one week, May 21-28, 2010*, URL: [http://hackingtheacademy.org/].

23 Vitali, S., *Passato Digitale. Le fonti dello storico nell'era del computer*, Milan, Bruno Mondadori, 2004 and Rosiello, I.Z., "A proposito di Web e del mestiere di storico", in *Contemporanea*, No. 4, 2005, p. 743-755.

electricity'.[24] This view of the digital as 'virtual' incidentally disregards the fact that books also depend on material production processes and the harnessing of raw materials for making them.

Lastly, to quote Cohen again, there is an enormous difficulty with Web 2.0, that of deciding what is 'waste' and what is scholarly information, distinguishing 'the good from the bad'. This was a point which was already a major issue when the Web first appeared – is it all that different from traditional books? – but stands out more sharply with the emergence of a universal loss of authenticity in the context of Web 2.0 applications, the even greater decentralisation of 'authority' and the subsequent fragmentation of the notion of author. Of course, discriminating between information of some value and information to be discarded was already a feature of the static Web from 1993 to 2001, but doing so had also always been part of the work and methods of a historian, even before the computer was invented.

Wikipedia, a Web 2.0-type Open, Collective Encyclopaedia

Another American historian, Roy Rosenzweig, speculated about the fact that there was on the Internet a history which had been written, as he put it, in a 'free and open' manner.[25] He was not thinking of McLuhan's way of categorising the media as a means of talking about the Web; he was looking at the methodological problems – extremely sensitive problems when it comes to the historian's craft – which Wikipedia, a medium which is incomplete by definition, unstable and non-existent without the contributions of its readers, raised for academic historians and their individualistic way of operating, when confronted with forms of collective writing which are interactive and entirely dependent on their users – interoperable would be the new buzzword.[26]

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[24] Discussion between Catherine Portevin and Umberto Eco, "Le livre est une invention aussi indépassable que la roue ou le marteau", in *Telerama.fr*, No. 3117, [http://www.telerama.fr/livre/umberto-eco-internet-encourage-la-lecture-de-livres-parce-qu-il-augmente-la-curiosite,47983.php]. See also Jean-Philippe de Tonnac's interviews with Umberto Eco published by Jean-Claude Carrière, "N'espérez pas vous débarrasser des livres", Paris, Grasset, 2009 and Eco, Umberto, *Vertige de la liste*, Montreal, Flammarion Québec, 2009.

[25] Rosenzweig, R., "Can History be Open Source? Wikipedia and the Future of the Past", in *The Journal of American History*, No. 1, 2006, p. 117-146; which became "Wikipedia: Can History be Open Source?", in Rosenzweig, Roy, *Clio Wired. The Future of the Past in the Digital Age*, New York, Columbia University Press, 2011, p. 51-82.

[26] Rosenzweig made a comparison of 'American' history, particularly as represented in biographical notices, between Wikipedia, the American National Biography Online and the Encarta encyclopaedia. See Letouzay, D., "Roy Rosenzweig (1950-2007)", in

Wikipedia is a collective, open encyclopaedia which anticipates the ideas behind Web 2.0. It has had a great deal of attention over the last few years because of the exponential expansion of its contents. Wikipedia is not without risks for its readers, but there are also advantages deriving from it: Wikipedia attracts readers and collaborators and thereby offers a non-commercial context for 'collective' writing at a time when the traditional digital encyclopaedias, for the most part, charge for access to their contents. What I propose to do here is to analyse how this tool and the interactive forms of technology it employs could be used in an increasingly reliable context, if academic historians decided to 'play the Web 2.0 digital game' and, in a sense, gave their specialist knowledge to the general public, a move which is essential to digital public history.

Uncritical use of Wikipedia goes against the warnings of its creators, who emphasise that their free encyclopaedia contains very little 'academic' content or content which claims to offer any new interpretations or put forward any original scholarly theories. As Rosenzweig observes, the standard of critical knowledge of historiography is higher in the reviews in the American National Biography Online than in Wikipedia. However, the history contents of Wikipedia depend on those who contribute to them, those who give their knowledge and skills without the stamp of authority that a signature on an article can represent. This is almost a tautological statement of what Wikipedia is, but it leads us on to the thought that various degrees of thoroughness could exist side by side in 'Wikipedian' writing, which is subject to the graphic and textual structure common to all the articles and to the 'objectivising' language (the so-called 'neutral point of view' (NPOV)) which is a feature of the writing. This process of 'Wikification' of the articles could be a teaching exercise and, at the same time, a way of disciplining the writing of history as a means of presenting it to a very wide audience.

According to Pierre Lévy,[27] a didactic relationship between pupils and teachers presupposes differing levels of collective intelligence. In the case of a history-based Wikipedia, the point would be to encourage forms of 'selective collectivism' between teachers and pupils which would acknowledge the knowledge and skills distributed within the collective itself. They would thereby have a positive effect on the organisation of knowledge within the Wikipedia, to the advantage of the group. Thanks to the didactic relationship between teachers and students, historical texts can be created, sources can be put forward, their content can be corrected as necessary, and there can be references to the

Clioweb, URL: [http://Web.archive.org/Web/20120809031101/http://clioweb.free.fr/debats/roy.htm].

27 Lévy, P., *Qu'est-ce que le virtuel?*, Paris, 1995.

requisite wider knowledge beyond what is in the introductory notes contained in the encyclopaedia, enabling parallel Wiki projects like Commons, Wikispecies, Wikiversity, Wikiquote, Wikisource and so on to be built.

Lastly, going beyond the teaching exercise in writing for Wikipedia, we need to develop, in an intelligent way, the potential that hypertext offers. The ability to deliberately build semantic relationships between different pieces of Wikipedia content, through the judicious use of hypertext links, would make it possible to deal in a thorough and meaningful way not just with other articles in the encyclopaedia but also with outside contributions selected for their quality (this currently happens by means of notes). What we do see on every page, however, are tautological links which do not expand our knowledge in any way but are merely automatic ways to cite other Wikipedia entries, with no regard for context and with no bearing on the matter in hand or the content of the article. In fact, even explanatory links to Wikipedia itself are often meaningless and the end result is rough drafts of incomplete articles which require writing and further work: 'stubs', as they are called.[28] To produce a scholarly article in Wikipedia, one must actually also use the rest of the Web and give reasons for the choice of external links. Historians who lend themselves to such an exercise would thereby be subscribing to the principle of meaningful accountability which the creation of internal and external links presupposes. This would make Wikipedia writing a way of intelligently imparting a more general type of knowledge for the benefit of all, depending on the relevance of such links. The collective and interactive language used in Wikipedia articles dictates the style of digital history found in the encyclopaedia within a collective Web 2.0 framework.

The building of a hypertext architecture in typical Web 2.0 sites, by several different hands, develops in three areas which have to be controlled individually and collectively: the building of the logical area (the formal structure of a Wiki article and its links), that of the visible area (the historiographical content of the entry, the 'Wikification') and, lastly, that of the active area, where the reader can carry out chronological checks on changes and versions, discussion is encouraged, positive corrections can be suggested and all interactive Wikipedia operations can be carried out between authors and readers in a Web 2.0 environment. Discussions that are important from the point of view of the interpretation of events and their public use are sometimes very animat-

28 *Wikipedia: Stub*, URL: [http://en.wikipedia.org/wiki/Wikipedia:Stub].

ed and heated in Wikipedia, and can come close to exchanges of abuse before compromises are reached.[29]

Another feature of Wiki, lastly, is the limitless opportunity it offers for comparing detailed articles in a framework rich in cultural and linguistic differences, and for preserving those differences against a general background in which such cultures are being globalised – Wikipedia as a social network distributed throughout the Web and in all languages.[30]

Nicola Labanca, a specialist in the history of Italian colonialism, has written a critical review of all the articles on this subject in Wikipedia.it, without then thinking of correcting them for the benefit of anyone who might want to go on to read the articles in question.[31] Labanca asks the basic critical questions about the articles on Italian colonialism: what are we reading? Who is writing? ('Experts' are not so easily identifiable as in the traditional media used for publishing the output of historical research.) Who was it written for? (The level of the writing.) When was it written? (This question has to do not only with the date on which an article and amendments to it were written, but also with the relationship to the historiographical 'time' it was written in). Putting together an article in Wikipedia should demonstrate the skill shown in discussing the most recent work conducted by historians. The content of Wikipedia articles needs to be evaluated in the light of other tools on the Web and of references to written material and traditional historiography, by people who know the subject.

Thus, Roberto Balzani, a specialist in the birth of Italy as a nation-state, the 150th anniversary of which, the *Risorgimento*,[32] is being cele-

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29 See, for instance, the 'war' of changes which broke out over the bomb which the anti-Fascist GAP partisans blew up in the Via Rasella in Rome on 23 March 1944, as regards the use of the terms 'outrage' or 'attack'. (*Via Rasella*, URL: [http://it.wikipedia.org/wiki/Via_Rasella]). Discussion: [http://it.wikipedia.org/wiki/Discussione:Fatti_di_via_Rasella]. Regarding this typical incident, see "Wikipedia, Bolletino dal fronte", in *Storia in Rete*, No. 54, April 2010, p. 87.

30 It has been said that "a fully collaborative, open enterprise like Wikipedia can also take account more easily of the particular sensitivities of groups which are under-represented in the dominant culture and thereby avoid the more subtle, more unconscious forms of bias", in Vandendorpe, C., "Le phénomène Wikipedia: une utopie en marche", in *Le Débat*, 148, 2008, p. 17-30.

31 Labanca, N., "Impero coloniale italiano", URL: [http://it.wikipedia.org/wiki/Impero_coloniale_italiano], in *Il mestiere di Storico*, *Annale VIII della SISSCO*, 2007, p. 509-512, URL: [http://www.sissco.it/fileadmin/user_upload/Pubblicazioni/annali/annale8/risorse-digitali.pdf].

32 Balzani, R., "Risorgimento, URL: [http://it.wikipedia.org/wiki/Risorgimento]/Autori: Wikipedia. L'enciclopedia libera/Data realizzazione: non indicata/Data ultimo aggiornamento: 28 giugno 2008/enti proponenti: Wikimedia Foundation/Tecnologia: MediaWiki/ente ospitante: Wikipedia/Accesso: libero/Ultimo accesso: 28 giugno

brated in 2011, also comes out against the work of digital historians in Wikipedia and subjects it to an 'external' critique, not considering the possibility of directly intervening in the encyclopaedia. Excellent though this critique is, it revolves only around his own knowledge of traditional, printed encyclopaedic works. Balzani looks for a structure, for coordinators, for identified authors, for an index of entries comparable to a real editorial plan. But in Wikipedia giving the author's name would not be enough. There would also, he says, have to be proof of an academic pedigree, which would qualify the person to write about a subject as a recognised scholar and specialist. Entries in Wikipedia should be peer reviewed. Such forms of authority do not, however, exist 'visibly' in an open encyclopaedia. The outcome is a discussion at cross purposes, between the owner of academic knowledge and this form of 'collective intelligence' which contributes to building up the content of Wikipedia.

A comparative study of the Italian and French Wikipedias identified an important point in the way they are structured: history entries in the French open encyclopaedia were often structured within special portals maintained and organised by research groups linked to universities. Italian Wikipedia was still, in 2007, lagging quite significantly behind in terms of 'scholars' taking responsibility for Wikipedia content.[33] The criticisms from Labanca and Balzani, who are among the best modern historians in Italy, demonstrate the inability of academic specialists to set themselves up as coordinators of activities which open university learning up to the general public; their inability to take on the role of 'public historians'. Crossing the Rubicon, also becoming historians for a wider public by using open knowledge platforms, understanding the particular rationale behind Wikipedia, which sets out to give a large number of readers a better knowledge of history – none of this is yet on the agenda.

Many academic historians, in fact, put themselves at variance with the rules of communication on the Internet, which, in its Web 2.0 guise, presupposes that the message itself becomes meaningful through a collective activity seen as collective peerage of the contents. Messages on two different media, the traditional encyclopaedia and the participatory encyclopaedia, cannot be compared if we do not grasp the differences between them, the contexts in which they operate and the end purposes of each of them. The open encyclopaedia has been such a success, however, that we will have to learn to correct it for the benefit

2008", in *Il mestiere di Storico*, *Annale IX della SISSCO*, 2008, p. 123-124, URL: [http://www.sissco.it/fileadmin/user_upload/Pubblicazioni/annali/annale9/risorse_digitali.pdf].

33 Sodini, E., 'Da Diderot a Wikipedia', in *Memoria e Ricerca*, No. 26, 2007, p. 169-188.

of the younger generation who, in most cases, refer to Wikipedia rather than to their school textbooks. Must we, incidentally, go on writing the kinds of textbooks that have never appealed to the people who look things up in Wikipedia? Since historians are also in the cultural service of society, and since their role is to enhance people's critical knowledge of the past, why not use the instrument of mass dissemination to disseminate history which draws people in and stimulates active discussion in which they take part? Why not adopt the Web 2.0 principles of digital history and, in a more general sense, those of public history serving a wider social cause, bringing historical knowledge to the masses?

We need to interpret the aims of Wikipedia literally. Rosenzweig, at any rate, was very aware of this when he identified four types of pressing need in relation to the contents of the Web: the need to train students in using search engines properly; the need to train the critical faculty more thoroughly; the need to develop free access to high-quality sources; and the need to correct and expand the articles about history on Wikipedia.[34] The e-learning/e-teaching field, the interaction between students and teachers, is certainly made easier to negotiate by applications like Wikipedia which let users add to the content, thereby providing new ways of teaching the subject, under the supervision of teachers who decide to join in.

We should certainly use Wikipedia's congenital defects to help us set up and develop a critique of content on the Web. They constitute the best available current lesson in historical criticism in the context of digital information and online information searching. New entries must be evaluated collectively, using Web 2.0's didactic functions to best effect under expert supervision. We should set up groups to study, research and write, to produce exercises in writing digital history which are both individual and collective, on subjects chosen in advance. In the medium term, this will ensure that entries in the open encyclopaedia remain valid. Again, the correcting of previous mistakes is a third possibility we have for devising Web 2.0-type teaching activities using Wikipedia. There are mistakes in the printed, commercially available versions of encyclopaedias, but they cannot be corrected immediately. In the world of printed paper, unlike the digital world of Web 2.0, they survive until new editions are brought out.

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[34] According to the translation and adaptation by Cros, B., Capedebosq, L., Letouzey, D., Méry, V., Lévêque, M. and Boucker, A., "Internet en débats: Les historiens et Wikipedia. Can History be Open Source? Wikipedia and the Future of the Past", in *Historiens & Géographes*, No. 396-397, January 2007, URL: [http://aphgcaen.free.fr/chronique/397/aphg397.htm].

'Digital History' 2.0

As we have seen so far, Web 2.0 is a technological concept but also, in the field of digital history, a set of new practices which are open to discussion. It does not radically alter the questions which the introduction of digital technology raises for the humanities. My aim in the ensuing pages is to ask what changes there are in the new-generation history sites, but also in those set up in the Web 1.0 era which are being updated technically to cope with the new interactive services that Web 2.0 offers to historians.

The Web is primarily an instrument for communication and access to content; Web 2.0 adds active 'participation' in creating content and a merging of applications which enable it to be done. The Web has revolutionised the way a single person can communicate with everyone else. Might Web 2.0 be a means of guiding communication between individuals and a selected group of people – other historians of European integration, for example – rather than an unknown group of Web surfers? Might Web 2.0 be more conducive to crowdsourcing operations than to more generic open-format practices? A 2.0 context, in practice, makes for better communication and exchange of relevant content on the subjects and teaching or research objectives developed on websites. This will be shown in the examples below, which highlight the developments there have been in digital history projects starting within a 'static' Web era.

As far as history is concerned, Web 2.0 is seen as a development of the Internet from websites which used to be passively consulted by surfers. Sites of this kind now become 'platforms' with interactive services that can be used to run programs which meet the requirements of Internet users, often by processing the information and content on the site itself, in response to specific research requests or to the wish to collaborate on content. Web 2.0-type sites encourage user participation even in the field of humanities and history. The growth in blogs, wikis, user participation in cataloguing and contributing metadata (user tagging and folksonomies), the spread of the use of Twitter for 'live' sharing of seminars and conferences with a user group, all this is certainly the most visible feature of this Web 2.0 stage of active 'interference' in site content by users, as well as being a sign of the production of collective information flows for particular audiences. Such practices define the current state of digital history – without having to avail ourselves of a marketing operation going by the name of 'Web 2.0' – making it possi-

ble to describe history online in comparison with earlier stages of history on history sites.[35]

The promises made by digital history were discussed at an 'unconference' held in Virginia in May 2008, THATCamp (The Humanities and Technology Camp) – a Web 2.0-type conference in which everyone was invited to take part.[36] Dan Cohen, the inventor of Zotero, who organised the event for the first time at George Mason University, used his blog to put out a daily update, a summary with links to more detail on the most significant contributions[37] in the area of digital humanities.[38] This gave people the feeling of being at the conference as it happened. Cohen stresses the fact that Web 2.0 also represents the technological capacity to communicate and exchange information and content using new interactive programs (application programming interface – API), in contrast to first-generation websites, which only gave access to content produced without any input from readers and users.[39] Cohen now suggests keeping track not just of these immediate contributions but also of those from many other specialists in the digital humanities, following them directly through the social network Twitter,[40] an instantaneous means of communication.[41]

It is still difficult to understand and cope with the changes the discipline is going through because of this Web 2.0-type technology, even for digital history specialists. It was already possible to interact with readers in this way in the best digital history projects, but designers are now trying to act on the actual practicalities of making contact, stimulat-

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35 See the definition of digital history by Mintz, S., in "Interchange: The Promise of Digital History", in *The Journal of American History*, No. 2, 2008, p. 452-491, URL: [http://www.historycooperative.org/journals/jah/95.2/interchange.html], paragraphs 25-29.

36 URL: [http://thatcamp.org/2010/about/]. The THATCamp movement, coordinated by Amanda French and sponsored by the Mellon Foundation, has since spread widely outside the United States. URL: [http://chnm2010.thatcamp.org/03/23/greetings-from-the-new-regional-thatcamp-coordinator/]. It reached Italy in March 2011. URL: [http://www.thatcampflorence.org].

37 Cohen, D., URL: [http://www.dancohen.org/].

38 THATCamp 2008, URL: [http://chnm2008.thatcamp.org/].

39 Cohen, D., "Creating Scholarly Tools and Resources for the Digital ecosystem: Building Connections in the Zotero Project", in *First Monday*, 13/8 – 4, 2008, URL: [http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2233/2017].

40 Cohen, D., "Cooperative Web tools and user-generated content for cultural heritage: advantage and limits", in *Cultural Heritage on line. Empowering users: an active role for user communities*, *International Conference, Florence, 15-16 December 2009*, *Part I (Plenary session, Parallel session I. Digital library applications & interactive Web*, p. 28-32, URL: [http://www.rinascimento-digitale.it/eventi/conference 2009/proceedings-2009/Proceedings-part1.pdf].

41 Digital Humanities Now, URL: [http://digitalhumanitiesnow.org/].

ing a kind of positive action which often blows the academic world's hierarchies apart. Towards the end of the 1990s, Web 2.0 brought in new kinds of writing in second-generation websites which were an attempt to respond to and channel, as effectively as possible, the needs of a wide audience for history and participation in history sites.

Undeniably, interactive applications which enable information and documents to be gathered directly from the readers of history sites, sometimes called crowdsourcing, have, over the last few years, changed the way history appears on the Web by attracting anyone and everyone to contribute, using technology which is made simple for the end-user. Tracking developments in digital history in the United States[42] and trends in new social networking platforms on European sites gives us a better picture of what we are faced with in the world of history with Web 2.0.

In their 1998 book on the presence of the past in American society with the discovery of popular history-making, an attempt to understand how Americans became actively involved in reconstructing their past, Roy Rosenzweig and David Thelen used a questionnaire drawn up, with them, by sociologists from the Center for Survey Research at the University of Indiana.[43] The most telling results of the investigation into the use of the Web as a medium for communicating history and sources for past events are those which show how much the Web is trusted as compared with the various media used for communicating 'the past'. These results showed beyond doubt that there was a clear preference for *history without middlemen* or, at least, history *without historians as middlemen*. The American public prefers the public work on reconstructing the past done by museums and cultural heritage programmes which allow a direct personal experience on 'sources of the past'. Such an experience is offered by non-university institutions in the form of 'public history' activities which become 'digital public history' with new-generation Web 2.0 sites.[44]

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42 Noiret, S., "La 'nuova storiografia digitale' negli Stati Uniti (1999-2004)", in *Memoria e Ricerca*, No. 18, 2005, p. 169-185, URL: [http://www.fondazionecasadioriani.it/modules.php?name=MR&op=body&id=339].

43 Rosenzweig, R. and Thelen, D., *The Presence of the Past: Popular Uses of History in American Life*, New York, Columbia University Press, 1998. See "Appendix 1, *How we did the survey*", p. 209-231, also accessible on the CHNM site which supplements the book, with a great deal of material. URL: [http://chnm.gmu.edu/survey/].

44 "Although they trusted college professors as experts, Americans expressed a strong preference for the direct experience that museums seemed to offer." Thomas III, William G., § 124-127, in Cohen, D., Frisch, M., Gallagher, P., Mintz, S., Sword, K., Taylor, A.M., Thomas, W.G. and Turkel, W., "Interchange: The Promise of Digital History", *op. cit.*

So the Web – and the example of Wikipedia described above – makes it possible for academic historians to meet wider audiences with their need for history. One of the discoveries Roy Rosenzweig and David Thelen made among the surprising results of their analysis was that people 'preferred to make their own histories.'[45] As early as 1997, the authors had already grasped the narcissistic potential of the Web and the desire of people in general to construct a multi-variable history, often centred on the experience of the individual and on his or her community. This certainly then led Rosenzweig on to the thought that through the Web, anyone was a potential historian. At the same time, he observed, it made the work of professional historians even more important, for the tasks of filtering, organising and interpreting sources and information. The professional historian's role was that of a middleman in relation to this new form of user-generated content activity performed by a wider public on the Web.

Nowadays, the Web is the most useful medium for writing and putting forward one's own history and documents for a wide audience. Better-developed technical processes for collaboration between reader and content creator have been made possible by Web 2.0 technologies. Because of this situation, which was analysed between 2001 and 2003 on history sites in Italy,[46] the retreat of academic historians from the Web is certainly causing enormous problems when it comes to validating history content which is put before the general public without waiting for the 'specialists' to become involved.

William G. Thomas III, director of a digital history centre at the University of Nebraska, talks about this divide between communities of academic historians and those professional historians who, by contrast, use the Web to do history. The interactive principles underlying Web 2.0 are precisely what would make for a more effective osmosis between the two types of history and those who practise them, inside and outside universities,[47] what is nowadays often only the case with digital public

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45 Rosenzweig, R. and Thelen, D., "The Presence of the Past: Popular Uses of History in American Life", *op. cit.*, p. 179.

46 Cf. the project carried out by the Istituto per i Beni Culturali dell'Emilia-Romagna in Criscione, A., Noiret, S., Spagnolo, C. and Vitali, S., *La Storia a(l) tempo di Internet: indagine sui siti italiani di storia contemporanea, (2001-2003)*, Bologna, Pàtron editore, 2004. My contribution ('Storia e memoria nella rete', p. 295-352) deals with the 'mirage' of a form of historians' history on the Web.

47 Thomas William writes: "Although historians in academe have largely continued to produce scholarship without engaging these groups, we are already seeing whole subdomains of specialized knowledge and original sources take shape on the Web and become the de facto source archives for historians to consult. At the very least academic historians will soon be referring to this scholarship in their notes or citations. We might imagine a more proximate collaboration in which historians team up

history activities. The professional barrier between them is not just a generational issue, or a question of scholarship or ability to understand the new languages of communication. Faced with the new interactive media such as Web 2.0, professional historians find it difficult to get involved as developers rather than – as in most cases – passive readers of digital content. However, even when a scholarly exegesis of the contents of the Web is attempted, it takes the form of a search for the more stable paradigms of the world of the written book, which no longer exists on the Web. Where is the author of a Wikipedia entry other than part of a group, which presupposes incorporating the knowledge possessed by readers themselves and doing it by following an editorial plan which was not designed prior to the cumulative development of such a shared knowledge?

The United States and Europe have invested massively in the great digitisation project.[48] Not only private firms, especially Google, but also university libraries and digital history centres have, in the space of ten years, revolutionised a great many areas of history and extended the possibilities for scholarly research and a more coherent kind of teaching through the very substantial number of primary sources which have been digitised. Forms of 'expressive' history have been put onto the Web: for instance, the doctoral theses from the Gutenberg-e project set up by Robert Darnton[49] supply their primary sources online, together with their historiographical thinking, and organise the actual writing of the history by controlling the semantic relationships supplied by hypertext links inside and outside the project. However, it is hard for this new form of historiography to fit in with the traditional work of historians. In 1997, Janet H. Murray[50] remarked that the new media were still permeated with methods of communication belonging to previous forms of media: websites were just 'multimedia scrapbooks', compendiums of articles and documents to be flicked through in the traditional way side by side with the contents of various other kinds of media such as books, images, films and audio recordings.

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with these groups. The Web 2.0 movement might allow historians and the public to make history together rather than separately. The professional barriers are significant, but our professional relevance is also at stake in the digital age." § 126-127 in *Interchange: The Promise of Digital History*, *op. cit.*

48 Polastron, L., *La Grande Numérisation. Y a-t-il une pensée après le papier?*, Paris, Denoël, 2006.

49 *Gutenberg[e], Prize from the American Historical Association & Columbia University Press for dissertations and monograph manuscripts in history*, URL: [http://www.historians.org/prizes/gutenberg/]; Darnton, R., *What Is the Gutenberg-e Program?*, URL: [http://www.historians.org/prizes/gutenberg/rdarnton2.cfm].

50 Murray, J., *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*, New York, Free Press, 1997, p. 65-68.

Nowadays, digital history[51] responds to changes in the Web and does history which goes further than academic books and essays. This Web 2.0 digital history 'field' on history sites themselves seems to promote and incorporate into online history work most of the methods needed in order to organise UGC activities and thereby, according to O'Reilly, be a part of Web 2.0 as such. Digital history is therefore an attempt to establish a new stage in the relationship between historians, their audiences and the digital sphere, in a society where the Internet rules and forces us to overhaul the epistemological behaviour of many disciplines in the humanities, including history. Web 2.0 digital history consists, in fact, of practices which call the traditional methods on which the knowledge of historians is based into question and challenge the traditional methods of the profession, to the extent of sometimes questioning its very reason for existing.

Collective-memory Sites and 'First-person Storytelling': Examples of Web 2.0 Digital History Sites

It used to be important to understand whether there was a case for talking about a split between a history Web characterised by Web 2.0 applications, and what the Web used to give us until the emergence of interactive projects like Wikipedia.

Let us start with the history portal known as the World Wide Web History Central Catalogue. Since 1993, this has offered a selection of history sites arranged in geographical and thematic categories.[52] So far the portal has not offered any choice of history sites in a Web 2.0 category, and no maintainer has felt the need to set up such a category for the purpose of presenting history sites, as is the case with the regularly updated major catalogues of history sites such as intute in Britain.[53] But should there be a category to differentiate between the various types of history sites?

We may well ask if there is any point in dividing sites up according to their technological features or the interactive services on offer, when we are talking about a discipline. Digital history consists primarily of four areas – information and communication, sources, writing, and teaching[54] – in which historians find their tools and construct their new

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51 *Interchange: The Promise of Digital History*, *op. cit.*

52 WWW VL History Central Catalogue, URL: [http://vlib.iue.it]. The last created index in February 2011, *WWW VL History Mexico* by Adriana Luna-Fabritius, URL: [http://histmexico.wordpress.com/], does not index websites under a Web 2.0 category.

53 intute, URL: [http://www.intute.ac.uk/history/].

54 British Library and JISC, "Information behaviour of the researcher of the future. A case study II: A user evaluation of Intute", in *CIBeR*, University College London,

history-writing practices.[55] These domains are populated with interactive sites, blogs, wikis, 'invented archives' based on the input from their users.

Let us, in fact, go back to the programme the AAHC offered us, to identify the domains in which digital historians are supposed to have discovered new practices. The first chapter of the aborted conference on 'What does Web 2.0 History involve' would have looked at the new applications, which emphasise the changeover to Web 2.0 and would also have accounted for the second chapter, 'How does Web 2.0 History differ from Web 1.0 History', not to mention the third, 'What does it enable us to do that could not be done in Web 1.0?'[56]

Quite clearly, these demands were aiming to describe technological changes, perhaps also epistemological changes, but were certainly not aiming to invent a new discipline. The internal and external criticism of sources, termed by the Benedictine monk Jean Mabillon in *De re diplomatica* (1681) as 'diplomatics', the science of documents, a specific approach adopted by mediaevalists for dealing with their documents, is the essence of a critical method to be applied in digital contexts. The shift to Web 2.0 alters neither the problems raised at the outset by the introduction of digital procedures nor the need to work out a critical method suited to the new Internet medium.[57] Authenticating, placing in context and describing sources accurately are still the basic stages in historical research in the digital arena too.

To illustrate what could be called 'change with continuity', I should now like to specifically describe some examples of 'new' forms of content and new possibilities for interacting which Web 2.0 has put before historians and history on the Web. They touch on three fields: crowdsourcing activities in the context of archive sites, sites incorporating outside programs (mash-up) to enable interactivity with users, and

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16 January 2008, URL: [http://www.jisc.ac.uk/media/documents/programmes/reppres/ggintutereport.pdf].

55 The division of online history resources into four categories seems not to have changed since the 1990s, notwithstanding the technological changes the network has been through. Cf. "Storia e Internet: la ricerca storica all'alba del terzo millenio", in Noiret, S. (ed.), 'Linguaggi e Siti: la Storia On Line', in *Memoria e Ricerca*, No. 3, 1999, p. 7-20.

56 American Association for History and Computing, *Annual Meeting Cancelled for 2008: Web 2.0/History 2.0: Making History Together*, *op. cit.*

57 Criscione, A., Noiret, S., Spagnolo, C. and Vitali, S., *La Storia a(l) tempo di Internet*, *op. cit.*, which sets out four paragraphs subdivided into sub-sections as a way of critically evaluating websites (p. 31-33). The form to critically analyse websites was then translated into French in Rygiel, P. and Noiret, S. (ed.), *Les historiens, leurs revues et Internet (France, Espagne, Italie)*, Paris, Editions Publibook Université, 2005, p. 29-32.

collective-memory sites on which users narrate their own histories. Web 2.0 offers an easy way to use and incorporate, into a single website, the contents of other sites, thanks to what are called widgets. But these devices, which anyone can import into a social network, are also an integral part of the technical operating systems of new types of history website. In this case, the term used is actually mash-up, or the incorporation of applications designed for other sites as working tools or as more complex ways of adding documentation and information to a site. Virtual environments like these are very useful for setting up a variety of multimedia representations of history, in many forms, offering textual information, of course, but also embedded maps, representations of the globe, podcasts, videos, multimedia databases, etc.

Hybrid sites of this type where documents are embedded in historical timelines and geographical maps, such as the World Digital Library,[58] also often incorporate the cartographic potential of *Google Maps* and *Google Earth* into the documentation they provide, as a means of situating historical documents and information geographically. They add eyewitness testimony or oral history interviews, accounts in podcast form as well as videos, taking them from, for instance, iTunes or YouTube; or they decide to transfer the whole lot to a completely virtual, three-dimensional environment such as *Second Life*. The aim of this is to increase the number of direct experiences in the virtual sphere, potentially important for the teaching of history[59] but also for scholarly research.[60]

An example of crowdsourcing which uses a number of techniques imported from other sites and incorporated, for the purposes of the project, using the *mash-up* principle, is an interactive archive like *HistoGrafica*, whose purpose is to publish historical photographs of everyone's towns and cities – 'your photos' – and thus to build an image bank linked to *Google Maps*, when a search is made in the database.[61]

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58 The World Digital Library "makes available on the Internet, free of charge and in multilingual format, significant primary materials from countries and cultures around the world", URL: [http://www.wdl.org/].

59 On Second Life's capacity for teaching, see Livingstone, D. and Kemp, J. (ed.), *Second Life Education Workshop. Proceedings of the Second Life Education Workshop at the Second Life Community Convention San Francisco, August 20th, 2006*, Paisley, 2006, URL: [http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.93.6174&rep=rep1&type=pdf#page=22]. On Second Life, see Rymaszewski, M., Au, W., Wallace, M. and Winters, C., *Second life: the official guide*, London, 2006, URL: [http://books.google.it/books?id=QGdLXKq9Bs0C&lpg=PT1&ots=eWnqLyDswN&dq=second%20life&lr=&pg=PT178#v=onepage&q=&f=false].

60 See Salvatori, E. and Simi, M., "Beni culturali e ambienti virtuali: sfide e problemi di un passato a tre dimensioni", in *Memoria e Ricerca*, No. 34, 2010, p. 171-186.

61 *HistoGrafica*, old pictures of your town, URL: [http://www.histografica.com/].

The mediaeval history site *Regnum Francorum Online*[62] is another interesting example of what can be done with *mash-up*, of bringing different technologies together as a way of offering original solutions to specific epistemological problems. This particular website is dedicated to the digital history of Frankish Europe. Giving the geographical location – geotagging – of each source makes it possible to build up a map of Europe in the Merovingian and Carolingian periods from 614 to 840, using primary sources and references to the literature for each individual digitised source discovered by the author.[63] The project adds hyperlinks on the map to digitised published versions of more than 3 500 mediaeval sources available free of charge online, and more are steadily added as new digital mediaeval sources become available online. The digital sources incorporated into the maps come from digital scientific mediaeval history archives such as the dMGH – *digital Monumenta Germaniae historica*.[64]

Historycast, an Italian podcasting site, is aimed at the general enthusiast capable of downloading audio files from iTunes. It is also a Web 2.0 history site[65] which makes use of the effects that can be obtained with word clouds, keeps its users informed (RSS feeds), triggers

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62 *Regnum Francorum Online*, URL: [http://www.francia.ahlfeldt.se/].

63 "The purpose of the site, among others, is to compile links to Online and freely available primary sources and literature covering this period, reference the sources in relation to location, institution and person, and relating primary sources to literature, and making the sources searchable via a map-interface and via ordinary searches of title, author and type of source. […] Among these, more than 2,200 [sources] are geo-referenced, and visualised on maps. The maps are drawn in two different ways: 1) with a self produced map-drawing library, and 2) as an implementation in Google Maps, […]", "Interactive maps and sources of the Frankish Kingdom", email from Ahlfeldt, J., 10 December 2009, to the European History Primary Sources portal. The entry on *Regnum Francorum Online* in EHPS, URL: [http://primary-sources.eui.eu/website/regnum-francorum-online-%E2%80%94-free-online-sources-and-literature-early-medieval-europe]. On the role of a portal in providing access to digital sources such as EHPS, consult my essay 'The Digital Historian's craft and the role of the European History Primary Sources (EHPS) Portal', in *Archivi & Computer. Automazione e Beni Culturali*, Vol. 19, No. 2-3, 2009, p. 5-41.

64 Digital Monumenta Germaniae historica, URL: [http://www.dmgh.de/].

65 To start with, Enrica Salvatori in Pisa just meant to give her students easier access to mediaeval history lessons URL: [http://Web.arte.unipi.it/salvatori/podcast.xml]. It soon became obvious that the podcasts were a great success far beyond the 'frontiers' of her course. Gasperetti, M., "Lezioni di Storia Medievale in versione Web", *Corriere della Sera*, 28 July 2006, URL: [http://www.corriere.it/Primo_Piano/Scienze_e_Tecnologie/2006/07_Luglio/27/podcast.shtml]. Salvatori therefore set up a podcasting site going beyond mediaeval history called *Historycast, la storia da ascoltare*, URL: [http://www.historycast.org/]. Research into the usefulness of podcasting in history studies has been done by the author herself, Salvatori, E., "Hardcore history: ovvero la storia in podcast", *op. cit.* See also her article in this book.

interest from surfers by showing which are the most popular podcasts, publicises itself in social networks through a Facebook group,[66] and does its best to mobilise all easily available technologies and encourage a debate with its users.

Lastly, Web 2.0 history sites are often associated with memory-gathering operations aimed at reconstructing the recent past by compiling testimony from those directly involved. Individual 'memories' and oral history activities are grouped together in sites containing eye-witness accounts of 'collective' events or simply 'stored' in digital form. What the older generations remember does not just vanish into thin air, but fills sites whose purpose is to preserve memories and keep them alive. Projects of this kind, a combination of history and memory, are certainly the most characteristic forms of Web 2.0 history: 'we connect you to history', announces the WorldHistory.com project that aims to use existing interactive technologies to connect individuals to historical events and documents.[67]

Playing a direct part, as a citizen, in memory-based sites like the European site 'Paths of Memory',[68] in contrast to schemes which kept surfers 'passive', also means making one's own contribution to the content and making sure that individual memory (and memories) is brought up to date in the present on the sites themselves, actively filtered by a professional historian.[69]

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66 Historycast in Facebook, URL: [http://www.facebook.com/group.php?gid=45418281753].

67 WorldHistory.com, URL: [http://www.worldhistory.com/].

68 Paths of Memory, URL: [http://www.lescheminsdelamemoire.net], lists the most important sites about the history of the First World War, the Spanish Civil War and the Second World War in Europe. The site was the outcome of collaboration between the Mémorial de Caen (France), the Haus der Geschichte der Bundesrepublik Deutschland (Bonn, Germany), the D-Day Museum, (Portsmouth, UK), the Centre Guerre et Sociétés contemporaines, CEGES (Brussels, Belgium), the Museo de la Paz (Gernika-Lumo, Spain) and the Istituto per i Beni Culturali della Regione Emilia-Romagna IBC (Bologna, Italy). See Paticchia, V. and Zurzolo, P. (ed.), "Percorsi della memoria", in *Rivista dell'IBC*, Vol. XI, No. 3, 2003.

69 This is what the International Coalition of Sites of Conscience, previously called the International Coalition of Historic Site Museums of Conscience, tries to do; it actively maintains eye-witness accounts and historical memories of people who oppose dictatorships throughout the world. URL: [http://www.sitesofconscience.org/]. On these issues, consult Winter, J., "Historians and sites of memory", in Boyer, P. and Wertsch, J.V., *Memory in Mind and Culture*. Cambridge, Cambridge University Press, 2009, p. 252-271 and, by the same author, "The performance of the past: memory, history, identity", in Tilmans, K., Van Vree, F. and Winter, J. (ed.), *Performing the past: memory, history, identity in modern Europe*, Amsterdam, Amsterdam University Press, 2010, p. 11-23.

Connecting individuals to digital history projects makes the Web an effective way of breathing new life into the tensions and interactions between individual and collective memories, to use the concept first introduced by Maurice Halbwachs in 1925.[70] These participative activities are creating a method for revealing the past in the present and vice versa which often does not take into account the work of historians.

This often exasperated quest for individual pasts is now expanding on the Web. It brings the present back to life by introducing into it individually claimed fragments of the past which often contrast with history as written by historians. These real ghosts of the past haunt the present, as in the poetic words of the song *Homeland* by the musician John Hiatt.[71] A popular song as a way of communicating a collective feeling conveys even more the public, universal importance of going back constantly to memory. Memory gives a meaning, an almost sacred depth, to 'lived' experience which 'materialises' from generation to generation up to the present day.

Let us now look at some of the major sites for the conservation of individual memories in all their forms: written, heard, filmed and photographed.

A typical Web 2.0 social network of the kind already mentioned several times in previous pages is *Flickr*.[72] The images – especially the photographs available on *Flickr* – belong to private individuals who upload their collections, their individual memories, in crowdsourcing operations. They also come from institutions which decide to hand over their historical documents. Research groups consisting of enthusiasts, collectors and historians have also decided to set up thematic sites within *Flickr*. Their aim is to mobilise surfers' knowledge around a theme and in that way make use of the site which certainly best typifies the digital Web 2.0 world where images are concerned, as a means of solving the problems of describing and attributing photographs.

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70 On the discussion between Marc Bloch and Maurice Halbwachs on the concept of collective memory: "Public History e storia pubblica nella rete", in *Ricerche Storiche*, *op. cit.*, p. 309-313. See Wertsch, J., "Collective Memory", in *Memory in Mind and Culture*, *op. cit.*, p. 117-136.

71 "You can't bury anything, men or nations, Old memories, old vibrations, The pain doesn't stop just because the killing ceased", sings Hiatt, J., *The Open Road*, 2010, URL: [http://www.johnhiatt.com/]. See The John Hiatt Archives, URL: [http://www.thejohnhiattarchives.com/lyrics/homeland.html].

72 Flickr, URL: [http://www.flickr.com]. Stewart Butterfield, who founded Flickr with his wife Caterina Fake, explained that "Flickr's biggest innovation came from recognizing the social nature of photography. 'It's meant to be shared, talked about, pointed to, saved, archived and available by as many means as possible,' he says", *USA Today*, 26 February 2006, URL: [http://www.usatoday.com/tech/products/2006-02-27-flickr_x.htm].

One of these is the interactive project *PhotosNormandie*,[73] which sets out to add attributions and/or pick up and correct errors of attribution of photographs published in freely accessible form on the Web[74] and also on a scholarly institutional site, *Archives Normandie, 1939-1945*.[75] Flickr is used here as a collective working tool to 're-document' images which have slipped through the descriptive work done by professional historians, as Patrick Peccatte tells us elsewhere in this book. A sign that *PhotosNormandie* is a credible scholarly success is that the new captions and attributions matched up by using metadata (*tags*) are now being used in academic works on the history of the Normandy landings. This is an example of the use of the best techniques for crowdsourcing and user-generated content, deriving from collective work supplied by the site's users. The input from surfers is then validated by the group of experts who constitute its editorial board. The authors of the project have discovered, in fact, that, although it is open to anyone, the documenting work is actually being done by a dozen or so regular participants who are all specialists in the subject and come from Normandy. In other words, subject-related, specialist information is still being accessed, in the age of Web 2.0 and of public, participatory digital history, in new knowledge networks and with new forms of technologies, albeit without abandoning specialist skills. These skills, however, are no longer confined to the academic world, thanks to digital history 2.0 activities.

Flickr is also receiving attention from many global cultural institutions which are banking on 'digital culture'. A collection of important historical photographs relating to Abraham Lincoln (1809-1865) from the Library of Congress in Washington, for example, has been put up on Flickr to mark the 200th anniversary of the US President's birth, to encourage visitors to send in comments and suggestions and thereby generate opportunities for acquiring new knowledge through social networks.[76]

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73 Albums from *PhotosNormandie: la bataille de Normandie en photo*, URL: [http://www.flickr.com/photos/photosnormandie]. See the chapter by Patrick Peccatte in this book.

74 Peccatte, P., "Contenu généré par les utilisateurs: quelle légitimité?", in *Archimag: tribune ouverte*, September 2009, URL: [http://www.archimag.com/article/contenu-g%C3%A9n%C3%A9r%C3%A9-par-les-utilisateurs-quelle-l%C3%A9gitimit%C3%A9].

75 Archives Normandie, 1939-1945 is a collection of photographs that is free of copyright, URL: [http://Web.archive.org/Web/20120530082030/http://www.archives normandie39-45.org/].

76 *Abraham Lincoln (1809-1865)*, in Flickr, URL: [http://www.flickr.com/photos/library_of_congress/sets/72157613324367705/]. Visitors' comments, URL: [http://www.flickr.com/photos/library_of_congress/sets/72157613324367705/comments/].

The Commons[77] is another project which uses *Flickr* to pool the legacy of freely accessible historical photographs. The aim is to give users an 'opportunity to contribute to describing the world's public photo collections'. There are now (as of August 2010) 46 international cultural institutions involved. The *London School of Economics*, for instance, has uploaded photographs which trace its entire history, as well as a fine series of early 20th-century British and Soviet political posters.[78]

New activities on new Web 2.0 sites by cultural institutions, as well as ordinary network users, like putting sources online, are a sign of this radical change in the use of digital history sites – the surfer as prime actor of the network – as compared with the Web in the 1990s. These changes, which are turning some history sites into specialist knowledge networks, certainly illustrate the drastic switch taking place, on Web 2.0 history sites, in the actual meaning of 'historiography' as an activity, and point to a new way of constructing and viewing history as being sometimes written in the first person. Today's sources are digital and preserving them for the future is one of the most important objectives facing us at the beginning of the 21st century. On the basis of pioneering British schemes to devise best practices for archiving digitised data from grass roots communities and small groups, like the *Community Access for Archives Project* between 2003 and 2004,[79] digital heritage conservation institutions as important as the Library of Congress in Washington now intend to enlist us all in the task by supplying the technological tools on the Web for helping to maintain everyone's memories through direct archiving of people's own documents.[80]

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77 Flickr, The Commons, URL: [http://www.flickr.com/commons/].

78 There is a note describing the project in EHPS, URL: [http://primary-sources.eui.eu/website/commons-les-organismes-publics-flickr-database].

79 "CAAP was a one-year pilot project […] in partnership with West Yorkshire Archives Service, Hackney Archives Department, Commanet ('the community archives network'), the National Archives of Scotland, the National Council on Archives, the National Library of Wales, and the Public Record Office of Northern Ireland […] CAAP investigated best practice in the area of community-archive relations, with a particular emphasis on online community archive projects. The main outcome of the project has been a flexible Best Practice Model for community archive projects, supported by the CAAP Final Report and a range of accompanying outreach material […] It is hoped that other local or national archive organisations, or organisations from other heritage sectors, will embrace the Best Practice Model as means of encouraging social inclusion, enabling archives to be taken to new audiences, and empowering potential archive users and archive professionals to work together to identify the resources users require, whether for family, community and local history, for lifelong learning, for educational projects or for other purposes." The National Archives of the UK: *Community Access to Archives Project*, URL: [http://www.nationalarchives.gov.uk/partnerprojects/caap/].

80 "Our photo albums, letters, home movies and paper documents are a vital link to the past. Personal information we create today has the same value. The only difference is

Then there are also the collective comments on the content of Web 2.0 sites. Collective filtering, based on the system devised by Amazon, which has successfully incorporated the buyers of commercial products into its portal by inviting them to comment on their own purchases, say what is special about them and describe their good qualities or what is wrong with them, is also spreading into the digital humanities field. This kind of content 'filtering' by users is often difficult to get going, even when developers rely on the new habits among the 'Google generation', who are used to incorporating site content using Web 2.0-type tools, especially when such users are associated with the research community and universities.[81]

What is easier to set up is the collective bookmarks in *Delicious*, long lists of bookmarks grouped by subject, which are of use to historians in specific fields. *D*elicious is a social bookmarking website used for archiving, searching for and sharing bookmarks.[82] There is also the social network *LibraryThing*,[83] which can be used to collect reviews made by the actual readers of books; each user thus creates his or her own reading list, and can meet 'friends' and set up discussions with other people who have read the same books. On *LibraryThing*, users can also search for information about books or particular subjects, by author or title or by using keywords entered by other readers to designate and classify their own books.

These kinds of social networks for exchanging and sharing information, though, are open to every discipline and are not typical of history in the same way as social networks built around invented archives which organise crowdsourcing practices and, especially nowadays, are characteristic of the way in which a history 2.0 is being implemented.

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that much of it is now digital. Chances are that you want to keep some digital photos, e-mail, and other files so that you – and your family – can look at them in the future. But preserving digital information is a new concept that most people have little experience with. Ensure that your digital materials last a lifetime by taking steps to preserve them." Library of Congress, *Digital Preservation. Personal Archiving: Preserving Your Digital Memories*, URL: [http://www.digitalpreservation.gov/you/index.html].

81 European History Primary Source – EHPS, URL: [http://primary-sources.eui.eu]. Only the EHPS on Facebook, URL: [http://www.facebook.com/pages/European-History-Primary-Sources/223099761969], gives users' comments.

82 Delicious, social bookmarking, URL: [http://delicious.com/].

83 The structure of the LibraryThing site content can be consulted on the "Zeitgeist" pages of each language version. For the English version, URL: [http://www.librarything.com/zeitgeist]. For the French version, URL: [http://www.librarything.com/zeitgeist/language/fre].

The main sites in that area are American. Before we venture across the Atlantic, however, special credit should be given to the innovative site of the Central European University in Budapest, *Parallel Archive* (PA). PA is being developed by George Soros's Open Society Archives (OSA) in Budapest, and most of the digitised archives are in Hungarian, with others in English, Romanian, etc.[84] According to its developers, PA is 'at once a personal scholarly workspace, a collaborative research environment, and a digital repository'.[85] It incorporates the Open Archives movement, preferring to give access to sources rather than to the academic literature which was the subject of the Budapest manifesto of 2002 and other Open Access initiatives.[86] PA gives its users a personal space where they can manage their primary sources, in the same way as the most recent Library of Congress scheme mentioned above; a collective working environment in which users can add and annotate collections from existing sources, can describe particular documents and set up discussions about sources, or collections of sources, and finally can describe documents with metadata.[87]

The devising of new typologies for archives invented through crowdsourcing is behind major American digital projects at the CHNM at George Mason University.

Projects of this kind, built with the open source CMS Omeka, set out to offer 'new ways of collecting, preserving, and presenting history'. The purpose of displaying documents online in the case of the invented archive project site *Gulag: Many Days, Many Lives* is to confront the visitor with the reality of life in a concentration camp through direct contact with as wide an audience as possible by means of ordinary people's testimony about the Gulag. The site's authors try to bring history in an interactive way to an audience of non-specialists who are interested in the subject and appreciate online exhibitions. Its developers at the CHNM are thus trying to collect testimony and new sources from all over the world.[88] 'People prefer to tell their own stories'[89] and this

84 Open Society Archives, URL: [http://www.osaarchivum.org/].

85 Parallel Archive, URL: [http://www.parallelarchive.org/content/about].

86 Budapest Open Access Initiative, URL: [http://www.soros.org/openaccess]. Hagemann, M., "Five years on. The impact of the Budapest Open Access Initiative", in Chan, L. and Martens, B. (ed.), *ELPUB2007. Openness in digital publishing: Awareness, discovery and access: Proceedings of the 11th international conference on Electronic Publishing held in Vienna, Austria, 13-15 June 2007*, Vienna, ÖKK-Editions, 2007, p. 153-160, URL: [http://elpub.scix.net/data/works/att/168_elpub2007.content.pdf].

87 See the chapter by Eva Deak in this book.

88 Gulag: Many Days, Many Lives, URL: [http://gulaghistory.org/].

belief takes concrete form in the way the Gulag project is designed to encourage users to comment on the eye-witness accounts and provide direct sources for the history of life in the camps to be digitised to form the online invented archive: 'visitors also are encouraged to reflect and share their thoughts about the Gulag system'.

This principle of identifying survivors' accounts was first applied in Israel in the project to rebuild the families of Holocaust victims, the *Central Database of Shoah Victims' Names*, which calls on the world-wide Jewish community to become directly involved in reconstituting the archive of those who disappeared by supplying new testimony.[90]

The *September 11 Digital Archive* project, again at the *Center for History and New Media*, in collaboration with the Library of Congress and the City University of New York, with financing from the Alfred P. Sloan Foundation, is a model of very large-scale crowdsourcing and offers top-quality documentary content. Much more than an online display, it is an archive repository built from scratch out of multimedia digital formats of documentation received as a result of enormous public involvement in the project. The *September 11 Digital Archive* has availed itself of the widest possible range of digital media to compile, preserve and present evidence of the past in the virtual space formed by the site. More than 150,000 first-hand accounts have been contributed to the site by its own audience. Thousands of e-mails, photographs and digital images have been incorporated into it.

Even the project associated with the real New York museum and memorial, the *National September 11 Memorial & Museum*, on Liberty Plaza, where the Twin Towers used to be, has opened a crowdsourcing site, linked to the exhibition rooms in the museum, which is turning into a Web 2.0-type virtual museum tour called '*Make History*'.[91] The intention of the site's developers is to get members of the public involved to the point of creating history directly from eye-witness accounts and 'memories' of the event, without mediation by professional historians, another major feature of Web 2.0. The structure and graphical presentation of the site are, in fact, typical of social networks with photographs. The *Make History* home page presents a selection of photographs describing the different angles from which the event can be viewed. There is a button in the centre that you can press to 'add your story'. It opens a

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89 This was citing the example of the investigation of popular usages of American history by Thelen and Rosenzweig: Thomas, III, William G., § 124-127, in "Interchange: The Promise of Digital History", *op. cit.*

90 Yad Vashem, The Central Database of Shoah Victims' Names, URL: [http://www.yadvashem.org/wps/portal/IY_HON_Welcome].

91 Make History, URL: [http://makehistory.national911memorial.org/].

menu presented in the first person through which visitors can add photos, videos or stories.

