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Running head: DIGITAL LIBRARY AS A CONTROVERSY

Digital library as a controversy:
Gallica vs Google

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Abstract

Based on the theoretical framework of the actor-network sociology of innovation developed by Michel Callon, Bruno Latour and John Law, this paper will focus on the controversy which has been raging in Europe, and particularly in France, since 2004 when Google launched its project of a digital library. This controversy has shed light on different visions of digital libraries which resulted in projects such as the Google Book Search, Gallica 2 in France and Europeana, the European digital library. The paper will identify the sociotechnical network which emerged in Europe at the time of the controversy. It consists of both human organisations (national libraries, national governments and supra-national institutions, professional associations, companies) and technical artefacts (image- and text-digitization, mass digitization, retrieval tools). The digital library is considered here as an innovation based on technological inventions. This controversy sheds light on the actors' strategic positions in the sociotechnical network. It is thus critical to examine it before the closure of the technical innovation inherent to this conflict.

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Digital library as a