Another history site offering more complex forms of storytelling is the site on which the late 19th-century manuscript diary of a midwife called Martha Ballard has been published by a working party from the centre for the history of film at Harvard University, on a server belonging to the CHNM at George Mason. This is a Web 2.0 digital history project which gives readers an understanding of the day-to-day life of a small community in the years just after the American Revolution. Martha Ballard's 200-page diary tells us about the lives of her fellow townsfolk in Hallowell, Maine. Ballard kept up ties with the families of the 816 children she helped bring into the world between 1785 and 1810.[92] The purpose of the website is to publish fragments from the diary, but especially to show readers how to 'do history' using the material on offer, and to make sense of the testimony themselves in a wider context of existing documents and analyses.[93] The digital history project compares the possibilities the new medium offers with those of the book about Ballard by the historian Laurel Thatcher Ulrich, and those of the film made by Richard P. Rogers and Laurie Kahn-Leavitt, of which there are actually some extracts on the site. Multimedia digital documentation thus becomes a way of examining the differences between the forms of communication and historical storytelling in the book, in the film and on the website. The authors of the site believe that what it offers is a much more sophisticated, more complex path towards writing history. They let themselves be guided by the methodological and historical assumptions of micro-history and are thus able to reconstruct 27 years in the life of the small community Ballard knew so intimately. The catchphrase 'Do History' is in the navigation bar, as a declaration of what the site sets out to show: 'how to piece together the past from the fragments that have survived […]'.[94]

Conclusion: Web 2.0 history: a History 2.0 for Everybody?

The pattern of the new digital sources for contemporary history, as seen on Web 2.0 history sites, is mainly linked with community memory and the shared activity of their members, who contribute directly to the sites' content. Social, ethnic, political and cultural groups fill the Internet with individual testimony and in this way participate in digital

92 Her story had been told in the traditional way by Laurel Thatcher Ulrich: *A Midwife's Tale. The life of Martha Ballard based on her diary, 1785-1812*, New York, Random House, 1991.

93 Doing History, URL: [http://dohistory.org/DHindex.html].

94 Martha Ballard's diary online, URL: [http://dohistory.org/].

history sites which adopt the technical procedures and means of communication offered by Web 2.0 techniques. The interpretative criteria specific to the new digital sources stored in what are now called 'invented archives' are thus often associated with individual knowledge identified within the life experiences of the group itself. This type of didactic trend is also to be found in first-person narratives[95] which choose to talk to their audience by impersonating a particular historical figure close to the history experience and memory of the group.

People make the history of their community, their family, their friends, that of individuals in small groups, of their material culture and heritage, a history which emphasises themes deriving from social anthropology and experiences which are often still in the realm of the memory and, in particular, the disputed memories of the generations just before our own.[96]

So, evidence can be transmitted directly without historians being involved and without a historian's critical method either shaping the writing of the story or separating out the sources and putting them in context. At the University of Manchester, Jerome De Groote, talking about digital history sites, writes:

> What is being presented through new technologies is simply a mediated selfhood, a subject defined through their relationship to the global media interface rather than through community of innate qualities. *Time*'s nomination of 'You' as the key mover of the year [2006] does not differentiate between individuals but makes the user a mass part of a system of self-referential signs.[97]

These are the reasons why even professional historians who set up such websites with computer engineers put the emphasis on the work done by everyone which makes it possible to 'do history', or at the very least to understand and dissect the mechanisms which enable people to do it. This kind of knowledge is vitally necessary later, when it comes to

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95 There is a textbook which attempts to explain how to put together these kinds of stories, identifying with a particular historical figure: Thierer, J., *Telling History. A manual for performers and presenters of First-Person Narratives*, Plymouth, AltaMira Press, 2010. The authors have forgotten, however, to put in a chapter about the Web as a medium for putting out these new forms of history.

96 Farré, S., "La guerre d'Espagne sur le Web. Configurations mémorielles et communautés virtuelles", in Latouche, R. and Mathien, M., *Histoire, Mémoire et Médias*, Brussels, Bruylant, 2009, p. 37-49. On the 'uses' of memory in general: Lebow, R.N., Kansteiner, W. and Fogu, C. (ed.), *The politics of Memory in Postwar Europe*, Durham, Duke University Press, 2006 and *Memory, History and Identity op. cit.*

97 De Groote, J., "Digital history: archives, information architecture, encyclopaedias, community websites and search engines", in *Consuming History. Historians and heritage in contemporary popular culture*, London, Routledge, 2009, p. 99-100.

making the history understood, presenting it to the wider audience on the network. By doing this, public historians of the digital world make history socially useful and exciting, through a process of sharing the 'writing' and of involvement in providing the content, which are things that websites and Web 2.0 technologies actually make possible.

So what we are seeing is a drastic alteration in the 'documentability' of many aspects of our life in society and increased independence from academic and political authority. This detachment from the institutional forms of 'knowledge' also makes it possible to do 'the history of others', of communities often overlooked by 'official' history, as well as first-person narration of history through the keyhole represented by the angle of view of unmoderated, individual testimony.

This proliferation of individual histories had been happening before Web 2.0 history sites came into being, with a great many Italian sites dedicated to history based on the memory, political stances, social experiences and anthropology of small groups.[98] This is very widely seen by the wider Web audience as a way of taking back control of their own history and their own memories, as opposed to the official accounts, most often those of professional historians. Sometimes, the direct altering of sources in the Web in these ways is done 'against' an official historical line with which the community finds it hard to identify.

One direct experience of video interviewing and oral memory using Web 2.0 technology is certainly to be seen in the project known as 'MEMORO – The bank of memories'. With Memoro, anyone can give an account of something on video and then upload it to the site. Having started in Piedmont in Italy in August 2007, Memoro is now expanding to the other continents, to other countries in Europe and other languages.[99]

In a more elaborate way, the collective memory of a small town, Riccione, in Romagna, a region of Italy on the Adriatic, from the time of the passing of the 'Gothic Line' which divided the Allied from the Axis forces in 1944, has been chronicled with passion and intelligence by an amateur historian, Fausto Glauco Galli. Galli is interested in what happened to his own community and concerned not to let the memory of

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98 Noiret, S., "Histoire et mémoire dans la toile d'histoire contemporaine italienne", in Rygiel, P. and Noiret, S. (ed.), *Les historiens, leurs revues et Internet (France, Espagne, Italie)*, *op. cit.*, p. 25-79. In Italy the remarkable socio-anthropological experiment *MU.VI, Museo Virtuale della Memoria Collettiva della Lombardia* made Web 2.0 history before there was a Web 2.0. Without podcasts or videos, MU.VI published accounts of individual experiences, gave characteristic details of the history of small Lombard communities and added photographs and comments received by the site's authors, URL: [http://www.muvilo.it/].

99 MEMORO – The bank of memories, URL: [http://www.memoro.org/].

his grandparents, who lived through the events, perish. The site gives information about the academic historiography on the subject, with digitised sources such as historic and military maps and photographs from then and now, to supplement the wealth of personal stories which a project like Memoro puts before its readers in unfiltered form. Each of the accounts on *'La città invisibile'. Segni, storie e memorie di pace, pane e guerra* is an individual adventure to be 'leafed through' on the site, as well as in the book made from it, which reproduces all the stories.[100]

Glauco Galli's personal experiment is obviously an act of mediation between witnesses, testimony, memory and history.[101] In contrast, the most recent offering from the Italian version of History Channel, which broadcasts fragments of public history and has also transferred onto the Web, is about building an archive without any mediation. The Italian History Channel offers crowdsourcing activities and the creation of an invented archive through the direct involvement of the ordinary people who do the history-making.[102]

So there is a race going on to gather written, spoken and filmed testimony and acquire family albums and pictures. History sites like these are the children of Web 2.0. The sharing of information, knowledge and comments in new Web 2.0-type sites has started to become a reality even outside university centres for history and media studies which create digital history projects. Sites of this kind, whether institutional, personal, private or commercial, are constructing new forms of first-person narrative based on a multiplicity of sources and evidence supplied by anyone and everyone.

In Oxford in the 1970s, Raphael Samuel ran a teaching experiment of this kind, where he asked for oral historical testimony in his History Workshops, setting up what would shortly afterwards be called *Public*

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100 This is a good example of a website specially built around individual memories by an amateur historian concerned to conserve remembered accounts of local events from the generations who lived through the end of the Second World War in Riccione, on the Italian Adriatic Front, has been described by its author, who also created the website, Fabio Glauco Galli: "'La città invisibile'. Segni, storie e memorie di pace, pane e guerra", in *Memoria e Ricerca*, No. 32, 2009, p. 167-180. The website of the same name can be seen at URL: [http://www.lacittainvisibile.it/].

101 See also Memoteca, a site from the same region of Italy, Romagna, whose purpose is also to conserve individual memories and testimony from the Second World War, filtered by the Coordinamento provinciale per i Luoghi della Memoria of Forlì-Cesena province, *Memoteca. Archivio partecipato della memoria locale*, URL: [http://www.memoteca.it/].

102 Una Foto, Una Storia, URL: [http://unafotounastoria.historychannel.it/] (10.06.2010).

History in the United States.[103] Samuel was still, however, a professional mediator and 'cultivated' listener to the public. He organised and filtered this exercise in what we may call crowdsourcing before the term came into use.

The main point at issue nowadays, when we look at all these initiatives in compiling digital history, is the question of evaluating the part which 'professional' historians are supposed to play. They need to be encouraged to work with such projects, and their role needs to be defined in relation to the other professional activities required for the development of complex digital history projects. What is the place of historians in the digital age, in relation to the wide 'audience' which actively participates in the Web? How can we make critical use of scholarly knowledge and methods which have stood the test of time without compromising the spontaneity of these kinds of digital history projects, while at the same time supporting them in the most effective way possible? These are the central questions which digital history-making raises for professional historians confronted with the work being done by amateurs.[104]

Looking beyond these issues of professional practice, the point of which is to remodel the work of writing history in the 21st century, the fact remains that these kinds of interactive services offered to a wider audience on websites as a means of safeguarding testimony in digital form are, in fact, serving a new philosophy of collective work, which we have tried to emphasise as being an inextricable part of this new Web 2.0 type of digital history. The 'open' philosophy has highlighted the hiatus there is today between, on the one hand, the attitude that prompts academic historians to want to criticise the contents of Wikipedia and the Web in general from the outside and not avail themselves of the scholarly results of innovative digital history sites both from the point of view of scholarly research and from that of the new notion of collective work – which, in contrast, aims to improve the contents of a site in accordance with the abilities of each person involved – and, on the other, the role of a witness – specialist or informed amateur – directly concerned by the events at the nub of the story.

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[103] Samuel, R., *Theatres of Memory*, London, Verso, 1994. On Samuel's contribution to *Public History*: Jensen, É., "Usable pasts: comparing approaches to Popular and Public History", in Ashton, P. and Kean, H. (ed.), *People and their pasts: public history today*, Basingstoke, Palgrave Macmillan, 2009, p. 42-56.

[104] See the pamphlet by Jaron Lanier criticising the adverse effects of Web 2.0 and the power wielded by the 'amateurs' who constitute the crowds on the Web and the anonymous content they put up, which favours quantity over quality: *You are not a gadget. A manifesto*, New York, Alfred A. Knopf, 2010 and Flichy, P., *Le sacre de l'amateur. Sociologie des passions ordinaires à l'ère numérique*, Paris, Seuil, 2010.

This kind of collective involvement, which incorporates the relatively simple technology used by Web 2.0-type tools, does not yet, however, seem to have won over professional historians, who would also have an opportunity of adding their own research and their own work so that what we call 'digital history 2.0' becomes a kind of 'history 2.0' as well – freed from its isolation, opened up to society and the wide audience it represents, responding academically to the need for history which, at the moment, is mostly satisfied outside the profession and often without any direct help from it.

The Media Memory Agenda and the Struggle against Holocaust Deniers

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> The kind of history that has most influence upon the life of the community and the course of events is the history that common people carry around in their heads... Whether the general run of people read history books or not, they inevitably picture the past in some fashion or other, and this picture, however little it corresponds to real past, helps to determine their ideas about politics and society.[1]

Agenda-Setting Theory

Every social system must have an agenda if it is to prioritize the problems it faces so that decisions can be made as to where to start working.[2] A number of 20th-century scholars have suggested that the media agenda has a substantive impact on the public agenda. The connection between them was first suggested by Walter Lippmann in 1922 and was elaborated by Lazersfeld and Merton in 1948. It was, however, McCombs and Shaw who first used the term "agenda-setting" in 1972, and their research gave rise to hundreds of subsequent studies.[3]

This chapter describes the way in which Agenda-Setting theory was used in regard to a project dealing with contemporary history. Through a

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1 Becker, C.L., *Detachment and the Writing of History: Essays and Letters of Carl L. Becker*, Ithaca, NY, Cornell University Press, 1958, p. 61.

2 Dearing, J.W., Rogers, E.M., *Communication Concepts 6: Agenda-Setting*, California, Sage, 1992, p. 1.

3 *Ibid.*

review of a remarkable new on-line database, we elucidate a shift in perception in regard to Holocaust memory. Our major thesis is that in order to preserve memory of the Holocaust for future generations, we had to modify public perception, that is, the nature of Holocaust memory has to be changed for it to retain a vivid and influential impact. The innovations do not change the fundamental content of the memory, but rather the way that that content is disseminated and perceived today.

An agenda is a set of issues of importance that are communicated in a hierarchy at a given point in time. Some define an issue as "a conflict between two or more identifiable groups over procedural or substantive matters relating to the distribution of positions and resources"[4] – a definition that suggests why a particular issue arises and becomes part of an agenda. The potentially conflictual nature of an issue helps in making it newsworthy, as its proponents and opponents battle it out in the shared "public arena," which in modern society is occupied by the mass media.

A society's overall agenda is shaped by the interaction among the media agenda, the public agenda, and the policy agenda, as has been extensively explored in the research literature. The agenda-setting process involves an ever-present competition for the attention of the media, the public, and the policy-making elite.[5]

Agenda-Setting theory insists on the connection between the prominence given to issues and their importance in the public eye. Accordingly, news coverage determines the order of priority in at least two ways. First, issues subject to media coverage are perceived as more important than those not covered; that is, coverage itself delineates one issue as more important than one that has not called attention to itself at a given point in time. Second, the extent and the nature of the media coverage are also influential in setting the agenda, namely in determining the relative importance of an issue: the more intense the treatment by the media, the more important the issue becomes in the public mind.[6]

The influence of the mass communication media is thus manifested in its ability to tell the individual and the society what is worth thinking about. Moreover, it can also interfere with and disrupt the original

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4 Cobb, R.W., Elder, C.D., *Participation in American Politics: The Dynamics of Agenda-Building*, Baltimore, Johns Hopkins University Press, 1983, p. 32.

5 Dearing, J.W., Rogers, E.M., *Communication…*, *op. cit.*, p. 6.

6 As Prof. Jonathan Wolff, chair of the Department of Philosophy at University College London, stated: "It is a terrible thing for an academic to have to admit, but journalists do a much better job of educating the public than we do. True, academics have the ideas, but journalists decide which ones the public gets to know about": Wolff, Jonathan, *The Guardian*, 02.01.2007, 'It is possible to teach a sense of proportion', URL: [http://education.guardian.co.uk/higher/comment/story/0,,1981233,00.html].

agenda.[7] Rather than changing attitudes, the media can change perceptions about the importance of certain issues.[8]

Collective Historical Memory

The French sociologist Halbwachs, considered the founder of research on collective memory, discussed the existence of a social framework that perpetuates communal or collective memory.[9] Collective memory is not only being stored in our brains, but becomes a socially cultivated product when pictures from the past are framed and adapted to the dominant attitudes in the society.[10]

Schwartz contends that when we try to define collective memory, we should see it as a metaphor that defines processes of preservation and loss of information among societies by using familiar concepts of memory and forgetfulness among individuals.[11] Therefore, collective memory is a theoretical concept that is expressed in a few tangible ways. Some of these are mnemonic signifiers that are all around us, for example, monuments and museums, which affect the way the memory is implanted within a society and even changed according the contemporary circumstances.[12] The abstract and intangible aspects of a collective memory include the knowledge and the images that hold individuals as well as the entire society together in regard to their past. These abstract collective images are supported by the tangible memorial in order to capture the consciousness.

Zerubavel even talks about social "memory laws" that determine what we should forget and remember.[13] By these methods, a society cultivates individual memories and brings them to the place where Halbwachs claims that there is no such a thing as a memory that is totally personal.[14] However, even given the importance of society in shaping collective memory, we should emphasize that we can talk about

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7 Caspi, D. (ed.), *Mass Communication A* [in Hebrew], Tel-Aviv, The Open University, 1993, p. 98.

8 *Ibid.*, p. 104.

9 Halbwachs, M., *On Collective Memory*, Chicago, University of Chicago Press, 1992.

10 Coser, L., "Introduction: Maurice Halbwachs 1877-1945", in Halbwachs, M., *On Collective Memory*, *op. cit.*

11 Schwartz, B., "Iconography and Collective Memory: Lincoln's Image in the American Mind", in *Sociological Quarterly*, Vol. 32, No. 3, 1991, p. 302.

12 Zerubavel, Y., *Recovered Roots: Collective Memory and the Making of Israeli National Tradition*, Chicago, University of Chicago Press, 1997.

13 Zerubavel, E., "Social Memories: Steps to Sociology of the Past", in *Qualitative Sociology*, Vol. 19, No. 3, 1996, p. 283-299.

14 Coser, L., "Introduction: Maurice Halbwachs 1877-1945", in Halbwachs, M., *On Collective Memory*, *op. cit*.

the way a "society" remembers only as a metaphor.[15] The collections of memories that create the collective memory are held by individuals. Therefore, one cannot understand the public memory without an understanding of the personal one.

Halbwachs distinguishes between autobiographic and historical memory: the first is the memory of the individual in regard to events that he or she experienced personally. This kind of memory is thought to be consistent, rich, and meaningful for the individual, but fades over the years unless it is reinforced by others individuals who are partners in telling the story to the next generation.

An historical memory, on the other hand, is one that an individual remembers not because of his or her own experience but is based on documents, pictures, etc. Landsberg goes even further and claims that the presence of the past in media and mainly in the movies is a "prosthetic memory," that is, it is not part of the "natural" memories reservoir of a human being, but is perceived as a fundamental part of it and is absorbed into a person's own identity.[16] Thus historical memories implanted through a secondary source can impart memories to individuals of events that were outside their own experience, even events that occurred before they were born.

The Presence of the Past in the Media

Research concerning collective memory, which for the most part began in earnest in the last decade, embraces a wide range of disciplines and approaches. In media studies the primary focus is on the role of the media as a memory-shaping agent,[17] owing to the assumption that media has a crucial effect on the collective memory.[18] We cannot discuss personal, generational, or public memory separate from the enormous influence of the new media as carriers of all forms of memory.[19]

In research on collective memory, mass communication is regarded as a central agent in shaping the collective memory.[20] Edy even claims that the media is the main factor in making memory collective and not

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15 Connerton, P., *How Societies Remember*, Cambridge, Cambridge University Press, 1989.

16 Landsberg, A., *Prosthetic Memory: The Transformation of American Remembrance in the Age of Mass Culture*, New York, Columbia University Press, 2004.

17 Zelizer, B., "Reading the Past Against the Grain: The Shape of Memory Studies", in *Critical Studies in Mass Communication*, No. 12, 1995, p. 214-239.

18 Huyssen, A., "Present Pasts: Media, Politics, Amnesia", in *Public Culture*, Vol. 12, No. 1, 2000, p. 21-38.

19 *Ibid.*, p. 29.

20 Zelizer, B., "Reading the Past…", *op. cit.*, p. 214-239.

only personal.[21] Many modern researchers contend that historians are no longer the primary sources of one's perception of the past and that media is the single most important common component in establishing an awareness of history.[22]

What makes the media such a powerful tool in shaping collective memory? Edy claims that its role in this regard comes from its ability to reach very large groups of people with commentary regarding the past.[23] Apart from this factor and unlike other agents that create memory, such as the education system, media-generated collective memory is generally fraught with emotion, which makes for a more intuitive response to the information.

Owing to the popular contention that many people learn about the past primarily from portrayals on television,[24] the way history is presented on television and in the movies has been well researched.[25] Clearly, it is important to consider the way in which the media tends to present the past, but there has as yet been very little research into the role of media in creating collective memory.[26] Moreover, the studies that have been done have generally been confined to the influence of news reporting.[27] At the end of the first decade of the 21st century, it is clear that the Internet has become one of our most important tools for preserving the past for future generations. The challenge and the responsibility attaching to that role are even greater when individuals question the past and try to deny it, such as is happening today in regard to the Holocaust.

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21 Edy, J., "Journalistic Uses of Collective Memory", *Journal of Communication*, No. 49, 1999, p. 71-85.

22 Kansteiner, W., "Finding Meaning in Memory: A Methodological Critique of Collective Memory Studies", in *History and Theory*, Vol. 41, 2002, p. 179-197.

23 Edy, J., "Journalistic Uses of Collective Memory", *op. cit.*

24 Edgerton, G.R., Rollins P.C. (ed.), *Television Histories: Shaping Collective Memory in the Media Age*, Lexington, Kentucky University Press, 2001.

25 *Ibid.*; Barta, T., *Screening the Past: Film and the Representation of History*, Westport, Connecticut, Praeger, 1998.

26 Zelizer, B., *Why Memory's Work on Journalism Does Not Reflect Journalism's Work on Memory*, in *Memory Studies*, Vol. 1, No. 1, 2008, p. 79-87.

27 But not exclusively. See, e.g., Meyers, O., "Still Photographs, Dynamic Memories: An Analysis of the Visual Presentation of Israel's History in Commemorative Newspaper Supplements", in *The Communication Review*, Vol. 5, No. 3, 2002, p. 179-205; Kitch, C.L., *Pages from the Past: History and Memory in American Magazines*, Chapel Hill, University of North Carolina Press, 2005.

Yad Vashem's Central Database of *Shoah*[28] Victims Names

Holocaust memory is an extreme example of the problematic issue of collective memory, especially the memory of global confrontations. Many researchers have studied the ways in which Holocaust memory has been shaped and molded within a national narrative in Germany.[29] Other researchers have dealt with the variety of forms of collective memory in Israel, as well as in other Jewish assemblages.[30]

Yad Vashem, Israel's Holocaust Martyrs' and Heroes' Remembrance Authority, has been collecting pages of testimony for decades, forms filled out by survivors who witnessed the death of relatives, neighbors, and friends. These forms are the source material for the Central Database of Names of Victims of the Shoah.[31] Alfonsi has already outlined the technical aspects of this database, but here we will analyze some of its contributions to contemporary commemoration and memory of the Holocaust.[32]

Yad Vashem, established in 1953 by a law passed by Israel's Parliament (*Knesset*), was created to achieve two main objectives.[33] The first was to memorialize the six million Jewish victims of the Holocaust and the cultural, social, and religious catastrophe surrounding their deaths. This mandate is clearly reflected in the name – *Yad Vashem* is an expression of the way the living show gratitude and honor to the dead.[34] However, this objective does not necessarily require a formal legal authority, as an impressive physical monument would suffice. This brings us to Yad Vashem's second and even more important objective,

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28 *Shoah* is the Hebrew word for the Holocaust.

29 Friedlander, S. (ed.), *Probing the Limits of Representation: Nazism and the Final Solution*, Cambridge, MA, Harvard University Press, 1992; Olick, J.K., Levy, D., "Collective memory and cultural constraint: Holocaust myth and rationality in German politics", in *American Sociological Review*, Vol. 62, No. 6, 1997, p. 921-936.

30 Tydor-Baumel, J., "'In Everlasting Memory': Individual and Communal Holocaust Commemoration in Israel", in *Israel Affairs*, Vol. 1, No. 3, 1995, p. 146-170; Rapaport, L., *Jews in Germany after the Holocaust: Memory, Identity and Jewish-German Relations*. Cambridge, UK, Cambridge University Press, 1997.

31 URL: [http://www.yadvashem.org/wps/portal] (12.07.2010).

32 Alfonsi, B., "Cataloging History: Museum Database Helps Remember the Holocaust", in *IEEE Software*, Vol. 22, No. 3, 2005, p. 105.

33 The law's original title is: "The Law of Commemorating the Holocaust and the Bravery." See *Israel's Book of Laws*, Vol. 132, 1953, p. 144-145.

34 The prophet Isaiah promises in the name of God a commemoration to those who will follow his laws, even if it means to giving up on the world's pleasures: "Even unto them will I give in mine house and within my walls a place and a name better than of sons and of daughters: I will give them an everlasting name, that shall not be cut off" (Isaiah 56:5).

as set forth in the law by which it was established (we quote four out of the seven mandates specified in the law):

> To establish commemoration initiatives […] To collect, examine and publish testimony of the disaster and the heroism it called forth […] To represent Israel in the international initiatives dedicated to the commemoration of the Nazi's victims and the slain people. (And) To undertake any other act necessary for its mission.

The law does not, in any way, deal with anti-Semitism or with Holocaust denial. Yet, our argument is that there can be no effective commemoration today, nearly 70 years after the catastrophe that does not challenge any attempt to deny the fact of the Holocaust or its magnitude. Such imperative of challenges is a natural outcome of the law's final decree, which calls for any necessary action to guarantee lasting commemoration.[35] We suggest that in light of contemporary realities we now have to modify the way we relate to and enforce that law in order to guarantee the perpetuation of up-to-date active and effective memorialization.

Since its establishment, Yad Vashem has collected and copied Holocaust-related documents from all over the world, but preservation of this material requires a great deal of labor-intensive effort. Classic processing involves organizing, cataloguing, and storage of all of the relevant documents. This meticulous work makes it possible for serious researchers, primarily professional historians, to access the material, but it is not available to the general public. Effective public commemoration of victims of the Holocaust in the 21st century mandates a different approach.

To meet this ideological goal, in 2004 Yad Vashem undertook a massive digitalization of the most significant components of its archive – the pages of testimony. Today, more than 3.2 million names of victims can be traced from any domestic computer in the Central Database of Shoah Victims Names, and the material can be easily accessed by the general public as well as by historians. A case study concerning the lives of one family during and after the Holocaust provides us with a poignant example of the agenda-setting feature of this monumental database. The study illustrates the degree of accessibility of the database and even more importantly demonstrates the way this accessibility led to a shift in

[35] For example, on using this link one can observe a Yad Vashem symposium entitled "Holocaust Denial: Paving the Way to Genocide," which was held on December 14, 2006, URL: [http://www1.yadvashem.org/yv/en/holocaust/holocaust_antisemitism/video.asp] (29/6/10).

Holocaust memory and in the concepts of history and memory themselves.[36]

The proclaimed historical concept of the Central Database is clear: "It is our collective duty to persist until all their names are recovered,"[37] meaning that the database was established for the sacred duty of perpetuating memory of the victims. However, the project was developed with another goal in mind as well. It is common knowledge that the Internet is one of the most ubiquitous and effective tools used by Holocaust deniers,[38] and that confrontation with such deniers is one of Yad Vashem's primary tasks.[39] By assembling the information it has collected over the years and presenting it in a user-friendly interface, Yad Vashem serves as an agent of historical memory by changing the discourse from objective, and therefore polemic, memory to a subjective, emotional, and forceful one. The copious amount of available and tangible personal information elicits an emotional response in observers and influences their perceptions of the Holocaust and its magnitude.[40] These innovations, which might seemingly be poor by academic measures, are utilized and positioned at the forefront of the contemporary historical campaign for public consciousness.

Apart from its value in terms of information and communication technologies that are recruited to upgrade knowledge and understanding of the scope of the Holocaust, we believe that a careful analysis of the case study that follows in brief might help researchers delineate new junctions between modern history and modern media.

The Hasenfratz Family: A Saga of Death and Testimony

Upon logging on to Yad Vashem's Central Database of Shoah Victims Names one encounters a very detailed and user-friendly interface, especially when using the Advanced Search option. Perhaps the most important category of search focuses on the details of the individual who

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36 Young, J.E., "The Texture of Memory: Holocaust Memorials and Meaning", in *Holocaust and Genocide Studies*, Vol. 4, No. 1, 1989, p. 63-76.

37 Cited from the database homepage. URL: [http://www.yadvashem.org/wps/portal/!ut/p/.cmd/cl/.l/en?lang=en] (29/6/10).

38 Landesman, B., "Holocaust Denial and the Internet", in *The Reference Librarian*, No. 61/62, 1998, p. 287-299. This volume was dedicated to "The Holocaust: Memories, Research and Reference," and dealt with several aspects of the modern image of Holocaust remembrance and representation.

39 "Holocaust Denial: Paving the Way to Genocide", *Yad Vashem Magazine*, Vol. 44, No. 2007; Kaye, E., "Desecraters of Memory: Confronting Holocaust Denial", URL: [http://www1.yadvashem.org/download/education/conf/KayeDesecraters.pdf].

40 Maier, C.S., *The Unmasterable Past: History, Holocaust, and German National Identity*, Cambridge, MA, Harvard University Press, 1988.

submitted the information and not on the victims themselves, as often survivors and their children search for information on forgotten and unknown relatives and do not actually know the names of the victims. Since many communities were completely annihilated, in many cases people have no knowledge of their family and its origins. Sometimes it is years after the death of surviving relatives that they try to trace sources that might reveal their family's story and reclaim memory of their loved ones.

This case study concerns the Hasenfratz family, from Putila, Bukovina, and the efforts of Jacob, the Hasenfratz's firstborn son, to testify and to memorialize his relatives who perished during the Holocaust. From our experience in working with the database of victims' names, it has become clear that remembering and memorializing is selective. Moreover, it can even be a kind of therapy, but the tragedy is so profound that, apparently, some windows of the soul must remain closed forever. Thus, we endeavored to decipher Jacob Hasenfratz's stance when memorializing his family, while keeping in mind that the whole picture might be different from the subjective portrayal he established, as follows.

In 1956, just a decade after he fled from Europe's furnaces, Jacob Hasenfratz decided to become an active witness and to fill out the forms of testimony. In two phases, a week apart, he filed eight pages of testimony, recounting the deaths of twenty-two people. During the first phase (June 5, 1956) he only wrote about two victims – his father Simon and his mother Sara. He testified that his parents met their deaths in Siberia, having been deported there by the Romanian Gendarmerie and the Russian military and intelligence services.

A week later (June 12, 1956) Jacob filled out six more pages, in which he wrote about his extended family – four uncles, four aunts, and twelve cousins, some of whom he could not recall by name – and with that the Hasenfratz family was eternalized in respect in the National Hall of Victims. Up until that point, this case study was not at all an unusual one, exemplifying as it does the revolutionary contribution of Yad Vashem's database. From six million anonymous victims, we can now find names, occupations, and a family tree of a whole family, none of whom survived the horrors. We can see their names not only as statistical columns, but written in the loving and aching hand of a son, a nephew, and a cousin. Moreover, the information is easily accessible, and by clicking on some buttons anyone can access incisive and enlightening items of witness. As a matter of fact, we know that Hasenfratz's descendants did learn about unknown branches of their family from Jacob's pages of testimony.

However, owing to search capacity of Yad Vashem's database, our study of Jacob Hasenfratz's undertaking took a surprising turn. When searching (in the Basic Search option) for other victims named Hasenfratz from Putila we found eight additional victims who might have been relatives. Another search, for Hasenfratz family members who perished in Transnistria, as did the vast majority of Bukovina Jewry, revealed more than a dozen "new" victims – and one of them was not only a relative of Jacob Hasenfratz, but his son! It appears that Jacob did not choose to commemorate his own son in what was ostensibly a deliberate endeavor to modify his personal history, which now had become public.

Arye Hasenfratz, some 3 or 4 years of age at the time of his death in a Transnistria camp from malnutrition and disease, was the son of Jacob and Mina Hasenfratz. We are aware of this connection through a page of testimony written by his brother, Yisrael Har-el (Hasenfratz), on April 16, 1999. It appears that some years after the death of his father, Yisrael decided to emend the family's history by adding a traumatic page to its collection, literally and metaphorically. From seeing the pages Jacob filed, and the one that he did not submit, we can get a glimpse into the soul of a Holocaust survivor.[41] Clearly Jacob was able to testify about the death of cousins but was simply not able to disclose the death of his own son.

By deciphering a personal history of a family in those catastrophic years, and again, not an unusual family at all, we can see the enormous effect Yad Vashem's database can have on shaping people's historical outlook regarding the Holocaust. The names, the handwriting, the dates, and the stories behind them turn history into a story that is comprehensible and manageable, two adjectives that are rarely used in connection with massive numbers and statistics. The Holocaust becomes a personal experience with an acute awareness of individuals and the dimensions of their suffering, and thus becomes powerfully real.

[41] An ethical perspective of this matter is crucial, since some materials revealed in these pages might have problematic implications concerning the survivors as well as for the memory of the victims and on their offspring. See an innovative study in Strous, R.D. (2009), "To Protect or to Publish: Confidentiality and the Fate of the Mentally Ill Victims of Nazi Euthanasia", in *Journal of Medical Ethics*, Vol. 35, No. 6, p. 361-364.

Using Digital Sources in Historical Research

Jewish History on the Internet

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Introduction

In recent years the number of digitised primary sources on the Internet that are relevant to scholars working in the field of (European) Jewish history has increased significantly.[1] This development is of course not unique for the field of Jewish Studies. From the electronic text editions of the 1990s in which sources were converted in computer-readable formats and offered on the Internet we have now moved to projects in which the original sources themselves are digitised and offered online, thus preserving the original format while often adding the advantage of full-text search capabilities and metadata that allow for sophisticated searching and information retrieval. Developments in computer technology in terms of both hardware (increases in processor speed, RAM and hard drive sizes) and software (most importantly in OCR scanning technologies) have enabled a veritable revolution in the availability and accessibility of primary sources.

[1] See for some recent overviews: Lerner, H.G., "New Technologies and Old Methodologies: Jewish Studies Research in the Digital Age", in *Shofar*, Vol. 20, No. 4, 2002, p. 81-95; Lerner, H.G., "Treasure Hunting for New Judaic Resources", in *AJS Perspectives*, Spring 2005, p. 18-19; Schlöffel, F., "Digitale jüdische Quellen und ihre Sammlung im Online-Portal Salon Jüdische Studien", in *Medaeon*, No. 4, 2009, p. 1-4. Lerner is the Hebraica/Judaica cataloguer at Stanford University Libraries. See also her important column "Perspectives on Technology" that is published in the bi-annual magazine *AJS Perspectives*, a publication of the *American Association for Jewish Studies*. Her past columns can be accessed at: URL: [http://www.ajsnet.org/lerner.htm]. Unless otherwise indicated all websites named in this article have been accessed most recently on 27 February 2010.

As historians are increasingly becoming information managers, though often reluctantly so, the need to reflect upon the question of how these technological developments influence research practices and writing becomes ever more urgent. Indeed, as the number of digital resources increases so do questions about their uses and implications for historical research. Yet there currently seems to be an often unquestioned belief in the idea that new Web-based resources will *automatically* provide us with a better understanding of history coupled with a lack of critical reflection among historians upon the methodological implications of using digital sources for analysing and writing history. True, the potential that digital resources hold for historians is huge but it cannot be taken for granted or assumed; it can only be realised by critical reflection on their usage and an awareness of how technology affects the way in which we work and engage with literature and especially primary sources. In short, it is not just about the medium itself but how we deal with it.[2] In this article I will examine one particular case and explore digital resources for Jewish history on the Internet, focusing mostly on Europe. I depart from the assumption that the rapidly increasing availability of primary sources on the Internet in itself does not provide us with a better understanding of (Jewish) history.[3]

To address the issues raise above I will provide a brief overview of the evolution of digital sources for Jewish history on the Internet and ask what they can offer historians of Jewish history, how they change the field, how they differ from engaging with 'traditional' sources and how they affect the output of historians. I will analyse these questions by focusing in more detail on a number of recent digital primary sources projects and digital libraries, the rationale they offer for the selection of materials and how their availability affects our understanding of Jewish history and changes the way in which historians work.

Jewish Studies Resources on the Internet – A Brief Overview

The introduction of the World Wide Web in the early 1990s enabled humanities scholars to publish electronic editions of important sources via the Internet.[4] Given the key importance of text in Judaism it is not

2 That is to say: it is about the medium insofar as interface design has a bearing upon our ability to find the information we are looking for.

3 Which is true for history as presented on the Internet in general. A well-made exhibition in a museum, or carefully edited book, can provide visitors and readers with a much better understanding of the past than a badly designed website on the same topic.

4 See for a useful overview of the history of humanities computing: Schreibman, S., Siemens, R., and Unsworth, J. (eds.), *A companion to digital humanities*, Malden,

surprising that the classic texts of Jewish history quickly became the focus of Web-based projects. An example is the Princeton University's *Geniza Project*, which focused on transcriptions of the original manuscripts.[5] Other examples of early text-based projects in the realm of Jewish history were the *Internet Jewish History Sourcebook*, a part of Paul Halsall's *Internet History Sourcebooks Project* and, to name just one 'micro' project, the *The Wolf Lewkowicz Collection*, which consists of a collection of Yiddish letters translated into English and put online between 1995-1997.[6]

Such Internet-based projects were of course part of a broader effort to publish important secondary and primary sources in new digital formats, notably CD-ROMs, many of which have now moved to the Internet.[7] Due to the aforementioned technological developments original sources can now easily be published online while retaining the advantage of transcribed primary sources, crucially full-text search capability. A good example of the transition from text-based digital sources to online versions of original sources in an existing project is the *Geniza Project* mentioned above; while the original website only gave access to transcribed manuscript fragments, the new version now adds links to images of the original manuscripts upon which the transcriptions are based. In the same field of ancient Jewish history *The Friedberg Genizah Project*, online since 2004, illustrates what technological advances have been made in the humanities in the past 15 years and how the Internet has become central in disseminating research results and facilitating scholarly contacts and exchange.[8]

This transition should be seen as part of a broader development in the use of computers in the humanities and historical research. As what used to be called the field of history and computing is giving way to what is usually dubbed 'digital history' we have moved from what Neil Grindley describes as a model-oriented approach, focusing on the

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Blackwell Publishing, 2004, part I, chapter 1. See online version: URL: [http://www.digitalhumanities.org/companion/] (27 February 2010).

5 URL: [http://www.princeton.edu/~geniza/].

6 URL: [http://www.fordham.edu/halsall/jewish/jewishsbook.html]; URL: [http://Web.mit.edu/afs/athena.mit.edu/user/m/a/maz/wolf/].

7 For example: Wigoder, G. (ed.), *Encyclopaedia Judaica – CD-ROM Edition Version 1.0*, Jerusalem, Judaica Multimedia Ltd., 1997. As of 2007 it is accessible online through subscribing libraries/institutions.

8 The Genizah On-Line Database at Cambridge University, URL: [http://www.genizah.org/].

creation of highly structured databases, to a source-oriented approach in which sources are represented in their original form.[9]

The shift that has taken place in the past 5-10 years to online digital sources (whether from archives and libraries or born-digital) has resulted in a variety of resources available to historians of Jewish history today. A survey of these digital sources provides some interesting details. Unsurprisingly textual sources remain well represented, particularly books and periodicals. Digital book collections include important collections of so-called *Yizkor* books, memorial books documenting life in European Jewish communities that were destroyed during the Second World War, written in Yiddish or Hebrew. The most important examples are the *Yizkor Books Online* project of the Dorot Jewish Division of New York Public Library and the *Yizkor Book Project*, which forms part of the so-called *JewishGen* website.[10] These two projects also represent two different types of efforts: one is institutional/academic, the *JewishGen* project is a volunteer effort.[11] Whereas the NYPL project provides access to digitised original sources the *JewishGen* project provides access to translations of variable quality and completeness.

In Germany, two important book projects have been funded by the Deutsche Forschungsgemeinschaft (DFG). The first significant collection of Jewish books to be put online was the *Yiddish Prints Collection* of Frankfurt am Main University Library.[12] More recently the *Judaica Sammlung Frankfurt*, consisting of mostly German and Hebrew books, was launched.[13] A crucially important project with regards to Yiddish books is the *Steven Spielberg Digital Yiddish Library* of the National Yiddish Book Center in Amherst, United States, which is accessible through the *Internet Archive*.[14] Consisting of more than 10,000 volumes in Yiddish the value of this digital library for researchers in the field of Yiddish Studies can hardly be exaggerated. Finally, efforts are also

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9 Grindley, N., "Digital Tools and Methods for Historical Research", *A Methods Network Working Paper*, 3 July 2007, No. 6. URL: [http://www.methodsnetwork.ac.uk/resources/wkp04.html]. As Grindley also points, out the advent of XML (Extensible Markup Language), which offers a way to embed structured (meta-)data as a layer on top of digitised documents without the need to create field-based databases, has closed the gap between the two approaches.

10 URL: [http://legacy.www.nypl.org/research/chss/jws/yizkorbooks_intro.cfm]; URL: [http://www.jewishgen.org/yizkor/].

11 *JewishGen* is a non-profit organisation and affiliated to the Museum of Jewish Heritage – A Living Memorial to the Holocaust in New York. It is mainly developed by volunteers. URL: [http://www.jewishgen.org/JewishGen/Who.html].

12 URL: [http://www.literatur-des-judentums.de/].

13 URL: [http://www.judaica-frankfurt.de/].

14 URL: [http://www.archive.org/details/nationalyiddishbookcenter].

underway to provide access to important books in Ladino online as the *Ladino Digital Library* illustrates.[15]

As for newspapers and periodicals there is an abundance of German-language materials. The most important resource is *Compact Memory*, the Internet Archive of Jewish periodicals which offers more than 100 German-Jewish periodicals in digitised form.[16] Many of the periodicals in *Exilpresse digital* are also Jewish and both projects were again funded by the German DFG.[17] The *Historical Jewish Press* website, a project of Tel Aviv University, the National Library of Israel, offers a mix of Hebrew, French and English titles (currently fourteen but the number is growing).[18] The National Library is also responsible for the *Early Hebrew Newspapers Project*.[19] It should be noted that as far as digital collections of historical newspapers in specifically *Jewish* languages are concerned, so-far only historical Hebrew newspapers can be found on the Internet; no digitised collections of Yiddish or Ladino newspapers exist to date, a point to which I will come back later.[20]

It is clear that *printed* sources such as books and newspapers constitute the majority of online digital resources in the field of Jewish history. Archival collections have to a much lesser extent been digitised but that situation is beginning to change. An important recent resource is the *Center for Jewish History – Digital Collections* project which brings together digitised items of various types from the collections of five major Jewish institutions in the United States.[21] The CJH Digital Collections show a diversification of the types of sources that are digitised, something that is also illustrated by smaller projects documenting specific collections (for example *Yiddish Sheet Music* and *Yiddish Theatre Placards*.[22] A highly specific project in this respect is *EYDES – Evidence of Yiddish Documented in European Societies*, an online version

15 URL: [http://www.stanford.edu/dept/jewishstudies/programs/sephardi/].

16 URL: [http://www.compactmemory.de/].

17 URL: [http://deposit.ddb.de/online/exil/exil.htm] (10.06.2010).

18 URL: [http://www.jpress.org.il/view-english.asp].

19 URL: [http://jnul.huji.ac.il/dl/newspapers/index1024.html].

20 To my knowledge the only digitised Yiddish newspaper to be found online are the issues of *Di Kehile Shtime* that can be found in the holdings of Warsaw University Library. The Historical Jewish Press project has the intention to include Yiddish and Ladino newspapers in the future but relies on outside contributors to take the initiative.

21 URL: [http://digital.cjh.org/]. These institutions are the YIVO Institute for Jewish Research; American Jewish Historical Society; Leo Baeck Institute; American Sephardi Federation; Yeshiva University Museum.

22 URL: [http://dl.lib.brown.edu/sheetmusic/yiddish/]; URL: [http://digitalgallery.nypl.org/nypldigital/explore/dgexplore.cfm?col_id=222].

of the multi-volume *Language and Culture Atlas of Ashkenazic Jewry* which provides a range of materials including datasets and audio samples.[23]

These are only some examples of projects offering digitised sources specifically relating to Jewish history and culture. In addition, many important sources are contained within larger collections. In recent years particular advances have been made in Poland where many university libraries, operating on the *Digital Library Framework (dLibra)* that was developed specifically for this purpose, offer important primary sources.[24] Examples are the collection of Yiddish books in *CBN Polona*, the National Digital Library of Poland, and a variety of Jewish books, periodicals and pamphlets that can be found in the digital collection of Warsaw University Library.[25]

The websites mentioned above are all free. In addition, important materials are available on paid websites which I will not deal with now, save for mentioning one recent example that illustrates some of the dilemmas faced by institutions who wish to digitise their holdings. Since 2007 the National Archives and Record Administration (NARA) in the United States is making some of its holdings available in digitised form through a subscription-based website called *Footnote.com*.[26] A recent addition to the NARA/Footnote collection is *The Holocaust Collection*, which features more than one million Holocaust-related records from the National Archives.[27] The fact that material from the National Archives is not freely available to American users has been subject of discussion for some time.[28] Space does not permit to discuss the case in detail but clearly this collection raises other difficult questions as well, for instance because the material involved does not only relate to American history but is obviously relevant for a much wider international audience, in Europe and beyond.[29]

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23 URL: [http://www.eydes.de/]. This is an online version of the multi-volume original published by an international editorial board.

24 URL: [http://dlibra.psnc.pl/].

25 URL: [http://www.polona.pl/dlibra; http://ebuw.uw.edu.pl/dlibra].

26 See the original NARA press announcement (10 January 2007): URL: [http://archives.gov/press/press-releases/2007/nr07-41.html].

27 URL: [http://go.footnote.com/holocaust/ See the press announcement] (29 September 2009); URL: [http://www.archives.gov/press/press-releases/2009/nr09-115.html].

28 See Cohen, D., "A closer look at the national archives footnote agreement", Dan Cohen's blog, 2007, URL: [http://www.dancohen.org/2007/02/05/a-closer-look-at-the-national-archives-footnote-agreement/].

29 In his *Found History* blog Tom Scheinfeldt raises some very interesting points on the project: Scheinfeldt, T., "Privatizing Holocaust History?", *Found history*, 2009, URL: [http://www.foundhistory.org/2009/10/03/privatizing-holocaust-history/].

Methodological Implications

The availability of digital primary sources offers huge possibilities for historians but it also has methodological implications for doing Jewish history that are rarely asked by historians themselves (and much more by librarians).[30] Yet the same issues arise when dealing with traditional printed source collections and digital archives: historians need to be aware that prior to becoming available on the Internet, a selection is made and that this selection reflects current research interests and agendas and potentially reinforces these by virtue of what is, and what is not, included. It is not coincidental that an abundance of Jewish newspapers in German or Hebrew can be consulted online today whereas no digital Yiddish newspaper collection exists. Furthermore, the various ways in which the sources are presented, different uses of metadata and problems arising from working with multiple languages have implications for how historians can work with digital materials in the field of Jewish history.

Selection

As far as selection of primary sources for digitisation is concerned several issues are important to consider. First of all one should ask why certain projects are funded and by whom? Given the costs involved, the availability of funding plays a major role in enabling digitisation projects and funding, depending on the donator, is of course related to academic research agendas as well as the way in which history resonates in public memory. National funding bodies do not only decide on the basis of purely academic considerations as the example of the DFG shows: its decision to fund several important digitisation projects over the past ten years with the aim to preserve and provide online access to a major part of the German-Jewish heritage in print is strongly connected to Germany's process of coming to terms with its Jewish past and the Holocaust. Germany has thus become the only European country were a concerted effort has been made to save the printed Jewish past for the digital future.

This example also shows how national concerns have not vanished when it comes to efforts to digitise the past, notwithstanding historians' current transnational inclinations. In 2003 Roy Rosenzweig wrote in this context: "If national archives were part of the projects of state-building and nationalism, then why should states support post-national digital archives?"[31] The answer is that digitisation can become part of a nation's

30 Lerner, H., "New Technologies and Old Methodologies", *op. cit.*

31 Rosenzweig, R., "Scarcity or Abundance? Preserving the Past in a Digital Era", in *The American Historical Review*, No. 108, 2003, p. 735-762, p. 752.

reckoning with its past, whether that past is contentious or used to underline a sense of newly found independence and of national pride. The latter is obvious when looking at the digital libraries that have been put online in the past two or three years of those European countries formerly belonging to the Eastern Bloc.[32]

Another issue to consider is how the actual selection of sources in a given project takes place and how the selection of primary sources for a particular Internet-based project differs from the selection process involved when putting together a printed, scholarly, edition of sources. What concerns other than academic criteria can play a role? One change is simply in the numbers as the amount of sources that can be included in a digital resource is huge: once the infrastructure is in place, adding extra materials is less costly than, for example, printing an extra volume in a printed series of sources. Other technological criteria can also determine inclusion in an Internet resource such as preservation. One of the reasons for including certain newspapers in the *Compactmemory* project for instance is the problematic physical condition of certain items, particularly 19th century periodicals.[33]

Having said that, even in the digital age space is not limitless and scholarly criteria still play an important role in selection processes. Again *Compactmemory* is illustrative: out of 5,000 periodicals (whether short-lived or long-term) 118 periodicals were selected for inclusion. As the editors note "the total programmatic spectrum of Jewish periodicals is represented: liberal; orthodox respectively conservative; zionist respectively cultural-zionist; scientifically oriented; statistical-demographical". This short description reveals a selection bias towards the major groups, elites and movements and a rather classic tendency to focus on processes of emancipation in German-Jewish history. This is confirmed by considering the orientation of the eight periodicals that are available so far for full-text search.[34] To be clear: a project like *Compactmemory* is of immense value to researchers worldwide as it makes available an unprecedented number of sources that would remain inaccessible to many historians because of their spread over different locations and often fragile physical condition. But as is the case with tradi-

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32 See the country page of European History Primary Sources for access. URL: [http://primary-sources.eui.eu/country].

33 See the selection criteria.
URL: [http://www.compactmemory.de/project/doku07.html].

34 Of these eight periodicals three are zionist/cultural-zionist; three are linked to the so-called *Wissenschaft des Judentums* movement; one is broadly liberal and also aimed at a non-Jewish audience and one broadly cultural. All eight are thus linked to, and illustrative of, the process of German-Jewish emancipation and its resonance in German-Jewish intellectual, middle class and elite circles.

tional source editions, Internet-based projects often reflect existing research agendas and/or biases and historians need to be aware of this.

Indeed, if there exists such a thing as 'the politics of digitisation', the example of newspapers is highly illustrative. The fact that so-far no collection of Yiddish or Ladino newspapers has been digitised in contrast to German and Hebrew newspapers can serve as an example of the various factors that can be involved in selecting sources to be digitised. Yiddish, particularly in Israel, but also in Germany, has long had a low status due to its "ghetto" associations and for many represented an unwillingness or inability to emancipate (consider for instance the attitudes, whether Gentile or German-Jewish, to so-called *Ostjuden* in Germany)[35] or smacked too much of the "old world" and had to be abandoned in favour of what was considered to be the true language of Zion (as was the case in mandate Palestine and later Israel).[36] Of course more mundane reasons are also important such as the cost of digitising newspapers versus the number of potential users. Whatever the reasons though, the result is that certain marginal topics and underused sources remain in that state. In the case of Jewish newspapers in interesting illustration of all this is the contrast between *Compactmemory* and the *Index to Yiddish Periodicals* (IYP), an initiative of a small group of scholars in Israel. IYP, a bibliographical database, is impressive in its scale (more than 180,000 records) and greatly facilitates access to the Yiddish press; but lacking substantial funding it does not offer access to the sources themselves.[37]

Working with Digitised Primary Sources: Retrieval and Analysis

As DeRuyver and Evans noted some years ago in their survey of primary sources available on the internet for American Studies, a first problem is locating online materials.[38] While it would be hard to find a historian nowadays who does not know Google, only few historians use search engines like OAIster which catalogue digital resources by harvesting their metadata.[39] OAIster is crucially important to locate primary

35 Aschheim, S., *Brothers and strangers. The East European Jew in German and German Jewish consciousness, 1800-1923*, Madison, University of Wisconsin Press, 1999.

36 Pilowsky, A.L., "Yiddish alongside the revival of Hebrew: public polemics on the status of Yiddish in Eretz Israel, 1907-1929", in *Readings in the Sociology of Jewish Languages*, 1985, p. 104-124.

37 URL: [http://yiddish-periodicals.huji.ac.il/].

38 Deruyver, D., Evans, J., "Digital Junction", in *American Quarterly*, No. 58, 2006, p. 943-980, p. 945.

39 URL: [http://www.oclc.org/oaister/]. OAIster started as a project of the University of Michigan in 2002 and was taken over by OCLC in 2009.

sources on the Internet since traditional search engines such as Google do not index many digital archives, which form a part of what is often referred to as the "deep Web".[40] Indeed, locating online primary sources through OAIster reveals many results that do not show up in Google and it is to be hoped that the recent take-over by OCLC will enhance its visibility for the research community.

Assuming we have found digital libraries or archives containing useful sources, what happens next? If we take the life cycle of (digital) historical information as described by Boonstra, Breure and Doorn as a model, it becomes clear that for a historian working with digital sources two stages of the cycle are of importance here: retrieval and analysis.[41] In terms of retrieval of information, or querying the digital source, a key difference with using non-digital sources is that a digital source can often be queried for specific information which is than presented to the user; the ability to search for authors, title words, keywords and especially in the full text of a source means the possibility to study topics much more in-depth in a shorter time span than in the 'analog' era. Whereas a researcher used to have to decide if the possibility of finding useful information in the sources would be worth the amount of time invested in analysing the source, which is particularly important with labour-intensive sources such as newspapers, a full-text search can now yield results within seconds. At the same time that very possibility means that researchers will have to deal with a significant increase in available information that somehow has to be processed.

Using online digital sources also carries methodological risks, particularly when it comes to the contextualisation of sources. A good example is when historians use newspapers to find information on a particular topic. When leafing through a physical newspaper in search of articles on a particular topic a researcher automatically gains an impression of the relevant context in which articles on the particular topic he or she is after should be seen (the context being the totality of the newspaper and its coverage). This however is not the case when a full-text

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40 As is explained on the OAIster website: "Digital resources are often hidden from the public because a Web search using a search engine like Google or Yahoo! won't be picking up information about these resources. Robots in use by such search services don't delve into the CGI that sends this resource information to the Web. Consequently, these resources are generally accessible only to those who know to look in particular repositories, often at universities who are developing the collections in these repositories." URL: [http://www.lib.umich.edu/digital-library-production-service-dlps/
oaister-content].

41 Boonstra, O., Breure, L., Doorn, P., *Past, present and future of historical information science*, Amsterdam, 2004, p. 22-23, URL: [http://www.hist.msu.ru/Departments/Inf/Stud/Heuristics/Reader/PPFofHIS.pdf] (29 September 2009).

search (or even a title search) directs a user immediately to the topic in which he or she is interested without having to look at the entire source.[42] Such technological possibilities thus have a potentially negative effect on the historian's attention to context in doing research.[43]

Technological possibilities can also unevenly affect the accessibility of digital sources. An example in the case of Jewish Studies are sources printed in Yiddish. Developments in performing OCR scans on materials in right-to-left languages and, for example, the Hebrew alphabet lag behind current OCR possibilities for the Latin alphabet (not to mention the different uses of the Hebrew alphabet in Hebrew and Yiddish particularly with regard to diacritic marks with creates language-specific problems). The result is an uneven realisation of the full technological potential of sources: implementing OCR on Yiddish sources is in its early experimental stages. That situation will no doubt change in the future but that does not make its effect less real for now.

Concluding Remarks

These are only some of the issues that should be borne in mind when working with digital primary sources as a historian. I have used the example of digital libraries and archives that are relevant to the field of Jewish history to discuss some of the questions facing historians who work with digital sources in general. The increasing availability of online primary sources that were hitherto only available by visiting archives and libraries means that more scholars can access more sources. Sophisticated ways of querying and retrieving relevant information from digital libraries and archives have the potential to enrich our use of particular sources. Yet an awareness of how and why a particular digital resource is created, as well as attention to context, remain crucial.

Certain questions meanwhile abound that cannot fully be answered yet: will the uneven availability of sources on the Internet (for example German versus Yiddish newspapers) result in an increase in projects that focus on available digital sources, particularly in times where humanities research budgets are under pressure? And if so, is not the implication that the marginal becomes even more marginal?

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42 A good example is the *Historical Jewish Press* website (see note 20).

43 As the new OCLC OAIster website illustrates this can already be a problem when looking for materials. Whereas the old OAIster website enabled users to filter search results *per archive/library* that hold the found materials, this possibility does not exist anymore in the new OCLC OAIster search. The result is also that it becomes more difficult for researchers to gain an impression of the amount of relevant materials that are held by specific institutions. Even if those materials are available online that is still important information for historians.

Finally, to rephrase and return to the question that has guided the symposium where this article was originally presented: does the availability of digital archives and libraries on the Internet provide us with a better understanding of history? Perhaps the question depends upon the user. As for professional historians: digital archives and libraries change the field and expand the limits of the 'game', they can allow for different understandings and different confrontations with the past, but they do not *necessarily* provide us with a better understanding of history by virtue of their existence: what we get out of it depends on the sources that the makers of a website chose to present, how they are presented, how the information contained within them can be 'mined' and, finally, how individual historians use the sources. The end result is still subject to our own interpretations. Sources, whether digital or not, do not tell the past: it is still of our own making.

Nouveaux outils et science

L'archéologie pour faire « sens »

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Notre propos est de mettre en avant les éventuels changements et potentialités qui se jouent autour des nouveaux outils, en l'occurrence ceux du Web 2.0 appliqués à la science.

Les chercheurs voient leurs modes de recherche d'informations et leurs stratégies de communication de leurs travaux évoluer dans le même temps. Il semble que le chercheur doit désormais veiller davantage à sa marque de fabrique que constitue sa signature, ce qui l'entraîne dans des stratégies d'intelligence personnelle au sens d'intelligence économique ou territoriale.

Nous souhaitons analyser les conséquences des nouveaux outils du Web 2.0 dans les pratiques du chercheur. Nous montrerons l'intérêt et les risques éventuels que constituent les blogs de chercheurs, les wikis et autres dispositifs de « collaboratoires ». Il s'agit notamment de s'interroger sur les dérives et les confusions que peuvent introduire ces nouveaux dispositifs qui bouleversent les règles de l'autorité scientifique et sème la confusion sur des concepts tels que l'autorité, la pertinence et même les indices de citation.

Des potentialités évidentes sont à l'œuvre mais la multitude des données disponibles est tout autant productrice d'infopollutions.[1] Des confusions informationnelles parfois préoccupantes peuvent se rencontrer, notamment en ce qui concerne la désinformation dont les théories du complot constituent un des exemples les plus frappants.[2]

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1 Sutter, E., « Pour une écologie de l'information », in *Documentaliste – Sciences de l'information*, vol. 35, n° 2, 1998, p. 83-86.

2 Le Deuff, O., « De la méfiance à la défiance : analyse informationnelle du mythe du complot », in *Revue internationale en intelligence informationnelle*, 2008, [Revue en ligne], URL : [http://archivesic.ccsd.cnrs.fr/sic_00286092/].

Mais il convient aussi de s'interroger sur la difficile stabilisation scientifique à la fois au niveau conceptuel mais également en termes de fiabilité. Une des pistes est celle choisie par Wikipédia qui « fige » les pages reconnues comme ayant atteint un niveau de qualité telle qu'elles ne peuvent évoluer que sous strictes conditions.

La question de la stabilité est essentielle notamment lorsqu'il s'agit d'envisager la formation et la transmission des connaissances, sa transposition didactique. Il convient donc de procéder de manière régulière à des arrêts, une *skholé*, qui permet à la fois une mise à distance et un temps pour opérer analyse et critique.

Comment dès lors écrire l'histoire contemporaine[3] face à une multitude de traces auxquelles il faut tenter de donner sens ?

Nous souhaitons montrer qu'il convient de refonder une archéologie en s'appuyant sur de nouvelles pistes documentaires en plaidant à la fois pour un devoir de mémoire et un droit à l'oubli.[4]

Mais pour y parvenir, seules une réflexion collective et une mise en place de solutions interdisciplinaires peuvent nous faire sortir d'une tératogenèse documentaire.[5] Car il s'agit de donner du sens aux données mais aussi d'assurer un positionnement à l'égard des héritages, scientifiques, techniques et démocratiques.

Science et Web 2.0

A priori, la science et le Web 2.0 ne font pas nécessairement bon ménage. Il faut donc prendre conscience que les outils du Web 2.0 n'ont pas été pensés initialement pour les scientifiques.[6] De plus, certains aspects en font même des obstacles à la construction scientifique. Il nous faut donc y revenir quelque peu. De même, il est opportun égale-

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3 Veyne, P., « Foucault révolutionne l'histoire », in *Comment on écrit l'histoire*, Paris, Seuil, 1978, p. 201-242.

4 Rouvroy, A., « Réinventer l'art d'oublier et de se faire oublier dans la société de l'information ? », in *La protection de l'individu numérisé : réflexions prospectives et internationales, actes du colloque Asphales*, Paris, CNRS, 22 et 23 novembre 2007, Paris, L'Harmattan, 2008.

5 Nous qualifions de tératogenèse documentaire l'accroissement des données disponibles qui rendent le document numérique difficile à identifier. Le document devient monstrueux à la fois du fait de ses transformations multiples mais également parce que ce n'est pas le document pertinent qui prime, mais au contraire ce qui est à voir et qui mérite d'être montré. Sur ces aspects : Le Deuff, O., « Monstres, légendes et hérauts : vers une tératogenèse documentaire », in *Cinquième séminaire de Marsouin*, Rennes, 5-6 juin 2007, URL : [http://www.marsouin.org/IMG/pdf/marsouinledeuff.pdf].

6 Gallezot, G., Le Deuff, O., « Chercheur 2.0 », in *Les Cahiers du Numeriques*, n° 2, Paris, Hermes-Lavoisier, 2009.

ment de se replacer au sein d'une histoire des techniques et de placer les rapports entre science et internet au-delà du seul Web 2.0, notamment en connaissant les conditions de son émergence.[7]

Historique du Web 2.0

Le Web 2.0 n'est pas un concept. L'expression a connu un fort succès mais n'est guère pleinement définie, si ce n'est par d'autres expressions comme celle de Web social qui n'est d'ailleurs guère plus claire. Il faut également rappeler que l'expression a marqué une volonté de relancer l'attrait pour les technologies du Web et ses potentialités afin d'attirer les investisseurs. Il n'y a pas de révolution technique dans le Web 2.0, mais la concrétisation de techniques déjà stables. De la même manière, une concrétisation d'aspirations déjà anciennes notamment autour des réseaux sociaux a pu s'opérer. Ce qui a permis l'éclosion du Web 2.0 et son succès populaire, ce n'est pas seulement les développements autour des plateformes d'échanges de données et de mise en ligne de vidéos, mais surtout la progression des infrastructures lourdes de l'Internet autour du haut débit qui ont facilité des transferts de données de plus en plus importants.

Il faut donc pleinement distinguer ce qui relève de stratégies marketing et de volonté de séduire des nouveaux investisseurs et ce qui évolue vraiment au sein des espaces du Web.

Actuellement, il est fréquent d'entendre parler de la mort du Web 2.0 qui pourrait laisser place à d'autres avancées ou à d'autres étapes du Web – le *Web squared* en constituant une expression parmi d'autres.[8] Face à cette succession incessante de nouvelles expressions et de nouvelles modes, la science doit adopter une position critique. Cette position ne doit pas être celle de l'adaptation irréfléchie et encore moins celle du rejet. Il convient pourtant d'examiner au préalable, quels sont les éléments sociaux et techniques qui prennent de l'ampleur et qui s'opposent à la logique de la construction scientifique.

Autorité versus popularité et savoir face au « c'est à voir »

Le Web 2.0 bouscule plusieurs logiques notamment éditoriales. La science ne peut donc y échapper. Or cette dernière repose sur des mécanismes qui sont ceux de l'autorité, c'est-à-dire de la reconnaissance obtenue par les pairs après un parcours contrôlé qui est celui de l'évaluation. Or l'évaluation devient principalement réputation sur le Web 2.0.

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7 Serres, A., *Aux sources d'Internet : l'émergence d'ARPANET*, Thèse de Doctorat, Sciences de l'Information et de la Communication, Université Rennes 2, 2000.

8 O'reilly, T., Battelle, J., *Web Squared : Web 2.0 Five Years On*, 2009, URL : [http://www.web2summit.com/web2009/public/schedule/detail/10194].

Elle provient donc de la popularité conférée par les autres sans que leur légitimité réelle soit examinée. Ce phénomène suscite inquiétude et critiques notamment de ceux qui y dénoncent un culte de l'amateur comme Andrew Keene.[9] Cette forme de mesure par la popularité s'observe notamment avec l'algorithme de *Google* qui classe les résultats en fonction du nombre de liens reçus par un site. Il est intéressant de rappeler qu'il s'agit d'ailleurs d'une réutilisation des méthodes de la scientométrie sauf qu'il s'agit de classer des documents et des sites qui ne sont pas nécessairement scientifiques. Cette confusion est d'autant plus gênante que certains sites ou classements qualifient de site possédant une grande autorité des sites qui sont en fait simplement populaires. Les classements de blogs de la société *wikio* participent aussi de cet effet avec le classement des blogs scientifiques[10] qui par ailleurs comprend des blogs dont la démarche scientifique est fortement douteuse.

L'accès au savoir est certes facilité par le Web. Néanmoins, cette facilité d'accès ne garantit nullement le développement de la culture des individus. L'accès au savoir suppose toujours des capacités de lecture, de compréhension et d'analyse qui demandent à la fois des efforts mais aussi une formation. L'évaluation de l'information repose dès lors sur l'individu lui-même car les processus classiques de validation de l'information, tels ceux de la bibliothèque, ne peuvent être efficaces face à la somme de documents disponibles.

De plus, ce qui prédomine dans cette masse,[11] ce n'est pas l'échange de documents scientifiques ou à valeur encyclopédique mais davantage les vidéos drôles, humoristiques. Le savoir se voit concurrencé par le « c'est à voir », la chose qu'il faut avoir vue et qu'il faut montrer mais dont le contenu est souvent éphémère.

Quels outils ?

Faut-il donc rejeter tous ces outils issus de la vague du Web 2.0 ? Évidemment non, il faut simplement être conscient de leurs limites et leurs défauts afin d'en tirer la quintessence. Les principaux outils permettent surtout l'échange et le partage d'informations. Ils ne sont pas spécifiques à une discipline scientifique.

Quelque part, ils facilitent le travail collectif et la constitution de réseaux étendus. Parmi ses outils figurent notamment les partages de signets, les blogs scientifiques qui demeurent sources de débats, mais

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9 Keen, A., *Le culte de l'amateur. Comment Internet détruit notre culture*, Paris, Scali, 2008.

10 Le classement est consultable : URL : [http://www.wikio.fr/blogs/top/science]. Des blogs présentant des thématiques autour du paranormal y figurent notamment.

11 Qui comporte aussi beaucoup de « richesses » culturelles.

encore les dispositifs autour de wikis qui permettent d'imaginer de véritables « collaboratoires » et des projets collectifs de plus grande envergure.

Seulement les usages sont encore à leurs débuts et il est prématuré de parler de science 2.0. Peut-être l'expression de « chercheurs 2.0 » a-t-elle plus de sens. L'usage de nouveaux outils de traitement de données fait plutôt songer à une E-science autour de corpus de données structurées et partagées permettant des travaux plus conséquents et le croisement facilité de ressources.

Il reste que le flux des données accroît la tentation de la publication permanente et il devient de fait difficile d'obtenir une vision claire, voire partagée, de concepts et de notions scientifiques du fait d'une évolution perpétuelle.

Il pourrait tout de même être opportun de profiter de ces facilités éditoriales pour rendre accessible aisément et rapidement une variété de documents qui ne soient pas que des articles finis. Des plateformes permettent ainsi aux chercheurs d'apporter des données et de collaborer plus efficacement comme c'est le cas pour *My Experiment.org* ou bien encore *OpenWetWare.org*. Les possibilités de partage des ressources et la publication des sources vont continuer à s'accroître, facilitant la vérification des hypothèses mais également le croisement de données diverses dans de nouvelles perspectives.

Cependant, cette incessante publication de données interroge quant à la stabilité de la science et notamment en ce qui concerne l'écriture de l'histoire.

La science en *beta* perpétuelle, comment écrire l'histoire contemporaine ?

L'idée d'une science qui progresserait sans cesse avec des données renouvelées en permanence n'est pas sans poser problème au niveau de la stabilité des connaissances.

Finalement nous ne sommes qu'au début de mutations dont nous n'avons pas tous les outils pour en donner une pleine mesure :

> Les zones frontières entre les savoirs scientifiques, mais aussi entre les savoirs scientifiques et les savoirs non scientifiques sont plus complexes et mouvantes. Les « dedans » et les « dehors » des sciences, les relations transductives qui les distribuent et les font se nouer de telle ou telle manière, sont entrés à nouveau dans une zone de turbulences fortes. Les pragmatiques in-

ternes aux sciences et les pragmatiques externes sont dans d'étranges sabbats.[12]

Quelle stabilisation ?

Le principe d'une encyclopédie sans cesse remise à jour telle que Wikipédia tend à faire de la connaissance et notamment de l'histoire quelque chose qui s'écrirait en temps réel sans prise de distance. L'idée même d'une construction scientifique au niveau historique est questionnée avec la tentation de s'en tenir aux faits rien qu'aux faits qui s'amoncelleraient sous la forme de données brutes.

Or la construction scientifique nécessite une *skholé*, une prise de distance, un arrêt pour faire le point et pour porter son attention. Cette prise de distance est pleinement l'enjeu d'ailleurs des sciences humaines et sociales dans leur capacité à opérer des analyses et à porter des regards qui dépassent le seul présent. Le scientifique et notamment l'historien doit donc être celui qui s'extrait de l'accumulation des données pour porter un regard extérieur et surtout porteur de sens. Cette capacité à donner du sens est pleinement liée à la capacité à se situer dans le temps, faculté qui fait souvent défaut aux prétendus *digital natives* qui connaissent de grandes difficultés à comprendre la suite des événements historiques, mélangeant souvent diverses époques.[13] Les discours associés à l'auto-apprentissage via les nouveaux outils doivent être aussi nuancés tant les capacités d'attention, de lecture et d'analyse requises par la complexité du numérique ne peuvent être innées.

En effet, face à l'accumulation des données, c'est bien la valeur esprit et la capacité d'analyse et de traitement qui devient d'autant plus importante. Cet enjeu est d'ailleurs examiné par Arendt dans *La crise de la culture* avec notamment la question de la transmission.[14]

Le problème didactique et sa transmission

Une science sans cesse mouvante remet également en cause la possibilité de son enseignement. Comment parvenir à opérer une didactisation de concepts, de notions si tout peut-être remis en cause sans cesse ?

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12 Noyer, J.M., « Les intelligences et mémoires collectives en émoi : de l'importance stratégique des technologies intellectives et de l'avenir des écritures ». Work in progress, 2005, URL : [http://archivesic.ccsd.cnrs.fr/docs/00/06/26/90/PDF/sic_00001627.pdf].

13 Nous nous appuyons principalement sur notre expérience d'enseignants sur ces divers aspects. En ce qui concerne les « jeunes générations » et la *skholé*, voir aussi : Le Deuff, O., « La skholé face aux négligences : former les jeunes générations à l'attention », in *Communication & langages*, n° 163, 2010.

14 Arendt, H., *La crise de la culture*, Paris, Gallimard, 1972.

Comment enseigner l'histoire contemporaine si face aux données diverses, les interprétations ne deviennent que controverses ?

La solution est dans un rapport au document établi de manière pédagogique avec les élèves. C'est tout l'enjeu de l'évaluation de l'information et de son lent apprentissage. Nous préconisons d'ailleurs la mise en situation réelle avec une diversité de documents pour que l'élève apprenne à identifier les auteurs, leur légitimité et la mise en scène des informations sur le Web. C'est d'ailleurs en ce sens, que nous avions mené l'expérience « *historiae* : les élèves mènent l'enquête » en 2008. Le projet mêlait publications d'élèves sur un blog qui constituait une synthèse de leurs recherches et qui contenait un cours en ligne sur la recherche et l'évaluation de l'information.[15]

Le fait que les élèves écrivent des billets portant sur des évènements historiques ouvrait également la question de l'écriture de l'histoire et de la légitimité de celui qui l'écrit. Cela pose donc outre l'enseignement historique, celui de la formation à l'information et notamment à son évaluation. Cela nous ramène évidemment à la question du document, notion si difficile à définir notamment lorsqu'il devient numérique mais ô combien importante dans une démarche de préservation des savoirs.

La problématique documentaire : quelles traces pour quel document ?

Plusieurs interrogations documentaires concernent l'histoire, notamment la préservation des données disponibles. Paradoxalement, le papier présente des atouts parfois supérieurs en termes de conservation et de lecture. L'informatique connaît de réguliers changements de support, de la disquette au *cloud computing*, sans compter qu'il devient impossible de comprendre certaines données qui ne peuvent être lues faute d'un appareil adéquat. De même, en matière de correspondance, combien de messages sont déjà perdus qui auraient pu pourtant constituer des traces historiques intéressantes ? Il faut aussi prendre en compte l'opposition entre un droit légitime à l'oubli, qui préserve l'individu, et la volonté de conserver des témoignages dont certains pourraient avoir une valeur historique potentielle.

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[15] Sur le blog, les élèves étaient chargés de mener l'enquête sur des mystères ou des questions historiques. Le but est de reproduire l'état de doute perpétuel qui existe face à l'information avec des thématiques (Roswell, assassinat de Kennedy, légendes urbaines…) où tous types de ressources existent sur Internet. Le travail d'évaluation de l'information est par conséquent primordial. Le blog a été plusieurs fois référencé. Voir URL : [http://www.culturedel.info/cactusacide/?cat=5]. Un compte rendu du projet est également disponible sur le site des cahiers pédagogiques : Le Deuff, O., « Historiae : la culture de l'information en action », in *Les Cahiers pédagogiques*, n° 470, URL : [http://www.cahiers-pedagogiques.com/spip.php?article4227].

Les changements documentaires

La stabilité du document n'est pas garantie pleinement avec le numérique. L'archéologie des traces numériques montre qu'un document sur le Web est fluctuant, qu'il évolue, qu'il peut être retravaillé, plagié, modifié à d'autres desseins dans une redocumentarisation grandissante.[16] Sur quelles traces réellement s'appuyer tant il s'agit également de saisir le flux comme un palimpseste permanent ?

Le document numérique est très souvent de ce fait un « monstre » difficile à définir, à identifier et à indexer et dont la teneur est surtout d'être montrée durant un laps de temps court. Le document devient aussi un monstre, tant c'est son caractère de monstration qui prédomine, ce que nous avons appelé auparavant « la chose à voir », plutôt que ses dimensions de preuve et de portée pédagogique qui constituent l'essence même du document y compris au niveau étymologique.

De plus, les changements documentaires font également de nos doubles numériques des documents manipulables et transformables pour des visées que nous ne maîtrisons pas toujours. Leur portée n'est pas nécessairement historique bien que leur soient associées des stratégies de conservation. Le scientifique n'a pas les mêmes objectifs de traitement des données que ceux des géants du Web, des moteurs de recherche et des entreprises à visées publicitaires. Les stratégies de conservation et de sélection des documents diffèrent ainsi que les méthodes d'analyses. Cette prise de conscience des scientifiques et notamment des disciplines du document apparaît primordiale car il s'agit d'éviter que les acteurs du domaine ne soient uniquement des entreprises à vocation commerciale et dont les visées ne sont nullement scientifiques.

Quelles perspectives pour la pérennité et la sélection des documents ?

Plusieurs pistes méritent cependant d'être évoquées pour tenter d'exploiter cette surabondance de données. Les travaux autour du Web sémantique, qui est en fait un Web de données, en constituent une. Il reste à définir quels peuvent être les corpus de données scientifiquement exploitables et comment peuvent s'effectuer leur recensement et leur indexation. De même, la pérennité des documents numériques est une question qui intéresse l'archivage avec le modèle OAIS. La question est d'importance car il s'agit de faire des choix sur ce qui doit être conservé et préservé afin qu'une lecture puisse en être faite malgré les évolutions

[16] Pedauque, R.T., *La redocumentarisation du monde*, Toulouse, Cépaduès-Éditions, 2007.

techniques. Il est probable que nous continuons à perdre des données importantes que nous risquons de déplorer dans quelques années.

La question est aussi politique et des mesures sur l'archivage des entreprises devraient permettre de mieux pouvoir envisager cette conservation.

Mais la conservation ne suffit pas, et c'est bien le rôle de l'historien de tenter de dégager, dans ces traces, un sens. La typologie des traces numérique va poser quelques difficultés d'interprétation. Quel poids accorder à un message numérique par rapport à un message envoyé par SMS ou sur un dialogue en direct ? Quel poids accorder aux micro-conversations qui se développent sur les sites comme *twitter* ?

Le numérique nous oblige à nous poser de nouvelles questions. Il implique également à l'historien de développer ses compétences numériques afin de pouvoir mieux y répondre.

Conclusion : Refonder l'archéologie des savoirs

Il apparaît évident qu'il faut désormais veiller à prendre davantage soin des données. Le tout dans une construction durable en matière de savoirs.

Ce travail ne peut se réaliser que sur une véritable formation à l'information et notamment à l'évaluation de l'information au sein des cursus. Il s'agit de développer les capacités à faire émerger du sens parmi la multitude de données disponibles. Il s'agit peut-être aussi d'envisager de nouvelles écritures de la science, de nouvelles visualisations. Cela implique aussi une capacité accrue face aux objets techniques notamment pour ne pas demeurer à un simple usage, mais davantage dans une relation plus riche qui est celle d'une culture technique défendue notamment par Gilbert Simondon.[17] Cette culture est l'expression d'une relation majoritaire face à la technique et notamment aux objets techniques numériques qui constituent autant des traces et des objets d'études que des outils et des méthodes d'analyse. Par conséquent, cette connaissance technique ne peut être superficielle et encore moins déléguée, c'est-à-dire laissée totalement à d'autres intermédiaires que le scientifique et l'enseignant. Dans ces enchevêtrements de traces et d'objets techniques, la capacité à remarquer ce qui fait sens n'est pas une mince affaire.

L'archéologie des savoirs implique la capacité à distinguer les traces intéressantes : le document qui possède une portée historique. Nous rejoignons en cela les propos de Michel Foucault. Tel est le but d'ailleurs de l'archive foucaldienne.

[17] Simondon, G., *Du mode d'existence des objets techniques*, Paris, Aubier, 1958.

> Mais l'archive, c'est aussi ce qui fait que toutes les choses dites ne s'amassent pas indéfiniment dans une multitude amorphe, ne s'inscrivent pas non plus dans une linéarité sans rupture, et ne disparaissent pas au seul hasard d'accidents externes, mais qu'elles se groupent en figures distinctes, se composent les unes avec les autres selon des rapports multiples, se maintiennent ou s'estompent selon des régularités spécifiques.[18]

De la même manière, l'utilisation des nouvelles technologies ne doit pas nous affranchir des héritages scientifiques, techniques, documentaires et démocratiques.

Une des réponses premières serait justement de développer la recherche sur l'histoire des outils et notamment de démontrer les héritages et permanences que contiennent les outils du numérique.

Un chantier immense se développe, l'archéologue des temps modernes doit donc à la fois développer une nouvelle variété d'outils tout en continuant à garder sa distance critique, sa valeur esprit.

[18] Foucault, M., *L'archéologie du savoir*, Paris, Gallimard, 1969, p. 170.

When the Web is Useful for Scientific Output

The Case of Italian Historiography on the Cooperative Movement

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The Relationship Between Historiography and Computer Science: From Theory to the Case Study

For over a decade, in Italy, the cooperative movement has returned to being of interest to the historians of the contemporary age, in particular those focused on business history.[1] The gradual transfer of this study subject from the socio-political sphere to the more specifically economic-entrepreneurial one has undoubtedly revitalized attention onto this corporate typology and on its networks.[2] It is also true, though, that

[1] Cafaro, P., *La solidarietà efficiente. Storia e prospettive del credito cooperativo in Italia, 1883-2000*, Roma, Laterza, 2002; Bertagnoni, G. (ed.), *Una storia di qualità. Il Gruppo Granarolo fra valori etici e logiche di mercato*, Bologna, Il Mulino, 2004; Zamagni, V., Battilani, P., Casali, A., *La cooperazione di consumo in Italia. Centocinquant'anni della Coop consumatori: dal primo spaccio a leader della moderna distribuzione*, Bologna, Il Mulino, 2004; Granata, M., *Impresa cooperativa e politica: la duplice natura del conflitto*, Milano, Bruno Mondadori, 2005; Leonardi, A., *Una stagione nera per il credito cooperativ. Casse rurali e Raiffeisenkassen tra 1919 e 1945*, Bologna, Il Mulino, 2005; Sapelli, G., *Coop. Il futuro dell'impresa cooperativa*, Torino, Einaudi, 2006; Zamagni, V., Felice, E., *Oltre il secolo. Le trasformazioni del sistema cooperativo Legacoop alla fine del secondo millennio*, Bologna, Il Mulino, 2006; Borzaga, C., Ianes, A., *L'economia della solidarietà. Storia e prospettive della cooperazione sociale* Roma, Donzelli, 2006; Battilani, P., Bertagnoni, G. (eds.), *Competitività e valorizzazione del lavoro. La rete cooperativa del Consorzio nazionale servizi (1977-2007)*, Bologna, Il Mulino, 2007; Menzani, T., *La cooperazione in Emilia-Romagna. Dalla Resistenza alla svolta degli anni settanta*, Bologna, Il Mulino, 2007; Zamagni, S., Zamagni, V., *La cooperazione. Tra mercato e democrazia economica*, Bologna, Il Mulino, 2008; Menzani, T., *Il movimento cooperativo fra le due guerre. Il caso italiano nel contesto europeo*, Roma, Carocci, 2009; Bertagnoni, G., Menzani, T., *Servizi, lavoro e impresa cooperativa. Il terziario in Legacoop e nelle altre organizzazioni di rappresentanza (1975-2010)*, Bologna, Il Mulino, 2010.

[2] On cooperative networks see Menzani, T., Zamagni, V., "Economia delle reti e impresa cooperativa", in *Imprese e Storia*, 37, 2009, p. 59-84; Menzani, T., Zamag-

historical research in this field of investigation has been able to benefit from the ever more efficient and articulated help of two Web sites such as www.cooperazione.net and www.movimentocooperativo.it,[3] which – as we will show – have permitted a significant qualitative and quantitative increase in historiographic production. The first was registered in 1998, but in fact became visible the following year, and represents the window of the Italian Centre for Documentation on Cooperation and Social Economy.[4] In its ten years on the Web, it has been improved and enriched with two databases – a bibliographic one and an archival one – and by many in depth and dissemination sections. Given that the historiography on the cooperative movement was suffering from a difficulty in managing the sources, scattered in hundreds of different private archives, this site contributed to putting in contact the cooperatives equipped with historical material with the scholars interested in consulting them and therefore, in summary, has allowed the use of new documentary assets for historiography, to the benefit of debates, interpretations, visibility. And in fact, numerous recent projects have used unpublished sources whose existence was made known specifically through this website.

The second, instead, registered in 2004, went into operation that same year. Originating under the support of the Luzzatti Institute for Cooperative Studies in Rome, it was in fact realized by the Caesar Foundation (today Unipolis Foundation), and financed by Unipol, cooperative colossus of the insurance and credit sector. It is a "virtual museum of cooperation" with a very large number of in-depth charts on enterprises, cooperators, Italian and foreign territorial facts worthy of note, an iconographic section, a space dedicated to publications and reviews, and a series of information on specific university training and the activity of the various umbrella organisation.[5] In recent months, www.movimentocooperativo.it is no longer available, temporarily, because of the merger being completed with www.cooperazione.net. The two main Italian sites of history and historiography of the cooperative movement have therefore decided to unite forces to create a single website capable of satisfying the needs of scholars, experts, aficionados.

In this contribution, we propose to associate the scientific production in question with the effective use of the sites by the scholars, to verify to what extent they influenced historical research. For this purpose, we

ni, V., "Cooperative Networks in the Italian Economy", in *Enterprise & Society*, Vol. 11, No. 1, 2011, p. 98-127.

3 Last consultation date: 15 January 2010.

4 ACDC, website material.

5 AFU, documents of the project *Museo virtuale della cooperazione*.

created a database that contains all the Italian historiography on the cooperative movement of the last ten years, and namely from 1999 – year when *www.cooperazione.net* became available – to today.[6]

There are 427 titles – between monographs, contributions in collective volumes and articles in scientific journals – for a total of 311 different authors. It is a particularly vast and articulated production, which embraces very different economic sections – from agriculture to credit, from building to restoration, from transportation to the social sector – and which from a point of view of time tackles the nineteenth and twentieth centuries.

The authors themselves come from different historiographic sectors – from historians of business to those concentrating on socio-political aspects –, and with different education profiles, from academicians to young researchers, from journalists to local scholars, down to partners and actual ex-partners. A qualitative evaluation of the scientific production entered in the database is naturally impossible precisely because of this heterogeneity, so that along with works of absolute value and highly innovative and original there are also more modest or "homemade" publications, which demonstrate certain methodological limits and a pronounced provincialism. Apart from the quality, all the contributions published between 1999 and 2009 have been entered in the database that refer to a certain facet of the cooperation, handled from a historical perspective. To a robust *corpus* of jubilee histories on individual cooperative enterprises, are added territorial and category studies, biographies of cooperators, analyses based on individual economic sectors, studies on the cooperative concept and its political implications, etc.

To the 311 authors of these 427 publications a questionnaire was then sent – presented again at the end of this essay –, with the objective of understanding what eventual use they made of the Web, and specifically the two sites mentioned previously. Based on the answers received, it was possible to do a quantitative analysis capable of responding – for our specific case – to the questions that we asked ourselves. *In primis*, to the question: What impact have the Web sites had on the Italian historiographic output on the cooperative movement? It is, therefore, a study calibrated on a small detail of historiography – relative to the relationship between contemporary history and internet[7] – that

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6 For a methodological comparison, see Monina, G., "Gli istituti extrauniversitari e la storia contemporanea. Un sondaggio on-line", in *Il mestiere di storico*, No. 1, 2003, p. 71-103; Casalena, M.P., "I libri di storia contemporanea in Italia, 2001-2002: editori, luoghi, temi", in *Il mestiere di storico*, No. 1, 2003, p. 105-140.

7 For the recent debate, see Soldani, S., Tomassini, L. (eds.), *Storia & computer. Alla ricerca del passato con l'informatica*, Milano, Bruno Mondadori, 1996; Noiret, S. (ed.), "Linguaggi e siti. La storia on line", *Memoria e Ricerca*, No. 3, 1999; Minu-

however can provide information and responses of a much broader scope. Precisely because of the fact that the analysis is defined quantitatively – besides qualitatively –, we have the opportunity to get some indicators that provide a measurement of the use of certain computer science resources by historians. This is fundamental to understand not only "how" but also "how much" an on line tool can turn out to be useful to the current scholars of contemporary history.

The Results of the Research

Let us now see what results our research produced and look at the quantitative analysis of the answers in the questionnaires. We have already said that the survey concerned 311 scholars who had produced 427 scientific contributions on cooperation. We managed to send 292 tests, that is 93.9% of the total; 19 authors did not receive the questionnaire because in the meantime they had died or could not be found through the traditional research tools (internet *in primis*). We received back 185 tests duly completed, despite reminders forwarded to the many stragglers. This means that 107 authors did not participate in the survey. In any case, the answers received correspond to 59.5% of the total, which is sufficiently high percentage, which provides us with the confidence of a reliable analysis. Above all, if one considers the coverage of the test over the total of the contributions, the percentage rises to 67.2%, and this means that, on average, those writing the most on the

ti, R., "Internet e il mestiere di storico. Riflessioni sulle incertezze di una mutazione", *Cromohs*, No. 6, 2001, p. 1-75; Reagan, P.D., *History and the Internet: a guide*, Boston, McGraw-Hill, 2002; Rygiel P., "Les sources de l'historien à l'heure d'Internet", *Hypothèses*, No. 1, 2003, p. 341-354; Criscione, A., "Sopravviverà la storia all'ipertesto?", in *Memoria e Ricerca*, No. 12, 2003, p. 165-174; Chiocchetti, F., "'Internet e il mestiere di storico': a proposito di una recente pubblicazione", in *Memoria e Ricerca*, No. 15, 2004, p. 167-174; Sepe, V., "La didattica della storia contemporanea e Internet", in *Memoria e Ricerca*, No. 15, 2004, p. 175-181; Ragazzini, D. (ed.), *La storiografia digitale*, Torino, Utet, 2004; Criscione, A., Noiret, S., Spagnolo, C., Vitali, S. (eds.), *La storia a(l) tempo di internet. Indagine sui siti italiani di storia contemporanea, 2001-2003*, Bologna, Patron, 2004; Vitali, S., *Passato Digitale. Le fonti dello storico nell'era del computer*, Milano, Bruno Mondadori, 2004; Rygiel, P., Noiret, S. (eds.), *Les historiens, leurs revues et Internet (France, Espagne, Italie)*, Paris, Publibook, 2005; Noiret, S., "La 'nuova storiografia digitale' negli Stati Uniti (1999-2004)", in *Memoria e Ricerca*, No. 18, 2005, p. 169-185; Rosenzweig, R., "Can History Be Open Source? Wikipedia and the Future of the Past", in *Journal of American History*, Vol. 93, No. 1, 2006, p. 117-146; Rosenzweig, R., "Zotero. Fare ricerca nell'età digitale", in *Contemporanea*, No. 4, 2007, p. 739-744; Detti, T., Lauricella, G., "Una storia piatta? Il digitale, internet e il mestiere di storico", in *Contemporanea*, No. 1, 2007, p. 3-23; Noiret, S., "Informatica, storia e storiografia: la storia si fa digitale", in *Memoria e Ricerca*, No. 28, 2008, p. 189-201.

cooperative movement answered with greater enthusiasm to our initiative than those who published only one paper on the subject (

Table 2 – The consistency and the coverage of the database).

Table 2 – The consistency and the coverage of the database

	Authors		Contributions	
	Absolute value	Percentage	Absolute value	Percentage
Total number	311	100.0%	427	100.0%
Traced	292	93.9%	405	94.8%
Dead/Untraceable	19	6.1%	22	5.2%
Responses	185	59.5%	282	67.2%

Source: Database on the Italian historiography relative to the cooperative movement (1999-2009)

From this point, therefore, all the analyses will focus on the sample of 185 scholars who responded to the test and who overall published 282 contributions on the subject of cooperation. Of these scholars, 47.6% state that they know the www.cooperazione.it site and 36.2% that they know the www.movimentocooperativo.it site; barring a few exceptions, those who are aware of the existence of these sites state that they have used them for their own historical research (

Table 3 – Knowledge of the sites and their use for historical research). In general, therefore, more than a third of the scholars know the Web sites taken into consideration, and found them useful for historiographic purposes.

Table 3 – Knowledge of the sites and their use for historical research

	Sample	Authors that know the sites		Use of the sites for historical research	
		Absolute value	%	Absolute value	%
www.cooperazione.net	185	88	47.6%	81	43.8%
www.movimentocooperativo.it	185	67	36.2%	63	34.1%

Source: Database on the Italian historiography relative to the cooperative movement (1999-2009)

It is very interesting to evaluate this information from a historical perspective. For this purposes, we asked each addressee of the questionnaire to indicate the research for which they turned to the sites. In this way, based on the year of publication, it is possible to trace the various impacts. As

summarizes, our database contains 427 scientific contributions, but we can only express evaluations on 282 of them, because we have the questionnaires completed by the relative authors. Macroscopic variations are not appreciable in the annual distribution, given that it fluctuates for the total value from 32 contributions in 1999 to 50 in 2007, while for the sample we go from 22 contributions in 1999 and 2001 to 32 in 2007. In general, however, the historiography in question demonstrates an increase of productivity from 1999 to today.

Table 4 – Use of the sites for historical research: variance based on the year of publication

Year	Number of publications		www.cooperazione.net		www.movimentocooperativo.it	
	Totals	Sample	Absolute value	%	Absolute value	%
1999	32	22	1	4.5%	-	-
2000	35	23	4	17.4%	-	-
2001	34	22	5	22.7%	-	-
2002	38	25	5	20.0%	-	-
2003	37	26	9	34.6%	-	-
2004	49	31	10	32.3%	8	25.8%
2005	38	25	13	52.0%	9	36.0%
2006	39	27	15	55.6%	12	44.4%
2007	50	32	17	53.1%	15	46.9%
2008	46	30	16	53.3%	14	46.7%
2009	29	19	10	52.6%	3	15.8%
Total (1)	*427*	*282*	*105*	*37.2%*	*61*	*21.6%*
Don't remember	-	-	27	-	23	-
Total (2)	*427*	*282*	*132*	*46.8%*	*84*	*29.8%*

Source: Database on the Italian historiography relative to the cooperative movement (1999-2009). The percentages are drawn from the sample.

The data from 2009 is obviously incomplete because only the scientific production published from January to August is considered. Overall, the site www.cooperazione.net was used for 37.2% of the scientific production, which becomes 46.8% if we include the works of those scholars that remember having used it, but who are not able to actually specify for which individual works.

The other site, www.movimentocooperativo.it, shows lower percentages (21.6% and 29.8%), both because it is younger and because, as we have said, it has no longer been available for the past few months.

If we look at the annual distribution, www.cooperazione.net had an initial period of testing, until 2002, during which time it was not used a lot by the scientific community.

Later on, thanks to the expansion of its pages and the introduction of new sections, it became a point of reference at the historiographic level, to the extent that from 2005 to today over half the scientific production also used the site. Instead, www.movimentocooperativo.it enjoyed a very strong initial promotion – in the first year of activity it was used more than www.cooperazione.net in the fourth year of its existence –, and subsequently attracted the attention the academic community.

This increase in importance was halted by the recent (and temporary) disappearance that we have mentioned.

The preceding tables provide us with information on the use of the sites in question by scholars, but – for a more thorough evaluation – it is also useful to do a qualitative type survey, which would give us picture of the degree of satisfaction of the users and would allow us to understand which are the most important sections for historical research.

Table 5 summarizes the opinions of the scholars who conveyed them relative to the usefulness of the two Web sites for historical research and the spread of the cooperative culture. We note that for both cases, the greatest appreciation goes to www.movimentocooperativo.it, despite the fact that www.cooperazione.net is better known and more used, also because of its greater seniority.

The percentage of those that were dissatisfied, however, is very low in both cases, and in this setting as well www.movimentocooperativo.it emerges as more effective.

Table 5 – Opinion on the usefulness of the sites for historical research and dissemination

	www.cooperazione.net		www.movimento cooperativo.it	
	Research	Dissemination	Research	Dissemination
Very useful	12%	19%	18%	28%
Quite useful	74%	69%	68%	70%
Not very useful	8%	9%	3%	1%
Not useful at all	5%	2%	0%	0%
Don't know/No answer	1%	1%	1%	1%
TOTAL	100%	100%	100%	100%

Source: Database on the Italian historiography relative to the cooperative movement (1999-2009)

The small differences in terms of opinion can probably be explained also with the results of

Table 6 that shows us which sections of the sites are considered most important for historical research. In the questionnaire, each scholar

could indicate up to a maximum of three responses for each site. While most of the responses concerning www.cooperazione.net concentrated on only two sections that is the database of the cooperative archives (41%) and the on-line bibliographic resources (37%), followed at a great distance by the editorial reports (9%), www.movimentocooperativo.it has a much more widespread distribution with fully seven section of between 10% and 17%.

Table 6 – The most useful sections of the sites for historical research

www.cooperazione.net		www.movimentocooperativo.it	
Info on the Documentation Centre	5%	Charts on the history of the movement	10%
Projects realized	3%	Historical charts on the cooperatives	15%
Database of the cooperative archives	41%	Historical charts on the umbrella org.	13%
On-line bibliographic resources	37%	Writings of the founding fathers	17%
News	1%	Charts on foreign cooperation	12%
Editorial reports	9%	Iconographic section	4%
University education	2%	Reviews	11%
Links	2%	Territorial research	10%
Other	0%	Degree theses on cooperation	5%
-	-	News	1%
-	-	Links	1%
-	-	Other	1%
TOTAL	100%	TOTAL	100%

Source: Database on the Italian historiography relative to the cooperative movement (1999-2009)

So, if the site of the Documentation Centre offers aid to the scientific community almost exclusively in terms of archival and bibliographic resources, the "virtual museum of cooperation" is appreciated for its greater articulation, which offers an inescapable support for understanding the complex architecture of the cooperative movement. The latter, in fact, is the subject of study that presents an extraordinary superimposition of plans, given that it is, in unison, movement and business; universal value and local roots; politics and economics; social commitment and culture of management; Socialist, Catholic and Liberal tradition; agriculture, manufacturing, trade, services, credit.

Through explanatory charts on the history of the cooperative movement, on the umbrella organisations, on the individual businesses, on the territorial facts of greatest impact and on the principal figures of the

movement, the www.movimentocooperativo.it site offers an extraordinary service to who approaches it – absolute beginner or even inexperienced – to the world of cooperation. Moreover, the most appreciated section appeared to be the one that gathers the writings of the founding fathers of the cooperative movement, along an interesting theme-based route of history of economic-social thought.

Conclusions

The creation of a database on Italian historiography relative to the cooperative movement (1999-2009), constructed through a research in the on-line bibliographic databanks, and the sending of a questionnaire to all the authors permitted achieving a double objective, the heuristic and informative unison.

On the one hand, in fact, we were able to evaluate the impact of the Web on the historiography, starting from our case study. Putting resources aimed at scientific research on-line appears to be an important thrust towards the historiographic production, because undoubtedly it simplifies the task of the scholar, who from home or from the office can comfortably access information that previously he was forced to research in the traditional way, when he studied paper catalogues, consulted volumes in the library or contacted colleagues.

It is enough to think that the database of www.cooperazione.net relative to the archives of the movement are extraordinarily useful for finding, in just a few minutes, the location of hundreds and hundreds of corporate archives spread over the Italian territory.

Whoever wanted, for example, to carry out a research on cooperative dairies in Friuli, would be able to track the location of the material of many of these enterprises, from annual reports to minutes of Board of Directors meetings, from photographs to the house organs. Given that, in general, this is material kept in basements of cooperative firms still in existence and in operation, or in local foundations, or at territorial branches of the umbrella organisations, on gathers the extreme usefulness of this database, without which it would be arduous to track first hand sources of one's own study subject.

Similarly, the considerations previously expressed on the extreme usefulness for the historian of the "virtual museum of cooperation", leads us to understand that in this case as well the on-line material – different than those of www.cooperazione.net – are valuable for research.

And for this reason we hope that they will soon return being available and visible on line.

The information that most interest us – summarized in Table 3 – is that these sites, from their creation on, have been used more and more by the scientific community, and this is further confirmation of their usefulness and importance, but also the ability of the Web to find its own role and visibility in historiography. During 1999, when www.cooperazione.net went into operation, only 4.5% of the historiography of the cooperative movement used the site.

In 2004, when www.movimentocooperativo.it started the percentage had risen to 32.3% while the latter, despite being at its debut, showed 25.8%. Finally, in 2008 – for 2009 the data is not yet complete – the percentages have risen respectively to 53.3% and 46.7%. This is an undeniable success, which testifies the effective relationship between internet and historiography.

If this is the heuristic result of the survey, our study had – as expected – also an outcome of an informative kind. In fact, we contacted 292 scholars of history of the cooperative movement, or who in any case had dealt the subject in the last ten years, and we submitted a questionnaire to them: 107 did not answer us, and of the 185, who instead participated in the survey, 118 did not know www.movimentocooperativo.it and 97 did not know www.cooperazione.net.

Now, potentially, all this scientific community knows about the existence of these Web sites, and in fact many responded that they would visit their pages. Some, then, also wrote us a second time to thank us for having made them aware of the existence of these electronic resources.

Appendix: the Questionnaire

For a study on the relationship between historiography and the internet, we ask you to devote a few minutes of your time to the following questionnaire. Once completed, please send it to tito.menzani@ fastwebnet.it and in case by 6 September 2009.

Do you know the website www.cooperazione.net?

Do you know the website www.movimentocooperativo.it? (currently consolidated with the preceding one but temporarily unavailable)

In the last ten years (1999-2009) did you publish books, essays in anthologies or articles in scientific journals dealing with the aspects of Italian cooperation or cooperative enterprises? Can you give us a list below?

If you answered NO to the first two questions, the questionnaire ends here. Thank you.

If you answered YES to Question No. 1 please complete the following section, otherwise move to the next one (Question No. 8 and following)

Do you consider the www.cooperazione.net site important for the dissemination of the history of the cooperative movement?

Very

Quite

Not very

Not at all

I don't know/I don't answer

Do you consider the www.cooperazione.net site important for the dissemination of the history of the cooperative movement?

Very

Quite

Not very

Not at all

I don't know/I don't answer

In Question No. 3, we asked you for a list of your scientific publications relative to the cooperation. In the writing of which of those papers did you consider it appropriate or useful to consult the www.cooperazione.net site? (If negative, please write "none"; if you don't remember please write "I don't remember")

Which sections of the www.cooperazione.net site do you think were most important for your historical research? (maximum three answers)

Information on the Documentation Centre

Projects realized

Database of the cooperative archives

On-line bibliographic resources

News

Editorial reports

University education

Links

Other (specify)

If you answered YES to Question No. 2, please complete the following section; if not the questionnaire is concluded.

Do you consider the www.movimentocooperativo.it site important for the dissemination of the history of the cooperative movement?

Very
Quite
Not very
Not at all
I don't know/I don't answer

Do you consider the www.movimentocooperativo.it site important for the dissemination of the history of the cooperative movement?

Very
Quite
Not very
Not at all
I don't know/I don't answer

In Question No. 3, we asked you for a list of your scientific publications relative to the cooperation. In the writing of which of those papers did you consider it appropriate or useful to consult the www.movimentocooperativo.it site? (If negative, please write "none"; if you don't remember please write "I don't remember")

Which sections of the www.movimentocooperativo.it site do you think were most important for your historical research? (maximum three answers)

Charts on the history of the cooperative movement
Historical charts on the cooperatives
Historical charts on the umbrella organisations
Historical writing on the founding fathers of the cooperation
Charts on cooperation in foreign countries
Iconographic section
Reviews
Territorial research
Degree theses on cooperation section
News
Links
Other (specify)

Thank you, best regards
Tito Menzani, tito.menzani@fastwebnet.it

Renault-Billancourt' C5 Workshop in the Digital Age

A New Story of the 1922 Assembly Line

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Shadia KILOUCHI
Engineer of studies in documentation, CNRS

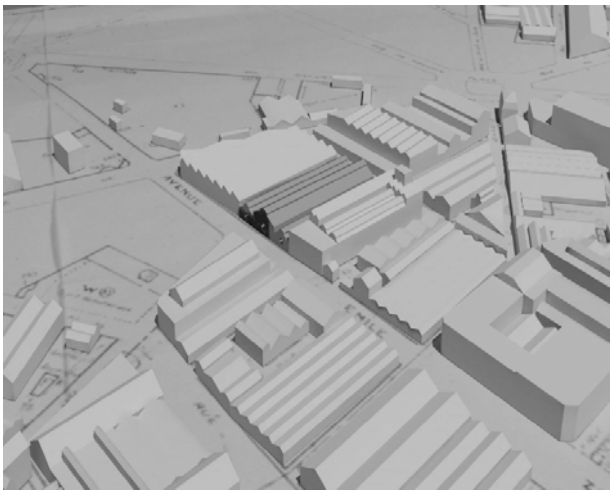
The present "digital" study relates to the C5 workshop which, in the aftermath of the First World War saw the installation of the first manual assembly lines of chassis in the Renault factories in Billancourt. The 1922 C5 workshop is the first item of the "3D Factories" research programme supported by the French National Research Agency (ANR) whose aim, by using three-dimensional spaces, is to reproduce a few remarkable sites of the industrial heritage so as to document their history as never before and more particularly to provide more extensive knowledge as regards the implementation, the operation and the evolution of factory work.

Starting from clearly identified historical archives, we have gathered scattered sources relating to a specific location, i.e. the assembly line of the 10CV automotive chassis of the C5 workshop, and to a specific time, i.e. its implementation in 1922. These "multimedia" documents have been regrouped in the same documentary corpus for valorisation and exploitation via critical historical analysis and data computerisation, wherein both these dimensions of the research programme are conducted in combination. In the first part of this article, we shall query, around the C5 case, the adaptations of our historical practices to emerging visual and computer processes. Then we shall describe the digital investigation tools set up for the "3D Factories" programme by the CNRS resource centre, the CN2SV (National centre for the digitisation of visual sources), tools also used for the diffusion of the scientific findings and making the latter visible on the Internet.

Figure 13 – Aerial photograph and virtual reconstruction of the Renault factories in Billancourt and of the C5 workshop (1920)

© Clichés Renault Communication/DR

Figure 14 – Aerial photograph and virtual reconstruction of the Renault factories in Billancourt and of the C5 workshop (1920)



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Can a Digital Approach Circumvent the Limits of the Conventional Tools of Contemporary History?

Beyond the patrimonial and memorial stakes, our objective is to show how "the digital" may prove useful to researchers in history of techniques so as to popularise relatively poorly known past industrial work practices. 3D model is not an end in itself, but a remarkable investigation tool which, to be the relevant research instrument we need, is founded upon archaeological approach to historical remains, micro-historical study of subsisting traces and critical analysis method of visual documents. Since beyond the written sources favoured by most historians, we study in detail what images show so as to throw a new light thereon, to acquire new pieces of information and to make sure that discrete routines from those leaving very few written testimonies are made more intelligible.

The Digital in the History Laboratory

Our historian usage of the digital tool calls at least for three preliminary remarks. The first remark is a simple observation: the digital has become essential and has modified our working conditions thoroughly without turning our research practices upside down. For going through archives and organising critical analysis, we are still producing "files" and "folders" for structuring our investigations in the extension of the paper sheets introduced by the methodical historians of the XIXth century[1] and which had guided our works until the 1980s. But if words still remain, the contents do change and the critical analysis discipline has to adapt. Along with Roger Chartier,[2] we are not only using a new format (electronic) of presentation and a new (monitor) medium, but we also benefit from unheard-of exponentially growing storage capabilities which enable us to combine the study of texts with that of fixed and moving images and of the sounds which have now become "digitally reproducible".[3] The media revolution combines with the "civilisation of image" for stepping into the historian's laboratory.

The second remark is more qualified: the now established multimedia has not transformed all our disciplinary investigation habits. Con-

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1 Delacroix, C. *et al*., *Les courants historiques en France, XIX^e^-XX^e^ siècle*, Paris, Folio, 2007, p. 147.

2 Chartier, R., "Du Codex à l'Écran: les trajectoires de l'écrit", in *Solaris*, No. 1; Chartier, R., *Pour une nouvelle économie du savoir*, Presses Universitaires de Rennes, 1994.

3 Going back to Walter Benjamin's expression and line of questioning, *L'Œuvre d'art à l'époque de sa reproductibilité technique*, first published in 1935, latest version in 1939, in *Œuvres III*, Paris, Gallimard, 2000.

temporary history more particularly, still favours text as the fundamental source of historical knowledge, leaving image and oral testimony in a secondary position.

Still the transfer of competence is possible and desirable since digital tools also provide the means for systematic and critical study of images. It ought to be specified that visual sources mobilised about the period between both World Wars are originally either "graphic" (drawings, maps, etc.) or "analog" (photographs, cinema). We do not have native "digital sources" available, but digitalised documents.[4] As shown by André Gunthert,[5] it is but one reproduction process among others. Even if media change, the materiality of the image constructions remains. Gain in accessibility (obtained by digitisation) should not be confused with (sought after) gain in intelligibility.

In this perspective, the third remark is methodological: how can image be subjected to critical analysis comparable to that imposed by historians to written documents? As suggested by Marc Ferro for films and as demonstrated by Middle Age specialists Jean-Claude Schmitt and Jérôme Baschet,[6] an image does not exist for its own sake and ought to be analysed in its original context. It should be considered in the light of other types of images and should involve re-reading the related texts. Such methodical work based on "the image-document" forms the basis of virtual restitution which is but the tool of an investigation throwing a new light on a bundle of visual clues.

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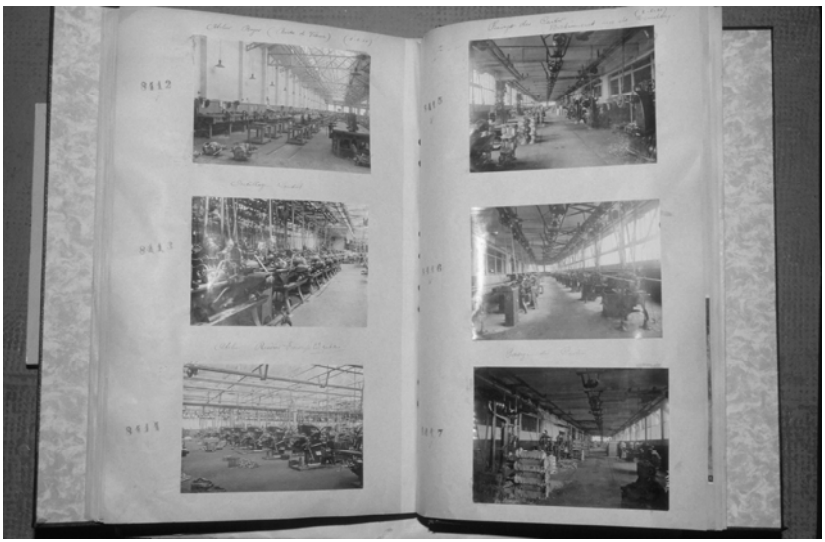
4 The "digital" is the figured representation of information data transformed into binary (digital) values. It differs from "the analogue" which produces the image via a mechanical-chemical exposure process of a light-sensitive film, wherein the image thus inscribed is an analog reproduction of what was shot.

5 Gunthert, A., "L'image numérique s'en va-t'en guerre. Les photographies d'Abou Ghraib", in *Etudes Photographiques*, No. 15, November 2004, p. 125-134.

6 Baschet, J., Schmitt, J.-C., *L'image. Fonctions et usages des images dans l'occident médiéval*, Paris, Le Léopard d'or, 1996, 310 p.; Ferro, M., *Cinema and History*, Detroit, Wayne State University Press, 1988, 175 p.

Figure 15 and Figure 16 – The series of albums of photographic prints in the archives of the Renault Company



© Clichés Renault Communication/DR (Bernard Warinsko)

Visual Documents as Primary Sources

Because written sources leave aside a vast amount of what actually took place in workshops, we have undertaken a micro-history, so to say "with our eyes and ears close to the ground"[7] of the Renault factories in Billancourt and more particularly of the C5 workshop in 1922. The image reading method which we develop in the *3D Factories* research programme includes studying their content (visual documents) while considering them in their original series (archive) and within the framework of their uses (context). It is a socio-historical approach of the visual source, in connection with the other ways of grasping images (semiology, aesthetics, philosophy, etc.) while choosing another avenue by dedicating particular attention of the historical conditions of their production and of their usage.

This research relies on a historical study of the original site of the Renault manufacturer and more precisely on the implementation issue of its assembly lines.[8] It has mainly used four remarkable types of visual sources: layout diagrams, illustrations, photographs and films. These pictures of the workshop are both complementary and sometimes contradictory. They enable to observe the evolution of concrete practices and of assembly line work representation in the Renault factories in Billancourt.

This automotive company has been a major producer of images. During the period between both World Wars, it took 70,000 photographs, shot numerous films (among which 240 minutes of industrial scenes) and made 45,000 layout diagrams. Most of these documents have never been published, are poorly known or dispersed. With respect to texts, they offer a different vision of the concrete transformations of the work organisation. When analysed minutely and processed methodically, these sources show details of the assembly lines, enable to locate them, to date them, to understand the configuration thereof and to consider them in their production context.

These pieces of information cannot be found in any subsisting text and a major portion has probably never been formalised in writing. In

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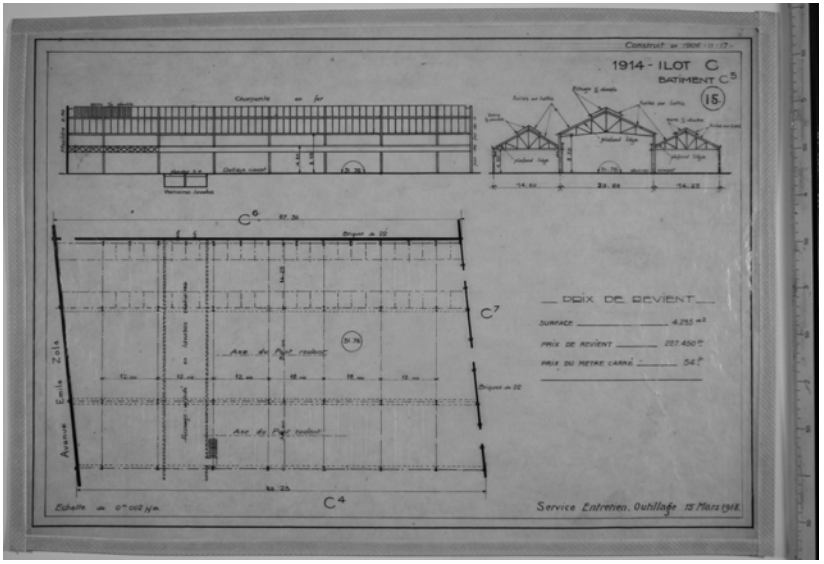
7 Revel, J., "L'histoire au ras du sol", a preface to Levi, G., *Le pouvoir au village. Histoire d'un exorciste dans le Piémont du XVII^e siècle*, Paris, Gallimard, 1985, 230 p.

8 Michel, A.P., *Les images du travail à la chaîne dans les usines Renault de Boulogne-Billancourt (1917-1939). Une analyse des sources visuelles: cinéma, photographies, plans d'implantation*, 2001, a thesis in history of technology in the EHESS, 1407 p. An illustrated version was published: Michel, A.P., *Travail à la chaîne: Renault 1898-1947*, Boulogne-Billancourt, Editions ETAI, 2007, 192 p.

this field, images are the only sources of information available since the buildings in Billancourt have been demolished.

But they are "silent". Consequently, a way must be found to make them talk. Indeed, such technical images are often difficult to construe, in particular because of the increasing complexity of the productive organisation of the Billancourt factories. Between both World Wars, Louis Renault sought to integrate most production activities of the automotive industry, i.e. he wished to produce himself, in his own factories, most components of his cars. Thus, a multitude of trades were involved in his facilities (metallurgists, mechanics, bodywork specialists, etc.) for carrying out quite different works. The images show that in each trade, solely a fraction of the manufacturing process was performed on an assembly line, since many operations were performed on fixed stations more easily. The images also show that according to the trades, the assembly lines were of distinct natures. In Renault, assembly line work hence designated a multitude of manufacturing processes, variable according to the periods and various when dealing with forming, machining or assembly.

Figure 17 – Layout of the C5 workshop (1914)



© Archives of the History Society of the Renault consortium/DR

The still and moving pictures of the workshops testify to the multitude of people working on the assembly line and around it. Contrary to the Fordian legend transposed in the 1930s to the "absolute boss" myth

in Billancourt, the implementation of assembly line work was not the spectacular work of a top-rank entrepreneurial boss, nor an offence committed by an outlaw landlord, but simply the result of the collective, ordinary and casual activity of the company. The visual sources highlight the diversity of the categories of men and women involved in the operation of the assembly lines. Specialised workers first of all, since these formed the largest number of staff on the assembly lines and appeared more often than others on workshops images. Many women can also be seen in the factories and also, more discretely, managerial staff wearing a distinctive uniform whose domineering position on the photographs implicitly points to their power in the workshop. The assembly line is also a control means of the work by the executive staff. Other people are not directly visible in the workshop, but still acted remotely on the production lines, such as the offices engineers who designed and organised the production, the draftsmen whose drawings defined the operation ranges and arranged the facilities, the employees of the advertising department in charge of producing the image which the company uses to promote about its factories. The assembly line is not only an industrial reality for the automotive company. It is occasionally a sales argument for the salespeople.

Consequently, visual sources hardly enable to distinguish between the visible and silent mass of the people working on the assembly lines and a more discrete group of other people involved in the organising side by exchanging notes, projects, drawings, orders and counter-orders.

Images as Media to Be Deciphered

Images are not the direct observation of a daily situation. An industrial picture is always the result of an order or of an agreement, at least between the management and the photographer, between the latter and those who pose. For instance Robert Doisneau, who worked in the photography department in Renault between 1934 and 1939, told that before he could take the picture of a machine, the worker would ask him to clean it first: "Wait a minute before taking the picture, my machine is dirty, give me time to remove the chippings".[9] Similarly, layout plans are falsely impartial technical drawings. The layout of an assembly line is a project that the method office seeks to implement in the workshops. The overlays keep the traces of the amendments, possibly the deletions inflicted by the factory floor people to the draftsmen's proposals. As most written documents, factory images are sources from managerial level, but more strongly than texts, they come across as the reluctant tools of the company discourse. Visual sources are particularly valuable

[9] Doisneau, R., *Doisneau-Renault*, Paris, Hazan-La Villette, 1989.

for revealing the contradictions in the major manufacturing principles and for unearthing discrepancies between the order and its application. The purpose is not to oppose images versus texts, but to use them together and to confront each other. Such confronting unveils the significance of those who have not left any written traces of their work. Still, it does not make all of them equal in the face of History.

Image is a complex thing. It cannot be reduced to the scenery called upon, nor to the representation it produces, nor to the details it may record unknowingly to its author, or even to the usages made thereof at a later stage. Images do not lie either and do not tell the truth anymore than other documents. Just like text, but in a different manner, image must be considered in its context for correct analysis. Studied in series, they show that significant changes have taken place in the representation of assembly line work.

But they also transmit information about the décor and the background. Images thus reveal "sound effects" and involuntary "lapsus linguae" which ought to be construed beyond the conditions wherein they popped up. Thus, it is possible to observe both the concrete changes in assembly lines and the variations in people's perception.

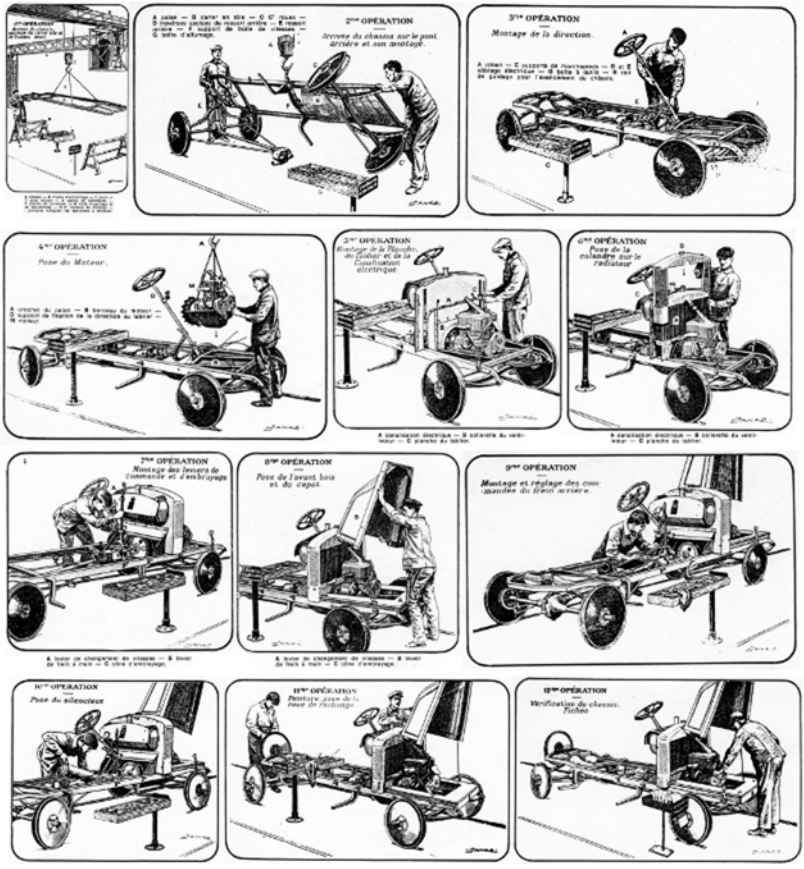
The Mystery of the 13th Operation

We have chosen to start the restitution of the C5 workshop by studying the 1922 and 1924 facilities, which are particularly well documented and match the birth and the diffusion of the "assembly line work" expression in the company vocabulary. Between February 1922 and September 1924, three photographic reports were conducted in the chassis assembly workshops in Billancourt for presenting the different steps of assembly line work. Each picture was taken for presenting a step of a technical cycle leading to the manufacture of the chassis. Two of these reports were used as a model for the same draftsman, Jankowski, for making press drawing for *Omnia* in September 1922 and for *Illustration* in September 1924. At the time, this practice was already old and usual.[10] To public opinion, the chassis assembly line then became the model of assembly line work in general. However, after 1924, neither this type of reporting nor this type of article claiming to illustrate the successive assembly line operations can be found.[11]

[10] Gervais, T., "L'Illustration au regard de la photographie (1843-1859) (Illustration in the light of photography)", in *Histoire & Sociétés*, No. 15, August 2005, p. 98-112.

[11] Michel, A.P., *Travail à la chaîne…*, *op. cit.*, p. 69.

Figure 18 – Series of the 12 illustrations of the C5 workshop assembly line (September 1922)



© Revue *Omnia*/DR: Jankowski

We have hence elected to restitute the 1922 assembly line, because it corresponded to an important moment, relatively well documented by two types of different sources: a photographic report and an illustrated press article. The Renault "assembly line" was presented publicly for the first time in an article in September 1922.[12] We have already shown that assembly lines existed in several workshops in Billancourt and they had been testified long before by the C5 workshop images. 1922 is not the

[12] Maillard, P., "Le montage à la chaîne de la 10 HP Renault", in *Omnia*, No. 28, September 1922, reprinted in *De Renault Frères, constructeur d'automobiles à Renault Régie nationale*, No. 3, December 1973, p. 95-100.

date of birth of assembly line work in Renault, but the date when it became known to the public.[13]

The article is accompanied by 12 plates made from photographs taken on 27 February 1922 in the C5 workshop by the photography department of the factory.[14]

There was a seven months' delay between the photographic evidence and the public presentation of the assembly line work in Billancourt then unveiled by recomposed drawings rather than in the form of original photographs. This double discrepancy induces to take with a grain of salt the representation given by the press of this production organisation scheme. All the more so since the factory had just undergone a reconversion crisis when returning to peacetime economy. Renault manufactured 18,700 private cars in 1920 versus 5,880 in 1921 and 6,000 in 1922. The company had also just changed legal status. On 17 March 1922, "Automobiles Louis Renault" became "Société anonyme des usines Renault" (SAUR), a public limited company. Louis Renault turned his company into a trust whose he was not, legally, the owner any longer, but still remained the major stockholder and the true boss.[15]

The press article and the photographic report are complementary on several scores. For the various people, boards indicated the number of the station considered and the main tasks to accomplish therein. The caption of the illustrations provides additional pieces of information while the photographs show the background and accessory details cut out by the draftsman. But both images may prove contradictory. Indeed, on one picture of the assembly line exit (in February 1922), the board read: "13th operation. Verification of the chassis – Sheets" whereas another article (in September) stated that there were only 12 operations. The difference may seem negligible, but in practice, with one operation less, it is the whole equilibrium of the assembly line which is shattered since each station should have the same workload.

Conventional analysis of the documents enables to identify the contradiction, but not to explain the reasons thereof. The true effect of the photographic evidence does not suffice to decree that the picture would be "truer" than the drawing. It can be concluded that it is one thing to document the history of a given workshop and that it is another to describe the history of the work accomplished there. Thus, virtual "reality" becomes an accessory to the limits of visual representations.

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13 Michel, A.P., *Travail à la chaîne…*, *op. cit.*, p. 58-61.

14 First report with 28 shots of the 10HP (27/2/22) SR(42) No. 12237/12252.

15 Fridenson, P., *Histoire des usines Renault*, tome 1, *Naissance d'une grande entrepise, 1898-1939*, Paris, Le Seuil, 1998, p. 121.

Procedures and Digital Tools Set up by the National Centre for the Digitisation of Visual Sources (CN2SV)

The realisation of the "3D Factories" research project includes mobilising three teams combining specific and complementary skills: the laboratory of social economic history and of techniques (Alain P. Michel, LHEST-UEVE) for historical expertise, the National Center for the Digitisation of Visual Sources (Shadia Kilouchi and Stéphane Pouyllau, CN2SV-CNRS), specialised in the processing of iconographic scientific corpus and the Ausonius Center in Bordeaux (Robert Vergnieux, CNRS) for three-dimensional restitution.

Such research requires a true project management policy so as to establish a rational organisation of the activities and to guarantee the actors' and tasks' co-ordination.

The "3D Factories" corpus is composed, to this day, of five "files" corresponding to different sites implanted over several geographical zones of the French territory:

- the greater Paris region with:
- the C5 and U5 workshops in Renault Boulogne Billancourt,
- the Clément-Bayard and later Citroën factory, in Levallois-Perret;
- the Burgundy region with:
- the High Furnace in Marcenay-le-Lac,
- the Forges in Sainte-Colombe-sur-Seine;
- the Franche-Comté region with the car body workshop in Peugeot Sochaux.

Each site hence possesses its own corpus as integral part of the global "3D Factories" corpus.

Similarities can be noted among these corpora, wherein the sources relating to each site are heterogeneous in nature, combining multiple iconographic documents (photographs, layout plans, maps, diagrams…) and textual data.

By reason of this resource proximity and for efficiency purposes, we have decided to apply the same methodology and the same documentary treatment to the five sites, with a view to establishing generic procedures for this type of corpus.

To set up this 3D restitution tool capable of bridging the gaps of historical sources, the CN2SV has prepared a set of technical solutions enabling those remote teams to work jointly on the same corpus.

Before starting data computerisation of this project, taking into consideration the necessity of data interconnection so that the different

teams involved in the project may work concomitantly on the same resources, we had to establish important methodological and technical choices.

We hence conducted beforehand a feasibility study of the project taking into account organisational, technical and economic criteria. This feasibility file includes a needs analysis assessing the operation and investment cost, as well as the deadlines necessary for the realisation of the project.

We then prepared a specification sheet listing all the functional needs of the project, then recorded the implemented technical choices as special technical general provisions.Finally, we have split the activity into work packages, then defined a projected calendar for each of these batches, a planning of the activity in a task flowchart (Gantt diagram).

Further to that detailed analysis of the project, two technical requirements must be taken into account.

On the one hand the necessity to use *open source* encoding formats, ensuring access to the source code so as to be able to adapt the application to our specific needs and secure sustainable data which are not confined to proprietary format.

On the other hand the obligation of having Web platforms with an exchange protocol for easier share and diffusion of data among the teams involved in the project.

We have hence decided to keep this functional necessity of data interoperability when choosing our tools throughout the computer processing of the corpus, during the data preparation phase as well as the exploitation and diffusion phases.

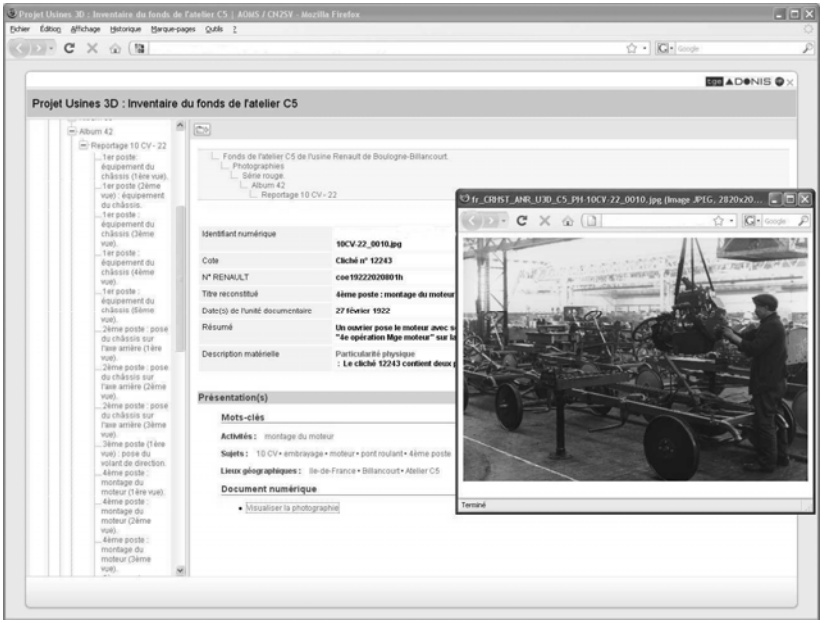
Data preparation: Interoperable Database

Our first prior task is enrichment of the iconographic data by the adjunction of technical EXIF (*Exchangeable ImageFile*) and descriptive IPTC (*International Press Telecommunications Council*) metadata, a standard enabling to store the metadata necessary to the identification of an image by possible addition of information such as the author of the image, the keywords, the date of creation, the associated comment, etc.

Then, we set up a MySQL database including an OAI-PMH module (*Open Archives Initiative Protocol for Metadata Harvesting*), a protocol enabling to collect and exchange resources as well as their own metadata thanks to the XML standard and to the HTTP protocol.

The Archeovision team in Bordeaux may thus integrate all these data in real-time into its 3D Archeogrid archiving software which will serve as a base for the team in charge of modelling.

Figure 19 – "Archeogrid" The 3D Technological Platform of the Ausonius Institute



© 2006-2009 – Manager: R. Vergnieux|Designed by N. Prévôt|Hosted by CC-IN2P3

This permanent exchange between both our remote teams is essential since modelling will really rely on existing iconographic documents as well as their historical analyses contained in the image metadata.

Interoperability of our different platforms via the OAI-PMH protocol is necessary to our data interconnection.

For instance, as regards "the mystery of the 13th operation", it is the study of the existing photographs, of the documents providing the exact dimension of each chassis, of the building layouts and of their historical comments which enabled to solve the problem of figuring out the precise number of stations "actually" installed in the C5 workshop.

All this would not have been possible if the resources as well as their metadata had not been readily available and accessible to the 3D restitution team.

Data Exploitation: Stock List Linking each Document to its Source

In order to possess an analysis and research tool while having extended and hierarchical vision on the resources, we have produced an

archival stocklist enabling to look up and to query the whole corpus while adhering to the XML/EAD format (*Encoded Archival Description*) and to the ISAD archival norm (G) (*General International Standard Archival Description*).

This research instrument enables unified access to document facsimiles, their historical and documentary analysis by specifying their context of origin.

The aim of this stocklist is to analyse each piece of the corpus and to secure sustainable access to data by using fixed addresses (URI).

The traceability of each document is thus guarantee by the production context identified in the stocklist.

Diffusion of Data: Publication Platform

This stocklist is put on line in a platform dedicated to publishing and looking up XML/EAD research instruments: AOMS (Digital archive of objects and of scientific iconographic materials).

The published XML stocklists are stored in a secured warehouse, a backup copy of the images and of their metadata is also made, thus securing sustainable data.

To secure here again easier data exchange our platform is based upon the OAI-PMH protocol so that the contents of this application may be harvested by other institutions.

Under preparation, the "*3D Factories*" site presents the findings of these research objects in industrial history.

Figure 20 – "AOMS" Digital archive of objects and of scientific iconographic materials

CNRS-CN2SV, December 2009/AOMS v. 2.1.

It thus wishes to meet, using an original multimedia product, the expectations of the affected companies, of the cities with industrial tradition and the patrimonial institutions demanding concrete markers and transmission means of work memories.

Digital Tool and Scientific Research

Conducting the "3D Factories" research project has naturally led us to query the impact of the digital in the research works. The changes provided by the Web environment in the research practice are numerous.

From a technical viewpoint the digital enables to reduce the length limitation of the content and to add multiple contents (photographs, videos, etc.) in the same resource more easily.

The use of new technologies, used initially in specific domains, is propagating to other domains: for instance for the "3D Factories" project we use 3D modelling, very little used in Human Sciences except for Archaeology.

As for communications, the digital makes exchanges considerably easier and modifies the conditions of scientific work: collaborative work of geographically remote research teams on the same resource, thanks to

on-line devices: database harvested thanks to the OAI-PMH protocol, shared agenda, communautary wikis, etc.

In our case, the by-product will be in the form of a website showing a light version of the prepared mock-ups, enabling to call related documents and historical interpretations, to study in depth the score of knowledge and the analysis method. This by-product will meet the principle of popularisation and diffusion of the research finding both from educational and playful standpoints. Using virtual reality mock-ups will enable to offer 3D animations in the form of films, flashes or video games. The other principle supporting such realisation is that of opening up connected data, for enriching the research tool, studying analyses more in-depth and mobilising other data. The idea is to enable tool and data sharing and to be available to still unexpected spin-offs. The specificity and the originality of the *3D Factories* programme are hence to create a scientific management tool for the advancement of research in a given domain and along a relatively little studied avenue. The point is to use modern technology for querying the documentary image and valorising the history techniques.

As regards data exploitation, there is a true effort for producing specific research, analysis and data integration instruments while implementing common norms in terms of standard and format. As regards the diffusion of scientific data, there are different dedicated publishing platforms, these Web platforms enable to modify the content of the publication according to the evolution of knowledge. Moreover, the possibility of adjoining hypertext links to such publication provides the opportunity of transgressing the limited perimeter of conventional scientific publishing. At the end of the day, international scientific communication is facilitated by dint of these tools and, from the user's viewpoint, facility of access, optionally free of charge, to scientific information is now easier.

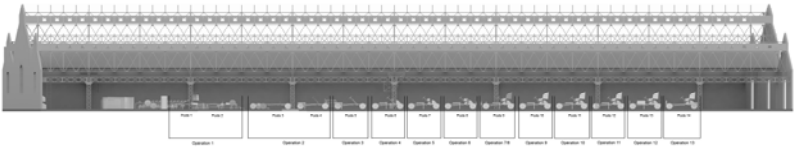
Conclusion

The "3D Factories" program hence provides an interactive research tool from which a visualisation medium for several workshops may be extracted. Its objective is not only to reconstruct the shapes of the building, but using simulation, to "step into" the workshop so as to give a meaning to historical sources which are not only partial, but often contradictory. Virtual "reality" is an investigation instrument for systematic questioning of visual representations. Its aim is indeed to document the history of the work accomplished in the past in those premises.

As manual analysis does not enable to interprete highly complex situations, nor variations in scale and viewpoint changes provided by

archive images. It is the virtual model which has enabled to locate each picture and to retrieve the location of each "operation" presented by the February photographic report and September 1922 drawings. This reconstruction reveals that the breakdown of the gestures on the assembly line could not be reduced to 12 nor to 13 "operations". There were then 14 workstations: operations were performed on several stations while two operations would be carried out on a single station.

Figure 21 – Cross-section of the 3D mock-up of the 14 stations of the assembly line in the C5 workshop (1922)



© Screen capture/Loïc Espinasse, ArchéoTransfert (2009)

During that period which saw the implementation of a new organisation of the work, the designers and the workers themselves were not truly conscious of the perpetual re-arrangement of their assembly tasks. Images will never present simply a complex and non-stabilised process. Only the digital tool enables to remove these inaccuracies and to interpret them: such is the gain in intelligibility offered by 3D modelling.

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La diffusion des produits de la recherche historique à l'ère du Web 2.0

Une étude de cas

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> « Was können wir wollen », ist (…) das eigentliche Centralproblem aller Ethik.[1]

Je mène depuis assez longtemps en marge de mon parcours d'historien, pour l'essentiel consacré à l'histoire des migrations, une activité de micro-entrepreneur numérique. En marge veut dire ici, qu'elle fait pour moi partie de mes activités d'historien et que ses formes ne se comprennent qu'en référence aux objectifs des recherches historiques auxquelles elles sont liées et aux conditions de celles-ci. Cette activité a abouti à quelques réalisations.[2] Ce n'est pas l'une d'elles cependant que je vais évoquer ici, mais une entreprise, ou un projet, qui échoue, ou du moins ne démarre pas et ne semble pas devoir le faire, pour des raisons qui ne tiennent pas d'ailleurs à des difficultés techniques ou à la complexité des dispositifs numériques les plus récents mais aux conditions sociales institutionnelles et politiques de la conduite de ce type de projet, occasion de réfléchir aussi au contexte de production des outils numériques, aussi déterminant quand il s'agit de les comprendre que les seules contraintes techniques.

Tout part, dans le cas qui nous occupe, d'une commande passée par un organisme public français, l'Acsé (Agence pour la cohésion sociale et l'égalité des chances), sorte d'agence fédérale à la mode française, chargée de veiller à la cohésion sociale, ce qui inclut aujourd'hui la lutte

1 Wentscher, M., *Ethik*, 1902.

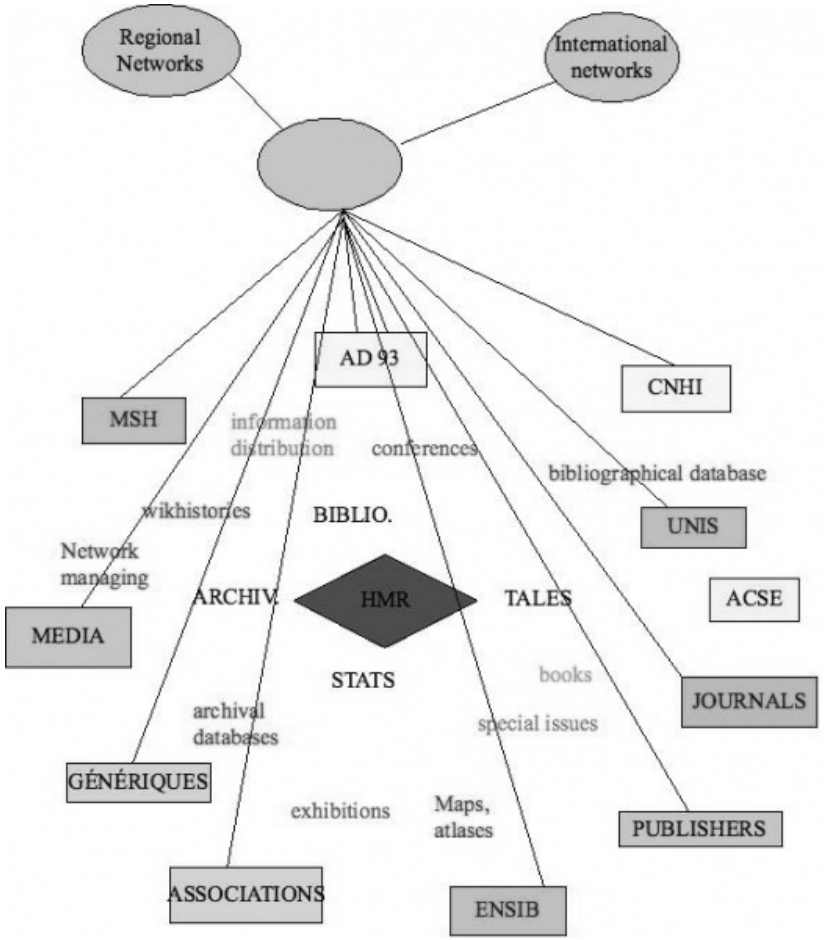
2 Rygiel, P., « Écrire et penser un site », in Éric Guichard (dir.), *Comprendre les usages d'Internet*, Paris, Presses de l'École normale supérieure, 2000.

contre les discriminations ou l'illettrisme. Dans un contexte très incertain, puisque ses missions, son périmètre, son organisation sont alors discutés et son existence en danger, l'agence, par l'intermédiaire de sa direction recherches, lance une grande enquête dont le titre est *Histoire et mémoire des migrations en régions*. Les textes officiels présentant l'entreprise font d'elle le moyen d'accumuler un matériau et un savoir nourrissant des manifestations et des productions destinées à lutter contre les discriminations liées à l'origine en agissant sur les représentations de la population. La direction du programme, d'une durée de trois ans, est confiée à une équipe d'historiens dont je fais partie. Celle-ci a pour charge de coordonner le travail de vingt-six équipes régionales, une par région programme, qui doivent chacune produire un récit de l'histoire de la présence étrangère dans le cadre de leur région, établir un état des sources disponibles, une recension des travaux consacrés à ce thème et particulièrement de la littérature grise et mettre enfin à disposition des chercheurs futurs un certain nombre de matériaux.[3]

Nous avons, au sein de la coordination scientifique de l'enquête, décidé de préparer, très en amont, la valorisation des résultats de l'enquête et en particulier les dispositifs numériques permettant sa diffusion. Nous avons ainsi demandé aux chercheurs en région de procéder à une saisie aussi complète que possible des résultats des recensements concernant les populations étrangères (de 1851 à aujourd'hui), prôné la constitution d'une base bibliographique indexée permettant d'intégrer les documents produits par les équipes et souhaité que les descriptifs des sources soient le plus possibles normalisés de façon à pouvoir être intégrés facilement aux bases existantes. La répartition des tâches entre les différents acteurs est très tôt décidée et acceptée et un schéma de valorisation de l'enquête émerge (cf. graphique ci-dessous).

[3] Pour une présentation des résultats de l'enquête, on verra, Bruno, A.-S. *et al.*, « Histoire et mémoires des immigrations en région au XIX^e^ et XX^e^ siècle », in *Hommes et Migrations*, n° 1273, mai-juin 2008, p. 6-17.

Figure 22 – Schéma de valorisation de l'enquête « Histoire et mémoires des migrations en région »



Celui-ci a la particularité de prévoir une diffusion multivectorielle et multipublics, puisqu'il s'agit à la fois de permettre la diffusion de produits de l'activité scientifique réutilisables par des chercheurs, de toucher des publics non experts et de permettre une valorisation du travail effectué par les acteurs de l'enquête, d'où des discussions avec des acteurs du monde savant afin d'assurer la publication d'articles scientifiques, ou la réutilisation des matériaux (un travail cartographique est en cours à l'Ensib de Lyon à partir de certaines des données statistiques collectées au cours de l'enquête), avec des éditeurs afin de pro-

duire des ouvrages destinés à un public plus vaste, avec aussi un certain nombre d'acteurs associatifs associés en régions à la diffusion des résultats de l'enquête sous forme de conférences, d'expositions ou de manifestations réutilisant ce matériau.

Une association, constituée à la suite de l'enquête, regroupant des chercheurs ayant ou non participé à l'enquête, avait pour mission de devenir l'interlocuteur des différents acteurs et de veiller particulièrement à la mise en place de ressources numériques assurant la réutilisation possible par le monde de la recherche des matériaux et résultats accumulés. Reliée à des réseaux internationaux consacrés aux mêmes thématiques, disposant éventuellement de relais régionaux, elle était censée, animée par un petit groupe de jeunes chercheurs ayant accepté d'en prendre la charge, assurer aussi la diffusion des informations pertinentes au sein d'un milieu spécialisé et servir d'intermédiaire entre celui-ci et la demande d'expertise, importante dans ce champ, voire permettre, par le biais par exemple d'outils de type wiki, de produire collectivement des ressources.

L'instance nouvelle était dotée dès sa naissance de l'appui des chercheurs faisant autorité dans le champ, d'appuis institutionnels lui permettant de bénéficier de locaux, d'un serveur, et de temps ingénieur (un équivalent mi-temps). Le dispositif paraissait relativement solide, d'autant que la population savante censée nourrir le dispositif était relativement homogène, au point que l'on pouvait supposer la possibilité de définir une ontologie partagée, constituait pour partie un milieu d'interconnaissance, du fait en particulier des modalités du déroulement de l'enquête, et travaillait un thème faisant l'objet d'une forte demande d'intervention. Le projet consistait de fait à doter cette communauté scientifique hors-sol, au sens où elle n'est pas directement identifiée à une institution d'un espace numérique ouvert et partagé permettant à la fois la circulation de l'information, la structuration du réseau et la production collective de matériaux savants.

Si, cependant, deux ans après la fin officielle de l'enquête un certain nombre de livres, d'articles, de numéros de revues sont parus, si se sont déroulés manifestations officielles, conférences et colloques, les dispositifs numériques pensés n'ont pas vu le jour, non plus que le réseau social supposé les utiliser et les nourrir n'a émergé.

Ce qui m'a poussé à me pencher sur le pourquoi de cette non-apparition, outre un léger, quoique légitime sentiment de frustration est que cette entreprise avait été pensée très en amont en intégrant les contraintes matérielles techniques et politiques qui souvent condamnent à l'échec ce genre de projet. Celui-ci était doté de matériel, de compétences et d'appuis au sein d'institutions du champ garantissant a minima

leur bienveillance et sa légitimité scientifique assurée par le patronage des spécialistes reconnus du champ.

Afin d'identifier les obstacles, qui se sont pour certains révélés jusqu'à aujourd'hui insurmontables, j'ai tenté d'une part de reconstituer les chaînes de traitement d'un certain nombre de matériaux et mené d'autre part une enquête assez rapide auprès des responsables des équipes régionales associées à l'enquête.[4] Celle-ci fait d'abord apparaître la difficulté pour celles-ci à prendre en charge de manière autonome la diffusion électronique des résultats de l'enquête, les initiatives locales se traduisant souvent par la mise en ligne d'un ou deux papiers au format pdf, en même temps que des attentes, fortes, mais assez vagues. Interrogé sur ce qui lui paraît souhaitable en la matière le responsable de l'une des régions répond ainsi : « Mise en ligne des rapports et aussi des résultats des dépouillements. En effet, l'accès à la source paraît fondamental pour des analyses ultérieures ». La demande est de fait souvent celle de la mise à disposition de la donnée brute, rassemblée par les chercheurs, avant son traitement par ceux-ci. Les formes cependant qui permettraient de réaliser ce vœu sont tout aussi fréquemment assez mal appréhendées. Un autre responsable d'enquête, à la même question répondant : « Ce qui te (vous) semblera faisable, car je ne vois pas trop ce que ça peut recouvrir ».

La modestie culture informatique d'une large portion des chercheurs en sciences humaines permet de comprendre ce type de réponse et se révèle de fait à la source de plusieurs des blocages rencontrés. Une partie des matériaux numériques accumulés se sont ainsi révélés difficiles à exploiter. Certains parce que fourni en des formats impliquant un retraitement coûteux de ceux-ci, la généralisation du pdf en mode image, sans que soient toujours conservés les documents maîtres, considérés comme de simples brouillons, se révèle en l'occurrence avoir des effets secondaires assez désastreux. D'autres, les tableaux de données statistiques par exemple, apparaissent au final trop peu normalisés, leur collecte ayant été confiée à des prestataires extérieurs ou à des étudiants sans qu'un contrôle de qualité suffisant ait été effectué en cours d'enquête, sa finalité n'apparaissant pas nécessairement ni aux chercheurs ni aux personnes chargées de la saisie et les indications données

[4] Ces entretiens se sont déroulés par mail au cours de l'été 2009. Un courrier adressé à chacun des vingt-six responsables d'équipes régionales demandait à chacun quel dispositif de valorisation électronique avait été élaboré en région, et quels étaient leurs souhaits et leurs suggestions dans la perspective de la mise en ligne d'un serveur en partie destiné à assurer la diffusion de l'ensemble des résultats et matériaux accumulés au cours de l'enquête. Toutes les citations d'entretiens qui figurent dans les lignes ci-dessous proviennent de ces conversations électroniques. Nous avons simplement, du fait du faible nombre de répondants, anonymisé leurs propos.

par la coordination de l'enquête ayant été trop imprécises. Ce n'est pas d'abord ou surtout négligence de la part des uns et des autres, mais ignorance d'une part des contraintes que font peser en termes de format et de structuration des données des procédures automatiques d'importation et de traitement des données et oubli d'autre part de ce que les normes de fabrication d'un document numérique doivent être très précisément détaillées, plus encore quand participe à celle-ci des opérateurs qui ne font pas partie d'une micro-communauté ayant ses habitudes et ses évidences.

À ces problèmes de qualité des matériaux se sont ajoutées de vraies difficultés de communication entre ingénieurs et chercheurs, liées là encore à l'absence d'une culture commune permettant aux uns de formuler des demandes autrement que sous forme d'attentes assez vagues et sans prise en compte de l'horizon des possibles, aux autres de proposer des dispositifs adaptés aux besoins et aux pratiques de leurs interlocuteurs. Étant donné les difficultés évoquées précédemment surgissant lors d'interactions entre chercheurs d'un même champ participant ou non d'une culture de production numérique, cela ne doit guère surprendre. De fait les projets de production de ressources numériques durables en sciences humaines qui parviennent à leur fin bénéficient souvent de la présence de passeurs, qui participent à différentes cultures et qui assurent souvent une fonction de truchement et/ou de médiateurs. La difficulté provient de ce que de tels profils sont encore rares, résultant souvent de hasards biographiques et qu'en l'espèce nous avions mis en présence des chercheurs disposant d'une forte compétence disciplinaire et un compétent informaticien de métier qui, au sens propre du monde et sans mauvaise volonté des acteurs, avaient toutes les peines du monde à s'entendre et à se comprendre.

À ces facteurs, qui renvoient pour une large part au mode de participation des chercheurs en sciences humaines à la culture numérique, s'en ajoutent d'autres, liés à la structure du champ académique. Dans un contexte d'hyper-concurrence où les postes sont rares, les acteurs académiques sont tentés de maximiser les profits symboliques de leur activité de recherche et dans le champ des sciences humaines, et particulièrement de l'histoire, demeurent particulièrement valorisées les publications papiers et les œuvres singulières, ce qui rend incertaine la rentabilité d'un investissement dans le travail collectif ou la production de formes savantes (un site, une base de données, un logiciel), non encore validées comme telles, ou bien, pour les plus en lisières de la sphère académique contraints à accepter les tâches assurant immédiatement espèces sonnantes et trébuchantes. Se sont ajoutées à cela, en ce cas particulier, les réticences des équipes et/ou des partenaires éditoriaux à permettre la diffusion sous forme numérique de rapports dont il était

craint qu'elle puisse nuire à la viabilité ou à la rentabilité des ouvrages élaborés à partir de ceux-ci.

À ces logiques, qui ne sont pas spécifiques au cas envisagé, s'ajoutent quelques effets de contexte, lié aux transformations de l'agence à l'origine de l'enquête. Profondément transformée dans le cadre de la réforme générale des politiques publiques, elle a perdu une partie de ses effectifs, ses missions redéfinies et son organisation modifiée. Alors que le cœur de son activité était, au moment du lancement de l'enquête, l'immigration et l'intégration des populations étrangères, elle tend aujourd'hui à devenir une agence de la cohésion sociale, pour laquelle les problématiques de l'immigration ne sont plus centrales. Elle n'a de plus plus vocation à être un opérateur de recherche, ce qui se traduit par la disparition de la direction recherche directement à l'origine de l'enquête, remplacée par une division diagnostic placée sous la responsabilité de la direction communication. Sur le terrain, ces changements se traduisent par la disparition des personnels qui avaient assuré le suivi du travail et la difficulté à en trouver de nouveaux au sein de la structure. Le directeur de l'enquête pour la région C note ainsi que : « Pour les supports électroniques, je ne sais, mais je suis pessimiste… d'autant que les rapports sont longs. L'Acse (…) n'arrêtant pas de se restructurer, je n'ai plus de nouvelles, M. étant parti », ce qui, le plan de diffusion des résultats de l'enquête n'ayant pas prévu de solution de remplacement en cas de retrait de l'un des partenaires, a posé parfois de délicats problèmes d'accès aux données et aux rapports d'enquête, l'institution les ayant commandés dans le cadre d'un marché public demeurant propriétaire de celles-ci et en a donc été le premier dépositaire. Les transformations de celui-ci et le départ d'une partie des personnels associés à cette entreprise ont eu ici pour effet la perte d'un certain nombre d'information ou de partie des matériaux réunis dont de ce fait aucune collection complète n'existe plus au niveau national. Il a pu résulter également de cet état de fait une certaine incertitude quant au cadre juridique d'une diffusion électronique des résultats d'une enquête, demeurant propriété d'un établissement qui n'entendait plus y participer lui-même et s'en désintéressait quelque peu.

En somme le projet a souffert des difficultés habituellement rencontrées par toute entreprise de ce type, en particulier dans le cas français, la faiblesse de la culture numérique des chercheurs en sciences humaines, dont les effets sont multiples, la faible validation accordée par les institutions universitaires à l'élaboration de ressources numériques, la difficulté à trouver des porteurs de projet participant tant d'une culture disciplinaire que d'une culture informatique, les effets de tout cela étant ici aggravés par l'instabilité d'un contexte institutionnel soumis à des transformations brutales du fait d'évolution macro-politiques sur

lesquelles les acteurs de terrain avaient par définition peu de prise. Il ne suffit pas en somme pour faire société d'un serveur, d'un ingénieur et d'une communauté d'expertise tant il est vrai que le dispositif numérique exprime autant qu'il facilite des arrangements sociaux complexes et dynamiques qui lient des individus et des institutions hétérogènes tant par leurs logiques d'action que par les ressources et compétences dont elles disposent. Une autre façon de le dire, ou une conséquence de cela, est que la complexité même de ces arrangements, autant que la diversité des compétences requises supposent à la fois une conduite de projet, que rien d'ailleurs n'empêche d'être démocratique, et une forte division du travail, à rebours de ce que laissent penser nombre de discours associés à internet, qui exaltent la spontanéité et l'absolue égalité fonctionnelle des acteurs.

Il en découle, je crois, pour les acteurs de ce qui est appelé en ce moment les humanités numériques, quelques impératifs stratégiques. Le premier concerne la formation, celle des futurs chercheurs dont il est plus que souhaitable qu'ils possèdent les rudiments d'une culture informatique, non pas sans doute pour concevoir eux-mêmes leurs outils, mais afin d'être capable de négocier leur élaboration en concertation avec des techniciens et des ingénieurs compétents. La remarque n'est pas nouvelle, elle demeure d'actualité au regard de la modestie des dispositifs d'enseignement adaptés à ces fins dans les universités françaises. Nous aurons besoin aussi de médiateurs, indispensables à la conduite de projets de ce type et disposant aussi bien d'une réelle culture disciplinaire que de solides compétences informatiques. Des formations susceptibles de fournir de tels profils émergent depuis quelques années en France et il faut souhaiter que d'autres émergent, il faudra un peu de temps cependant pour que leurs produits soient opérationnels. Surtout l'expérience des dernières décennies le montre, la validation des compétences de ces spécialistes de l'ingénierie en sciences humaines, et de leur contribution pose encore problème. Les personnels qui ont assumé ce type de fonctions dans les institutions scientifiques l'ont souvent fait en sus de leurs obligations et ont occupé les marges du monde savant recrutés pour des contrats de courte durée dans le cadre de programmes de recherches, ou bien incapables de devenir ni enseignant chercheur ni ingénieur de recherche parce que trop peu pointus pour être considérés comme des informaticiens et ne produisant pas assez de dispositifs savants respectant les formes canoniques pour obtenir une reconnaissance disciplinaire. Il en est résulté un certain nombre de départs ou, la fatigue aidant, de retraits, ce qui a parfois gêné transmission et capitalisation des expériences et des savoir-faire. La réflexion sur ce point est ouverte et dépasse largement le cadre de ce papier, reste qu'il entend souligner qu'une réflexion sur les humanités numériques et les possibles qu'elles ouvrent ne peut ignorer la question de la formation et du statut de ses agents.

The Spatialization of History

A New Web Paradigm

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Since the late 1980s we have heard increasingly about the so-called "spatial turn" in the social sciences and humanities. By this term, commentators mean the reintroduction of space and spatial analysis as a framework for scholarly investigation and creation of knowledge. The spatial turn began within the discipline of geography itself. By the early 1970s, geographer Edward Soja observes, many people in the field "sought alternative paths to rigorous geographical analysis that were not reducible to pure geometries." In this new critical geography, "rather than being seen only as a physical backdrop, container, or stage to human life, space is more insightfully viewed as a complex social formation, part of a dynamic process."[1] For non-geographers, the spatial turn has been largely defined by a greater awareness of place, manifested in specific sites where human action takes place. Although space (or place) had not in fact disappeared as an explanatory variable during earlier decades, it also is true that the research community, at least in the Western world, has been more enamored of other casual factors, such as modernization or cultural synthesis, than in geographic or spatial perspectives on society and culture.

Now humanists and social scientists alike are aware of the importance of geographic information. We can point to a number of reasons for this development – the emergence and rapid maturation of geographic information systems (GIS) as a core technology, the convergence of Web and mobile technologies that moved spatial data and its manipulation beyond the realm of specialist tools, and the explosive growth of a global economy with its demand for location-based infor-

1 Soja, E., "In Different Spaces: Interpreting the Spatial Organization of Societies", *Proceedings*, 3rd International Space Syntax Symposium, Atlanta, 2001.

mation. We also have discovered that spatially oriented software, such as that represented by GIS, facilitates the integration of data that is so essential to support our paradigmatic shift toward interdisciplinary research. We have become aware of the power of the map to display information cartographically in a manner that provides fresh perspective and new insights into the study of culture and society. For all these reasons and more, we stand at the threshold of what promises to be a new age of discovery in the fields and technologies represented by geo-informatics.

History and the humanities in general will be profoundly influenced by these developments. At first glance, this argument may seem odd. It runs counter to recent critiques that GIS rests on a positivist epistemology and demands a precision in data and methods much more suited to the social sciences than to the humanities. But increasingly spatial technologies are being used in tandem with Web applications in ways that make them eminently suitable for historical scholarship, and it is this combination that promises a revolution in the ways we think about the past.

In its essence, history seeks to generalize from the particular, not for the purpose of finding universal laws but rather to glean insights about cause and effect from a known outcome. Here, history differs from social science, which often attempts to reach a generalization that holds true in any similar circumstance. This difference is significant and influences the way the two groups of scholars create knowledge. For social scientists, the search for trustworthy generalization focuses on quantitative data and the isolation of an independent variable, the cause that has a predictable effect on dependent variables, or ones that respond to the stimulus or presence of a catalyst. Historians use qualitative methods far more than quantitative ones, a choice that stems from an epistemology that views reality as indeterminate and contingent. We see the world and its history as dynamic and changing. Our view of the past is Web-like, to use philosopher Michael Oakeshott's phrase: it emphasizes lived experience and shared meanings; in it, everything is related in some way to everything else.[2]

The sense of interrelatedness plays itself out within two dimensions – space and time. Although the past is always bound by these two elements, historians often treat them as artificial, malleable constructs. We move freely across these spatial and temporal grids, ignoring issues of scale, as we compare and contrast one place or one time with another in an effort to recapture a sense of the whole, to illuminate differences,

[2] Gaddis, J., *The Landscape of History: How Historians Map the Past*, New York, Oxford University Press, 2002, p. 53-71.

to discover patterns. For the humanist, space is not only physical space but occupied space, or place, and the concept, like that of time, exists not simply in a real world but in memory, imagination, and experience. Such casual use of time and space is a curious circumstance for a discipline that, in so many ways, refers to these terms continually. An explanation lies in recognizing that the historian seeks to simulate a world that is lost, not to recreate it precisely or use it for predictive purposes. Traditionally, historians have used narrative, to construct the portrait that furthers this objective. Narrative encourages the interweaving of evidentiary threads and permits the scholar to qualify, highlight, or subdue any thread or set of them – to use emphasis, nuance, and other literary devices to achieve the complex construction of past worlds.

Trying to comprehend space, place, and time in concert has always proven difficult, even in the most expert narratives. As the historian Hugh Trevor-Roper asked decades ago, "How can one both move and carry along with one the fermenting depths which are also, at every point, influenced by the pressure of events around them? And how can one possibly do this so that the result is readable? That is the problem."[3] How might we combine the obvious strengths of geographic understanding with the focus on the ineffable, the irreducible, and the particular, all signal concepts at the heart of history? How might we integrate structure, process, and event? In sum, how might we combine space, time, and place?

Novelists have figured out ways to accomplish this feat. Great fiction, famed Russian literary critic Mikhail Bakhtin reminds us, fuses "spatial and temporal indicators […] into one carefully thought-out, concrete whole. Time … thickens, takes on flesh, becomes artistically visible; likewise, space becomes charged and responsive to the movements of time, plot and history."[4] Sometimes historians manage this magical effect, but we cannot stop there because we must go beyond narrative and explain more explicitly the relationship between space and time. The resulting interpretations privilege time, which we seek to escape by comparative reference of one event to another, similar event, regardless of origin or circumstances. We reason by analogy and metaphor, using words with evocative but slippery halos of meaning to covey a multidimensional, complex, and nonlinear past. But with few exceptions we fail because structurally our prose and our logic, like time, are in fact sequential. Time is our master, and our emphasis on cause and

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3 Quoted in Thomas, K., "A Highly Paradoxical Historian", in *New York Review of Books*, April 12, 2007.

4 Bakhtin, M., *The Dialogic Imagination: Four Essays*, Austin, ed. M. Holquis, 1981, 250 p.

effect means we march to its cadence even when we know the worlds we have lost were not so neatly ordered.

So how then do we extract ourselves from the tyranny of time and free space and place to stand as equal partners in our histories? One line of thought promises to unify space and time by perceiving history as "practice" rather than categories or periods.[5] Practice theory dismantles generalizations about cultures, classes, races, and societies and puts them back together in more dynamic and complicated ways. It argues that the cultural and the material cannot be separated within our processes and structures. In this approach, historian William Sewell suggests, social life is the result of "countless happenings or encounters in which persons and groups of persons engage in social action … constrained and enabled by the constitutive structures of their societies."[6] The creativity and stubbornness of these human actors continually shape and reshape societies in ways that often are unpredictable. Contingency is at the heart of practice theory, with complexity and change a normal state of affairs. Time is not fixed but instead is "a series of overlapping presents of various sizes, each organized around a particular location and overlapping across the whole social process." The world is continually eventful; "everything – no matter how large – is always on the line."[7]

In practice theory, time, like geography, can be disassembled. Just as we differentiate between a more generalized space and a more localized place, so can we differentiate general processes from specific events. We live daily in places and events, but we also are parts of large spaces and processes. Just as a geographer relates place and space, so do historians relate event and process. Geography locates us on a physical and cultural landscape while history locates us in time; just as geographers relate space and place, historians relate event and process. Practice theory imagines both structure and activity and is a supple and dynamic means of joining these two kinds of analysis.

Practice theory also proves to be a way to link the prosaic and the transformation, to explain how big and sudden changes penetrate deeply into people's hearts and minds. "All social life is 'contingent,' implicated and unpredictable, because all parts of life depend on each other," Ed Ayers has argued. "What we think of as public and private, economic

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5 Ayers, E., "Turning toward Space, Place, and Time," in Bodenhamer, D., Corrigan, J., Harris, T. (eds.), *The Spatial Humanities: GIS and the Future of Humanities Scholarship*, Bloomington, Indiana University Press, 2010, p. 1-14.

6 Sewell, W. Jr., *Logics of History: Social Theory and Social Transformation*, Chicago, University of Chicago Press, 2005, p. 100.

7 Abbott, A., *Time Matters: On Theory and Method*, Chicago, University of Chicago Press, 2001, 296 p.

and political, religious and secular, and military and civilian are deeply connected. Social change can start anywhere and lead anywhere." Such a perspective argues for the intricate interplay of the structural and the ephemeral, the enduring and the emergent. This is "deep contingency," a view of social life that fuses an active sense of place and an active sense of time.[8]

To understand deep contingency we must try to comprehend a society as a whole, its structures of ideology, culture, and faith as well as its structures of economics and politics. All structures must be put into motion and motion put into structures. As literary scholar Raymond Williams insists, "Determination of this whole kind – a complex and interrelated process of limits and pressures – is in the whole social process itself and nowhere else: not in an abstracted 'mode of production' nor in an abstracted 'psychology.'"[9] Or, as anthropologist Sherry Ortner explains, "A practice approach has no need to break the system into artificial chunks like base and superstructure (and to argue over which determines which), since the analytic effort is not to explain one chunk of the system by referring to another chunk, but rather to explain the system as an integral whole (which is not to say a harmoniously integrated one) by referring it to practice."[10] Space and time are crucial components of that integral whole.

But how can we do this? Even the limited evidence we have for so much of our past overwhelms us, so how do we keep this sense of contingency and agency, this linking of past and present, and this landscape of space and place connected and vital in our scholarship. Among all modern information technologies, an enhanced GIS may have the most potential for accomplishing what has heretofore been a Sisyphean task, for at least two reasons: it integrates information based on location and increasingly on time; and it visualizes the result, usually on a map, thus providing both a format and a metaphor with which historians are conversant, but also in other ways that make it possible to see and even experience the complexity historians find in the past.

At its core, GIS is a database and mapping technology – and a visualization tool – with properties that should appeal to historians. Its fodder is location and all attributes that coexist with it. The ability to integrate data based on their common location makes GIS attractive as a

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8 Ayers, E., *What Caused the Civil War? Reflections on the South and Southern History*, New York, WW Norton and Company, 2005, p. 134-135.

9 Williams, R., *Marxism and Literature*, New York, Oxford University Press, 1977, p. 87-88.

10 Ortner, S., "Theory in Anthropology since the Sixties", in *Comparative Studies in Society and History*, Vol. 26, No. 1, 1984, p. 148-149.

platform for history. Indeed, many scholars who use the technology do so primarily to manage evidence of different types – qualitative, quantitative, visual – based on the geographic space they share.[11] This mixing of formats is nothing new to historians. What is different is the technology's ability to parse large amounts of disparate data quickly and to keep them in a temporal and spatial relationship with all other information from the same place. This integrative ability means that historians are able to construct multiple perspectives, much as we might in our verbal descriptions of the past. Multiple perspectives and shifting scales may cause problems for the cartographer but not necessarily the historian. The historian's impulse is to understand an event by reference to another, similar event, regardless of origin or circumstances, a stance that invites the development of multiple views, from local to global, for the same problem.

The potential of GIS to visualize information is equally important for history. We can view data not only in space and time, as on a map, but also across space and time through animated maps. Both ways appeal to the natural ways we perceive information. Our brain looks for patterns, which both static and dynamic maps provide. Also, our perceptual systems cannot detect the passage of time but only the movement of objects through space. By converting time to motion, we can visualize dynamic patterns that in turn can be simultaneous, allowing inferences of common causes, or sequential, suggesting causal relationships. Motion also takes advantage of our nature because our brains are geared toward the visual – we can see more than we can say – and the perception of an event progressing in time is basic to the way we know things.[12] Displaying historical information in an animated map guides even the most naïve observer to perceive the relevance of emerging trends and relationships. By allowing us to see space and time at a distance, in relatively abstract ways, dynamic maps show us dissolving and crystallizing patterns otherwise invisible in rows of numbers or static maps based on the same data.

But a proper spatial humanities or spatial history can take far more advantage of the power of new technologies than merely providing dynamic maps, as valuable as they are. It now is possible to embed explanatory text and video into maps, thereby providing viewers with dynamic frameworks of narrative understanding. More recently, a new suite of Web technologies has become available, including Web services

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11 Gregory, I., Kemp. K., Mostern, R., "Geographical Information and Historical Research: Current Progress and Future Directions", in *History and Computing*, No. 13, 2003, p. 7-22.

12 Peuquet, D., *Representations of Space and Time*, New York, Guilford Press, 2002, p. 88.

and mash-ups, that threatens the perceived hegemony of GIS and other expert systems by creating what Andrew Turner has labeled as Neogeography, or the empowering of non-expert users to handle geospatial data.[13] These second-generation Web applications and enabling technologies, the so-called Web 2.0, work together to create innovative geospatial services that allow data producers and consumers to share the same technology.

This Geospatial Web, Trevor Harris has argued, forms the core of what could constitute a universal humanities GIS.[14] It builds on concepts of representation, visual display, spatial multimedia, and user-created content to create dynamic map spaces. The results reflect the standards and goals of the participants rather than the closeness of fit to technical standards. It does not rely upon prescribed data formats or expert knowledge but rather manages and integrates all data and participant contributions using one interface. It also preserves the history of its own development and puts complementary emphasis on space and place. In doing so, it becomes a tool well suited to the postmodern humanities: participants are both data producers and consumers who interact in a space that accommodates representations of diverse views and preserves the contradictions and contingencies that mark human experience.[15]

The geospatial and mapping platforms of Microsoft, Google, and Yahoo and particularly Web 2.0 geo-browsers are the best-known products of the Geospatial Web. Virtual Globes, Application Programming Interfaces (APIs), User Generated Content (UGC), and Web Services have moved map production into a completely new arena open to experts and non-expert alike. Participants develop what is known as Volunteered Geographic Information through geo-tagged Web entries and user-generated content (e.g., Wikipedia), place descriptions (Wikimapia), public domain map layers (e.g., Flickr), and mash-ups (e.g., Google Earth, Open Street Mapper). These tools go beyond GIS software to create a dynamic user experience and build communities of inquiry. Google Earth and Google Maps, for instance, support embedded multimedia such as photographs, text, oral narrative, sketches, video, and audio within the map or globe representation, thereby allowing users and communities to upload and share spatialized information that often provides unique insight into aspects of place. Other applications allow users to create, display, and share models of real-world

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13 Turner, A., *Introduction to Neogeography*, Sebastapol, CA, O'Reilly, 2006.

14 Harris, T., Bergeron, S., Rouse, J., "The Geospatial Semantic Web Pareto GIS, and the Humanities", in Bodenhamer, D., Corrigan, J., and Harris, T., *op. cit.*, p. 124-143.

15 Scharl, A., Tochtermann, K. (eds.), *The Geospatial Web: How Geobrowsers, Social Software and the Web 2.0 are Shaping the Network Society*, Rotterdam, Springer, 2007.

objects within virtual globes. Increasingly, these tools are used in the modeling and reconstruction of historical structures and landscapes. Equally important, they function as collaborative space by providing the means to share spatially relevant information and data among interested individuals and groups, as well as offering the capability to add material, make comments, and even create related media.

What will make the emerging Geospatial Web more valuable is the ability to discover information, which now is a matter of intense focus among computing and geographic information scientists. Architects of the World Wide Web have suggested the way with their vision of the Semantic Web, a next-generation evolution of the Internet.[16] Metadata and interoperability standards already provide the means to search within and between websites, but search engines cannot define or interpret the cultural, spatial, or semantic meaning of the search terms or the results. A semantic Web would facilitate the sharing of content among computers because each bit of information would have a well-defined meaning. A number of existing technologies, including eXtensible Markup Language (XML) and the Resource Description Framework (RDF), provide the foundation for this capability. XML allows users to create tags for pieces of data that give structure to that information, but not its meaning; RDF facilitates the creation of relationships between objects through the assignment of use tags. These tools suggest how computers might perform the logical reasoning required to find and interpret appropriate information from the vast amounts of data already available on the Internet.

The notion of a semantic Web relates closely to the needs of the spatial humanities. As with other knowledge domains, there is a wealth of content available for researchers in the humanities, but much of this content does not easily fit the traditional spatial structure of GIS data. On the whole, integrating humanities data into a GIS platform has focused on mapping individual items, such as digital photographs or other multimedia, to a location on a map. Although this approach is useful in co-locating disparate data, it does not link to other repositories in any meaningful way and thus is limited to the data sources available to each project. A viable Geospatial Semantic Web not only will decipher the meaning of appropriate phenomena, whether in text, images, or other forms, but also will identify its spatial location and assign that information to a map. Geo-parsing technologies can also take advantage of descriptive text such as “near to,” “to the east of,” or other descriptions of location. This ability enables users to extend the value of loca-

[16] Berners-Lee, T., Hendler, J., Lassila, O., “The Semantic Web”, in *Scientific American*, No. 284, 2001, p. 5.

tions mentioned in texts and to map these geographical aspects to show both locations and relationships. In this way the geospatial semantic Web goes beyond an emphasis on spatial coordinates to include places based on description, relative location, and even visual representation such as sketches and photographs.

The Geospatial Semantic Web, built on a combination of GIS mapping and spatial functionality with the emerging technologies of a semantic Web, offers the core of a humanities GIS. The geospatial server platform would serve to integrate, display, and analyze humanities data in a spatially-enabled format and query and serve data through a semantically-linked Web interface. Great potential exists for humanities scholars to leverage semantically-enabled Web services from a variety of disparate sources, to integrate these sources within the GIS client, to conduct analyses, and to display and disseminate the results via Web services.[17] When fully available, these enhanced spatial technologies and services offer the opportunity to move us beyond a map of geographical space into a richer, more evocative world of imagery based on history and memory. They have the potential to revolutionize the role of space and place in the humanities by allowing us to move far beyond the static map, to shift from two dimensions to multidimensional representations, to develop interactive systems, and to explore space and place dynamically – in effect, to create virtual worlds embodying what we know about space and place.

We have glimpses of what this technology can produce. Within the field of cultural heritage, archaeologists have used Web GIS and computer animations to reconstruct the Roman Forum, for example, creating a 3-D world that allows users to walk through buildings that no longer exist, except as ruins. We can experience these spaces at various times of the day and seasons of the year. We see more clearly a structure's mass and how it clustered with other forms to mold a dense urban space. In this virtual environment we gain an immediate, intuitive feel for proximity and power. This constructed memory of a lost space helps us recapture a sense of place that informs and enriches our understanding of ancient Rome (Digital Roman Forum Project).[18] In similar fashion, historians and material culturists have joined with archeologists to fashion Virtual Jamestown.[19] This project, in turn, is seedbed for an even more ambitious attempt to push the technology toward the humanities by placing Jamestown at one vertex of Atlantic World encounters. Its

[17] The discussion of the Geospatial Semantic Web above owes much to Harris, T., Bergeron, S., Rouse, J., *op. cit.*

[18] URL: [http://dlib.etc.ucla.edu/projects/Forum] (01.03.2010).

[19] URL: [http://www.virtualjamestown.org/] (01.03.2010).

goal is to re-populate a virtual world with the sense of possibilities embedded in the past, what Paul Carter has called "intentional history."[20] Viewed within the spatial context for their actions, which includes the presence of proximate cultures, whether indigenous tribes, Spanish, Africans, or Dutch, we then can understand better how contingencies became lost as they butted against the encountered realities within the space the English claimed in 1607.

A paradigm project underway at West Virginia University aims to go even further by combining immersive technologies with GIS to re-create a sense of nineteenth-century Morgantown. Working from digitized Sanborn maps and extant photographs of buildings and streets, users enter a CAVE, a projection-based virtual reality system, and find themselves in another time and place, with the ability to navigate through an environment in which they now are a part. Soon they will be able to enter and explore a building, moving from room to room and examining the material objects within it. By adding sounds, smells, and touch, all within the capability of existing technology, this virtual reconstruction would engage four primary senses, making the experience even more real for participants. Once expensive, the costs of immersive environments are dropping rapidly, but, in fact, a CAVE is not essential for making an immersive environment open to humanists. As any parent of school-age children knows – or as any devotee of Second Life can testify – gaming technology already allows us to explore virtual worlds with a high degree both of verisimilitude and agency.

Even as we develop new, technology-based ways of exploring questions of heritage and culture, how do we make space, place, and memory dynamic and vital within them? With few exceptions, we have incorporated these elements into our websites and other digital products in much the same way we engage it in traditional scholarship, as part of an expert narrative. The primary evidence we use in each instance – documents, images, maps, material objects – represent personal and cultural memories that serve as mediators between us and the worlds they represent. We select and interpret these cultural artifacts to frame our understanding of the past and present. We use them within a book, an essay, or a website to structure a universe and make an argument. In this sense, technology makes more facile the process of knowledge creation we have always employed, but the difference we see most often is one of degree, not kind. We have not enabled our understanding of culture to be as dynamic as the act of creating culture itself, and it is to this end that we must direct technology if it is to help us open the past to the multiple perspectives and contingencies we know existed in the past.

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[20] Carter, P., *The Road to Botany Bay*, London, Faber and Faber, 1987, p. 3.

One means to this goal is through "deep mapping," an avant-garde technique first urged by the Situationists International in 1950s France. Popularized by author William Least Heat-Moon in *PrairyErth (A Deep Map)*, the approach "attempts to record and represent the grain and patina of place through juxtapositions and interpenetrations of the historical and the contemporary, the political and the poetic, the discursive and the sensual…"[21] In its methods deep mapping conflates oral testimony, anthology, memoir, biography, images, natural history and everything you might ever want to say about a place, resulting in an eclectic work akin to 18th and early 19th century gazetteers and travel accounts. Its best form results in a subtle and multilayered view of a small area of the earth.

Described as a new creative space, deep maps have several qualities well-suited to a fresh conceptualization of humanities GIS that takes advantage of the Geospatial Semantic Web. They are meant to be visual, time-based, and structurally open. They are genuinely multi-media and multilayered. They do not seek authority or objectivity but involve negotiation between insiders and outsiders, experts and contributors, over what is represented and how. Framed as a conversation and not a statement, deep maps are inherently unstable, continually unfolding and changing in response to new data, new perspectives, and new insights.

It is not necessary to adhere to hazy theories of psychogeography or to the neo-Romanticism of the British idea of "spirit of place" to find a correspondence between the deep map and advanced spatial technologies. Geographic information systems operate as a series of layers, each representing a different theme and tied to a specific location on planet earth. These layers are transparent, although the user can make any layer or combination of layers opaque while leaving others visible. In the environmental sciences, for example, one layer might be rivers and streams, another wetlands, a third floodplains, a fourth population, a fifth roads and bridges, a sixth utility lines, and so forth. By using information about rainfall amounts and rates within a predictive model, we can turn on and off layers to see what areas and which populations, habitats, and infrastructure will be affected most quickly by flooding and how best to plan for relief and recovery. We can view these layers in the sequence predicted by the model or we can view only the layers that most immediately affect human health and safety.

A deep map of heritage and culture, centered on memory and place, ideally would work in a similar fashion. Each artifact – a letter, memoir, photograph, painting, oral account, video, and so forth – would constitute a separate record anchored in time and space, thus allowing us to

[21] Pearson, M., Shanks, M., *Theatre/Archaeology*, London, Routledge, 2001, p. 65-66.

keep them in relationship, and each layer would contain the unique view over time – the dynamic memory – of an individual or a social unit. The layers could incorporate active and passive cultural artifacts, such as memories generated by intentional recall as well as memories left to us in some fixed or material form. They also might contain accounts from the natural world, such as found in meteorological and geological records. The layers of a deep map need not be restricted to a known or discoverable documentary record but could be opened, wiki-like, to anyone with a memory or artifact to contribute. They would be linked semantically and operationally, with layers viewed individually or collectively as a whole or within groups, but all tied to time and space as perspectives on the places that interest us. More significant, the deep map is meant to be visual and experiential, immersing users in a virtual world in which uncertainty, ambiguity, and contingency are ever-present, influenced by what was known (or believed) about the past and what was hoped for or feared in the future. With the rapid emergence of the Geospatial Web, we are not far from the point when it will be possible to construct deep maps and landscapes of culture for any place where people leave records of their experiences.[22]

What do these developments mean for us as humanists? It is now possible to construct at least two views of a how the Geospatial Semantic Web will help us develop landscapes of culture and place. In the first scenario, the Web-based spatial technologies are powerful tools in the management and analysis of evidence, contributing primarily by locating historical and cultural exegesis more explicitly in space and time. They aid but do not replace expert narrative: they find patterns, facilitate comparisons, enhance perspective, and illustrate data, among other benefits, but the results ultimately find expression primarily in the vetted forms accepted by our disciplines. In this view, a spatial history provides geographical context and depth to an expert interpretation of the past. It represents, at heart, a maturing of our current use of GIS.

Under the second scenario, the technology offers the potential for an open, unique post-modern scholarship that embraces multiplicity, simultaneity, complexity, and subjectivity. In it, history is not a grand narrative but a fragmented, provisional, contingent understanding framed by multiple voices and multiple stories. It is a collage of mini-narratives of small events and practices, each conditioned by the unique experiences and local cultures that gave rise to them. It is practice, a dynamic interweaving of structure and process, the cultural and material, the enduring and the emergent, all embracing a vital sense of time and place. A spa-

[22] Bodenhamer, D., "Creating a Landscape of Memory: The Potential for Humanities GIS", in *International Journal of Humanities and Arts Computing*, Vol. 1, No. 2, 2007, p. 109-110.

tially facilitated understanding of society and culture ultimately will make its contribution by embracing a new, reflexive epistemology that integrates these multiple voices, views, and memories of our past, allowing them to be seen and examined at various scales. It will create the simultaneous context that we accept as real but unobtainable by words alone. By reducing the distance between the observer and the observed, it will permit the past to be as dynamic and contingent as the present. In sum, it promises an alternate view of history and culture through the dynamic representation of memory and place, a view that is visual and experiential, fusing qualitative and quantitative data within real and conceptual space. It stands alongside – but does not replace – traditional interpretive narratives, and it invites participation by the naïve and knowledgeable alike. We are not yet at this point, but some day we will be.

QUATRIÈME PARTIE
ENVIRONNEMENT NUMÉRIQUE

PART IV
DIGITAL ENVIRONMENT

Renouveler l'expérience muséale à l'heure du Web

Le e-musée

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La France comme musée d'histoire

En abolissant l'Ancien Régime les Français entendaient faire table rase du passé. Mais de quel passé s'agissait-il ? Certes, la Monarchie absolue disparaîtrait pour laisser le champ à d'autres expériences politiques. Mais le Tiers-État devenu Citoyen était condamné à vivre à côté de ceux qui l'avaient opprimé. Et c'est bien dans la même église que le peuple continuerait d'aller à la messe. Menés par l'abbé Grégoire, les Français avaient-ils décidé de ne pas mettre à mal leurs églises, symbole d'un passé douloureux mais aussi racines d'un quotidien à reconstruire ? En distinguant ce qui devait être détruit, ce qui pouvait l'être et ce qui devait être gardé, l'abbé Grégoire fit réellement entrer la France dans une ère patrimoniale au moment où elle franchissait le pas de la modernité. Il avait mesuré que la Révolution ne pouvait construire de socle solide sans considérer les bases dans lesquelles la Nation nouvelle devrait s'ancrer. Aucune Révolution, ni avant ni après 1789 ne fut durablement amnésique. Le milieu du XIX^{e} siècle devait confirmer la tendance patrimoniale de l'Histoire de la France avec la création du service des Monuments historiques. Face à l'ampleur du champ historique, la question se posait de nouveau : que garder, sur quels critères, et bientôt aussi comment restaurer et comment entretenir ?

L'ambiguïté de la France face à son Histoire est celle de son sol. La France est une terre d'Histoire : le château de Versailles, la chapelle Saint-Denis, le Panthéon comme les plages du Débarquement sont autant de lieux par lesquels l'Histoire est passée et où elle demeure

vivante.[1] Tandis que la France est visitée chaque année par plus de 60 millions de touristes et que Paris est réputée pour abriter parmi les plus beaux musées du monde, le pays ne compte pas de musée majeur d'Histoire de France. L'Histoire de la France se découvre pas à pas, à travers les rues, dans l'Histoire de la peinture, au Louvre ou à Orsay, dans les musées qui retracent son passé colonial comme au Louvre encore ou plus récemment au quai Branly.

Les ambiguïtés de la représentation de l'histoire nationale

Il n'existe pas de Grand Musée rétrospectif de l'Histoire de la France. Et le musée du Quai Branly ne saurait mettre en avant un passé colonial. On préfère y promouvoir et y faire admirer les Arts Premiers. Le musée d'Histoire de France existant aujourd'hui est avant tout un musée des Archives nationales. Passionné par la question de l'identité nationale, le président Sarkozy s'est mis en quête de combler le manque : la France se doit de posséder un musée dans lequel sera exposée son Histoire. Il est de tradition que les présidents français marquent la République de leur sceau en inaugurant un grand musée, Pompidou à Beaubourg, Mitterrand à l'Institut du Monde Arabe, Chirac au quai Branly l'ont fait avant lui. Mais aucun n'avait pris le risque de s'exposer à la vindicte intellectuelle.

À peine avait-il terminé l'exposé de son projet d'un lieu « emblématique de notre histoire » alors qu'il présentait ses vœux au monde de la Culture, qu'il déclenchait déjà des passions et de sincères questions. Où serait-il le plus emblématique, Paris serait-il encore une fois le nœud centralisateur ?[2] Et surtout, comment afficher le passé, glorieux, sans faire fi des épisodes sanglants, comment éviter la propagande ? En effet, quelle France et quelle Histoire ? Si cette problématique semble nous éloigner de l'intitulé de la communication, ne pas considérer la tradition de laquelle nous venons serait une erreur qui nous empêcherait de mesurer les enjeux de l'Histoire à l'heure digitale. Elle participe de ce qui nous préoccupe : qui finalement écrit l'Histoire ? Les historiens sont-ils et demeurent-ils par nature et sans conteste les historiographes ? Et admettons que la réponse soit positive, si la tâche était si simple, pourquoi y aurait-il des « écoles historiques » ?

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1 Alain Decaux déclarait le 14 janvier 2009, à propos du musée de l'Histoire de France « Je n'en vois pas l'utilité parce que tout simplement Paris est un immense musée de l'histoire de France », source AFP.

2 Les arguments des uns et des autres sont tous recevables tant l'Histoire de la construction de l'identité de la France est complexe mais bien évidemment nous ne devons en rien négliger les aspects économiques du choix politique car un musée est avant tout une entreprise. Les budgets publics qui se resserrent laissent à penser que l'économique prime sur le devoir de mémoire.

L'affranchissement de l'histoire

Récemment les historiens ont été mis à contribution dans des débats de société et d'identité nationale en lien avec leur science. Ce fut le cas sur les questions sur la laïcité, sur la guerre d'Algérie, ou encore sur l'esclavage. L'Histoire et la politique entretiennent des relations compliquées. Les débats sur la lecture de la lettre de Guy Môquet, le souhait du président que « tous les enfants de CM2 se voient confier la mémoire d'un des 11 000 enfants français victimes de la Shoah »,[3] celui du ministre de l'Éducation nationale à propos des questions mémorielles de l'Assemblée nationale « qu'une bonne fois pour toutes, ce que nous considérons comme devant être enseigné aux élèves soit prescrit par la représentation nationale ? Nous n'aurions pas ces questions. Évidemment, on ne peut pas rentrer dans tous les détails. Mais on aurait, au moins, des grands sujets qui seraient reconnus une bonne fois pour toutes »[4] sont autant de pavés dans la mare qui soulèvent l'indignation de la communauté des historiens.

À l'heure digitale, qu'en est-il de l'Histoire et du rôle de l'historien dans son écriture ? L'heure de la fin de l'Histoire officielle a-t-elle sonné ? Ou les historiens sont-ils toujours les dépositaires dédiés de l'historiographie ? Considérons le seul phénomène Wikipédia avec son slogan « Libérez la connaissance, faites un don ». Le projet est prometteur et la déclaration d'intention également :

> **Wikipédia** est un projet d'encyclopédie collective établie sur Internet, universelle, multilingue et fonctionnant sur le principe du wiki. Wikipédia a pour objectif d'offrir un contenu librement réutilisable, neutre et vérifiable que chacun peut éditer et améliorer. […]
>
> 806 738 personnes ont créé un compte sur Wikipédia, et parmi elles 16 774 ont participé durant le dernier mois [avril 2010]. Tous les rédacteurs des articles de Wikipédia sont bénévoles ; ils constituent une communauté collaborative, sans dirigeant, où les membres coordonnent leurs efforts au sein des projets thématiques et de divers espaces de discussion.
>
> Les débats et remarques sur les articles sont bienvenus. Les pages de discussion servent à centraliser les réflexions et les évaluations permettant d'améliorer les articles.[5]

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3 Annonce faite par le président de la République le 13 février 2008 lors du dîner annuel du Conseil représentatif des institutions juives de France (CRIF).

4 Déclaration du ministre de l'Éducation nationale Xavier Darcos devant la mission d'information sur les questions mémorielles de l'Assemblée nationale, en octobre 2008.

5 « Wikipédia : À propos », URL : [http://fr.wikipedia.org/wiki/Wikipedia:À_propos] (26.05.2010).

Pourtant la communauté se veut prudente :

> La Wikimedia Foundation étant un hébergeur, elle ne saurait être tenue responsable des erreurs éventuelles contenues sur ce site. Chaque rédacteur est responsable de ses contributions.[6]

Dans un tel projet de nature collaborative, c'est le débat qui crée la balance, la balance devenant la vérité historique, moyenne des opinions émises. Lorsque le sujet est discuté, il est signalé et l'on en appelle à des compléments d'information. La question de l'esclavage dont il était question plus haut, nécessairement polémique, en est un bon exemple. À aucun moment il n'est question de rigueur scientifique car ce n'est pas l'objet. Une autre question qui se pose à la tradition est celle des sources qui construisent la connaissance. Lorsque l'on s'intéresse aux bibliographies et autres sitographies de fin d'articles, force est de constater que les références sont souvent peu nombreuses et peu académiques.

Et pourtant, Wikipédia est un succès, un succès mondial et souvent une source d'inspiration pour les enseignants eux-mêmes, y compris les enseignants d'Histoire – bien qu'ils répugnent à le confesser – qui viennent y puiser une documentation avant tout pratique, facile, accessible gratuitement et indépendamment des heures d'ouverture d'une bibliothèque classique. On est bien loin de l'esprit encyclopédiste des Lumières. Que penseraient Diderot et d'Alembert de l'expertise de la communauté sur les sujets traités ? Probablement que l'esprit est torturé. Mais on peut *a contrario* considérer que nous atteignons ici le point de réussite de l'idéal humaniste : Wikipédia, la connaissance universelle ? C'est une question qui se pose à l'Histoire à l'heure digitale mais qui interroge aussi la distance critique.

Le e-Musée comme vecteur du musée

Si l'on resserre maintenant l'exposé à la question muséale dans une perspective historique, le Web pose les mêmes questions que précédemment. Qui écrit l'Histoire, comment, et pour quel public ? Le musée est traditionnellement le lieu où l'on écrit l'Histoire, où on la met en scène. Ce sont les métiers des muséographes et des scénographes que d'y procéder. Presque tous les musées à vocation historique aujourd'hui ont une extension sur le Web, quelle que soit leur nature, quelle que soit également leur thématique. Devant l'outil internet, quelles sont les politiques des musées ? Comment redéfinir les missions des musées physiques à l'heure d'Internet, puisque la technologie qui permet de dématérialiser les collections se fait aussi le vecteur de l'information et qu'il abolit la notion d'espace/temps ? Ce sont ces questions simples et

[6] *Id*.

pourtant fondamentales que nous nous proposons d'étudier dans l'analyse qui va suivre.

Les musées français sont en premier lieu des musées thématiques. Ils traitent tous de bribes de l'Histoire ce qui ne nie en rien leur qualité et leur caractère indispensable, mais qui explique leur nombre, leur éparpillement, leur nature privée aussi souvent. Il en existe d'extraordinaires et d'irremplaçables, à Cluny, à Verdun et ailleurs. Prenons l'exemple de la Normandie et des musées qui sont liés à l'Histoire récente de la Seconde Guerre mondiale. Le musée du Mémorial de Caen[7] est un musée pour la Paix dans lequel vous apprendrez évidemment beaucoup sur la guerre. Mais toute la Normandie est jonchée d'une myriade de petits musées chacun avec sa spécificité : ceux qui traitent des troupes anglaises, canadiennes, allemandes, américaines, de telle division, etc.

Aujourd'hui, la culture historique en territoire est intimement liée à l'activité touristique et à l'activité économique qu'elle génère. Si la collaboration fait peu recette, la Libération est une affaire juteuse. Ainsi, en Normandie, vous trouverez en ligne un « Pass » qui vous aidera à faire les « bons » choix… dans un grand manège historique orchestré par l'association « Normandie Mémoire ».[8] Forte de son succès, elle a maintenant élargi le spectre en n'étant plus exclusivement dédiée à la Seconde Guerre mondiale. Nous sommes ici au cœur de la problématique chère à Pierre Nora[9] : l'Histoire, la Mémoire et le devoir de Mémoire, à l'heure du tout patrimonial et du tout économique mais aussi du tout numérique.

Très concrètement lorsque l'on navigue sur le Web à la recherche de la représentation muséale, le constat est d'une simplicité extrême : l'immense majorité des musées utilise internet comme un vecteur d'informations de base, une version améliorée de toutes les fonctionnalités d'un annuaire. Tout est fait pour que l'on obtienne les renseignements les plus pratiques possible, de la manière la plus fluide possible : plan d'accès, heures d'ouverture, tarifs, etc. On trouvera également le plus souvent une présentation sommaire des collections, avec des captures d'écran, parfois une visite virtuelle d'une section du musée, en 3D ou sous forme vidéo. Les sites internet sont le moyen de diffuser sans coût des informations à un public le plus large possible.

7 URL : [http://www.memorial-caen.fr] (25.05.2010).

8 URL : [http://www.normandiememoire.com/] (25.05.2010).

9 La lecture des 3 tomes sous la direction de Nora, P., *Les Lieux de Mémoire*, Paris, Gallimard, 1997, est indispensable à quiconque.

Le musée sur le Web : une non-réponse à la crise des musées

Les musées français traversent une crise grave qui est d'abord économique. Elle est la conséquence directe d'un désengagement sans espoir de retour de l'État. Alors que les subventions se font de plus en plus rares, le public manifeste quant à lui de plus en plus crûment son désengouement pour le musée, ne proposant pas de solution palliative par une augmentation des recettes des visiteurs. Il faut donc dans le nouveau contexte réécrire l'économie muséale. Les premiers signes ont été donnés par l'entrée de la mercatique dans les musées, et des produits dérivés dans leurs boutiques. On a même vu le phénomène devenir scientifique et des colloques consacrés au sujet.[10] L'un n'étant pas excluant de l'autre, les musées ont développé leurs sites internet à des fins essentiellement marchandes.

Et pourtant, rien ne semble y faire. Les musées demeurent boudés par le public, en particulier par les jeunes, même lorsqu'ils s'ouvrent à la gratuité. Toutes les politiques de démocratisation de la culture depuis le ministère Malraux sont des échecs. Une récente étude de l'INSEE[11] montre que la gratuité n'est pas le problème. Le problème de la fréquentation des musées par le public, en particulier par le jeune public, est avant tout celui de l'attractivité. Les musées sont ennuyeux, c'est dit ! Avec cet argument irréfutable mais non moins inquiétant : « à quoi bon aller dans un endroit auquel on ne comprend rien ? » répondait en 2009 un adolescent à une étude du CREDOC.

Une fois le problème identifié, on pourrait considérer qu'il est déjà presque résolu. Rien n'est évidemment si simple. Le site internet résout le problème du prix d'entrée du point de vue du visiteur mais n'est certainement pas une réponse aux difficultés financières de l'institution. Le site donne toutes les informations nécessaires pour bien préparer sa visite mais le peuple boude les musées. C'est qu'il est temps pour les musées de se revisiter eux-mêmes et à cet égard le Web offre une opportunité sans précédent… qu'ils n'ont pas l'air de saisir !

Les freins sont nombreux, il est vrai. Les moyens des musées sont limités et s'offrir un « bon » site internet est une opération coûteuse, variant pour des scénarisations classiques de 7 à 12 000 euros. Les forces à l'interne sont elles aussi souvent limitées et les compétences en matière informatique le sont plus encore. L'internalisation de l'affaire

[10] Le Louvre a organisé en 2000 un colloque sur la thématique de l'avenir des musées, dont les actes ont été publiés, *L'avenir des musées*, Conférences et colloques/Musée du Louvre, Paris, Réunion des Musées Nationaux, 2001, 539 pages.

[11] URL : [http://www2.culture.gouv.fr/deps/fr/pratiquesinternet.pdf] (25.05.2010).

est toujours illusoire. En admettant que la structure soit dotée d'un matériel informatique suffisant performant, il faudrait également l'équiper de solutions logicielles coûteuses et requérant des compétences, qu'il s'agisse de l'animation ou de la 3D, voire de la réalité virtuelle. Les difficultés que l'on peut rencontrer pour l'établissement de convention de stage pour des étudiants spécialisés dans le domaine[12] en sont une preuve manifeste. Une fois le site réalisé, encore faut-il le mettre à jour, avoir les compétences pour cela, le temps aussi ou dédier un personnel à cette tâche, ou bien encore externaliser la maintenance du site, autant de facteurs qui réduisent le champ des possibles.

Le musée virtuel : un musée en soi

La raison majeure pour laquelle il n'y a pas de véritable musée sur internet c'est qu'un musée virtuel n'est pas la simple extension d'un musée physique. C'est un projet en soi, un musée en soi. Musée et musée virtuel n'ont rien à voir l'un avec l'autre. Et lorsque l'on admet la potentialité de créer des musées sur le Web, il faut le faire spécifiquement pour le Web. On change de métier et surtout pour l'historien on change de philosophie car il faut sans discussion considérer le destinataire du message, jusque-là négligé. Les historiens comme les conservateurs de musée dans leur très grande majorité ne s'intéressent pas au public. Finalement, dans les missions du musée, l'exposition n'est pas le cœur du projet, le titre de ceux qui dirigent les structures est évocateur avant tout d'un état d'esprit : les conservateurs sont les gardiens de la mémoire.

Mais la mémoire se transmet en se partageant ou elle se perd. Jusqu'alors, lorsque l'on s'adressait au public, c'est le discours qui prévalait, et accessoirement il pouvait être reçu, sans qu'on ne s'en préoccupe. Dans un monde où la connaissance était imposée, où le chemin était tracé, la question ne se posait pas. Elle n'avait pas à se poser. Mais la culture internet est venue bouleverser un schéma qui finalement contribuait à préserver l'élite. Cette réalité-là n'a plus cours. Et au moment critique où les musées doivent inventer un modèle économique, ils l'apprennent à leurs dépens. Pourtant, paradoxalement, les mêmes erreurs de jugement se reproduisent à l'heure du tout numérique, du tout patrimoine et du tout économique. Nous ne nous attarderons pas ici sur l'inventaire qui pourrait être fait de la représentation du musée sur le

[12] Nous sommes responsables à l'IUT de Saint-Lô d'une Licence professionnelle « Protection et Développement du Patrimoine Culturel – mention multimédia et réalité virtuelle » qui forme des étudiants aux métiers de l'imagerie numérique appliquée au patrimoine : visites virtuelles de musées, reconstitutions 3D, numérisation 3D. URL : [http://www.stlo.unicaen.fr/dep-src] (25.05.2010).

Web. Une typologie même ne présenterait pas d'intérêt tant même les expériences les plus poussées sont loin de répondre aux potentialités qu'offre internet. Le musée virtuel, comme complément, comme plus-value du musée réel n'existe pas.

Il ne faut pas se laisser séduire par les propositions qui sont faites de découvrir les musées par sections, de pouvoir zoomer sur telle ou telle autre partie, en 3D ou grâce à une vidéo. Les nouvelles technologies relèvent ici du gadget. Ces tentatives ne changeront rien fondamentalement aux pratiques muséales et ne sont donc pas des solutions. Elles répondent à une mode sans engager les musées dans la voie de la modernité. Elles nourrissent finalement les peurs des conservateurs qui agitent le spectre d'un outil qui viendrait en se substituant à la réalité vider encore un peu plus leurs musées. Compte tenu de la connaissance que nous pouvons avoir des sites existant sur le Web, l'argument est recevable. C'est qu'il faut réinventer le musée en le dématérialisant, proposer un musée complémentaire du musée physique. Le musée virtuel présente de nombreux avantages qui n'amputent en rien les missions classiques du musée, bien au contraire.

Renforcer et élargir les missions du musée

Tout d'abord, il élargit considérablement l'espace et offre au visiteur virtuel la possibilité de découvrir toute une partie des collections qui lui sont cachées car elles ne trouvent pas leur place dans le musée. C'est toute une banque, une base de données qui devient alors exploitable. Si l'on se donne les moyens d'une numérisation 3D, on travaille d'abord à des fins d'inventaire. On va bien au-delà de la traditionnelle fiche descriptive et une animation vidéo qui vient nourrir la base Joconde[13] devient du même coup un bel outil de travail pour le chercheur. Du point de vue du musée on a rempli deux missions : la conservation et la recherche. Du point de vue du chercheur, l'outil est précieux. En un clic, dans un espace privilégié ou non, marchand ou non, il aura accès à des informations en ligne qui lui éviteront de perdre un temps précieux. Plus encore, sans internet, il n'aurait certainement jamais eu même connaissance de cet objet qui tout à coup vient éclairer sa connaissance.

Considérons à présent un autre public, les scolaires. Nous atteignons ici une autre mission du musée, l'éducation. C'est probablement à destination du public jeune dans le cadre de l'apprentissage scolaire que se trament les enjeux les plus précieux pour le devenir des musées. En citant une fois encore les brillantes études de Olivier Donnat sur les pratiques culturelles des Français, on est effrayé d'apprendre que le

[13] La base Joconde est la base nationale qui inventorie les collections des musées. URL : [http://www.culture.gouv.fr/documentation/joconde/fr/pres.htm].

musée physique n'est absolument pas le lieu où se jouent les apprentissages culturels des enfants : « Pendant très longtemps, les milieux culturels ont cru au mythe de la révélation – le déclic devant se faire au contact de l'œuvre – et beaucoup continuent de fonctionner en référence à ce mythe. On emmène les enfants au théâtre ou au musée avec l'espoir qu'ils seront conquis »,[14] écrivait-il en 1994. Rien n'a changé depuis, ni dans les statistiques ni dans l'esprit des conservateurs, qui devraient pourtant y trouver un début d'explication de la faillite du système muséal. L'ouverture du monde muséal devrait davantage être envisagée comme un bol d'air que comme un élément de crispation. Pour cela, il faut aussi s'interroger sur la manière de s'adresser aux plus jeunes.

Le musée virtuel est une merveilleuse et évidente réponse à la quadrature du cercle que connaissent les musées français. Le musée français sacralise l'objet. Tandis que nos voisins anglais ou que les Canadiens exposent des fac-similés et favorisent l'appropriation des notions par la manipulation et le caractère ludique de l'exposition, le musée français ne jure que par l'original et condamne du même coup le visiteur à la mise à distance de l'objet. L'objet est protégé par une vitrine, décontextualisé de sorte de lui conférer toute sa valeur historique, mémorielle et symbolique. Le musée virtuel ne retire en rien sa fonction sacrée au musée tandis que sur le site internet permet la mise en scène de l'objet. Ceci est aussi valable *in situ via* des bornes interactives par exemple.

Le public et les usages : les deux atouts du musée virtuel

Si l'on imagine un objet, soit une tasse ébréchée, héritage d'une ferme du XIX^e^ siècle du bocage normand. Au musée, en aucun cas, l'enfant ne pourra se servir de la tasse. Il ne pourra pas même la toucher sous peine de déclencher un système d'alarme. La tasse est présentée dans une vitrine. Un cartel explique son origine, son usage, et la donation. Si l'on imagine maintenant que la tasse est numérisée en 3D. C'est le projet que nous avons soumis au musée du Bocage Normand de Saint-Lô (50). Au début, par nature un peu sceptiques, les acteurs du musée ont misé sur la confiance et se sont aventurés sur le terrain numérique. Aujourd'hui ils mesurent les bénéfices de leurs choix et inscrivent leur action dans un programme sur la durée.

La première étape est celle la numérisation 3D de la tasse. Elle est inventoriée dans son état et à la grande surprise du musée elle reçoit un *accessit* du ministère de la Culture parce que c'est la première fois qu'un musée d'ethnographie fait un versement sur la base Joconde en 3D. Elle devient manipulable à l'envi non seulement par le chercheur mais aussi

[14] Donnat, O., *Pratiques culturelles des Français*, Paris, La Documentation Française, 1994.

par tout visiteur profane. Si, sur la base d'un dossier scientifique, on retouche l'image pour lui redonner son aspect originel, on obtient un troisième objet et le chercheur ne sera pas seul à être comblé.

La tasse, en l'état, ou retouchée informatiquement, devient manipulable à l'envie, sans altération aucune puisqu'elle est dématérialisée. Dans l'hypothèse où l'on replace la tasse dans son contexte historique, soit dans une ferme normande du XIX^{e} siècle, on permet au visiteur de lui redonner son intérêt usuel et donc historique. Il n'est pas question de reconstituer la scène dans l'espace physique du musée, espace insuffisant pour imaginer étendre le procédé à toute la collection. C'est à ce moment précis que l'Histoire parle au musée et par voie de conséquence au public parce que, virtuellement, elle vit.

C'est bien là le paradoxe majeur. Le Web est le lieu de l'absolue liberté. Tout va vite, le monde est infini, les frontières sont abolies, les heures de fermeture sont les nôtres, on se sert gratuitement, on télécharge, etc. Pendant ce temps, nos apprentissages demeurent tellement sérieux… Et le musée est le lieu qui symbolise par excellence les interdits. Les sens sont réduits à leur plus simple expression : il faut apprécier ce que l'on voit en silence, sans rien toucher, ne pas s'approcher trop près, etc.

Les musées français semblent n'avoir jamais prêté attention à la définition que l'ICOM donne du musée : « Le musée est une institution permanente sans but lucratif, au service de la société et de son développement, ouverte au public, qui acquiert, conserve, étudie, expose et transmet le patrimoine matériel et immatériel de l'humanité et de son environnement à des fins d'études, d'éducation et de délectation ». Le plaisir, voilà un terme bien éloigné de nos méthodes d'apprentissage. Alors, pourquoi ne pas poser le problème autrement et partir du résultat pour réfléchir à comment l'atteindre en observant ce qui se fait déjà en dehors du champ scientifique… car il existe bien une Histoire qui s'écrit sous nos yeux en dehors du champ scientifique.

Investir (sur) le Web : une urgence absolue pour la survie du musée

En effet, à force de vouloir jouer au scientifique rigoureux on devient rigoriste et pendant ce temps le monde avance. Le processus qui exclut l'historien de l'écriture de l'Histoire est en marche. Lorsque nous avons travaillé sur le projet scientifique d'extension du Musée Airborne de Sainte-Mère Église, nous avons proposé de créer une extension du musée sur la plateforme *Second Life*. Au nom de la rigueur scientifique et du sérieux de la réputation du musée, la proposition fut écartée par le Conseil d'Administration. La situation est pour le moins cocasse quand

on sait que Sainte-Mère Église ne connaît aujourd'hui son immense succès que parce que le film *Le Jour le Plus Long* a récrit l'histoire de son glorieux soldat resté accroché au clocher de l'église.

Si l'on oublie cela, on sera tout de même interpellé par le fait que la Seconde Guerre mondiale, pour ne parler que de cet événement tragique, y est déjà très présente. Et que comme pour n'importe quelle région de France ou pour n'importe quel pays du monde il existe une panoplie de guides touristiques pour visiter la plateforme virtuelle. Pour quelle vérité historique ? Et comment contrer le phénomène alors qu'il est en marche et qu'il est mondial ? En sommes-nous encore à défendre l'exception culturelle française ? La seule solution est d'y participer. Les résistances sont encore terribles et la seule évocation du « jeu » suffit à faire reculer l'académie. Pourtant, il est urgent de réagir. Nous en sommes à l'heure de l'intelligence artificielle et du *serious game*.

Or, dans les programmes officiels scolaires, l'Histoire est aujourd'hui avant tout envisagée du point de vue du document qui sert d'appui à l'apprentissage de la lecture et l'on s'achemine semble-t-il vers un enseignement de l'Histoire optionnel à partir de la 5e. Cela laisse l'historien pantois et l'Histoire bientôt orpheline. Selon un vieil adage, « la peur n'écarte pas le danger » ce qui justifie que la communauté scientifique réagisse urgemment. Il est temps que les historiens s'approprient l'outil technologique pour se réapproprier l'écriture de l'Histoire. Mais ce ne peut être un succès qu'à la condition qu'ils ne le diabolisent pas d'une part et que d'autre part ils acceptent de vulgariser leur science pour être compris et qu'ils continuent d'être admirés pour le service qu'ils rendent aux générations qui se succèdent.

Ce qui se profile est potentiellement inquiétant : en effet, les jeux de plateaux proposent déjà depuis longtemps de rejouer le Débarquement de 1944 sur les plages normandes. Mais lorsque les avatars-soldats seront doués sur le Web, en temps réels, sur *Second Life* ou ailleurs, d'une intelligence artificielle, faudra-t-il se contenter d'espérer que l'Allemand ne sera pas artificiellement plus intelligent que l'Américain ? Car tout cela est plaisant quand il s'agit d'un jeu et que le jeu ne remplace pas la connaissance. Et la France n'a jamais considéré que l'apprentissage pouvait se faire par le jeu. Le résultat est que le jeu risque de se substituer à l'apprentissage sérieux. Les *serious game* sont une très bonne occasion pour les pédagogues de repositionner leurs méthodes et de recoller avec la réalité en marche. Le site internet n'est qu'une étape et lui aussi sera bientôt obsolète.

Interacting Localities

The Case of the "Biblioteca Municipal de Estudos Locais" de La Coruña (BMEL) and its Projects on Collaborative Online Library Systems for the Study of Contemporary History

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The Municipal Library of Local Studies (Biblioteca Municipal de Estudos Locais) in La Coruña (Spain) is a research library devoted to the interdisciplinary study of the region of Galicia and the city of La Coruña. In this sense, it has been inscribed in the Registry of Galician Libraries, since it contains a rich bibliographic heritage on the history of the region, as well as in the Catalogue of Galician Bibliographic Heritage. In fact, it should be remarked that the BMEL is one of the very few existing public research libraries on local studies in Spain.

However, despite its local focus, the BMEL has always had an interregional and European vocation that it is being progressively implemented by means of a collaborative understanding of online library systems. Hence, one of the main aims of the BMEL in the framing of an openly helpful digital environment for future historians lies in the will of creating a European-wide system of online historical sources of local studies libraries, so that projects on European comparative microhistories can be more easily developed. In few words, the BMEL aims at attracting interest and participating in the enhancement of the analysis of actually interacting local histories in Europe that would be otherwise neglected. In this way, it would be possible to come up with projects of comparative local dimensions with a precision that only the availability of online sources can favour, reducing the costs and need of research missions due to the online availability of new and revealing materials.

The BMEL is now promoting this ambitious path by integrating all regional sources into a system that fosters the diffusion of new uploaded material before establishing contacts with similar local studies research libraries elsewhere in Europe. In this sense, this conference offers an unparalleled opportunity to gain the necessary visibility to materialise this comparative local studies networking plan across the continent.

The object of study of this research library is devoted to the concept of microhistory, which refers to a particular approach to historical research featured by a certain degree of disenchantment with grand theories of modernization. More in particular, its advocates called for a return to narrative, detailed analysis on a small scale, and the interdisciplinary search for unforeseen meanings embedded in cases analysed these themes in a kaleidoscope of places and periods. In few words, the essential characteristic of this perspective is "a search for meaning in the microcosm, the large lessons discovered in small worlds".[1]

In fact, we should take into account microhistory – the intensive historical research of a relatively comprehensible subject – has, as Szijarto affirmed, four distinct advantages over traditional macro-oriented social history: "it is appealing to the general public, it is much closer to reality, it conveys personal experience directly and, with all the lines branching out from the event, person or community in the focus of the investigation, it points towards the general".[2] Taking into account these features, we could argue that, since a too close reading of these characteristics can produce specific distortions of the micro-historical work, it is in historians's interest to reach a balance between these elements in their research work. Hence, once the subject matter is explained we will now focus in the search for such a balance as provided by the aforementioned case study.

In November 2008, the 1st Forum on Local Culture was held in Santiago de Compostela with the participation of numerous associations and institutions devoted to local studies. During this meeting a compromise has been reached not only for the creation of more didactic online documents on local history but also for the preservation of primary sources and the bibliographic heritage mentioned before, whose life is prolonged and its presence revealed and reinforced through its new digital existence.

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1 Refer to Brooks, J.F., Decorse, C.R., Walton, J. (eds.), *Small Worlds: Method, Meaning, and Narrative in Microhistory*, School for advanced Research Press, Santa Fe, 2008. See also Grayal, M., "Microhistory as universal history", in *Central European History*, Cambridge University Press, Cambridge, 2001, p. 419-431.

2 Szijarto, I., "Four Arguments for Microhistory", in *Rethinking History*, Vol. 6, No. 2, June 2002, p. 209-215.

One of the main current projects on the online availability of local sources on contemporary Galician history consists of the digitisation of all Galician press sources under the auspices of the Higher Galician Bibliographic Centre. The project is now in progress and hopes to offer a channel of comparison with other local histories through media primary sources. In addition, through the website which gives access to the BMEL online catalogue[3] – now available in English, Spanish and Galician – it is now possible to visualise the new collection of visual sources made up of 2,500 posters which constitute a unique and alternative source to graphically examine the historical changes of the region, mainly during the 19th and 20th centuries, but also until the present day. Moreover, the general digitisation projects are being complemented with the inclusion of all minor publications on Politics and Government, as well as of all history journals on local history – indexed in a specific online catalogue – within that time span, so that they are fully available in order to compare and contrast visual and written primary and secondary sources.

Nonetheless, one of the most important contributions in this field has been the idea of daily digitising news of print-only press and offering them online on daily basis. Likewise, new clusters are being created in the sections of digitised and online available materials, also following new approaches on contemporary history, like new cultural history perspectives, etc. In this context, a new cluster is being inaugurated with the digitisation of theatre sources for the study of contemporary theatre and performing arts history. This is also complemented with the digitisation of musical sources like the 7,000 musical scores of the Ramiro Cartelle collection, recently and generously donated to the library by the composer's family.

Last but not least, one of the most innovative projects in fostering the availability of online sources on the contemporary history of Galicia and of the city of La Coruña is the recently created wiki on local historical figures, which benefits from the easily updating and interlinking features of wiki technology.[4]

Understanding culture as the expression of a worldview, any focus in local culture could become too reductionist if it is not put in comparison with parallel or opposite developments in a wider context. And that is why we are envisaging the implementation of a portal that could relate

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3 The BMEL online catalogue is directly accessible at URL: [http://www.coruna.es/bibliotecas/catalogo/index.jsp] (07.06.2010).

4 The BMEL wiki on local historical figures can be consulted at: *Wiki de Estudos Locais. Biblioteca Municipal de Estudos Locais. Personaxes e entidades históricas da Coruña.* [online], URL: [http://estudoslocais.wikispaces.com/Biblioteca+de+Estudos+Locais] (07.06.2010).

the concentration on local dimensions from different origins, thus converging in an interconnected analysis of the still unexplored diversity that we call Europe. In this sense, we would not like to limit ourselves to the in-depth analysis of one single region that is better known by a specific researcher due to his origin but to go beyond all our constructed frontiers to provide a source of comparison and parallel examination of interdependent local social and political systems.

The BMEL has been recognised, within its local studies orientation as Library of Special Interest for the region of Galicia. Following this recognition, it has been inscribed in the Registry of Galician Libraries as it includes collections which are part of the Galician bibliographic heritage, among other requirements. In fact, the collections which make up this heritage have been catalogued as such by the Catalogue of Galician Bibliographic Heritage.

In November 2008 the aforementioned '1st Conference of Local Culture' was held in Santiago de Compostela by the Council of Galician Culture. In this occasion, many representatives of cultural associations, local studies research institutes, libraries and archives also specialised in local studies, took part in this initiative. These associations and entities were devoted, since 25 years, to the diffusion of Galician local culture could then share their experience, good practises and expertise in the modes of promotion of local cultural manifestations, focusing, particularly, their activities in the divulgation of the knowledge of local history and of the different types of local heritage. These activities, apart from having a clear pedagogic dimension, have contributed to the preservation and valorisation of the material and immaterial heritage, which is in a constant danger of extinction due to the ephemeral character of its materialisations. Since then, the BMEL, among other institutions, has set as fundamental priority the concession of a special visibility of these material and immaterial heritage preservation and valorisation activities. In this sense, the 1st Forum of Local Culture tried to clearly identify the new socio-political context in which our work is developed but, above all, it tried to define new ways, instruments and benchmarks for the implementation of a gradually interconnected historical analysis of local cultures.

Following this initiative, the Higher Centre of Galician Bibliography initiated a project of digitisation of the Galician press and, in this context, the BMEL was asked to provide a list of press documents collections. This collaboration, after the changes implemented in the Higher Council of Galician Bibliography (CSBG) is still in progress with a view of actively promoting transparency of information and the democratisation of access to sources that digitisation projects usually imply.

Through the website of the Municipal Libraries in the city of La Coruña,[5] it is not only possible to accede the online catalogue of the BMEL, but also to visualise the collection of digitalised posters and images which make up our iconographic collection and which, amount, so far, to a total of 2,500 elements. Following the same formula, it is also possible to consult all minor publications referred to Government and Politics which are preserved at the Library. Among these publications, we would highlight the collection of municipal edicts of the city of La Coruña. Within the section of minor publications, we have also initiated the digitisation of all primary sources related to theatre and the performing arts: programmes, posters, librettos, original plays, etc. All these different kind of sources also provide an unrivalled tool to observe the evolution of local languages (Galician in this case) thought history. Local languages constitute an element of special interest in local studies, but, despite this focus, we have decided to we have wanted to also provide a translation into English for our online catalogue and website to facilitate a more international approach to the exchange of knowledge. Currently, there are also projects in progress related to the indexing of all journals available at the Library, providing structured and interrelated information that would be otherwise diluted in the isolated publications. In this way, the library catalogue allows for connected searches among journals of similar disciplines or thematic approaches.

After its inauguration in 1991, the BMEL, has been compiling a press dossier, thematically indexed by the UDC,[6] which hosts the history of the city of La Coruña as viewed in the press since the end of the 20th century (even if it is possible to find older sources), thus corresponding to a growing interest in the history of the present approaches. In this moment, our priority consists of continuing this activity by digitising this collection of local history news under the supervision of specialised historians, thus making them fully available for researchers as an online collection. Until now, this instrument has a reduced functionality allowing only for catalogue consultation of thematically organised news. In addition, after the acquisition of a really valuable private collection from the point of view of the history of music, we are now also proceeding to its indexing and to the possibility of making available online around 7,000 digitalised music scores which are being indexed by a specialist musicologist.

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5 The Portal of the Municipal Libraries of the city of La Coruña is directly accessible at: *Portal de Bibliotecas do Concello da Coruña*, [online], URL: [http://www.coruna.es/bibliotecas] (07.06.2010).

6 Universal Decimal Classification.

The BMEL and its projects in Digital Humanities

As explained above, The BMEL of La Coruña is a specialised research Library, devoted to the compilation, organisation and diffusion of interdisciplinary knowledge about the region of Galicia and the city of La Coruña. In this sense, the BMEL is one of the few Public research libraries specialised in Local Studies in Spain. In general, local studies collections are either a section within a public library or they belong to private institutions. And here lays, precisely, the particularity of the BMEL since it reunites two features which rarely coincide: its public character (being inscribed in the system of Municipal Libraries of the city of La Coruna) and its autonomy and independence with respect to a general library. This freedom of organisation of initiatives for the promotion of local studies and the diffusion of sources under this specific historical approach makes us very eager to collaborate with historians and to explore their preferences in the organisation and modes of accession to catalogues, sources and to our bibliographic heritage.

The BMEL has been integrated, following the agreement between the Regional Government of Galicia (Xunta de Galicia) and the Town Hall of La Coruna in 2008, in the "Galician Library Network", which translates into the possibility of benefiting from the interactive connection between our sources and bibliographic heritage and all the resources of this network[7] as well as from the access, at once, to its collective catalogue, all the integrated libraries' portals, their blogs and our own online catalogue.[8]

As a Library integrated within the Network of the Galician Library System, the BMEL, develops, along with the other network members, a strategic role in the preservation, management and diffusion of Galician culture. Furthermore and due to the fact of having adopted as main strategic priority the compilation of a collection of interest for Galician culture, the BMEL has been recognised as "Library of Special Interest for Galicia" in virtue of its focus in the preservation and diffusion of the Galician bibliographic heritage. In fact, that part of its collection which is considered bibliographic heritage[9] is indexed as such and is also part of the Collective Catalogue, a catalogue which responds to a common programme developed by the Ministry of Culture and the Autonomous

7 Portal of the Galician Library Network: URL: [http://www.rbgalicia.org/] (07.06.2010).

8 Catalogue of the Portal of the Galician Library Network, URL: [http://www.opacmeiga.rbgalicia.org/Portada.aspx], (07.06.2010).

9 This denomination is a recognition granted to books and other bibliographic collections deposited in public or private libraries, which, because of their singularity or enriching character are included in the list of Spanish Historical Heritage.

Communities (Spanish Regions) in accordance to the Law of Spanish Historical Heritage 16/1985.[10]

Nowadays, most Spanish Library registries receive different editions of works published between the 15th and he 20th centuries (specifically up to 1958, date in which Legal Deposits have started) as well as concrete volumes present in different Spanish Libraries. These registries have been mainly created from the analysis of originals. When consulting this catalogue, results as organised by origin, so that it is possible to know in which Library it is possible to accede a volume, with an indication of eventual electronic access to particular works. It is obvious that access to information goes through the promotion of the visibility of the collections and it has always been part of our philosophy that an invisible document can be regarded as a useless one.

The organisation of the 1st Forum of Local Culture by the Council of Galician Culture in Santiago de Compostela in 2008 that we mentioned before has been a direct consequence of such viewpoint. Many representatives of cultural associations, local studies research institutes, libraries and archives started then to develop common activities to explore the potentialities of shared actions to promote the diffusion of knowledge on the history and the different types of local heritage. The BMEL was invited to participate in this forum in which it was possible to achieve a compromise, not only regarding the creation of didactic documents informing about archival and communication priorities on local history but also agreeing on common strategies for the preservation of primary sources and the bibliographic heritage. In sum, providing a digital existence for the valorisation of primary sources and a particular bibliographic heritage extends the life of the collection, reveals its presence, reinforces its relevance and allows a new contextualisation in a wider spectrum.

On the 24th of August 2006, and through the 5th section of its *Recommendation on digitalisation and online accessibility of cultural material and digital preservation*,[11] the European Commission encourages member states to "promote a European digital library" by applying "common digitalisation rules to achieve an interoperability of the digitalised material at the European level and facilitating inter-linguistic searches". Spanish libraries are currently engaged in numerous digitalisation programmes so that they can be integrated in the new European

[10] Catalogue of Spanish Bibliographic Heritage, URL: [http://www.mcu.es/patrimoniobibliografico/cargarFiltroPatrimonioBibliografico.do?cache=init&layout=catBibliografico&language=es], (07.06.2010).

[11] Please, refer to European Commission, *Recommendation on digitalisation and online accessibility of cultural material and digital preservation*, URL: [http://ec.europa.eu/information_society/newsroom/cf/itemdetail.cfm?item_id=2782] (07.06.2010).

Digital Library *Europeana*, which constitutes a project of exceptional cultural signification which needs further cooperation between regional territorial units within member states and as well as a trans-national perspective. We have counted, in this sense, with the support of the Spanish Ministry of Culture, which has made explicit its decision to improve this kind of actions through new information technologies within the EU 7th Framework Programme. We have thus benefited from grant programmes for specific digitalisation projects to implement a generalised online accessibility and digital preservation of the bibliographic and archival heritage, especially focused in publications of cultural, educational or scientific interest. The BMEL is currently in the process of application for these financial support opportunities, in particular, concerning our publicly available collections.

Such guidelines are also inscribed in the UNESCO's programme "Memory of the World", whose objective is to safeguard the international documental heritage, to guarantee a democratic access to that heritage and to promote its significance, as well as the need to preserve it. The BMEL is hence following such guidelines presenting several ongoing projects to accede to the support programmes that would allow its integration into *Europeana*. We are particularly focusing nowadays on the digitisation of all publications which refer, especially, to the first half of the 20th century including documents as diverse as touristic guides or programmes of cultural activities corresponding to this timespan.[12]

In addition, we would like to specify that the BMEL is not only working in facilitating a digital access to information based on more global projects designed by bigger entities. In fact, digitally diffusing its collection and approaching it to new potential users has been, since its creation in 1991 one of its priorities and *raisons d'être.* The new avenues of learning opened by progressive developments in the new technologies have, to a greater extent, simplified the implementation of this clear institutional objective. And that is why, after acknowledging the intrinsic value they have for the thematic diversification of possible research projects, we have started several years ago the digitisation of minor publications, paying special attention to the digitisation of posters of cultural or institutional character. Since the inauguration of the Library, we have started to compile posters coming from all local and regional institutions promoting the cultural activities they organised. The ephemeral character of this kind of iconographic publications, as

[12] The guidelines and specificities of this programme can be consulted at: *Pautas de digitalización del Minusterio de Cultura*, URL: [http://travesia.mcu.es/documentos/pautas_digitalizacion.pdf] (07.06.2010); *Open Archives Protocol*, URL: [http://www.openarchives.org/OAI/openarchivesprotocol.htm] (07.06.2010).

well as the inexistence of formal channels of distribution for their public diffusion, makes them especially hard to consult in a contextualised manner and thus remarkably rare (if we take into account the volume of production) in library or institutional archives collections. In this sense, the BMEL has always privileged the examination of not textual information only but of alternative sources of historical analysis supporting new approaches such as the history of image as a main tool to diachronically interpret changing priorities and sensibilities. In fact, many relevant contextual interests, priorities, fears, expectations, etc. of a particular society and its historical changes are more strongly expressed in the way of portraying themselves and their abstract aspirations by means of iconographic compositions mirroring the essence of their being through time.

The BMEL collection of posters is made up of 2,500 copies, all of which have been indexed and can be consulted trough our multilingual online catalogue, available in Spanish, Galician (the local language of the region) and English.[13] The digitalisation of images was also meant to contribute to its preservation since, once they have a digital existence, this material is no longer manipulated but is can be, however, continuously consulted. At the beginning of this project, we departed from a modest budget and created an *Access* database and an intranet display of contents including a brief description and a link to visualise each poster. The willingness to broaden the visibility of this iconographic collection was materialised thought the implementation of the OPAC Web of *Absys 6.1* (the library management system used by all Municipal Libraries in La Coruña). Since then, the collection became globally available for the benefit of all prospective researchers.

But our priority was not only to provide references but to break the distance between the location of materials and the international reality of the potential interest in the collection. We started to work then in enhancement of the direct visualisation of the collection of local history posters through our online catalogue. The solution to this challenge was

[13] *Catálogo das Bibliotecas Municipais da Coruña*, URL: [http://www.coruna.es/bibliotecas/catalogo/index.jsp] (07.06.2010). An example of a directly accessible digitised poster trough the library catalogue: URL: [http://www.coruna.es/gestionFotos/obtenerCartelBiblioteca.jsp?C-0001.png]. Nowadays the BMEL collection of digitized posters is reinforcing its visibility through the BMEL page in Flickr, where an album about the iconographic representations of the Hercules Tower of La Coruña has been collected to illustrate the diversity of images used in the annex sent to the UNESCO to promote the candidacy of the Hercules Tower for World Heritage, a recognition which was awarded to this monument on the 27th of June 2009: *Página de la "Biblioteca Municipal de Estudos Locais" de La Coruña in Flickr*, *Album sobre Carteles de la Torre de Hércules*, URL: [http://www.flickr.com/photos/bibliotecascoruna/sets/72157620615833175/] (07.06.2012).

offered by the Town Hall of La Coruña through the creation of a special server, initially based on the use of *Docushare* which currently turned to the implementation of the repository *Alfresco*, which hosts the poster images in *jpg* or *png* format, as well as a link between each poster copy and its registry on *Absys*, thus making it visible and relating each image with its description.

Nowadays, this collection constitutes a unique and alternative source to study the historical changes undergone by the city and region and the simplicity of the access system to this graphic materials offers a new perspective for historical research, especially for researchers interested in comparing their own local realities with more distant ones without having to embark in expensive research missions and saving time for parallel research both online and on site in their closest environment.

Concerning minor publications, the BMEL has considered these collections an object of special attention due to their rarity and has started to index them daily in thematic groups as soon as they are received and to digitalise them following the project initiated with the iconographic materials. These digitalised minor publications include materials from the end of the 19th century to the first half of the 20th century and up to now, the BMEL has finished the cataloguing and digitalisation of the cluster devoted to "Government and Politics", including a special collection on municipal decisions and other local publications available online in *pdf* format.[14]

Moreover, another collection of special interest within our minor publications is the one dedicated to local and regional theatre, which enriches the cultural analysis of local culture. The digitisation of publications on this topic and of the historical materials resulting from theatre activities and scenic arts projects will undoubtedly contribute to new approaches on the topic. For the moment being, the BMEL has uploaded

[14] This collection of minor digitised publications is available at: *Catálogo das Bibliotecas Municipais da Coruña*, URL: [http://www.coruna.es/documentos/descarga/b9eb7e01-4ec7-11de-99b3-ffa6c412b961/PM_PG_0003.pdf?ticket=TICKET_e4ba625f1fc9c999d9167735aa26f05b55279d7f] (07.06.2010). An example of a directly accessible digitised minor publication trough the library catalogue: URL: [http://www.coruna.es/gestionFotos/obtenerCartelBiblioteca.jsp?PM-PG_0186.jpg]. Nowadays the BMEL collection of minor publication is progressively reinforcing its visibility through the BMEL page in Flickr, where an album about the currently available publication is available for public consultation: *Página de la "Biblioteca Municipal de Estudos Locais" de La Coruña in Flickr, Album de Publicaciones Menores*, URL: [http://www.flickr.com/photos/bibliotecascoruna/sets/72157623578296458/] (07.06.2010).

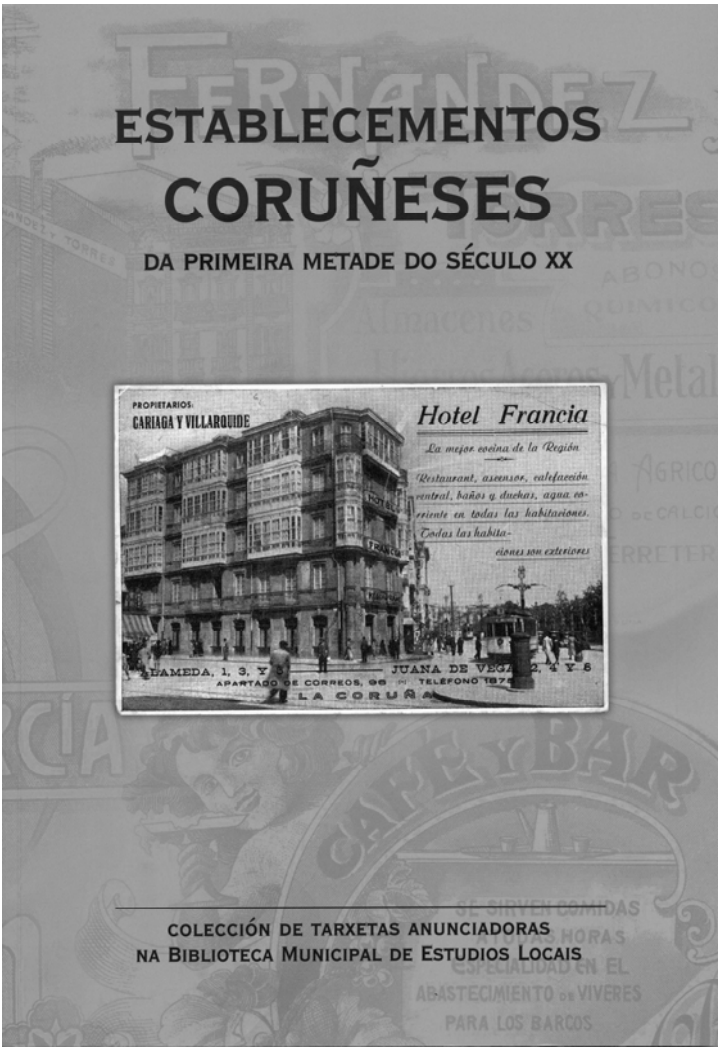
a bibliographic registry and we are now preparing the upload of the digitalised collection.[15]

We are also now working in the digitalisation of publicity postcards which enables us to enlist all the small business establishments and shops in the city since the beginning of the 20th century and to analyse the evolution of commercial activities and their advertising campaigns through the last century. Therefore this collection also informs researchers about changing trends in aesthetic sensibility and on socio-economic developments in the local sphere as well as its interactions with other entities. We have also published a paper catalogue with this collection of postcards.[16]

[15] Refer to the Catalogue of the Municipal Libraries of La Coruña: *Catálogo das Bibliotecas Municipais do Concello da Coruña*, URL: [http://www.coruna.es/bibliotecas/catalogo/index.jsp] (07.06.2010).

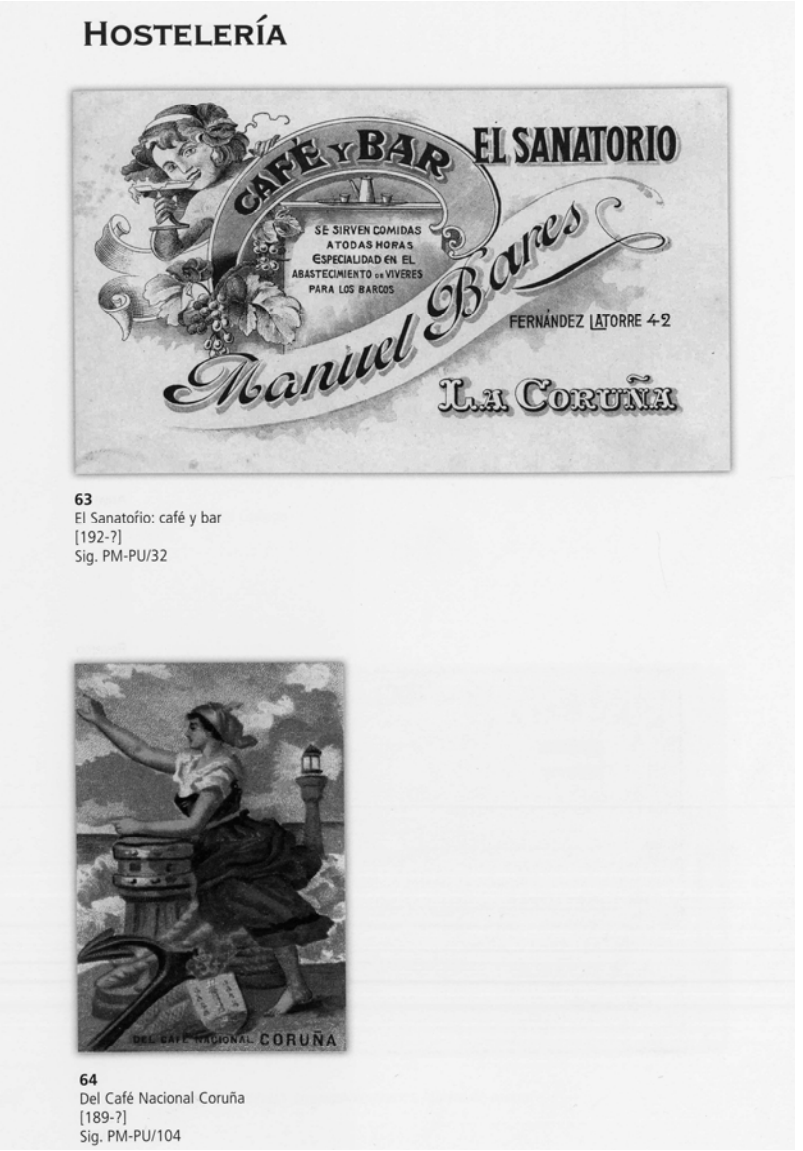
[16] VV.AA. *Establecemientos coruñeses da primera metade do século XX. Colección de Tarxetas anunciadoras na Biblioteca Municipal de Estudos Locais*. La Coruña, Ayuntamiento de La Coruña, 2006. Images included: Cover of the book, p. 56, p. 62.

Figure 23 – Cover of the BMEL publication VV.AA. Establecemientos coruñeses da primera metade do século XX. Colección de Tarxetas anunciadoras na Biblioteca Municipal de Estudos Locais



Source: BMEL publication VV.AA. Establecemientos coruñeses da primera metade do século XX. Colección de Tarxetas anunciadoras na Biblioteca Municipal de Estudos Locais. La Coruña, Ayuntamiento de La Coruña, 2006, which includes a collection of digitised publicity postcards of all small business establishments and shops in the city since the beginning of the 20th century, thus enhancing the visibility of the library's visual archive.

Figure 24 – Examples of local and regional theatre and scenic arts digitised advertisements from the 1920s, also available at the library catalogue



Source: BMEL publication VV.AA. Establecemientos coruñeses da primera metade do século XX. Colección de Tarxetas anunciadoras na Biblioteca Municipal de Estudos Locais. La Coruña, Ayuntamiento de La Coruña, 2006, p. 56, for valorisation aims.

Figure 25 – Examples of local and regional shops digitised advertisements from the beginning of the 20th century, also available at the library catalogue

BMEL publication VV.AA. Establecemientos coruñeses da primera metade do século XX. Colección de Tarxetas anunciadoras na Biblioteca Municipal de Estudos Locais. La Coruña, Ayuntamiento de La Coruña, 2006, p. 62, for valorisation aims.

On the other hand, after the donation of the personal collection of the Ramiro Cartelle (an important musician from La Coruña recently deceased) collection by the BMEL, we are currently digitalising more than 7,000 music scores which were part of his personal collection which are being indexed by an expert musicologist and will be fully accessible and visible through our online catalogue.[17]

In any case, even if digitisation is the tool that guarantees a more complete and understandable access to the library contents, the information provided by analytic indexing has also an undeniable importance. The BMEL is aware of this fact and has thus started a disposal of journal articles and indexes related to the city of La Coruña and the region of Galicia. To achieve this aim the BMEL has previously conducted a survey among frequent users to establish a list of the most consulted journals and specify if they have not yet been disposed by other institutions as part of a plan to enhance the interaction between library and users also by means of digital technologies. This project, which fixed feasible limits by means of its local studies objectives, focused fundamentally in the cooperation with the General Library of Santiago de Compostela (Biblioteca Xeral, the main regional library in Galicia), which had previously initiated a similar project, thus avoiding a duplicity of efforts.[18]

The diffusion of journals contents, whose themes are not always explicitly marked in catalogues, becomes hence a valuable source of information for local studies specialists, which reveals itself many times as the only way to discover their existence. Therefore, the BMEL offers through its catalogue a specialised access to the content of journal articles especially devoted to the interdisciplinary study of the city of La Coruña and the region of Galicia, thus preserving and selecting updated relevant materials.[19]

The next step of this journal disposal project will consist of the completion of the ongoing process as well as the comparison and contrast between our collections of primary and secondary sources and of visual and textual ones within the specified geographic focus.

A parallel and important digitalisation Project of the BMEL is also the disposal of local press which is daily implemented at the library. This task started with the inauguration of the library, so the dossiers

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17 Refer to the Catalogue of the Municipal Libraries of La Coruña: *Catálogo das Bibliotecas Municipais do Concello da Coruña*, URL: [http://www.coruna.es/bibliotecas/catalogo/index.jsp] (07.06.2010).

18 *Biblioteca Xeral de Santiago de Compostela*, URL: [http://iacobus.usc.es/search*gag~S8] (07.06.2010).

19 URL: [http://www.coruna.es/bibliotecas/catalogo/index.jsp].

including a selection of news relevant for the field of local studies in the given geographical entities comprises a period which goes from 1991 to nowadays, including the presence of some previous news that have been recovered. These dossiers are thematically organised and classified by the UDC and are available to be consulted through the online catalogue.[20]

We have been analysing the possibility of a massive digitalisation of these press kits, something that we have always considered as a crucial development to complete the indexing of daily press. However, the high costs that this work implies have made this project impossible to implement so far. In any case, as an alternative, we have considered the option of daily digitising relevant news on the daily press and of making available online the daily digitised materials starting from the present, something more feasible since we index the press references also daily and therefore the description work is already done.

Furthermore, one of the most innovative projects for the promotion of online sources for contemporary historical studies about the city of La Coruña and the region of Galicia is the recently created wiki about local entities and personalities, which is favoured by the simple means to upload new information and the interlinking characteristics of wiki technology. The BMEL wiki project was initiated some year ago, following the willingness to offer concise information about the local historical figures whose biographies are most frequently demanded (Salvador de Madariaga, the writer Emilia Pardo Bazán, etc.). Afterwards, this list was extended to a group denominated *Personajes coruñeses*. As a logical consequence of the existence of this more general group, we had the idea to create the "local institutions group", giving in many cases an additional relevance to the persons included in the first group, who were founders of important cultural and social initiatives. We are, however, still in the process of adding precise information about these two groups and the wiki is hence currently under construction.

As it happened with our collection of posters, we are developing, in a first instance, an *Access* database containing brief biographic information about each local historical figure, a details of the primary sources used to write the summary and a portrait of each person (in the cases for which there is a known collection of images). Currently, this biographical database is only accessible from the library intranet but we are now focusing on superseding the localism of the intranet consultation

[20] Catalogue of the Municipal Libraries of La Coruña: *Catálogo das Bibliotecas Municipais do Concello da Coruña*, URL: [http://www.coruna.es/bibliotecas/catalogo/index.jsp] (07.06.2010).

through the creation of a website which is able to include all these contents and diffuse them globally through the internet.[21]

The main reasons for this decision are based on its management and consultation simplicity and on the absence of third parties' publicity. The potentialities of an active users' participation transforms the wiki option in an open and dynamic base for the diffusion of this often consulted information which is now in the process of being tested. Apart from the specific information concerning historical figures and institutions the wiki is expected to provide links to related sites and to online primary sources as well as to the online library catalogue of all municipal libraries, following a principle of no dispersion of usefully interrelated knowledge.[22]

These BMEL ongoing projects have been awarded with the AENOR[23] certification of quality 2005, which has encouraged us to improve results based on a more frequent consultation of researchers' needs and expectations, to maximise resources in order to provide excellence in our current and prospective online services and to respond to researchers and citizens' demands to comply with our quality objectives.

In sum, new information and communication technologies have helped us to multiply the ways to access documents thanks to digitisation processes but also to the enhancement of a growingly internationalisation of our interaction with researchers in the field of history through our online diffusion of not so well known materials. This has been combined with an emphasis in the preservation of sources and our bibliographic heritage, reaching thus the double objective of guaranteeing the perdurability of this heritage and a progressively dialogued

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21 *Wiki de personaxes e entidades históricas da Coruña*, [http://estudoslocais.wikispaces.com/] (07.06.2010). Example of a wiki entry that is being completed by users and supervised by historians specialised on local history: URL: [http://estudoslocais.wikispaces.com/Lugr%C3%ADs+Freire%2C+Urbano].

22 Refer to the Home Page and Catalogue of the Municipal Libraries of La Coruña: *Catálogo das Bibliotecas Municipais do Concello da Coruña*, [http://www.coruna.es/bibliotecas], (07.06.2010).

23 AENOR is an organisation dedicated to the development of standardisation and certification (S + C) in all industrial and service sectors. Its aim is to contribute to the improvement in quality and competitiveness of companies, and to environmental protection. It was designated to carry out these activities by Order of the Ministry of Industry and Energy, on 26 February 1986 in accordance with Royal Decree 1614/1985 and recognised as a standardisation body and to act as a certification body by Royal Decree 2200/1995, promulgated by Industrial Law 21/1992. Its presence at international forums, both European and American, guarantees Spanish participation in the development of standardisation and the international recognition of AENOR certification. For more information: *AENOR*, URL: [http://www.aenor.es/desarrollo/inicio/home/home.asp] (07.06.2010).

development of new tools for the analysis of historical sources by researchers and librarians.

Nowadays, preservation means also the possibility of creating a full access to the library collection from the distance and it constitutes, therefore, a possibility for the real survival of this accumulated knowledge. In this sense, the BMEL continues to devote important resources to the microfilming of originals whose maintenance is to be combined with that of digitised materials. It is, therefore, a question of balancing old and new technologies of preservation to be able to offer efficient and enriching platforms of interaction for the managers of information and historians, those who will gradually interpret it from different perspectives giving life to otherwise inert materials.

In conclusion, we do not think this case and initiatives are paradigmatic but we partially ignore it because of a not very enriching lack of communication between local studies libraries and archives across Europe. That is why we would like to offer tools that could correspond to current comparative approaches in contemporary history, which would offer more online transnational information for researchers. Historians with their interpretations give life to otherwise sleeping sources. Hence, preservation is the key, but also an increased digital interaction between librarians and researchers is also fundamental to guarantee a dynamic future for digital archives.

Last but not least, the main objective of our research project lies in fostering a productive dialogue and mutual understanding between contemporary history researchers and library technical service specialists in the field of local studies. In this sense, we had thought that one of the most desirable outcomes for a fruitful future in the realm of digital history would be the creation of a common site for all research libraries of local studies across Europe, sharing all their available digitalised materials so that European-wide comparative projects from a local perspective are finally feasible. We aspire at implementing such project by means of a collaborative understanding of online library systems. In fact, one of the main aims of the BMEL (a public research library on local studies) in the framing of an openly helpful digital environment for future historians is based on the will to create a European-wide system of online historical sources of local studies libraries. In this way, projects on European comparative micro-histories could be more easily developed. Also because we reckon that all national or trans-national histories are fundamentally a history of interactions and the relations between diverse local realities also play a fundamental role in this map of dynamically complex networks and processes that we call Europe.

Online Primary Documentation of Contemporary History

Trends, Changes and Consequences in the New Millennium

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The critic Walter Benjamin, in a final footnote to his 1936 essay, *The Work of Art in the Age of Mechanical Reproduction*, made the following observation:

> Mass reproduction is aided especially by the reproduction of masses. In big parades and monster rallies, in sports events, and in war, all of which nowadays are captured by camera and sound recording, the masses are brought face to face with themselves. This process, whose significance need not be stressed, is intimately connected with the development of the techniques of reproduction and photography.[1]

For Benjamin, 1936 technology made it possible for aesthetic experience to be placed under the gaze and control of a mass audience. Today, the Web has provided functionalities for bringing the masses "face to face with themselves" as never before. Current events are broadcast around the world in milliseconds.

Still, if interpretation of evidence remains the central methodology of the historian, then ideally the supply of evidence must be plentiful, authoritative, unambiguous, and of traceable provenance.

With the advent of the Internet in the early to mid 1990s, the ideal of universal accessibility took a great leap forward. The first and most natural response to advances in electronic imaging was to produce online mimesis, that is, to provide digital copies of original documents.

[1] Benjamin, W., "The Work of Art in the Age of Mechanical Reproduction", in Durham, M.G., Kellner, D.M. (eds.), *Media and Cultural Studies: Keyworks*, Malden, Mass., Blackwell, 2001, p. 48-70.

Though Benjamin warned that "…the presence of the original is a prerequisite to the concept of authenticity,"[2] online mimesis has made it possible for documentary evidence formerly shut away in remote libraries, archives, museums and other repositories to be delivered to scholarly workstations around the world. It has seemed natural that the owner of a rare piece of historical evidence should be the one to digitize it, preferably as an open access image with sufficient metadata to satisfy questions about its reliability and about the original from which it came.

As an example of such mimesis, my own institution, Brigham Young University, has received, digitized and transcribed a complete set of communiqués from the Supreme Headquarters Allied Expeditionary Force Europe to document daily Allied activities from D-Day to the end of European hostilities in the Second World War.[3] We have designed the metadata to give the scholar the same details of origin and ownership that apply to the paper copies found in our Special Collections area – with the added bonus of full-text searchability.

Digital newspapers are reliable tools in the historian's arsenal to the degree they can provide exact digital copies. Our trust in a one-to-one correlation between original and copy often relies on the credibility of the provider. When we have a transcription or a translation rather than a facsimile, the trust issue is all the more crucial. An example of a portal to a collection of digital newspapers is *Austrian Newspapers Online* (ANNO),[4] whose guarantor of accuracy is the Austrian National Library. To illustrate the scholarly utility of such an online collection, reactions and commentaries to the assassination of Franz Ferdinand in Sarajevo are documented in facsimiles of digitized newspapers from Vienna, Innsbruck, Budapest and Prague on June 29, 1914.[5]

The same principle of trust applies to other forms of mimesis in visual and audio forms. British Pathé, in what it calls "Version 4.0 of the world's first digital news archive," documents much of the 20th century through visual access to films and newsreel images.[6] In addition, this site tends toward Web 2.0, offering tags, abstracts, and a personal workspace.

A similar Web presence is that of the American documentary television channel C-Span, with its focused political video library. This site in

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2 *Ibid*., p. 50.

3 "Eisenhower Communiques", URL: [http://www.lib.byu.edu/dlib/spc/eisenhower/], (10.02.2010).

4 "AustriaN Newspapers Online", URL: [http://anno.onb.ac.at/], (10.02.2010).

5 "ANNO – Tagesübersicht – 29. Juni 1914", URL: [http://anno.onb.ac.at/cgi-content/anno?apm=0&datum=19140629&zoom=2], (10.02.2010).

6 "British Pathé", http://www.britishpathe.com/], (10.02.2010).

general falls under the rubric of current political awareness, but it has indexed and archived all of its programming since 1987, assuring availability for historical research to the extent of fair use.[7]

Recent websites have offered virtual exhibits centered around a certain topic or geographic focus while combining textual, visual and audio documentation. Examples of this are an online exhibition on the Berlin Airlift,[8] on Scottish Devolution within the United Kingdom[9] – a topic that took on new life recently when the decision to release the convicted Lockerbie bomber devolved to the Scots – and the *European NAvigator*,[10] combining text, sound, and image evidence for the history of European integration.

Regional and international portals with access to digital primary documents have come online during the past year or two, representing large-scale cooperation. Europeana,[11] so wildly popular at its first launch in November of last year that it crashed immediately, is still considered a prototype, whose official premiere with ten million digital items will come next year. Rudimentary features of a semantic Web will be available in Europeana as well, such as automated analysis of a search phrase to suggest related terms of potential interest.

The UNESCO-sponsored World Digital Library[12] is a portal that has as one goal the narrowing of a digital divide between and within countries. At present its holdings are strong in historical maps, a category no doubt soon to explode with the online spread of GIS, geographic information systems that can illustrate historical sequencing and change.

Customized browse and search protocols, such as found in the World Wide Web Virtual Library's *European History Primary Sources*,[13] indicate the inevitable evolution we are seeing away from an online list mentality, as popularized in Web-browser "bookmarks," and toward search-on-demand capabilities. OAIster,[14] a part of the Open Archives

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7 "C-Span – Capitol Hill, The White House and National Politics", URL: [http://www.c-span.org/], (10.02.2010).

8 "American Experience – The Berlin Airlift", URL: [http://www.pbs.org/wgbh/amex/airlift/], (10.02.2010).

9 "A Decade of Devolution", URL: [http://news.bbc.co.uk/2/hi/in_depth/scotland/2009/devolution_decade/default.stm], (10.02.2010).

10 "European Navigator – The Authoritative Multimedia Reference on the History of Europe", URL: [http://www.ena.lu/], (10.02.2010).

11 "Europeana – Think Culture", URL: [http://www.europeana.eu/portal/], (10.02.2010).

12 "World Digital Library", URL: [http://www.wdl.org/en/], (10.02.2010).

13 "WWW Virtual Library History – European History Primary Sources", URL: [http://primary-sources.eui.eu/], (10.02.2010).

14 "The OAIster Database – Millions of Digital Resources from Thousands of Contributors", URL: [http://www.oclc.org/oaister/], (10.02.2010).

Initiative, and OpenDoar, the *Directory of Open Access Repositories*,[15] are other examples of cooperative digital indexing. Full-text searching at the moment of need, with its direct approach to relevant and current information matches, is supplanting the concept of sequential browsing and therefore of hierarchical lists.

At the same time as we celebrate the advantages of digital source documents for contemporary history, which can extend to new classes of materials on platforms like e-mail, iPhone apps, Twitter and YouTube, we have to deal with the disadvantages. Electronic documents are potentially unreliable; they may lack authority and blur authorial credentials. Perhaps because the collections of evidence are so easy to gather and quick to gather – a part of what one New Yorker reviewer has called "the tyranny of instant access",[16] – they may lack selectivity or relevance. Ease of publication can erode standards or facilitate dishonesty. Electronic evidence can be mutable and volatile: it can truly be here today, gone tomorrow.[17] Daniel Cohen captured a scholarly ambivalence toward online history by summarizing that "…many historians have found the Web to be a mixed blessing: prolific but unmediated, powerful but untamed, open to all but taken seriously by few".[18] Umberto Eco likewise expressed the dilemma of the conscientious scholar:

> I can glance at the spine of a book and make a good guess at its content from a number of signs. If I see the words Harvard University Press, I know it's probably not going to be a cheap romance. I go onto the Net and I don't have those skills.[19]

Web user studies by the Stanford Persuasive Technology Lab[20] – verified by other international studies[21] – indicate that average Web users

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15 "The Directory of Open Access Repositories – OpenDOAR", URL: [http://www.opendoar.org/], (10.02.2010).

16 Ross, A., "Infinite Playlist: New Frontiers in Digital Sound", *The New Yorker*, 10 August 2009: URL: [http://www.newyorker.com/arts/critics/musical/2009/08/10/090810crmu_music_ross?currentPage=2], (10.02.2010).

17 Barlow, J.G., "Historical Research and Electronic Evidence: Problems and Promises", in Trinkle, D.A. (ed.), *Writing, Teaching and Researching History in the Electronic Age. Historians and Computers*, Armonk, New York: M.E. Sharpe, 1998, p. 205-212.

18 Cohen, D., "History and the Second Decade of the Web", *Rethinking History*, Vol. 8, No. 2, June 2004, p. 294.

19 Marshall, L., "The World According to Eco", in *Wired*, March 1997, p. 148.

20 Fogg, B.J., Soohoo, C., Danielsen, D., Marable, L., Stanford, J., Tauber, E., "How Do People Evaluate a Web Site's Credibility? Results from a Large Study", Stanford Persuasive Technology Lab, Stanford University, 2002, in *Consumer Reports Webwatch*, URL: [http://www.consumerwebwatch.org/dynamic/Web-credibility-reports-evaluate-abstract.cfm].

value "information accuracy" eighth and "information source" tenth in their top-ten criteria for assessing (if that is the word) the credibility of a site. What are the typical Web user's top three determinants of credibility? According to the Stanford study, they are, in descending order, (1) "design look;" (2) "information focus;" and (3) "information design".[22] In digital presentations of primary sources, unfortunately, attractiveness[23] may signal credibility for a large percentage of the population.

Of further concern, many carefully curated 20th century digital manuscripts are not available to open access but require either the payment of a fee (as for the British National Archives documents online)[24] or subscription to a database. Publishing companies have digitized entire collections for profit, such as Testaments to the Holocaust.[25] While these are valuable, the consequences are obvious: only individuals or institutions with sufficient means to subscribe or pay will be able to see the documents.

Copying an existing document into a newer format was the same impulse that caused incunabula writers of the 15th century to mimic the features of a vellum manuscript in print at first, before book features began to distinguish themselves in unique ways. Analogously, in the age of what Jean-Claude Guédon calls "digital incunabula",[26] we are now seeing born-digital evidence beginning to distance itself from that of Internet mimesis.

New e-paradigms seem to be limitless as they shake up long-held traditions of form, content and audience. Perhaps the most affected discipline is contemporary history, since its digital sources have come online in the past decade or two. In many cases the creators of evidence and their authority are unclear. It's not just historians that are writing history. The enterprise of documentation by means of crowdsourcing

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21 Such as a Heidelberg study by Eysenbach, G., Köhler, C., "How Do Consumers Search for and Appraise Health Information on the World Wide Web? Qualitative Study Using Focus Groups, Usability Tests, and In-Depth Interviews", in *British Medical Journal*, No. 324, 2002, p. 573-577.

22 As summarized by Straub, K., Schaffer, E., "Web Credibility", *UI Design Newsletter* (March 2003), as found on the "Human Factors International", URL: [http://www.humanfactors.com/downloads/mar03.asp] (10.02.2010).

23 Hall, M., Straub, K., Schaffer, E., "Is Beauty the New Usability Attribute?", *UI Design Newsletter*, October 2005, URL: [http://www.humanfactors.com/downloads/oct05.asp] (10.02.2010).

24 "The National Archives – DocumentsOnline", URL: [http://www.nationalarchives.gov.uk/documentsonline/], (10.02.2010).

25 "Testaments to the Holocaust", URL: [http://www.gale.cengage.com/DigitalCollections/products/holocaust/index.htm] (10.02.2010).

26 Cope, B., Kalantzis, M., "The Role of the Internet in Changing Knowledge Ecologies", in *Arbor: Ciencia, Pensamiento y Cultura*, No. 185, May-June 2009, p. 523.

seems, in a positive reading, to have become democratized and given social breadth; or in a negative reading, to have devolved to the masses. Just as globalization has, according to Thomas Friedman, leveled the economic playing field into a flat world,[27] electronic tools may be leveling scholarly hierarchies into a "flat history".[28] Perhaps the most significant development of the past dozen years is a shift in the balance of textual agency between the author and the reader.[29] The blurring of boundaries between authoritative producers and reverential readers has at the same time resulted in greater dialogue and wider communities of interest: this we call the "social Web".[30] Historians need to resolve issues of trust in the face of collaborative and non-hierarchical approaches to text. Forensic work is required when users deconstruct primary evidence or mash it up into a new mixture.

As forms of delivered evidence have morphed from textual to more visual or audio media, the digital devices receiving the sound, image or video files have also become mobile, local, and therefore personal: the laptop, the netbook, the e-book reader, the iPhone and other widespread handheld electronics. Such inclusion of nearly all in society with the instrumental means to procure information easily has augured a further flattening of hierarchies and a dematerialization of data from print on physical paper to electronic signals that move easily across borders.

Changing formats of electronic evidence have caused the content itself to take on a different character. If the medium is the message, then the message has reformatted and shaped its own content. Case in point: the Internet was used as a tool by French activists during a one-day strike on January 29th of this year, but at the same time the Web became a rallying point, a site for satirical videos, a reference point for travel updates, a blogger-fest, and consequently a documentation source.[31]

Online social interactivity showed itself to be a trend in the European parliamentary elections this year as well. A number of incumbents up for re-election found themselves radically changing their lifestyles to include blogs, Facebook and other means of dialoging with their poten-

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27 Friedman, T., *The World is Flat: A Brief History of the Twenty-First Century*, New York, Farrar, Straus and Giroux, 2006.

28 Detti, T., Lauricella, G., "Una storia piatta? Il digitale, Internet, e il mestiere di storico," in *Contemporanea: Rivista di storia dell'800 e del'900*, Vol. 10, No. 1, 2007, p. 22-23.

29 Cope, B., Kalantzis, M., *op. cit.*, p. 523.

30 *Ibid.*, p. 524.

31 "29 janvier 2009", URL: [http://www.29janvier2009.fr/], (10.02.2010).

tial constituents.[32] One lesson for us is that permanent archival access to such virtual evidence needs to take on importance in the coming years if the transient electronic document is to be retained.

The production crew and the audience for audio-visually recorded history have expanded far beyond the cloisters of careful scholarship. The reader and the author are in many alternating scenarios the same person. Local or private videos, if placed on YouTube, can be picked up by national or international media to be discussed or sensationalized. In the process, amateur videographers are not just recording history but also changing its course. Following Iranian elections in 2009, a Teheran teenager, Neda, whose given name means "voice" in Farsi, became an international pro-democracy symbol and martyr when a close-up video of her death by a pro-government Basiji sniper was posted online. Twitter posts from all around the world took up the discussion and dissemination of the news.[33] History of the Iranian elections will likely include the fate of a young woman who, if this had occurred before the Internet, would likely have remained obscure and forgotten.

How will tweets and videos and webcam feeds and blogs and e-mails and datasets and MP3 oral histories be systematically preserved for the historian, and who will archive them? How will we capture relevant instant messaging for the long run? How will we sort out what's relevant? These questions are crucial if the evidence is to endure. For more than a decade, data and policy experts have been debating the best way to preserve important digital data. This will involve not only native formats but also native hardware to interact with evidence in the same way the evidence producers did.

The velocity of the digital revolution has brought about opportunities for individual choice and rational progress that could possibly form a happy marriage between the Enlightenment and Greek democracy.[34] Or it could be the harbinger of devastating unintended consequences. Electronic developments over which the scholar has little control are found within popular culture, where films with historical themes (such as Quentin Tarantino's recent *Inglourious Basterds*)[35] and history-based or alternative-history video games (such as "Cuban Missile Crisis: The

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32 "Election Countdown: 8 Online Platforms for the European Elections", URL: [http://www.europarl.europa.eu/sides/getDoc.do?language=EN&type=IM-PRESS&reference=20090513STO55731], (10.02.2010).

33 "'Neda' Becomes Rallying Cry for Iranian Protests", June 22, 2009, URL: [http://www.cnn.com/2009/WORLD/meast/06/21/iran.woman.twitter/], (10.02.2010).

34 Levinson, P., *digital macluhan: a guide to the information millennium*, London, Routledge, 1999, p. 202-203.

35 "Inglourious Basterds (*sic*)", URL: [http://www.imdb.com/title/tt0361748/], (10.02.2010).

Aftermath")[36] are produced for maximum entertainment value with little attention to documentary evidence. Thus for many in society there is no thought of the recent past being factual or fictitious, knowable or unknowable: history has simply replaced poetry and philosophy as the realm of the possible.[37] Accordingly, some will conclude that the problems of the electronic age and of the Internet are the problems of Postmodernism[38] and that accusations of relativism and of eroding standards become irrelevant in the context of a new participatory culture.

Short of declaring contemporary history an unknowable discourse open at best to poetic interpretation, we can fight for standards. The *New York Times* reported recently that the volunteer Wikipedia project will be adding a layer of editorial oversight to all articles that deal with living persons.[39] What is important in the announcement is not only that certain articles may be more accurately documented, but also that the idea of oversight and regulation as indispensable guarantors of trust might enter the public consciousness.

Knowledge custodians increasingly provide training in critical thinking, such as a UCLA library website on "Thinking Critically About Web 2.0 and Beyond".[40] There is also work with cryptography, digital watermarking and digital signatures as means of establishing authorship.[41] Notions of securely archiving the Web, such as with the Parallel Archive,[42] are appropriate for historians.

An experimental piece of proto-Web-3.0 software at the Center for History and New Media named "H-Bot"[43] is designed to test historical accuracy in a statistical manner.[44] The idea, among others, is that indi-

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36 "Cuban Missile Crisis, the Aftermath Review", URL: [http://www.gamespot.com/pc/strategy/cubanmissilecrisis/review.html], (10.02.2010).

37 Fogu, C., "Digitalizing Historical Consciousness", *History and Theory*, Vol. 48, No. 2, (May 2009), p. 103-121.

38 Barlow, *op. cit.*, p. 204-205.

39 Cohen, N., "Wikipedia to Limit Changes to Articles on People", *New York Times*, August 25, 2009, URL: [http://www.nytimes.com/2009/08/25/technology/internet/25wikipedia.html] (10.02.2010).

40 Grassian, E., "Thinking Critically about Web 2.0 and Beyond", URL: [http://www2.library.ucla.edu/libraries/college/11605_12008.cfm] (10.02.2010).

41 Barlow, *op. cit.*, p. 219.

42 "Parallel Archive Beta – Turn Matters of Fact into Matters of Concern", URL: [http://www.parallelarchive.org/] (10.02.2010).

43 "Center for History and New Media – H-Bot Beta", URL: [http://chnm.gmu.edu/tools/h-bot/], (10.02.2010).

44 Cohen, D., Rosenzweig, R., "Web of Lies? Historical Knowledge on the Internet", *First Monday* 10, 12: URL: [http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1299/1219], (10.02.2010).

vidual errors may be found as online anomalies, but an overwhelming percentage of like answers increases probability of truth. These and other ideas may, as they mature, hold the key to increasing our confidence in electronic evidence. Perhaps Web 3.0 will, through artificially intelligent analysis, address many of the credibility issues of Web 2.0.

Problems and shortcomings of the digital age might best be addressed in an ideal world – or at least in some alternative real world – where we weigh the advantages and disadvantages of electronic evidence and then decide with scholarly exactitude what is acceptable and what must be rejected. But that's not necessarily the way things work in a virtual world run by amateurs (in the best sense of the word). Portable electronics and online social networking are not going away. Forms of electronic evidence we have not heard of yet will make our work even more complicated. New native formats will evolve. To survive, let along thrive, the contemporary historian will have to analyze primary sources inside emerging technologies while adapting theories, methods and standards that allow the weighing of evidence. For instance, we may explore ways that eye-witnessing images can provide source data for which we used to rely on textual evidence.[45] We will need to create innovative departments and programs and institutions that supplement the work of such entities as "Digital Heritage Netherlands",[46] the "Center for History and New Media"[47] and the "Centre Virtuel pour la Connaissance sur l'Europe".[48] As we move from online mimesis to the digital limitless, the dialogue is just beginning.

45 Burke, P., *Eyewitnessing: The Uses of Images as Historical Evidence*, Ithaca, Cornell University Press, 2006.

46 "Digitaal erfgoed Nederland", URL: [http://www.den.nl/english], (10.02.2010).

47 "Center for History and New Media", URL: [http://chnm.gmu.edu/], (10.02.2010).

48 "Centre virtuel de la connaissance sur l'Europe", URL: [http://www.cvce.lu/], (10.02.2010).

« Last Nite *Deezer* saved my class »

Écrire et enseigner l'histoire du rock

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Cet article se propose avant toute chose de retracer mon parcours en tant que chercheuse et enseignante en histoire du rock et se présente comme un bilan d'expérience interrogatif à la fois sur la pratique de recherche mais aussi sur la restitution des résultats de recherche sous forme de cours d'enseignements électifs dispensés à Sciences Po Paris, en anglais, à des étudiants de deuxième année, Français et internationaux. L'expérience relatée dans les lignes qui suivent se déroule donc pour la recherche sur les cinq dernières années, tandis que l'enseignement s'étend sur une période de trois ans, soit cinq promotions d'étudiants. Le propos, enfin, n'est pas d'opérer une étude sociologique destinée à décrire les modalités de ces recherches et enseignements à travers un certain nombre de données chiffrées ou d'entretiens, ce qui ne serait pas faisable tout simplement parce que je n'ai jamais collecté ce genre de données lors de mon travail, mais aussi parce que l'ambition de mon article est avant tout de poser la question des sources de cette histoire recherchée et enseignée, des moyens à mettre en œuvre, des outils nécessaires au travail. Dès lors, nous argumenterons sur un problème précis : que devient le métier de l'historien – et *a fortiori* du professeur – face à un ensemble de sources très différentes de celles qui font généralement la base de son travail et surtout auxquelles il n'est souvent ni habitué ni formé ? En filigrane, la question de la faisabilité d'une telle recherche et d'un tel enseignement ouvrira peut-être, je l'espère, la voie à des interrogations sur d'autres sujets dont les sources posent les mêmes problèmes. Pour répondre à ces questions très vastes, il s'agit ainsi de mettre au cœur du débat la technologie Internet, ce qu'elle apporte en termes de solutions mais aussi de problèmes et d'étudier la pratique de ce média qu'en a l'enseignant-chercheur tout comme celle qu'en ont les étudiants.

Les outils de recherches spécifiques

Si je dois commencer par expliquer et clarifier un point, c'est sans doute le choix de mon titre. En effet, celui-ci contient en somme l'idée principale de mon développement, à savoir le rôle de l'Internet et de certains sites plus ou moins récents et connus. Parmi ces sites, celui qui me donne mon titre : *Deezer*. Il s'agit d'un site Internet qui ouvre en juin 2006[1] sous le nom de Blogmusik et qui permet de créer un compte gratuit en ligne et de constituer des *playlists* de morceaux. La méthode est celle d'une écoute en *streaming* depuis le site ou en intégrant un lecteur flash à son propre site ou blog. Ce type d'utilisation en ligne est intéressant puisqu'il ne nécessite pas de téléchargement et s'effectue – avec une connexion à haut débit, immédiatement. Dans le cadre d'une législation contre le téléchargement illégal, *Blogmusik* devient donc une très bonne alternative en permettant l'écoute de musique gratuite sans contrainte. Cependant, suite à des attaques de diverses sociétés de droits d'auteurs, dont la SACEM, le site décide de fermer en avril 2007.[2] Ayant obtenu un accord avec la SACEM le site rouvre en août 2007 sous le nom de *Deezer*. Les revenus publicitaires sont alors supposés rémunérer les auteurs et ayants-droit. Petit à petit le site, fort de ses 773 000 visiteurs uniques dès août 2007,[3] va parvenir à augmenter substantiellement le nombre de titres disponibles à l'écoute de façon légale en signant des accords avec de nombreuses maisons de disques. Entre autres, on peut citer les accords avec Sony BMG d'octobre 2007, avec Universal Music group de mai 2008 ou avec EMI d'avril 2009, mais aussi avec des labels plus indépendants comme *Because et Beleive*, signés en janvier 2008.[4] Le catalogue disponible à l'écoute est désormais inépuisable, tandis qu'une autre particularité dans les fonctions du site permet un autre type d'enrichissement : lorsqu'un utilisateur crée un compte sur *Deezer*, il peut créer une *playlist* qu'il peut ensuite partager avec d'autres utilisateurs, tout comme n'importe quel échange de contenu sur les réseaux sociaux. Sur cette *playlist*, l'utilisateur peut également uploader ses propres fichiers Mp3, et si ceux-ci ne sont pas consultables par l'ensemble des utilisateurs du site, ils peuvent néanmoins circuler entre internautes très facilement. Évidemment cette fonction est à la limite de légalité puisque ces fichiers Mp3 personnels peuvent très bien avoir été téléchargés illégalement. Aujourd'hui, si le débat fait rage sur l'introduction de la publicité auditive en novembre 2009, *Deezer* reste

1 Dossier de presse de Deezer, consultable en ligne sur le site, URL : [http://www.deezer.com/fr/#legal/press.php] (25.05.2010).

2 *Ibid.*

3 Wikipédia, article Deezer, URL : [http://fr.wikipedia.org/wiki/Deezer] (25.05.2010).

4 *Ibid.*

un site majoritairement gratuit et très accessible. Le fait qu'il soit également relié à d'autres sites comme *YouTube*, aux réseaux sociaux type *Facebook* et qu'il existe une application *Deezer* pour iPhone et Blackberry favorise la diffusion du site auprès de la majorité de la population étudiante ou tout simplement mélomane.

Les deux autres sites majeurs pour mon travail sont bien entendu *YouTube* et *Dailymotion*. *YouTube* est une plateforme de vidéos gratuite créée aux États-Unis en février 2005. Les versions européennes de *YouTube* sont lancées quant à elles en juin 2007.[5] Le principe de *YouTube* est le partage de vidéos. En utilisant la technologie Adobe Flash, il rend possible l'affichage de toutes sortes de vidéos, professionnelles ou amatrices. En devenant gratuitement membre, on obtient le droit d'uploader ses propres vidéos, de commenter et de noter les vidéos visionnées. Le moteur de recherche *YouTube* permet également l'affichage de vidéos connexes (auteur, sujet, mot clé, etc.) à la vidéo regardée. Le site connaît un succès énorme et le nombre de visiteurs affole les compteurs. Très vite, Chad Hurley, créateur du site, revend sa société à Google, en 2006, pour 1,65 milliard de dollars, tout en en restant CEO.[6] À ce site américain aux déclinaisons nationales, s'ajoute pour la France le petit concurrent *Dailymotion*. Fonctionnant sur le même principe, *Dailymotion* offre un panel moindre de vidéos mais un centrage plus fort sur la France et les pays de la francophonie. En termes de droits d'auteurs, certaines émissions comme le célèbre *Saturday Night Live* ou certaines stars ordonnent à *YouTube* et *Dailymotion* la suppression pure et simple de certaines vidéos pour atteinte à la législation du *copyright*. Mais le fait que les internautes puissent générer eux-mêmes le contenu du site engendre une multiplication des documents ingérable. Tout l'intérêt pour l'histoire du rock, qu'il s'agisse de *Deezer*, *YouTube* ou *Dailymotion*, est bien dans l'accessibilité à des documents utilisables. Et même si seul *Deezer* ne propose quasiment que des documents « officiels » puisqu'ils se fournissent à la source des maisons de disques et labels, *YouTube* reste un favori en ce que le contenu est également visuel. Naturellement, les étudiants préfèrent presque systématiquement utiliser *YouTube*, même si pour des raisons de qualité de son et d'authenticité des morceaux, je préfère utiliser *Deezer*.

Enfin, dans une logique de conservation des données et non plus de consultation en *streaming*, la plateforme *iTunes* et ses équivalents légaux

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5 Torrenzano, A., Gualtieri, F., Poletti, C., « Histoire d'une idée numérique : YouTube. Conversation avec Chad Hurley, CEO du site », in *e-South… Hic et Nunc*, Blog du Monde.fr, 8 octobre 2008, URL : [http://e-south.blog.lemonde.fr/2008/10/08/histoire-dune-idee-numeriqueyoutube-conversation-avec-chad-hurley-ceo-du-site/] (25.05.2010).

6 *Ibid.*

et illégaux sont bien sûr des sites fondamentaux. *Itunes* a été mis sur le marché par Apple en janvier 2001. Il s'agit d'une plateforme dont le téléchargement est gratuit et qui permet à la fois d'écouter et (surtout) d'acheter de la musique. *ITunes* s'associe naturellement au lecteur *made in Apple*, l'iPod et plus récemment l'Iphone. L'application *Itunes* permet la création d'une bibliothèque virtuelle de titres, mais aussi de vidéos, films, livres numériques ou photographies associés à des métadonnées qui renseignent l'utilisateur lors de la consultation. Contrairement à *Deezer* ou *YouTube*, sur *Itunes*, rien ou presque n'est gratuit. De fait, les problèmes de copyrights sont bien moindres, tout spécialement parce que les matériels Apple tels que l'Ipod ne peuvent être connectés qu'à un nombre limité d'ordinateurs, et par conséquent, Apple tente de restreindre au maximum les transferts de fichiers entre utilisateurs. L'intérêt d'*Itunes* réside essentiellement dans sa couverture du marché. Il est le lecteur par défaut le plus répandu et offre un nombre de titres à la vente tout à fait impressionnant. Cependant, il existe des limites. Notamment, certains titres ne sont disponibles que dans certaines aires géographiques de connexion, afin de protéger les œuvres lorsqu'elles sortent à des dates différentes sur différents marchés. Cette limite frustre d'autant plus les utilisateurs que l'ère Internet est celle de la globalisation générale et de l'inexistence des frontières du virtuel.

Cette limitation, ainsi que le prix bien entendu, est officiellement la première motivation des utilisateurs de plateformes de téléchargement illégal. Il serait de bon ton de les mentionner en précisant qu'on ne les utilise pas. C'est chose faite. Pour faire un historique rapide de ces sites, on n'en citera que quelques-uns, sachant qu'en plus des plus grands sites pirates mondiaux, chaque aire géographique possède plus ou moins les siens. Parmi les plus importants, on pourra citer notamment The Piratebay ou *Emule*. *Emule* ouvre en mai 2002, faisant suite à l'un des tout premiers sites de ce genre, *edonkey*, créé en 2000. Le succès de *Emule* réside dans le principe du *peer-to-peer*. Les utilisateurs du site échangent librement des fichiers directement d'ordinateur à ordinateur, fichiers compressés pour plus de rapidité et une utilisation de la bande passante réduite au minimum. *Emule* serait en 2010 le site de téléchargement le plus populaire avec plus de 520 millions de téléchargements.[7] Comme *Emule*, *The Pirate Bay* (TPB) est un site totalement illégal de téléchargement. Suédois, il a fait récemment beaucoup parlé de lui sur la scène politique nationale et internationale. Le principe est le même que pour *Emule*, à ceci près que TPB se pose politiquement pour un *Low IP equilibrium*, en d'autres termes, contre les droits d'auteurs en tant que

[7] Selon les statistiques de SourceForge au 25 mai 2010, URL : [http://sourceforge.net] (25.05.2010).

droit fondamental du créateur.[8] Quel que soit le positionnement que l'on peut avoir en tant que personne morale, il est quasiment impossible aujourd'hui de travailler sur l'histoire de la musique sans croiser, volontairement ou non, le problème du téléchargement illégal. Le renforcement de la loi antipiratage en France avec la loi HADOPI a très certainement eu quelques effets pervers, dont la divulgation au grand public des méthodes illicites de téléchargement de contenus protégés. Pour autant, il existe dans la plupart des cas des solutions légales à disposition de l'enseignant-chercheur.

Car le problème majeur est que certaines sources musicales anciennes, non numérisées et non recommercialisées par les maisons de productions ou les détenteurs de droits actuels, ne peuvent être consultables que sur ces sites illégaux, des mythiques *basement tapes* ou *bootlegs* aux enregistrements pirates de concerts plus ou moins célèbres dans des lieux plus ou moins accessibles à l'historien. Si la nécessité de recourir à ces moyens d'accès illégaux doit être pondérée – quand ai-je réellement besoin de ce document ? Quand commence la quête fanatique de l'objet rare donc mythique ? – il faut néanmoins prendre en compte l'intérêt strictement historique de ces sites, en ce qu'ils permettent, tout comme les voies légales, un accès excessivement large à des documents dont la collecte et la consultation aurait pris des mois et coûté en déplacement des budgets entiers de laboratoires…

Rechercher : pratiques de l'historien

Spécificités et attraits de l'Internet

La multitude et la diversité des sites permettant d'avoir accès à des sources potentiellement utilisables dans une recherche sur le rock sont donc quasiment illimitées. Si grande est la ressource qu'on pourrait inlassablement collecter des documents. Dans la pratique du métier d'historien, il s'agit d'opérer des sélections. Le mode de sélection se fait essentiellement pour des raisons de proximité d'abord de langue, puis de proximité technologique avec l'instrument et, enfin, par simple affinité avec la plateforme. Le recours à ces différents sites se fait essentiellement parce qu'il s'agit d'une histoire en construction et parcellaire parce que détenue en majorité par des instances privées, qu'ils s'agisse de personnes ou d'institutions – nous reviendrons sur ce point. L'attrait fondamental de l'Internet réside donc en trois termes : Proximité, accessibilité et disponibilité des sources. Trio d'avantages auquel s'ajoute

[8] Les créateurs et animateurs du site TPB font partie de l'organisation *Piratbyran* (Bureau de la Piraterie) et participent en Suède à des élections nationales et locales en tant qu'organisation politique.

naturellement la facilité d'utilisation de ces sources. Une culture technologique et technique minimale est requise pour se servir de la plupart de ces sites. Enfin, la publicité autour de ces plates-formes est telle qu'il est quasi impossible de ne pas en avoir entendu parler, pour peu que l'on navigue quelque peu sur la toile.

La particularité du travail sur l'histoire du rock serait alors de faire sortir l'enseignant-chercheur du vase clos de l'historien centré sur un type d'archives plus classique. Il va sans dire que très peu d'historiens aujourd'hui se limitent à un seul type de source. Pour autant, il semble que la tradition culturaliste de l'histoire contemporaine soit la plus favorable à un élargissement général et des sujets et des documents utilisés comme sources. L'ouvrage séminal de Philippe Poirrier sur l'histoire culturelle[9] donne sur le sujet un très bon aperçu des évolutions dans ce domaine. L'histoire culturelle est en effet le terrain privilégié de l'expansion du domaine archivistique et, dans cette spécialité, la recherche en culture populaire semble également requérir de plus en plus des sources audiovisuelles, digitales, virtuelles, en un mot, non matérielles. Pour ne citer que quelques exemples, le développement récent de l'histoire des jeux vidéo et de la culture du *gamer*, tout comme l'étude de l'histoire technique de l'ordinateur depuis les années 1980-1990 constituent des domaines pionniers dans lesquels l'utilisation d'Internet est absolument obligatoire.

Accès aux témoins et sources orales

Cette histoire culturelle du monde contemporain travaille souvent sur des sujets communs aux sociologues, anthropologues et statisticiens. La nécessité de recueillir des informations déjà récoltées par d'autres chercheurs dans d'autres domaines force à diversifier le champ d'action de l'étude. Et cela peut se faire via un autre biais toujours relié à Internet, les réseaux sociaux. Que ce soit pour avoir accès aux recherches déjà publiées ou en cours, aux bases de données travaillées par d'autres souvent dans des champs de recherche qui ne sont pas l'histoire, ou bien sûr pour retrouver des témoins de l'époque sur laquelle on travaille, il est indispensable d'avoir recours aux réseaux sociaux que sont *Facebook*, *A Small World*, *Linkedin* ou *Twitter*. Les deux réseaux qui m'ont été et me sont toujours les plus utiles sont *Facebook* et *Linkedin*. *Facebook* est un site de réseau social créé en février 2004. L'idée était au départ de communiquer entre étudiants à travers une plateforme pouvant publier en ligne des contenus individuellement générés. *Facebook* est

9 Poirrier, P., *Les Enjeux de l'Histoire Culturelle*, Seuil, Paris, 2005.

devenu un réseau public depuis le 26 septembre 2006.[10] Chacun peut donc créer son profil, réel ou imaginaire et augmenter son réseau d'amis, de personnes dont il suit les humeurs à travers les *posts* divers. Le moteur de recherche de *Facebook* permet aussi bien de retrouver son ancien camarade de classe qu'une célébrité de la télévision ou de la politique… Quant à *Linkedin*, le principe est le même bien que moins ludique et plus orienté sur le caractère professionnel des échanges.

L'intérêt de ces réseaux sociaux est le maillage qu'ils mettent en place, de sorte que la règle des six degrés entre vous-même et n'importe qui sur cette planète est quasiment vérifiable… Pourquoi est-ce si important pour l'histoire du rock ? Tout simplement parce qu'il est encore plus simple pour un historien d'obtenir un entretien avec un ancien président de la République qu'avec un témoin essentiel de mon sujet que seraient Mick Jagger ou Paul Mc Cartney… Bien entendu, le rêve s'arrête parfois très vite, et l'on ne réussit presque jamais à rencontrer de telles stars du rock. Pour autant, en utilisant le réseau social et en le maximisant, on parvient à rencontrer – à défaut du chanteur des Stones, son ancien attaché de presse, son ancien porteur de valise ou son ingénieur du son sur l'album *Satisfaction*… Le réseau social permet donc l'accès ultra simplifié à un certain nombre de personnes utiles à la recherche dont on ne soupçonnait souvent pas l'existence et qu'il aurait été impossible de retrouver et d'identifier sans le maillage opéré par le réseau.

Autre type de personnes que les réseaux sociaux permettent d'atteindre très facilement, les présidents et membres des fans clubs ainsi que les collectionneurs. Pour une recherche comme la mienne, sur la naissance du rock en France, les « fonds d'archives » qui m'ont été les plus utiles ont souvent été les collections d'objets ainsi que le savoir encyclopédique ahurissant des fans et collectionneurs. S'il est évident que dans une ère sans Internet l'accès à ce genre de personnes pouvait naturellement être possible, il n'en demeure pas moins que la facilité et surtout la rapidité de connexion permise par le Web permet au chercheur de réaliser non plus quelques biographies de quelques artistes par exemple, mais quasiment une prosopographie des personnages auxquels on s'intéresse et, partant, il devient plus aisé de retracer les liens entre ces mêmes personnages. Il en va de la même logique lorsque l'on s'attaque au passé de certains lieux dont seules des photographies peuvent nous aider à en retracer l'histoire. Des lieux de concert mythiques ou clandestins ne disposent pas toujours d'une documentation fournie. Sur certaines salles, il a été possible, en retrouvant d'anciens clients par

[10] Achilli, J.-F., « Facebook, histoire d'une supercherie ordinaire », janvier 2008, URL : [http://www.wmaker.net/achilli/Facebook-histoire-d-une-supercherie-ordinaire_a382.html] (25.05.2010).

l'intermédiaire de groupes *Facebook* dédiés à la mémoire de ces lieux, de mettre la main sur des séries de photographies, parfois des *paraphernalias* type tickets, affiches et posters qui m'ont aidé dans la reconstitution de certains endroits. L'intérêt de *Facebook* est de mettre l'historien en rapport avec non pas un seul témoin isolé, mais bien à des groupes de témoins, allant de quelques personnes à des centaines. De fait, le croisement des sources devient plus aisé et le métier de l'historien peut s'exercer pleinement.

À cette dimension très optimiste des choses, on peut enfin ajouter la possibilité de constitution de fonds documentaires et de collections d'archives qui pourraient servir éventuellement à des recherches futures. L'intérêt d'Internet se trouve ici minoré par l'intérêt des avancées technologiques en matière de format de stockage des données, de constitutions de bases consultables en ligne et rendues publiques et enfin par la simplicité basique des envois par email à n'importe quel correspondant. À ce titre, je citerai l'exemple d'une recherche particulière que j'ai réalisée pour ma thèse de doctorat. En poste à l'Université de Columbia à New York, j'ai découvert que le plus gros fonds documentaire sur la culture populaire américaine était localisé à l'Université d'État de Bowling Green dans l'Ohio. L'un de ces fonds se trouve à la *Brown Popular Culture Library* de la BGSU (*Bowling Green State University*), l'autre à la *Music Library and Sound Archives*. Mon déplacement vers la ville de Bowling Green a été facilité d'une part par ma présence sur le territoire américain mais aussi par l'obtention d'un prix pour l'exploitation de ce fonds spécifique.[11] L'intérêt de cette recherche résidait dans la consultation systématique de toute la presse magazine des années 1954-1969 à destination des jeunes ou spécialisée dans la mode et/ou la musique. La BGSU possède sans doute la plus vaste collection publique de ces magazines. Disposant de deux semaines sur place pour consulter des centaines de publications, j'ai naturellement eu recours au scanner voire à l'appareil photo numérique pour rassembler un maximum de documents en un minimum de temps. Je dispose à présent d'une collection colossale d'images de ces magazines dont les seuls exemplaires ou presque sont à la BGSU. Pour autant, combien d'historiens, sociologue de la jeunesse, anthropologue, spécialistes de la mode pourraient travailler sur ces centaines de documents ? Si ceux qui connaissent mon travail ont déjà profité de ce fonds documentaire informellement constitué et très maladroitement organisé et archivé, j'aimerais pouvoir faire profiter d'autres personnes de ce fond. Nul doute que je ne suis pas la seule dans

[11] Marshall Fishwick Travel Award 2008, PCA/ACA Endowment Committee, San Francisco National Conference, March 2008 : Exploitation d'un fond spécifique sur la culture populaire durant un séjour de deux semaines à l'université de Bowling Green, Ohio, USA.

ce cas. De fait, si mon exploitation de cette base constituée reste très artisanale, je suis certaine qu'il existe des solutions nombreuses mettant en opération les nouvelles technologies disponibles – comme le font d'ailleurs des centres comme le CVCE. De fait, j'appelle de mes vœux la constitution d'un fond documentaire exploitable par le plus grand nombre sur l'histoire du rock et plus généralement des cultures populaires.

Limites et conséquences

Il me faut enfin en venir aux limites de l'outil Web dans mon travail d'historienne du rock. Car si les aspects positifs sont nombreux, les risques à travailler sur ce type de sources ne le sont sans doute pas moins. Dans ces limites, je ne peux pas ne pas évoquer les réticences de certains collègues vis-à-vis de l'outil Internet et de ce qui en provient. Mais je ne suis pas sans penser que l'on pourrait trouver maints exemples dans la progression de la science historique illustrant le discrédit porté sur certaines études et certains documents, discrédit se résorbant de lui-même à mesure que des travaux de qualités furent publiés et adoubés par la communauté historienne et intellectuelle. De fait, je pense qu'il en sera de l'histoire par Internet comme de l'École des Annales ou comme des *Cultural Studies* en leurs temps. Plus problématique est l'origine de ces documents collectés sur Internet. Qui n'a jamais été confronté à la difficulté de retrouver précisément les dates et origines d'un document trouvé sur une page Web. La multiplication des possibilités de trouver des documents entraîne *de facto* la multiplication des problèmes d'identification de ces documents.

De plus, comme dans n'importe quel autre corpus de sources, il faut s'interroger sur la manière dont ces sources ont été sélectionnées et comment et pourquoi ces documents ont été conservés et non d'autres. Plus que jamais, dans la logique Internet, c'est l'intérêt que porte un certain nombre de personnes à tel ou tel document qui va assurer sa conservation. Ainsi dans le domaine de la musique rock, on se retrouve face à deux logiques de conservation différentes. L'une est celle de la popularité immense d'un objet culturel. Dans ce cas, le bruit autour d'une recherche sera considérable et l'on sera assuré de trouver n'importe quel document s'y rapportant. L'autre cas est celui de l'objet rare et culte, qui est considéré comme tel par des groupes sous-culturels très restreints mais très actifs. De fait, le fan et le groupe de fans conserveront et « archiveront » les documents. Et si ceux-ci ne sont pas nécessairement facilement accessibles, ils n'en demeurent pas moins trouvables. Ces deux extrêmes laissent alors une partie de la documentation presque inatteignable. Il s'agit de tout ce qui se trouve « au milieu ». De nombreux enregistrements de 45 tours des années 1960, période de très large

production de *singles*, sont quasiment introuvables, tout simplement parce qu'ils ne relèvent ni de la popularité extrême ni de la mystification de fans. Ainsi, une recension des titres parus sur une période donnée par exemple ne peut se faire sans l'aide des sources des maisons de production ou de la SACEM pour la France. Mais quand de telles archives sont indisponibles, il est impossible de faire une histoire quantitative à travers la seule ressource Internet. Ajoutons à cela la difficulté de la conservation des données consultées ou de l'accès aux informations et la question problématique des origines et de la traçabilité des sources est complète.

Enfin, on ne peut ignorer ici la douloureuse question des droits d'auteurs et autres copyrights. Sans même faire mention des sites illégaux dont nous avons déjà parlé, comment, pour le chercheur, enregistrer, archiver, classer et ranger ces documents virtuels dont les droits d'exploitation, de reproduction et de diffusion appartiennent à des instances privées et souvent de nature commerciale et industrielle ? Cette question, je l'avoue, je ne l'ai pas résolue. Et pour toute publication, elle se pose inlassablement. Ce problème, qui est particulièrement ennuyeux pour l'histoire de la mode où les photographies sont fondamentales, ne l'est pas moins en histoire du rock. Et ici, seul le *streaming* paraît une solution acceptable. Une question demeure cependant, peut-on envisager d'ajouter en discographie une liste d'écoute *Deezer* par exemple sur un rendu d'article académique ou voire une thèse de doctorat ? Quid de l'accès à ces outils pour les lecteurs ? Or, tant qu'il reste légalement interdit de reproduire ces documents même dans le cadre académique, la diffusion des contenus virtuels et audiovisuels reste problématique, voire impossible. Il devient alors de la responsabilité du lecteur de trouver la ressource lui-même sur le Web pour parachever la lecture d'un ouvrage sur le rock, comme c'est le cas pour les disciplines critiques sur le cinéma ou la télévision.

Dès lors que peut-on conclure sur les conséquences que tout cela apporte au métier d'historien ? Tout d'abord, le devoir d'administration de la preuve semble rester le même en dépit de nouvelles solutions et de nouvelles difficultés. Si la notion de *sampling* apparaît comme perpétuellement problématique, l'Internet et la sélection qu'il opère sur la disponibilité de certaines sources tout comme sur la disparition de certaines autres ne semble pas si éloignés des autres types de fonds documentaires. En revanche, l'absence de spécification d'origine très courante engage l'historien à un travail de questionnement des sources et de leur pertinence sans doute plus important que naguère. Le nœud gordien se situe donc au niveau de la qualité du chercheur et de son aptitude à prouver et démontrer son point de vue en rendant sa source légitime, notamment par croisement. Pour l'histoire du rock plus spécifiquement, tout comme

beaucoup d'autres éléments de la culture populaire récente, la légitimité historique des sources doit se doubler d'une légitimation du sujet lui-même, surtout quand des sous-spécialités telles que l'histoire du rock tendent à remettre en question certaines chronologies bien établies. D'expérience nous savons bien que quand la controverse historiographique gronde, la légitimité des sources est souvent utilisée dans la joute intellectuelle.[12] Dès lors, l'utilisateur de sources Internet doit se prémunir de toute attaque en s'assurant plus que jamais de la pertinence et de la crédibilité de ses documents.

Ainsi, je serai tentée d'affirmer que le métier d'historien ne change pas tant que cela, que le processus est toujours le même, quelle que soient la source et l'origine ou la matérialité de celle-ci. Le travail tient toujours dans la vérification, la confrontation et la comparaison. Cependant, il apparaît nécessaire pour travailler sur ces domaines spécifiques d'avoir les qualifications techniques et technologiques nécessaires et suffisantes pour exploiter les ressources Internet au mieux. Nous sommes alors face à une question d'acculturation technique. Comme Aurélie Brayet l'a montré avec la cocotte minute,[13] un objet technique ou technologique passe par plusieurs phases, de la peur à la domestication, pour compléter le cycle de l'acculturation technique. L'Internet et les nouvelles technologies ne feront pas exception à cette logique de cycle, et déjà, on constate avec plaisir que la recherche en histoire, comme dans d'autres sciences humaines, s'approprie de plus en plus ces outils.

Enseigner l'histoire du rock

Pour conclure ce bilan d'expérience, quelques mots sur les conséquences sur l'enseignement de l'histoire du rock. Tout d'abord, ce type de cours en France n'est que très peu présent au niveau universitaire, hors des UFR de musicologie.[14] Le cours que je donne à Sciences Po Paris prend donc un relief particulier. Cet enseignement électif en anglais se déroule sur 12 à 14 séances de 2 heures par semaine et se base sur un recueil de textes accompagné d'une *playlist* dont l'écoute est

12 Comme c'est le cas pour les deux théories opposées sur la Première Guerre mondiale en France. Voir URL : [http://www.crid1418.org/] et URL : [http://www.historial.org/] (25.05.2010).

13 Brayet, A., *Ma Cocotte Bien Aimée, Histoire et Mémoire d'un objet quotidien*, Publications de l'Université de Saint-Étienne, Saint-Étienne, 2009.

14 On peut citer ici le séminaire *Histoire et théorie des chansons (année 2009-2010)*, Séminaire de formation à la recherche sur les chansons de variétés des XIX^{e} et XX^{e} siècles des cultures du monde occidental : théorie, études de cas, axes de recherche. Direction **:** Christian Marcadet [Institut d'Esthétique des Arts et Technologies/IDEAT, UMR 8153 C.N.R.S./Université de Paris 1] et Yves Borowice [Agrégé d'histoire ; IDEAT].

obligatoire. Le concept même de *playlist* n'aurait pas été possible sans l'ensemble des sites Internet dont j'ai parlé plus haut. Alors oui ! *Deezer saved my class*… La possibilité de créer une liste de chansons et de morceaux accessibles par tous mes étudiants a tout simplement rendu possible ce cours sur le rock. En effet, sans *Deezer*, *YouTube* et autres, impossible d'exiger des étudiants une écoute basée sur un accès physique aux disques ou CD ; impossibilité légale de copier ces morceaux et d'éditer un CD du cours ; impossibilité budgétaire, enfin, de reproduire ce CD en dizaine d'exemplaires à chaque semestre. Ainsi, avec un minimum de connivence des étudiants, souvent très heureux de pouvoir utiliser ce genre de média pour un cours, on parvient à créer une dynamique participative qui engendre la création de contenu de la part même des étudiants. Pour des exposés en classe, certains ont eu recours au site *Deezer* afin de créer une *playlist* consultable par le groupe du cours.

Ces aspects positifs doivent néanmoins être pondérés par la nécessité perpétuelle de leur rappeler toute la méfiance à adopter par rapport aux contenus Internet. De même, la rigueur de citation des sources de façon exacte a tendance à se dissoudre assez vite quand il s'agit d'adresses de sites et d'images ou vidéos. Charge donc à l'enseignant de rappeler continuellement comment l'histoire doit se faire et s'écrire. Le problème se complexifie également par un effet pervers de la méfiance à l'égard d'Internet : les étudiants finissent par assumer que ce qui est imprimé est (quasiment) « vrai » ontologiquement. Alors qu'il est très rare qu'un étudiant ne propose pas une lecture critique d'un texte sur le communisme paru avant les années 1990 aux Éditions Ouvrières par exemple, les mémoires d'un chanteur ou d'un artiste sous forme de livre ou n'importe quel écrit journalistique prendra d'un coup une certaine valeur historique en matière de faits et ne sera pas critiqué. Cette absence de regard critique sur une œuvre publiée est à mettre au crédit de la méfiance répétée des étudiants face à l'Internet.

Enfin, il existe un problème intrinsèque à l'enseignement de l'histoire du rock dans un contexte universitaire non spécialisé – ce qui est le cas de Sciences Po : la légitimation de la matière enseignée. Tout comme certains historiens traditionnels trouvent peu de sérieux à de tels sujets, les étudiants eux-mêmes peuvent avoir tendance à considérer le cours comme un divertissement peu engageant intellectuellement et essentiellement destiné à l'écoute de morceaux et à l'enrichissement d'une culture musicale surtout utile dans les sorties en ville… À ce titre, l'expérience a montré que le propos strictement musical devait systématiquement être associé à un contenu plus académique, plus historien sur le sujet. En un mot, si l'on écoutera tout autant Bob Dylan que Britney Spears pour parler de la contre-culture américaine et de sa popularisation, il faudra aussi en passer par Adorno et Max Weber et pourquoi pas

la sémiologie de Barthes pour expliquer ces phénomènes. De sorte que le cours sur l'histoire du rock ne devienne pas un simple prétexte au divertissement mais bien une pierre supplémentaire à l'édifice de leur culture universitaire.

Ainsi, j'aurai essayé de relater à la fois mon expérience de chercheur et d'enseignant dans une matière pas vraiment constituée qu'est l'histoire du rock. Je peux conclure sur la base de mes réflexions personnelles, que si mon travail de recherche n'a probablement rien à voir avec celui de confrères travaillant sur des sujets plus classiques, il n'en demeure pas moins que le métier d'historien en lui-même ne me paraît pas changer de nature. On se trouve quoi qu'il en soit face au devoir d'administration de la preuve par recoupement et vérification des sources que l'on se donne. Cependant, la pratique de la source change, c'est indéniable, tout comme la pratique de l'enseignement de l'histoire. La révolution Internet rend tout simplement possible des activités et des étendues de recherche qui n'étaient auparavant pas envisageables. De même, il m'aurait été impossible d'enseigner un tel cours sans l'aide des nouvelles technologies. Le principe d'acculturation technique me semble donc jouer à plein dans la possible diffusion de ces modes spécifiques de recherche. Charge à chacun dès lors d'interroger sa propre pratique et l'opportunité de la développer et de l'enrichir grâce à l'outil Internet. Nul doute que sur ce point, nos étudiants apprécieront nos efforts, tous acquis – générationnellement et… naturellement – à l'usage de ces médias.

Listening to, Watching, Living and, Ultimately, Learning History

On and off the Web

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Unlike many of the contributors we have heard in this symposium and whose work we can read in this book, I am not going to introduce a research project accompanied by sources or contemporary history material. I shall present instead a series of considerations – some of which I fear may be obvious, others that I hope may prove useful – on how history in general and contemporary history in particular is used – "surfed" – by Web users. I shall also speak about the growing distance between how history is absorbed by the general public and by students in relation to how it is taught.

Let us begin with a confession, because as a historian I have sinned: several times I have used data from *Wikipedia*, including for my own research; I set part of a bibliography or the material for my lessons by "copying and pasting" from a forum about epigraphy or numismatics; I put news about history lectures on *Facebook*; I invited my students to a *Second Life* virtual classroom and I told them to listen to a non-institutional podcast. So as you can see, I am a very impenitent sinner.

I do not know how these confessions will be received by this assembly, but I can assure you that they would be very poorly received by several of my colleagues in Pisa, who insist, with correct and pedantic seriousness, on the need to extract sources from within a respected context, and who expound at length about the superficiality, inaccuracy and unreliability of history on the Web.

But this distance between what is said officially and what is done in reality is why I put my attention to the practice of history on the net, added to the fact that in these last four years I have worked extensively with colleagues and students on the degree curriculum of *Informatica*

Umanistica (Digital Humanities) in interdisciplinary studies and research.[1]

If we consider the senses that allow us to "learn" history, I would start with the sense of hearing. It is impossible to put this on paper, but I warmly invite readers to listen to some passages from one of the numerous podcasts about history that can now be found on the Web: for example, Dan Carlin's *Hardcore History*, a very successful independent podcast produced by an American journalist.[2] The jingle alone, composed more or less as a movie trailer – this engaging style also continues in the rest of the podcast – immediately gives us the impression that history is passion, question, doubt, that it is truly made of "human flesh", as Marc Bloch, the "historian-monster", requires, and not of heavy volumes stacked on dusty shelves. Dan Carlin's approach to history is quite different from an academic one, but the content is in no way banal or poor. On the contrary, the author – who honestly shows himself as a master of communication keen on history – uses the "what if" technique in order to take the listener on an exciting rediscovery of historical phenomena. This is exciting because it is full of doubts, well-constructed and based on the latest historical book or on interviews with scholars. His podcasts are linked to a rich series of documents and services on the Dan Carlin website; this site is graphically meticulous, well thought out, and has been developed to complement the audio communication style.

1 URL: [http://infouma.di.unipi.it/]. The degree course has been running since 2005.

2 URL: [http://www.dancarlin.com/].

Figure 26 – Dan Carlin's website

We can provide a list of the possible reasons for the success of this podcast: it is far removed from traditional academic communication (at least in Europe); its content is both interesting and innovative; great skill is shown in Web communication as well as in mastery of digital audio.

There are currently thousands of podcasts on the net that focus on history. I recently conducted an analysis for an Italian journal and tried to formulate a system of classification:[3]

- independent podcasts (for example Dan Carlin's one);
- podcasts produced by private cultural institutions, for example the United States Holocaust Memorial Museum[4] or the Italian publishing house Laterza, with its *Lezioni di storia*;[5]
- podcasts produced by universities or schools, as anyone can see in the huge portal *iTunes U*.[6]

[3] Salvatori, E., "Hardcore history: ovvero la storia in podcast", in *Memoria e Ricerca*, XVII-30, 2009, p. 171-187.

[4] URL: [http://www.ushmm.org/podcast/itunes/].

[5] URL: [http://www.laterza.it/index.php?option=com_tag&task=tag&tag=lezioni-di-storia]. This project began in October 2007, when Laterza invited nine historians from among its authors to the "Parco della Musica" auditorium in Rome, where they gave lectures about nine crucial days for Italy and its capital city. The lectures were recorded and released in the form of podcasts. Currently the publishing house has seven series of audio lectures which can be downloaded from the site.

I adopted this classification to provide a logical basis for my analysis of historical podcasting, but I have to say that it gradually failed as I proceeded in cataloguing podcasts. I found that more and more cultural institutions use podcasts in order to promote culture, to endorse cultural products and to create a fan-based community around themselves.

Institutional and academic podcasts, however, are often made by people who are inexperienced in communication tools and recording techniques. The final result highlights an obvious contrast between the validity of the content and the poor quality of the podcasts. The direct consequence of this is a certain level of difficulty in listening; and if there are no listeners, there is no communication.

But what I think is more important for the final customer is that the speaker's background is often unimportant, or does not play a decisive role in helping the user to choose to listen to that particular podcast or episode. I clarified this point by taking my own case as an example. For four years now I have turned my lessons into podcasts and put them on *iTunes*;[7] at the same time I have created an independent podcast, *Historycast*, with an average of 12,000 downloads per episode.[8] I have come to realise that my listeners switch from one of these products to the other with incredible ease. Several websites mention individual episodes from *Historycast* or the lectures from my academic courses, creating links between them in a way that I had not thought to do myself.

In short, if we adopt a user's viewpoint, there is little sense in distinguishing between a product from a university and a podcast for the general public created by a teacher or an expert: in both cases the listeners can independently build a lifelong learning course in history, combining elements from popular and academic sources. And, believe me, they do so.

If the situation is as I have suggested, this opens a wide field of employment for students who are familiar with both the methodology of history and the techniques of Web communication: they can collaborate with museums, libraries, publishers and exhibitions. But this is currently impossible: history degree courses in Europe normally reserve few

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6 URL: [http://www.apple.com/education/itunesu_mobilelearning/itunesu.html]. *iTunes U* is a sub-thematic media portal, characterised by contents provided by colleges, museums and universities: lessons, lab demonstrations, sports events and campus tours and highlights. For all those looking for academic history courses, this is undoubtedly the best starting point.

7 The easiest way to access them is to visit the *iTunes Store*, the "Podcast" section, and to enter my name into the internal search engine. This is an active RSS feed of one of my courses, URL: [http://Web.archive.org/Web/20101201010227/http://moodle.humnet.unipi.it/podcast/podstomed_a09/feed.xml].

8 URL: [http://www.historycast.org].

course hours for information technology skills and none for the problematic link between information technology and humanities.[9] So these new possibilities for students will only exist if we provide special courses within traditional history courses, or specific degree curricula.

Let us now consider another sense, that of sight: watching history via the Web. I am not speaking here about cinema, television or fiction, because this is a separate field, even if it clearly does have an influence on the Web. I am thinking instead of the presence on the Web of audio and visual archives not produced by institutes which are working to preserve these materials. To clarify, I am not thinking of the Istituto Luce media archive,[10] nor of the multimedia archives of the European Commission[11] (which are obviously also consulted by non-historians). I am referring instead to the thousands of photographic collections posted daily on *Flickr*,[12] or to the documentaries grouped in thematic channels on *YouTube* or on *Current TV*.[13] These shared archives are not only used extensively by official journalists to bridge an information gap, but are often searched by some of the major television channels (see for example the Italian page of SKY TG24, *Io reporter*);[14] in the latter case, they are used to tell stories and cover contemporary history.

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9 The norm in Italy for humanities is to allocate 0 to 6 degree credits for IT courses out of a total of 180 for a three-year degree course.

10 URL: [http://www.archivioluce.com/archivio/]. Istituto Luce is an Italian public institution devoted to film distribution for education and information purposes. It was created in 1924 and became a powerful propaganda tool of the fascist regime, but it now participates in the production and distribution of films and documentaries, and its video archive is the largest in Italy.

11 URL: [http://ec.europa.eu/avservices/index.cfm?sitelang=en].

12 URL: [http://www.flickr.com/]. *Flickr* is a well-known image and video hosting website. It contains good photo collections on important events such as the recent street riots in Iran, URL: [http://www.flickr.com/photos/26167330@N02/ 3625202437/].

13 URL: [http://www.youtube.com/]. *YouTube* is a video-sharing website which enables users to upload and share videos and also build their own channels. URL: [http://current.com/]. *Current TV* is a media company led by former U.S. Vice-President Al Gore and businessman Joel Hyatt that partially broadcasts user-generated video content.

14 URL: [http://tg24.sky.it/tg24/ioReporter/ioreporter_home.html?ref=tgsp]. This page of the television news allows users to become active players in the news by uploading their own videos. The selected films are published online and broadcast on TV.

Figure 27 – The Io reporter page on the SKY TG24 site

I am emphasising what is obvious, but also what – in my view – deserves to be emphasised: this work of picking, collecting, reorganising in thematic groups or sub-archives material that is often created for other purposes. This operation obscures at a stroke the whole question – so important for our discipline – of the subjectivity and intentionality of the source, and raises other issues that call for a new methodology. In practice, listeners, viewers and surfers of the Web care little for who the author is, his/her intentions, where the original source is kept and why; in short, the context of production and preservation of the source. They care about the content, and when they find it, they collate it with other content, just as medieval priests made a *collatio beneficiorum et prebendarum*, or as mediæval monks collected in one codex several texts and miniatures whose content interested them, whereas the author, the origin and the context of the text/image itself did not.

There are numerous examples, of which I will give only one: the *Black Media Archive* (BMA). This is a blog and podcast where it is possible to find a collection of video and audio material, texts and images collated by a young Afro-American, William K. Gordon.[15] The BMA has only one central thread, the history of black people, and it collects a lot of different sources: from the speeches of Martin Luther King or Malcolm X to the songs of Nat "King" Cole, from a rare docu-

[15] URL: [http://thebma.blogspot.com/].

mentary made in 1926 about Africa to several radio and television advertisements.

Figure 28 – The Black Media Archive

For example, episode **212 (published online in September 2009)** shows an advertising film made in 1942 by General Motors to explain to the public why it was taking so long for factories to re-tool for war production. While the film's main focus is on the problems faced by industry during times of war, for the BMA the importance comes from the stereotypical black porter character at the barber's where this film takes place. In short, the video has been selected because it demonstrates how the black population was socially and intellectually subordinate to the white establishment.

This operation carried out by William K. Gordon is extremely interesting from our point of view, i.e. how history is "used" or "enjoyed" on the Web. It is even more interesting when we consider that the author is very young, not permanently employed and – as he told me – has no academic qualifications. The operation that William K. Gordon is conducting with his reorganisation of audio/video and text material is similar to that of Michael Moore in his recent documentary on capitalism:[16] a clever, intelligent recovery of various sources (such as newspaper and television advertising) originally created for other aims, in order to tell the history of American capitalism. Both in Moore's documentary

16 Moore, M., *Capitalism: A Love Story*, USA, 2009.

and in the BMA, we would probably have to look hard to recover the exact original context of all these materials with their metadata precisely annotated (we do not find them in the closing credits). In both cases, therefore, this way of "making history" does not respect the canons of our discipline, but achieves a successful outcome in the communication of a view of the past. We also have institutional video archives, which are obviously important and are essential to write history accurately, but this normally (quite rightly) requires a lot of metadata in the recording process, to allow retrieval and to give the source a context. For these reasons, these archives are often difficult to consult and are effectively "closed" if the researcher has poor skills in information retrieval or lacks knowledge of the historical context of one particular archive. If the users do not know how the cataloguing has been carried out – the aims, philosophy and vision of the world this activity is linked to – the archive remains inaccessible for them.

Combining all the senses, the last example I wish to examine is the possibility of "living" history, again via the Web. Nowadays, in the real world, we are used to reconstructions and theme parks. Obviously some of these are documented on the Web too, for example Colonial Williamsburg, a famous theme park dedicated to the American War of Independence.[17]

[17] URL: [http://www.history.org/].

Figure 29 – A Colonial Williamsburg podcast

The Colonial Williamsburg website has podcasts with academic and popular lectures and primary sources performed by actors and taken from documents; there are also videos, slideshows and links to external or internal academic essays. On the site it is easy to find a particular theme within the main subject; there is a wide range of material, from the more popular to the more serious. Never in the past, as a teacher, would I have thought of taking a primary source from a theme park, but now I find myself looking with interest at the possibility of using such sources in my classes.

But let us move on to the living history that I have been most involved with over the past two years: a WebGIS[18] on mediæval land-

[18] A GIS is a geographic information system, i.e. any system that captures, stores, analyses, manages and presents data that are linked to location. A WebGIS is a GIS working on the Web URL: [http://en.wikipedia.org/wiki/Geographic_information_system].

scapes and the 3D reconstruction of historical buildings in a Multi-User Virtual Environment (MUVE) such as *Second Life*.[19]

Nowadays it is possible to build a GIS that can return data about the historical landscape; not just surviving sites – castles, churches, ruins – but also missing ones only documented by sources. For two years I have been part of a team working in this field that has already developed a good data model for a WebGIS on mediæval and modern Tuscany. There is still nothing online, but the methodological system is advanced and the hope is to be able to view the presence of pastures, common lands, large and small settlements and toponyms over the centuries. Basically one of our goals is to create a GIS which takes into account spatial change over time.[20]

Given that 3D visualisation interactive systems of extensive geographical areas with a high level of detail are already in operation and are also streamed via the Internet,[21] and considering that it is also possible to create a medium-sized landscape in a MUVE such as *Second Life*, then it is not absurd to think that in the future we will be able to recreate a virtual 3D historical environment with a satisfying level of detail and reliability. I am not talking about science fiction. Today, in many fields, virtual reality is used as a preferred learning system in flight, sports and military strategy simulators: these tools are becoming increasingly widespread and sophisticated. Obviously the level of perfection increases as fewer variables are involved and the aim becomes more precise. This degree of "expertise" is what is taught using the simulator: piloting an aeroplane or driving a lorry, directing a missile to a target, rowing or playing golf.

But the techniques and tools of virtual reality are quickly evolving to create more sophisticated and complex environments, including those relating to humanities, in the fields of art, history, and literature.[22] In recent years, multiplayer video games in two and three dimensions have experienced exponential growth, with products running on proprietary platforms or on the Internet (in this case they are known as MMORPGs,

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19 URL: [http://secondlife.com/?v=1.1].

20 Baldassarri, M., Mogorovich, P., Salvatori, E., "Database, WebGIS, storia ed archeologia: riflessioni metodologiche dietro un progetto sulla Lunigiana medievale", Geografie del Popolamento (Grosseto, 24-26 September 2008), Siena in press, preprint, URL: [ftp://192.167.118.102/testo_baldassarri.pdf] (10.06.2010).

21 Some examples here URL: [http://www.gis-solution.com/pages/Soluzioni/WebMapping3D/GEO_Browser_3D_VRML/].

22 I am not speaking here – it would be off the point – of 3D environments that are not accessible via the Web and need special hardware, usually available in exhibitions or in museums.

Massively Multiplayer Online Role-Playing Game),[23] allowing more players to connect simultaneously acting as avatars.[24] In practice, they are huge open virtual worlds with hundreds of participants interacting in various settings: from fantasy to science fiction, mythology to historical theatres of war. The investments are considerable. Some examples of historical contextualisation games include *Gladiators II*, set in Rome in 260 AD, which had almost three and a half million users in March 2010;[25] *Pirates of the Burning Sea*, developed by Flying Lab Software, which is set in the Caribbean in 1720 and links naval battle tactics with economic problems;[26] *A Tale in the Desert*, by eGenesis, which transports the player to ancient Egypt, but not to fight enemies or face the mysteries of the pyramids: the avatar instead becomes an active element of ancient Egyptian society and faces issues related to economics, law and social interactions;[27] in March 2009, Vin Diesel's Tigon Studios announced that they are working on a MMORPG set in the Punic Wars, *Barca BC*, which should be released in 2013, after four years of work.

We do not know and are unable to assess how scientifically accurate and transparent the historical reconstructions in these games are. Their quality may well be variable, they have no qualms about including elements of fantasy and they gloss over details historians would find fundamental, but this is obviously going to be the case since their purpose is to entertain and to reach a wide audience. But what I want to underline is that there are already conditions for a virtual "journey into the past", where the avatar, facing different tests to achieve a particular result, is compelled to learn the salient features of the digital world in which he/she is immersed.

What happens then when the purposes are for research, when the historical "game" is built to communicate a specific set of memories?

Here are some pictures from 3D historical reconstruction projects in MUVEs. The first example is of a lost contemporary age landscape in *Second Life*, the West Oakland Jazz and Blues Clubs of the 1940s and

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23 URL: [http://it.wikipedia.org/wiki/MMORPG].

24 The first multiplayer online game came out in the late 1980s (Air Warrior II was created in 1987 by Kesmai). The most popular is currently World of Warcraft (Blizzard Entertainment 2004), with about twelve million active subscriptions URL: [http://eu.blizzard.com/en-gb/company/press/pressreleases.html?081223]. Egenfeldt-Nielsen, S., Heide Smith, J., Pajares, S., *Understanding video games: the essential introduction*, Taylor & Francis, 2008; Waggoner, Z., *My avatar, my self: identity in video role-playing games*, McFarland, 2009.

25 URL: [http://www.arenasofglory.com/?locale=it&aid=0].

26 URL: [http://www.burningsea.com/page/home].

27 URL: [http://atitd.com/].

1950s. It has been created by scholars and students from the University of California at Berkeley; it therefore involved research and education.[28] The project was influenced by the concepts and processes used in theatre and computer games. Avatars took the place of actors and the stage became the context of the "story" or "play". The genre of video games was explored to provide possible models for the construction of the "play". The simulation game, the multiplayer game and the adventure game were examined and influenced the writing of interactive narratives based on accounts by the witnesses of the historical events.

Figure 30 – Digital recreation of West Oakland Jazz and Blues Clubs of the 1940s and 1950s

The second example is the *Theatron project*, dedicated to theatre history in Europe and produced by a European consortium including leading academic institutions and architecture and information technology specialists.[29] It represents the first serious attempt to bring the study of virtual reality computer models within the scope of humanities. The project has reconstructed historical European theatre environments using 3D software and multi-user platforms and the shared experience has led to the development of an important set of methodological principles. These and other projects demonstrate that the choice of software or platform introduces different problems and challenges for historians, architects and computer science experts in terms of ensuring intellectual and technical credibility, transparency of information, a guarantee of accessibility, attention to the preservation of the digital output, and so on. These problems are currently being discussed by the international community involved in the reconstruction of historical buildings and environments, which aims to establish internationally recognised stand-

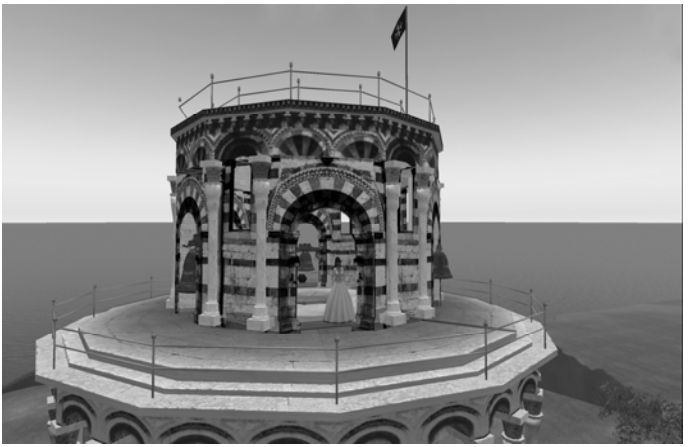
[28] URL: [http://7thstreet.org/]. Grabowicz, P., Kalay, Y.E., "Oakland Blues. Virtual Preservation of Seventh Street's 1950s' Jazz Scene", 3DVisA Bulletin, No. 1, September 2006.

[29] URL: [http://www.theatron.org/].

ards with respect to the specific qualities of three-dimensional visualisation in historical research and education. The first important outcome of this discussion is a document called the London Charter, which is now in its version 2.1 (February 2009).[30]

In the last two years, I have worked with other scholars from the *Informatica Umanistica* (Digital Humanities) degree course at the University of Pisa along with a number of students to construct various historical buildings in a *Second Life* environment known as Digital Humanities Island.[31] We built a Leaning Tower of Pisa, Galileo's laboratory, and a meeting centre in collaboration with the CCH Visualisation Laboratory at King's College London.

Figure 31 – The Leaning Tower on Digital Humanities Island



Modelling these complex historical monuments raised various issues concerning the external communication of what we were doing: how to inform the visitor of the methodological validity of what is being made, by what means, and in what circumstances. The solutions found includ-

30 Beacham, R., Denard H., Niccolucci F., "An Introduction to the London Charter", URL: [http://www.londoncharter.org/]; Iohannides, M. *et al*. (eds.), *The e-volution of Information Communication Technology in Cultural Heritage: where hi-tech touches the past: risks and challenges for the 21st century*, Budapest, Archaeolingua, 2006; Hermon, S., Sigimoto, S., Mara H., "The London Charter and its Applicability", *VAST: International Symposium on Virtual Reality, Archaeology and Intelligent Cultural Heritage*, November 2007.

31 Bani, M., Genovesi, F., Ciregia, E., Piscioneri, F., Rapisarda, B., Salvatori, E., Simi, M., "Learning by creating historical buildings", in Molka-Danielsen, J., Deutschmann, M. (eds.), *Learning and Teaching in the Virtual World of Second Life*, Tapir Academic Press, Trondheim, 2009, p. 145-166.

ed the creation of explanatory panels, audio guides and interactive objects (parts of the buildings open audio guides, e-books and explanatory panels); a great effort has been invested in the creation of an interactive guide that the avatar can put on his/her shoulder and talk to; and another task, successfully solved, concerned the functioning of some of Galileo's experiments.

However, other problems remain unsolved: is it possible to include a database in the virtual environment in order to inform users that one particular piece of the tower has a shape, a colour, a weight, a function, an epigraph, a relief, and so on, and if so, how can this be done? Technically it is possible to create a database of a set of "out-world" information on the Web, but this mix of environments is not always easy to achieve or satisfying to use. Will it be possible to do this in a user-friendly way, to create standard "in-world" communication symbols that invite users to acquire information and to transform this information into knowledge?

Some may ask – and it is partly true – "What is the point? *Second Life* is a fiasco, it has fallen out of fashion and its islands are becoming increasingly empty". This is not entirely true, but it does contain some elements of truth: *Second Life* is a failure at least for all the firms who wasted a lot of money in building *Second Life* shops or offices which are constantly empty. But this failure does not apply to the organisations using this platform as a social network for educational purposes, to help management or to set up international meetings. The failure does not apply to the ongoing project concerning other MUVEs: the *Second Life* experience opened the way to many projects using open source platforms and modelling. The *Wonderland* project makes it possible to conduct virtual meetings where participants can share applications and use voice technology to communicate with one another or, if necessary, also connect to a *Wonderland* meeting via telephone for private conversations between participants;[32] *Unity 3D* is a multiplatform game development tool, designed from the start to ease creation;[33] *Realxtend* is an open source platform for interconnected virtual worlds;[34] *Vastpark* is a private software platform for real time enterprise visualisation and collaboration.[35]

[32] A review of *Wonderland*, July 2008, URL: [https://lg3d-wonderland.dev.java.net/] (10.06.2010); URL: [http://www.leadingvirtually.com/?p=62]; Examples: URL: [http://research.sun.com/projects/mc/mpk20.html].

[33] URL: [http://www.unity3d.com].

[34] URL: [http://www.realxtend.org].

[35] URL: [http://www.vastpark.com/].

Each of these platforms/software applications presents interesting possibilities in the field of human sciences and each one smoothes some rough edges of *Second Life* or tests new tools for inland transportation, communication or model quality. In the future, it is likely that the quality of 3D representation of cultural heritage in a multi-user virtual environment will improve significantly as it becomes easier to include relevant scientific data in the world. But if this prediction proves accurate, museums and cultural institutions will try to have a certain "presence" in these virtual worlds, or they will at least be required to include 3D models in their exhibitions. I wonder then who will make these products: I am not thinking of the "technicians" (it is already "easy" to build in *Second Life*), as much as who will be able to build digital cultural objects in full awareness of academic issues and communication skills. These people cannot come from degree courses in architecture, archaeology or history; the curricula of these courses reserve little teaching time for computer science and offer no training in Digital Humanities. The great risk is that humanities experts and particularly historians will rely more and more on "technicians" for their digital applications, without being fully aware of what they are really doing. I believe that it is wrong for us to take an instrumental approach towards new technologies, which must now be accepted in various interdisciplinary ways in humanities, because of the broader implications and effects they have on the development of humanities themselves.

In conclusion, the Web provides all those interested with the possibility of listening to, seeing, living and, of course, reading history. If, then, as scholars, we are wondering how to convey history on the Internet, we need to think carefully about using a number of media simultaneously. If we only envisage a traditional presence, i.e. academic contributions in essay form, this means attracting only specialised readers and failing to prepare our students to be active players in the market of cultural heritage, which is becoming more and more digital.

From the quick review I have presented, it is clear – I hope – that on the net it is now easy to find "packages" of items with historical content, in which there is popular and academic material, good and bad data, entertainment and self-learning products. We cannot really prevent – even if we wanted to do so – the creation of these "packages", because they are spontaneously built by users: the lines are becoming blurred. Many historians wish to stem this constant creation and modification of content, emphasising the importance of the context of sources, documents, academic papers and virtual models. This is obviously correct in theory, but it is becoming more difficult in practice.

In this process the influence of the author tends to be inversely proportional to the content, not because the author (scholar) is unable to

produce relevant content, but often because this content does not exist in a form that is suitable for the net. On the other hand, when good quality content is supported by good digital communication, the success of the product is guaranteed, i.e. the transmission of history takes place.

The problem – in my opinion – is the shortage of "qualified" historians (qualified in Digital Humanities): our troops are few and they are losing the battle. This happens because there are few courses or Master's degrees in Digital Humanities, and computer science elements within History degree courses are poor or badly thought out. This implies a clear lack of qualification of both teachers and students, which is currently aggravated by the economic crisis: the shortage of public funds invested in university and research has led, in large parts of Europe, to a sort of cultural reaction, i.e. the cutting of new interdisciplinary courses and the return to traditional subjects taught in traditional ways.

If this direction is maintained, the gap between listening to, watching and living history on the Web and learning history in the world will widen, with tragic consequences for the important role that we believe history should have in the society of the future.

Conclusion

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The symposium on 'Contemporary history in the digital age' set itself the goal of identifying those factors, new ones if possible, that would give contemporary historians a better understanding of such digital tools and methods as would be useful to them now and in the future, and help them find their place in a digital environment which is increasingly becoming a feature of their work but which often leaves them highly mistrustful, not to say downright hostile.[1] Digital processes have already taken over a great swathe of our lives as researchers: for example, the whole scholarly publishing chain – apart from its end-product, an actual book or journal – is now systematically computerised. Magazines and journals are nowadays often available in digital form, and sometimes only in that form.[2]

This goal was succinctly expressed in a question included in the call for contributions: 'Will the Web provide us with a better understanding of history?' A simple, perhaps naive question, but one which, for the whole two days of the symposium, helped us draw out a number of major themes which, we hope, will attract the attention of those of our colleagues, historians or otherwise, who give thought to where their profession is heading in the digital era.

The first issue to emerge from the symposium was the question of the anxieties about digital developments that historians share, whether they are in favour of the technologies or more sceptical. The growing use of digital resources, the way the Web impinges on our day-to-day lives as researchers, the questions we ask ourselves about what digital documents actually are, about how long our publishing system can last, about various legal issues – all these prompt a great deal of discussion, not all of which leads to firm conclusions.

1 Minuti, R., *Internet et le métier d'historien*, Paris, 2002.

2 Rygiel, P., Noiret, S., *Les historiens, leurs revues et Internet: France, Espagne, Italie*, Paris, Publibook, 2005.

The first point of interest is the authenticity of digital 'documents'. This came up in Eva Deak's article on Parallel Archive[3] and was raised by a great many other participants, and although there was no debate about it, it prompted genuine anxiety. To take Parallel Archive as a case in point, we run into many methodological obstacles on the site: we have to trust the users who upload documents or primary sources to the Parallel Archive servers, which is by no means a given, and may even run counter to the working methods of historians. Historians have to be critical of their sources, whatever they are (private, public, etc.) or whatever form they take (writing, images, etc.). We should be mindful of one thing, though: Parallel Archive urges its contributors to share the 'millions of privately digitized archival documents [which] are stored on private computers and could be shared with other interested researchers for the benefit of the larger scholarly community'.[4] This is a strong argument for this type of 'repository',[5] which enables researchers to pool the enormous amount of work they do every day digitising their archives, and may eventually lead to documents which are not otherwise accessible seeing the light of day. This is PA's response to the concerns expressed by Marin Dacos over the TRA survey. There are other solutions, such as the partnership between the Center for History and New Media at George Mason University and the Internet Archive company for Zotero Commons.[6] Also, unlike some more commercial services such as those supplied by Google, PA guarantees that a researcher will retain control of his or her documents and choices. So sites like Parallel Archive are bound to be criticised, but will be closely observed too. It is up to them to prove that they are tools historians cannot do without.

Difficulties with the authenticity of information, data, documents and other items found on the Web are not the only issues. There is also the impact the Web has on 'traditional' sources, which Annick Batard pointed to in her chapter on the online press: in the case of the press, we will probably have to take account of mixed paper and digital sources.

Another point the symposium looked at was the 'invasion' of the legal sphere. Intellectual property is taking a battering on the Internet, and not only from researchers, a fact reflected by the many debates on the subject at national level in Europe and other parts of the world. Researchers, especially in contemporary history, are on the horns of a dilemma here: intellectual property can be a hindrance to their research

3 URL: [http://www.parallelarchive.org/].

4 URL: [http://www.parallelarchive.org/content/about] (21.09.2010).

5 A repository is a way of storing digital data in a centralised, organised fashion.

6 URL: [http://www.zotero.org/support/commons] (15.02.2011).

work, as it limits access to digitised documents, but it works to their advantage, as it can to any author.

This question of intellectual property is linked in part to other sets of legal problems. As the chapter by Andreas Bagias shows, the political will to put the contents of a documentation centre, the European Parliament's Archive and Documentation Centre, online in digital form is being frustrated in part by perfectly legitimate statutory provisions relating, in particular, to personal data and, therefore, the right to privacy.

We also feel duty bound to put forward a point which is not given so much attention, although, in a sense, it covers some of the objections Jean-Noël Jeanneney has to Google:[7] the Web raises a problem in terms of linguistic equality and, going on from that, cultural equality in the digital sphere. So, for example, as Gerben Zaagsma points out, software for text recognition (OCR) does not work very well with so-called 'rare' languages such as Hebrew. This makes reproducing them digitally more difficult. Hence the question: isn't there a risk that the digital age will end up marginalising even more completely what is already marginal? And yet, the decentralised way the Internet is structured,[8] if we manage to keep it that way, should also mean that we explore and study what is on the margins more easily than we could before. But the whole digital chain is not following suit, and OCR is a good example of this focus on mainstream developments. It all comes down to a simple fact: in the digital age we are increasingly dependent on technology. So it is high time researchers in the humanities and the social sciences gave their attention, as a body, to computer science and got involved in developing the tools they need, with the help of the technicians, of course. Historians will have to rely on ancillary disciplines which either are brought up to date (such as archiving) or are yet to be defined (Web archaeology). New types of jobs are emerging.

There are other developments which show that the digital environment is set to change the way history is done. There is nothing new about the requirement for interdisciplinarity, but it is being given a fresh impetus and greater value by the advent of digital technologies. David Bodenhamer shows this in the link, so dear to the hearts of the French, between geography and history. Any digital history project has to give thought to the status of researchers – are they working alone or in a network? – and, especially, to their needs. This interlocking of several professions, this need to identify the requirements of researchers, comes

7 Jeanneney, J.N., *Quand Google défie l'Europe*, Paris, Mille et une Nuits, 2005.

8 Castells, M., *La galaxie Internet*, Paris, Fayard, 2001; Lessig, L., *Code 2.0*, New York, Basic Books, 2006.

out very clearly in the chapters by Shadia Kilouchi and Alain P. Michel and by Aurore François. Focusing on the needs of researchers also means thinking about the relationship between a project and a 'community' of researchers. A project does not make a community, as Philippe Rygiel demonstrates very convincingly.

What is more, as Dan Cohen clearly shows in a talk he gave recently,[9] researchers, and especially contemporary historians, have not yet grasped the full extent of the opportunities opening up to them – opportunities described, in relation to Web 2.0, by Gino Roncaglia, Serge Noiret and Olivier Le Deuff. Yet these tools can enhance our research both practically and methodologically.

The use of these new tools can only become widespread practice, however, if the concerns outlined above are overcome and if their emergence does not blow digital history apart, scattering it into a jumble of small bits and pieces that cannot communicate with each other – a phenomenon that Marin Dacos describes and fears. Aurore François emphasises the substantial, though not insurmountable, technical difficulties confronting a project which has to take account of the legacy of previous pieces of work which were not developed to be put in contact with each other.

Work on preventing this kind of break-up so as to encourage the adoption of new technologies, in a cyberinfrastructure described by Marin Dacos, must lead to a greater awareness, something which several authors have called for.

The way to acquire this awareness of the challenges facing history in the digital age is through training in information management and digital technology, which is what Marin Dacos, Olivier Le Deuff, Philippe Rygiel and Élodie Nowinski would like to see happening. Learning how to use these new tools has an impact not only on research but also on teaching, as Genaro Oliveira shows. It may also affect an important relationship, that between history and memory, which we will not be addressing as specialists but in an extremely broad-brush way, including the relationship between professional and amateur historians.

The contribution about Yad Vashem from Israel Hershkowitz and Tsuriel Rashi describes a Web which, even if it can accommodate the worst that can be said about the Holocaust, can also be a wonderful tool for studying it and remembering it. Yad Vashem speaks both to researchers and to any ordinary visitor, and is a model of the Web's capacity for reaching a wide, concerned audience. To do so, the Web can draw on the tools supplied by 'Web 2.0' (Serge Noiret) and do

[9] Cohen, D., *The Ivory Tower and the Open Web*, Coalition for Networked Information, URL: [http://www.youtube.com/watch?v=yeNjiuw-6gQ].

history as an 'experience' to be lived, so as to immerse oneself in it. Serge Noiret, alongside David Bodenhamer, Patrick Peccatte, Gino Roncaglia, Enrica Salvatori and, as regards museums, Marie-Pierre Besnard, points out what a unique opportunity historians are being given to talk to 'the masses', to 'popularise' in the noblest sense of the word.

Nevertheless, a threat looms in these very chapters, that of a kind of history that writes itself without intermediaries – meaning, in particular, without historians. This is not an innovation by the Web: there has always been a gulf between the general public and historians on certain subjects. To take an example that I noticed when I was working on my thesis, between the film *The Downfall* and the written history of the Third Reich there is a backlog of some 30 years of written history which the film ignores, so that it presents a simplistic reading of the Nazi regime. The challenge with the Web, then, is that it may banish historians, and everything they can contribute, from the historical debate, but it also represents a unique opportunity for involving historians in debates about history which bring amateurs into the frame, as Serge Noiret reminds us, as well as Patrick Peccatte, who gives us an admirable example of amateur history in his PhotosNormandie. We would venture to wager that there can be no history without historians and that our profession will end up committing to the Web. Richard Hacken reminds us how some specialised websites have been quick to put primary sources online for historians, and that growing use is being made of these; at least, as Tito Menzani stresses, when researchers know about them.

These online primary sources now incorporate the day-to-day work of researchers, whether they are historians or not. This day-to-day work should also involve adding all the computerised data that researchers can produce or obtain, from their Facebook profiles to data from archive collections. Like any Web surfer or computer user, historians must be scrupulous about their data and their data management.

Data from researchers, linked to the methods used for exploiting them, seem to us now to be central to the discipline known as the digital humanities. At our symposium and at THATCamp Paris,[10] the question of data from researchers or available to researchers was the focus of the discussions and the papers presented.

The primary characteristic of data from researchers is how wide the range is, as Marin Dacos, in general terms, and Gerben Zaagsma, in the specific field of Jewish studies, remind us. Aurore François, writing about the just-hist.be project, shows that the variety of the data on offer can be a technical obstacle to their being made available in a harmonised manner. Here we come back to the syndrome of a jumble of competing

10 URL: [http://tcp.hypotheses.org/].

formats, databases, uses and technical resources. This makes interoperability – which Milagro Garcia Perez and Cristina Blanco Sio Lopez, for example, talk about – a constant concern. We must make sure that our data are sustainable and communicate with each other. But, as Philippe Rygiel stresses, we must also make them visible, in other words share them whenever we think that would be appropriate.

Data interoperability is not the only issue. There is also the question of data preservation and obsolescence. These two areas raise methodological problems which are, of course, serious, though how to solve them is not in doubt. Technical solutions for making data sustainable are emerging – what are known as repositories, which manage computer data on a long-term basis.

The importance of digital data from researchers is a challenge to certain traditions historians hold dear, especially since digital documents are so fluid: form and substance can alter, without readers necessarily noticing. Web archaeology, as Olivier Le Deuff suggests, should be a way of analysing 'digital traces' to grasp how these changes have developed.

This fluidity of the digital environment highlights the need for constant adaptation to technical and technological developments, and to the changing needs of researchers. It should also remind us of the importance, already mentioned, of managing project obsolescence, highlighted by Aurore François. The need to adjust to technical developments is a reminder of how well-founded the proposals from Marin Dacos are: digital projects must be modular if they are to adapt.

*

Readers might find the conclusions this book comes to extremely negative. So let me finish with a reminder of the major contributions digital technology has made to historical study and research.

As Élodie Nowinski wisely shows and the title of her chapter illustrates, the Web is a tool which teaching researchers can use for their courses but also – and this is reflected throughout the book – for their research. The advent of digital technology makes it easy (and quite inexpensive) to reproduce data, and makes available a wide range of primary sources for contemporary history and many new resources, above and beyond a simple word-processing facility.

Working collaboratively is easier, at least as far as the tools are concerned, now that research policies all over Europe and other parts of the world are moving in the direction of calls for proposals which require the setting up of broad, interdisciplinary, multinational consortia. As regards tools, Alain P. Michel and Shadia Kilouchi point out that new methods, used sensibly, can produce answers to questions which have so

far always been wide open. They also stress that the digital environment is a multimedia environment and that it can be used, without robbing written text of its leading role, as a way of enhancing the value of source material in picture form. The same applies, in fact, to oral history. Where sources are concerned, the Web, in particular, may be a way of opening up new areas of study and new resources, using crowd-sourcing – or online archive compilation – as the Center for History and New Media and the September 11 Digital Archive analysed by Serge Noiret have done. What is more, with the concepts of open source and open access, it is easier to set up groups for the purpose of finding common solutions which benefit everyone.

Most of all, the digital era seriously strengthens the foundations of history as a discipline. We set out a problem, try to give our research a framework with clear methods, search for primary sources, use them by interpreting them in our publications, and then, finally, hold discussions at the scholarly events that we organise. To do this, we have to arm ourselves with solid critical judgment. This will have to be developed still further, to make sure that the disciplines associated with history can survive the new challenges thrown at them by digital technologies.

The chapters by Gerben Zaagsma and Tito Menzani, for instance, remind us that we need to give thought to the way sources are selected, digitised and put online. Critical distance does not mean being hyper-critical: the point is not to reject sources but to circumscribe the field in which historians can use them. We do this for any source, whether digital or not. This practice of asking methodological questions in which we all engage is thus bolstered by digital technology.

*

To conclude, the new sources now open to the researcher and the digitisation of data, and their growing importance, remind us of a final point which the humanities and social sciences need to take into account: the digitisation of knowledge is central to the expansion of today's Web, as the *Google Books* and, more recently, *Google's "Art Project"* initiatives show. Google is not the only player in the field, but the response to this challenge varies widely depending on the country, as Stefan Halikowski-Smith has shown. The humanities and social sciences need to take this into account if we are to prevent knowledge being corralled by a few private companies – not that these should be demonised, but it would not be desirable for them to hold a monopoly.

Historians, sociologists, anthropologists, ethnologists... digital technology is a once-in-a-lifetime opportunity. Let us seize it.

Glossary[1]

AOMS

Digital archive of objects and of scientific iconographic materials. A Web platform, made in December 2009 by the National Centre for the Digitisation of Visual Sources (CN2SV) in association with the technological platform of the Research Centre in History of Sciences and Techniques (CAK-CRHST), is intended for publishing research instruments securing access to digitalised or digital iconographic corpora.

The research instruments are in XML format and use the international EAD standard (for *Encoded Archival Description*). This platform, which is part of the CN2SV information system, is available to the CNRS research centres, to collective research projects (EU, ANR), documentation centres and research libraries.

It is in line with the ADONIS Scholar Infrastructure, where the CN2SV is an operator, and the implementation of a preservation, storage and availability infrastructure for iconographic digital documents in scientific research.

API

An *Application Programming Interface* (API) is an interface implemented by a software program to enable its interaction with other software. APIs are implemented by applications, libraries and operating systems to determine the vocabulary and calling conventions [excerpt from Wikipedia].

Archeogrid

The 3D Technological Platform (PFT3D) of the Ausonius Institute is a structure recognised at national level by the CNRS. It is specialised in the use of 3D technologies in heritage research and more particularly in archaeology.

The PFT3D with the assistance of the Aquitaine Regional Council has hence taken the initiative of creating a National Conservatory for heritage 3D data (Archeogrid).

[1] The editors would like to thank Shadia Kilouchi, who wrote this glossary.

This includes building a Data Warehouse not only securing backup of original heritage 3D files but also sustainable data by converting them to a specific storage 3D format.

EAD

Encoded Archival Description is an XML language-based encoding standard for archival research instruments. It is a DTD (document type definition). EAD is the property of the Society of American Archivists, maintained by the Library of Congress which pledged in January 1996 to provide the computer maintenance thereof and to diffusing information over the DTD.

Encoding

Data conversion into digital format and compression thereof for obtaining a manageable and exploitable file.

EXIF

Exchangeable Image File (Exif) is a format created in October 1995 by the Japan Electronic Industry Development Association (JEIDA). Version 2.1 of the specifications was launched on 12 June 1998 and version 2.2 was published in April 2002. The EXIF format although not established by an international standardisation organisation, remains an inescapable format since the majority of the manufacturers of digital photographic cameras use them. This format defines a metadata pattern enabling storage of technical information regarding shooting parameters and adjustments of digital photo cameras during digital capture. These data are provided automatically by the digital photo camera and are contained in the image file properly speaking.

Gantt (Diagram)

A tool developed in 1917 by American engineer Henry L. Gantt, enabling to modelling graphically the planning of the tasks necessary to fulfil a project.

Hypertext

A browsing system in a document or between several documents, based upon the principle of association, on the chaining of one notion to another and which operates by defining a node and link network between these information nodes. The hypertext links enable to link Web pages, from textual elements or others (images) supporting these links.

HTTP

HyperText Transfer Protocol, a transfer protocol intended for the transfer of files (essentially in HTML format) located by dint of a character string called URL between a browser (the client) and a Web server.

Interoperability

Collection of software and hardware means to allow several heterogeneous systems to work together.

IPTC

The *International Press Telecommunications Council* (IPTC), is an international organisation created by press agencies in 1965, whose mission includes establishing a uniform storage standard of metadata relating to press images for easier exchange thereof. The works of the International Press Telecommunications Council have led to the implementation of different standardised metadata patterns like IPTC/IIM and IPTC Core (see below).

IPTC Core

The *Extensible Metadata Platform* (XMP) has largely superseded IIM's image file header structure, but the IIM properties are redefined in the *IPTC Core* schema and extended in by the *IPTC Extension* schema, both for XMP [from Wikipedia].

IPTC/IIM

The IPTC defined a set of metadata properties that can be applied to images, part of a broader standard developed in the early 1990s and known as the *IPTC Information Interchange Model* (IIM). Embedded IIM image information is often referred to as an "IPTC header" [from Wikipedia]. IPTC/IIM is now considered as a legacy standard.

ISAD(G)

General International Standard Archival Description, elaborated in 1994 by the International Council for Archives (ICA). It provides the guidelines (26 descriptive elements) for describing any archival unit.

Metadata

Data providing information on the nature of other data. Metadata inform the user on the origin and the nature of the stored data, their structuration, and the way they ought to be construed. Metadata may be used

for identifying the properties of a document (author, expiry date, list of keywords, description, etc.).

Modelling

An operation through which a phenomenon is modelled so as to offer interpretable, reproducible and simulated representation thereof. A technique consisting in returning any object or phenomenon in computer-understandable format.

MySQL

Open source management system of SQL (Structured Query Language) relational databases.

Standard

The ISO (*International Organization for Standardization*) and the CEI give the following definition: "A document established by consensus and approved by a recognised body, which provides rules, guidelines or characteristics, for common and repeated usages, for activities or their results thereby securing optimal level of order in a given context".

OAI-PMH

Open Archives Initiative Protocol for Metadata Harvesting, a protocol enabling to collect resource metadata and to exchange them thanks to the XML standard and to the HTTP protocol.

RDF

The *Resource Description Framework* (RDF) is a family of World Wide Web Consortium (W3C) specifications originally designed as a metadata data model. It has come to be used as a general method for conceptual description or modeling of information that is implemented in Web resources, using a variety of syntax formats, including XML. [excerpt from Wikipedia].

RSS

RSS (most commonly expanded as *Really Simple Syndication*) is a family of Web feed formats used to publish frequently updated works – such as blog entries, news headlines, audio, and video – in a standardized format. An RSS document (which is called a "feed", "Web feed", or "channel") includes full or summarized text, plus metadata such as publishing dates and authorship. Web feeds benefit publishers by letting them syndicate content automatically. [excerpt from Wikipedia]

URI

Uniform Resource Identifier, a character string enabling identification of a resource on a network via standardised syntax.

XML

Extensible Markup Language, a mark-up language presenting information surrounded by markers (characters used for structuring a document). But contrary to the HTML, which contains a limited set of markers, XML is a metalanguage which will enable to invent new markers at will for singling out all elementary pieces of information a Web page may contain.

XMP

The Adobe *Extensible Metadata Platform* (XMP) is a standard, created by Adobe Systems Inc., for processing and storing standardized and proprietary information relating to the contents of a file. XMP standardizes the definition, creation, and processing of extensible metadata. Serialized XMP can be embedded into a significant number of popular file formats, without breaking their readability by non-XMP-aware applications. XMP is used in PDF, photography and photo editing applications. [Excerpt from Wikipedia]

Abstracts/Résumés

Une cyberinfrastructure pour la science historique (Marin Dacos)

Alors que la troisième révolution industrielle, la révolution numérique, touche l'ensemble de l'activité scientifique des chercheurs – ses sources primaires, le séminaire permanent en ligne, la maîtrise de son identité numérique, les problèmes d'annotations, les questions d'interopérabilités entre les corpus… – cette évolution jette la communauté scientifique dans un abîme de perplexité. Face à un environnement numérique foisonnant, instable, imprédictible et soumis aux forces du marché, comment l'historien *lambda* peut-il être un acteur de son devenir numérique, et non subir les vagues d'innovations et les contre-vagues d'obsolescence accélérée, de modes éphémères et de faillites industrielles ? Ce chapitre apporte une réponse, en décrivant ce que devrait être une cyberinfrastructure pour la science historique. Chantier qui sera long et complexe, la mise en route d'une telle cyberinfrastructure devra rester humaine et ne pas se concentrer uniquement sur les objets (corpus) et produits (publications) de la recherche en intégrant également la conversation scientifique.

Web 2.0 Principles and tools (Gino Roncaglia)

This chapter discusses the use of social networks and "Web 2.0" applications as tools for academic research. It is divided into two main sections: 1) What is Web 2.0? and 2) Which activities and tools might be considered as the most relevant in this context from the point of view of academic research? In this second and last section, the chapter is devoted, as the title of the chapter suggests, to social networks and social networking applications, and to the idea of research-oriented social networks.

Organisation et exploitation des archives du Parlement européen dans un environnement électronique (Andreas Bagias)

This chapter aims to explore how new technologies are influencing document accessibility in the context of the European institutions, and more specifically, the Archives of the European Parliament. The limita-

tions of document management systems are discussed, and the opportunities offered by new technologies to surpass these are examined. Effective access to documents requires that they are both legally available and intellectually accessible. The responsibility of a service such as CARDOC cannot be limited to simply identifying and providing access to requested documents. It should also encompass the process of providing the requester with the necessary information that will allow him/her to understand the decision making process and also the EU institutions or other bodies that participated in the development of these documents. The basic principle in the handling of the Parliamentary archives is their connection with the procedural context in which they were produced.

La presse écrite généraliste française sous l'emprise du Web : une ressource de l'histoire culturelle contemporaine ? (Annick Batard)

L'article, après avoir rappelé quelques éléments de méthodologie historique ainsi que la relation pas toujours simple qui existe entre l'histoire et les médias, pose la question de ce que l'arrivée d'Internet provoque comme mutation dans la presse française, pour terminer en envisageant les répercussions qui risquent de s'ensuivre en matière de recherche en histoire contemporaine. Le cœur des propos focalise sur la question des nouveaux acteurs et des nouvelles pratiques qui se mettent en œuvre en matière de presse, notamment par la remise en cause des sources traditionnelles d'information et par les questions relatives à la forme et au temps dans l'écriture multimédia.

Study, Store and Share Unpublished Primary Sources: the Example of the Parallel Archive (Eva Deak)

Historical investigation, including the study of contemporary history, is based on the use of primary source materials. Archives are the most important repositories of unpublished primary sources. I discuss the traditional way of working with archival sources as well as the new possibilities offered by the digital environment. An online tool, the Parallel Archive, currently in prototype development, is introduced. Parallel Archive helps scholars to upload, store, study, and share their digitized archival sources. It is designed to aid individual scholarly research and publication, cross-border and cross-disciplinary collaboration, and a critical approach to documents.

Just-His.be (Aurore François)

Financé par le programme IAP-VI (Interuniversity Attraction Poles – Phase VI), le projet « Justice and Society. Sociopolitical History of Justice Administration in Belgium (1795-2005) » s'est donné pour objectif de mener une étude approfondie sur l'administration judiciaire belge selon quatre axes : évolution des politiques en matière de justice, pratiques collectives, profils des acteurs et analyse de périodes spécifiques. Ce vaste chantier de la recherche historique belge repose sur un partenariat réunissant sept établissements scientifiques belges et étrangers.

Outre la gestion au quotidien d'un projet réunissant des chercheurs attachés à des institutions différentes, l'ambition centrale du portail Web *Just-his.be*, qui compte parmi les délivrables du projet, réside dans la diffusion des savoirs autour de l'histoire de l'administration de la justice en Belgique, via une documentation de formes et de contenus variés. Le principal défi technique du portail est de fournir un accès unique et centralisé à ces données, qui non seulement présentent des formes très variées d'un point de vue strictement typologique, mais qui plus est sont déployées via des technologies différentes. Certaines données soumises à des contraintes de confidentialité (droits d'auteurs, protection de la vie privée et protection – temporaire – des matériaux mis en œuvre par les chercheurs du projet) ont par ailleurs nécessité la mise en place de procédures d'authentification.

Ce chapitre aborde, étape par étape, les principaux choix opérés lors de la réalisation de ce portail, tant d'un point de vue conceptuel et technique (utilisation des technologies CMS (*Content Management System*), déploiement d'un *research repository* et design d'une base de données relationnelle prosopographique) que d'un point de vue stratégique et économique (développement en interne de certains modules, sous-traitance pour d'autres, recours aux logiciels libres).

European National Libraries and Digitisation in History (Stefan Halikowski-Smith)

This essay traces the prospects for the role of European national libraries in an age of 'big digitisation'. It surveys the various initiatives undertaken both by national libraries and the private sector over the last ten years, including the launch of Google Book Search in 2004 and yahoo!'s partnership with the Internet Archive a year later, and quantifies their respective achievements from a benchmark date of September 2008. Further sections analyse different strategies towards digitisation on the part of European National Libraries, the battle over different digital online reader platforms and file formats and the 2009 Google

Book Settlement and what it means for National Libraries. The article concludes by urging libraries to play an important role in promoting digitisation and enforcing the standards that must accompany them. At the same time, legislative bodies such as the European Union and the United States Congress need to take action to align the digital landscape with the public good and ensure that corporate interests, flawed copyright laws, unfair restrictions on fair use and many other obstacles do not block the public's access to this public good.

Heterographies in Historiography: The Web and Perspectives on Historical Writing (Genaro Vilanova Miranda de Oliveira)

This paper focuses on emerging interfaces between historiography and multimedia. Particularly, I will discuss some theoretical and practical challenges posed to historians who wish to use computer graphics and Web development tools as a way to re-think an essential concept in historiography: writing. In order to better illustrate my arguments, I will show some of my on-going attempts to write academic history through a conjoint use of textual, visual and aural elements, an approach which I have been calling historiomediography.

Une plate-forme collaborative pour la redocumentarisation d'un fonds photographique historique (Patrick Peccatte)

Ce chapitre présente la mise en œuvre d'une plate-forme sociale permettant à un groupe d'experts de décrire un fonds de photographies de la bataille de Normandie (Seconde Guerre mondiale) selon les standards de métadonnées des images numériques fixes : origine et conditions d'utilisation des photos, description de la plate-forme sociale (Flickr), techniques de métadonnées utilisées, description du processus éditorial et documentaire, légitimité et validation du projet, comparaison avec d'autres projets similaires et analyse de l'activité de redocumentarisation.

Digital History 2.0 (Serge Noiret)

This chapter seeks to understand the changes that have come with the advent of new practices derived from the use of second-generation Web technologies (Web 2.0) in digital humanities and, more precisely, in digital history. Examining whether digital history exists as a discipline can help clarify issues and challenges that are calling into question the traditional practices of historians. With history and memory playing an increasingly important role in today's society and as the 'digital turn' is

out of the hands of specialists, historians must engage in digital (public) interpretations of history to conserve their ability to reconstruct the past.

The Media Memory Agenda and the Struggle against Holocaust Deniers (Tsuriel Rashi and Isaac Hershkovitz)

People tend to forget the disparity between reality and "media reality." Agenda setting, as noted earlier, does not tell the public what to think, but rather focuses attention on those issues that the media believes are noteworthy and important – in this case, the enormous gulf that separates conception of the incomprehensible dimensions of the Holocaust and a real awareness of the personal tragedies from that unspeakable catastrophe.

The mandate to deal effectively with Holocaust denial brought the stewards of Holocaust commemoration in Israel to the realization that a different approach was needed and that in light of what is known about Agenda-Setting theory, they had to set an agenda in order to impact public consciousness. Moreover, they understood that they had to shift their efforts from preserving a passive history to fostering access to active personal histories of that incomparably hideous and tragic era. Yad Vashem's Central Database of Shoah Victims Names has utilized modern technology to take the Holocaust out of its amorphous, virtually untouchable sphere, and bring it into a more tangible framework – a narrative of families, individuals, villages, and communities. Public accessibility to this massive database has multiple important ramifications, for by enhancing the power of Holocaust memory it virtually guarantees that that memory will prevail in the war against those who would deny the devastating truth.

Apart from all that has already been said, the database has yet another value, in that it emphasizes the personal aspects of memory. Often, when using the database to search out information about their origins and family history, people are looking for themselves, for their own roots and origins, their own Holocaust story. It is not merely a question of learning facts, or even of finding a family narrative. It is also very much a search for one's own identity. In a sense, that is a significant meaning of history: the impact it has on the present – the memory molded into consciousness – and that creates a vision of values and of connectivity between man and his origins.

By highlighting the personal quest as the pivot of Holocaust history, Yad Vashem brings the whole subject to a different level of education and effectiveness. It does not dictate what and how one should think about the Holocaust, but simply leads an individual to a perception of the Holocaust through a tangible sphere. The capacity to contain such a

diversity of stories, but more important, of ethos, is what makes this initiative a crucial tool for preserving and disseminating Holocaust history in the digital age. It allows history to work on several layers of public and individual consciousness and to become an agent of truth against those who would deny it.

Using Digital Sources in Historical Research: Jewish History on the Internet (Gerben Zaagsma)

This article explores internet resources for Jewish history as a way to probe how technological developments influence research practices and writing and to reflect upon the methodological implications of using digital sources for analysing and writing history. It provides a brief overview of the evolution of digital sources for Jewish history on the Internet and asks what they can offer historians of Jewish history, how they change the field, how they differ from engaging with 'traditional' sources and how they affect the output of historians. These questions are subsequently analysed by focusing in more detail on a number of recent digital primary sources projects and digital libraries, the rationale they offer for the selection of materials and how their availability affects our understanding of Jewish history and changes the way in which historians work.

Nouveaux outils et science : l'archéologie pour faire « sens » (Olivier Le Deuff)

Le but de cet article est de montrer les nouveaux enjeux qui se produisent dans la construction de la science avec les environnements numériques et notamment le phénomène du Web. 2.0. Nous souhaitons montrer l'intérêt d'une archéologie des savoirs basée sur une *skholé*, c'est-à-dire la capacité à prendre ses distances avec la pression de l'immédiateté. Les scientifiques et les historiens doivent particulièrement développer une culture technique afin de conserver la maîtrise de leur travail et pour réussir à distinguer le document à portée historique.

When the Web is Useful for Scientific Output. The Case of Italian Historiography on the Cooperative Movement (Tito Menzani)

For over a decade, in Italy, the cooperative movement has returned to being of interest to the historians of the contemporary age, in particular those focused on business history. The gradual transfer of this study subject from the socio-political sphere to the more specifically economic-entrepreneurial one has undoubtedly revitalized attention onto this

corporate typology and on its networks. It is also true, though, that historical research in this field of investigation has been able to benefit from the ever more efficient and articulated help of two Web sites such as www.cooperazione.net and www.movimentocooperativo.it, which have permitted a significant qualitative and quantitative increase in historiographic production. In this contribution, we propose to associate the scientific production in question with the effective use of the sites by the scholars, to verify to what extent they were an influence during historical research.

Renault-Billancourt' C5 Workshop in the Digital Age : a New Story of the 1922 Assembly Line (Alain Michel et Shadia Kilouchi)

Ce chapitre présente le programme « Usines 3D » de l'ANR Corpus (2007-034) qui a reproduit en images de synthèse l'atelier C5 des usines Renault de Billancourt dans lequel les chaînes d'assemblage des châssis ont été introduites à la fin de la Première Guerre mondiale.

Il démontre le bénéfice de l'utilisation d'outils informatiques pour une micro-histoire de la production industrielle. Par la constitution d'un corpus documentaire numérique, l'élaboration d'une base de données et la modélisation en 3D (réalité virtuelle), nous sommes parvenus à trouver des solutions à des questionnements apparemment insolubles posés à la fois par la pénurie de sources classiques (textes des archives d'entreprises, publications, etc.) et par la complexité des sources visuelles (photographies, films, plans d'implantation, etc.). La reconstitution virtuelle du bâti et des installations de production permet de pénétrer dans l'atelier, d'observer l'agencement des machines et d'étudier l'organisation du processus de fabrication.

Le chapitre interroge ensuite plus globalement les potentialités du numérique et la façon dont les outils informatiques permettent de démultiplier les capacités expérimentales de l'histoire contemporaine. Il explicite la notion de grille de données numériques par laquelle nous opérons la mutualisation du stockage des données brutes en faisant l'inventaire des outils mis à disposition de ce type de modélisation et qui permet de tester les hypothèses des historiens.

Il se termine par une présentation du projet de site internet de l'ANR « Usines 3D » avec une réflexion autour de la différence entre l'outil de recherche et le moyen de communication permis par le Web.

La diffusion du savoir historique à l'âge du Web 2.0. La « valorisation » de l'enquête « Histoire et mémoire de l'immigration en régions » (Philippe Rygiel)

En 2005, l'Agence pour la cohésion sociale et l'égalité des chances (ACSE), une institution publique française historiquement spécialisée dans l'intervention auprès des migrants étrangers et les populations issues de l'étranger, s'engagea dans un ambitieux projet de recherches historiques. Celui-ci mobilisa durant trois ans plus d'une centaine de chercheurs, répartis entre 26 équipes chargées chacune d'explorer l'histoire migratoire d'une région française et de réunir les matériaux (statistiques, documentaires et bibliographiques) permettant de nourrir des recherches futures. La remise de volumineux rapports par chacune des équipes et la tenue d'un colloque national conclurent cette entreprise à l'automne 2008. Se posa alors, dans un contexte structuré par de forts enjeux institutionnels et politiques, la question de la restitution au public de cette enquête financée sur fonds publics. Celle-ci passe, en partie, par la production de documents électroniques et leur diffusion au moyen du réseau internet. Plus que le fait même de l'usage du réseau, surprennent ici ses caractéristiques. Alors que les équipes ont produit des documents nativement électroniques, que la masse d'informations accumulées (plus de 10 000 pages de textes et plusieurs gigas de données) est conséquente, l'enquête bien dotée et une partie au moins des acteurs habitués à l'usage de l'électronique et du réseau, aucune stratégie d'ensemble de valorisation électronique de l'enquête n'a été négociée entre les acteurs et les formes de diffusion observables sont généralement le produit d'initiatives locales peu ou pas coordonnées entre elles qui apparaissent souvent fragiles et lentes à se mettre en place. La réflexion proposée dans ce chapitre est celle d'un acteur et d'un praticien. Appartenant à l'équipe ayant assumé la direction de cette enquête, présents dans diverses instances censés favoriser la dissémination de ses résultats, l'auteur est aussi engagé dans la production de ressources électroniques savantes depuis près de 15 ans. Elle a donc une dimension stratégique. Souhaitant comprendre les formes prises par la diffusion de cette enquête, et particulièrement ses formes électroniques, ce chapitre se penche plus généralement sur les moyens de favoriser l'accessibilité des résultats engrangés aux chercheurs mais aussi son appropriation par un public plus large. Il semble cependant que cette réflexion peut avoir une portée plus large, car elle conduit à mettre en relation l'environnement institutionnel et social d'une enquête d'histoire contemporaine, les conditions de sa réception – souvent définies aujourd'hui par la multiplicité et la diversité des intervenants autant que par la présence d'enjeux politiques plus ou moins diffus – et les formes électroniques prises par sa diffusion.

The Spatialization of History: A New Web Paradigm (David Bodenhamer)

History is being deeply affected by the spatial turn, which promises to revolutionize humanities scholarship. Geographic Information Systems (GIS) has facilitated this transition, even though its positivist epistemology is often at odds with the demands of the postmodern humanities. More recently, Web technologies, including Web services and mash-ups, allow historians to go beyond GIS and other expert systems by empowering of non-expert users to handle geospatial data. These second-generation Web applications, the so-called Web 2.0, work together to create innovative geospatial services that allow data producers and consumers to share the same technology. They not only promise to make history and the other humanities more collaborative but also to allow technology to serve the postmodern emphasis on a reflexive, recursive, provisional, and contingent understanding of the past.

Renouveler l'expérience muséale à l'heure du Web : le e-musée (Marie-Pierre Besnard)

Les musées connaissent une crise grave et profonde. À l'heure où ils doivent réinventer un modèle économique, ils sont boudés par leur public. Le Web comme plateforme interactive et comme vecteur d'information leur offre une occasion unique de se renouveler. Mais le pari est loin d'être tenu. Les résistances et le retard pris laissent à craindre que le devenir des musées ne se passe en dehors du cadre de l'institution.

Interacting Localities: the Case of the "Biblioteca Municipal de Estudios Locales de La Coruña" (BMEL) and its Prospects on Collaborative Online Library Systems for the Study of Contemporary History (Milagros Garcia Perez and Cristina Blanco Sio-Lopez)

First and foremost, this contribution aims at emphasising the interactive and transnational character of European micro-histories, thus aspiring at bringing about a reflection on the need for a collaborative approach to online contents on behalf of librarians and archivists whose institutions are specialised in European local studies.

We have chosen as specific case study the "Biblioteca Municipal de Estudios Locales de La Coruña" (BMEL), that is, one of the few public research libraries specialised on local studies in a European country – Spain – in which regional approaches have a remarkable influence in many different domains.

Hence, through the in-depth analysis of this very specific library, its institutional compromise with the digitisation and online diffusion of several types of documents useful for the critical development of a contemporary comparative local history (official documents, images, musical scores, etc.) and its dynamic ongoing projects (e.g.: the launching of a wiki containing the biographies of local history figures) we hope to encourage the eventual creation of a Pan-European portal giving access to primary sources on local studies focusing on this of dynamically complex networks and processes that we call Europe.

Online Primary Documentation of Contemporary History: Trends, Changes and Consequences in the New Millennium (Richard Hacken)

This chapter focuses on the content, meaning and manner with which online primary documents (*metasources*) have been presented for the study of contemporary history over the past twelve years. As the webmaster of *EuroDocs*, a portal for online historical primary documents established in 1996, and as a librarian responsible for collecting and analyzing source documents for students and professors studying contemporary European history, I have closely examined the online trends and changes under discussion.

Using examples of specific organizations, repositories and websites as points of departure and analysis, I will explore ways in which the content, delivery and even audience of contemporary historical documents have changed for more than a decade. These examples will lead from early pioneers of online history sources through the increasing digital involvement of local, regional and national governments, libraries and archives; the application of improved searching, scaling, millimeter-exact document measurement, interactive mapping and metadata technologies; the inclusion and expansion of visual/video media including online GIS reenactments; and the aggregation of digital history libraries such as the *World Digital Library*, *Europeana* or the WWW-VL *History Central Catalogue*.

The very nature of the Internet means that a new generation of contemporary historians may begin to pattern its research around a hypertextual way of scholarly life that may complement or supplant studies that synthesize or are sequential.

« Last Nite Deezer saved my class » : Écrire et enseigner l'histoire du rock (Élodie Nowinski)

Ce chapitre dresse un bilan d'expérience de la recherche et de l'enseignement de l'histoire culturelle récente, dans le domaine spécifique

du rock des années 1940 à nos jours, rendus possible par divers moyens et outils du Web.

S'il existe un nombre important de limites concernant l'utilisation du Web comme outil de recherche et d'enseignement – sont ici exposées les solutions offertes par l'Internet, afin de montrer que l'histoire de certains phénomènes culturels, qu'il s'agisse des musiques populaires mais aussi de la télévision ou même des jeux vidéo par exemple, ne peut se faire, surtout à l'échelle internationale, sans l'aide du Web.

Le chapitre explore les sources et les ressources mises à disposition sur le Web, notamment les sites de mise en ligne de vidéos et de sons, comme YouTube, Dailymotion et Deezer : comment ces sites récents ont-ils rendu techniquement possible la recherche et surtout l'enseignement de l'histoire du Rock ? Ensuite, l'importance des réseaux sociaux – comme Facebook, des blogs et de nombreux sites de fans de musique – est discutée. Ils rendent possible l'accès à des sources tangibles (collections privées, interviews, documents rares, discographies, sessions d'enregistrement, mixtapes, etc.). Enfin, les limites de l'outil Internet sont explorées : sources et ressources audiovisuelles de l'Internet n'étant au final qu'un ensemble de documents desquels on ne peut que douter ; ce matériel historique n'est au fond qu'une « histoire sans écriture » où seuls image et son sont fiables et où tout doit être vérifié et confronté à des sources d'autre nature pour administrer la preuve. Et de conclure alors sur une interrogation quant au changement de nature du travail de l'historien travaillant avec le Web : Ne fait-on pas exactement la même démarche, le changement ne venant que de la nature des sources ?

Listening, Watching, Living and (at the End) Learning History: in and out the Web (Enrica Salvatori)

This essay presents a series of considerations on how history in general and contemporary history in particular is used by Web customers, and on the growing distance between how history is absorbed by the general public and by students in relation to how it is taught. Some examples are taken from podcasts, theme park websites, personal websites, multi-user games, *Second Life* and other multi-user virtual environments. The conclusion contains some remarks on the growing use of history by Web users in relation to the shortage of "qualified" historians in Digital Humanities.

Illustrations & Tables

Illustrations

Tables

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Annick Batard est maître de conférences à l'université Paris 13 et chercheure au LabSic – MSH Paris Nord. Sa thèse a porté sur la légitimation des cédéroms et des jeux vidéo par le biais d'une critique journalistique grand public. Ses recherches s'intéressent aux critiques journalistiques culturelles, aux mutations de la presse écrite généraliste, aux aspects d'œuvres et de personnages, ainsi qu'aux dimensions « ludo-éduco-culturelle » et multimédia qui traversent la société contemporaine.

Marie-Pierre Besnard est depuis 2005 chef du département « Services et Réseaux de Communication » de l'IUT de Saint-Lô (Université de Caen Basse-Normandie) et responsable de la « Licence professionnelle Développement et Protection du Patrimoine Culturel spécialité réalité virtuelle et multimédia ». Elle travaille sur les représentations de l'Histoire à l'heure digitale et sur les nouvelles muséographies. Sa thèse (2010) porte sur la reconstitution virtuelle de l'église Notre-Dame de Saint-Lô (France).

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Marin Dacos est directeur du Centre pour l'édition électronique ouverte (Cléo). Il a créé *Revues.org*, *Calenda*, *le calendrier des sciences sociales* et *Hypotheses.org*. Il a créé le logiciel Lodel. Il est l'auteur de *L'édition électronique* (La Découverte, 2010, avec Pierre Mounier) et de *Read/Write Book. Le livre inscriptible* (Édition du Cléo, 2010). Avec Pierre Mounier, il anime un séminaire à l'EHESS sur les *Digital humanities*.

Éva Deák received her PhD degree in Comparative History from the Department of History, Central European University (Budapest) in 2008. Her dissertation is entitled *Expressing Elite Status through Clothing in Early Modern Europe: The Examples of Gabriel Bethlen and Catherine of Brandenburg*. Between 2007 and 2009 she worked as a research archivist in the Open Society Archives at the Central European University. She is currently working on her second dissertation in European Ethnography at the Eötvös Loránd University (Budapest).

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Milagros García Pérez obtained a degree in Spanish philology at the University of Oviedo in 1990, with a specialisation in Spanish literature. She worked in the academic field until 1998, when she joined the Biblioteca Municipal de Estudos Locais (BMEL) in A Coruña, Spain, as Library Technical Services Coordinator, a position which she currently holds. Her specialisation in library science has been further developed

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From Stone to Silicon: Image Editing, Web Design and Other Perspectives on Historical Writing is his current PhD project at the University of Auckland, in which he is investigating how academic historians, whose writings are basically associated with the use of conventional word processing text editors (such as Microsoft Word), may also take advantage of tools available in popular computer graphics and Web design software to develop new stylistic and epistemological resources to narrate History.

Gerben Zaagsma holds an MA in Modern History from Groningen University, the Netherlands (1996), and an MA in Yiddish Studies from SOAS, London (2001). He completed his Ph.D. at the Department of History and Civilisation of the European University Institute in Florence, Italy in 2008. Before moving to Florence he worked for a historical research bureau at Groningen University and a local synagogue foundation. His dissertation analysed the participation of Jewish volunteers in the International Brigades during the Spanish Civil War (1936-39). Since September 2008 he is an Honorary Research Associate in the Department of Hebrew and Jewish Studies and has been working on a research project entitled 'Jewish migrants and politics in Western Europe before the Holocaust'.

Gerben Zaagsma has a broad interest in the social, cultural and political dimensions of modern Jewish history as well as Yiddish studies. He is also actively interested in the digital humanities and the ways in which new technologies reshape and transform humanities research and writing. He is the editor/maintainer of two internet portals which are dedicated to making online resources available to historians and other scholars: European History Primary Sources and Yiddish Sources.

Since September 2011 he works at the Huygens Institute for Dutch History in The Hague where he will be developing an online community and forum for a new website for professional historians in the Netherlands.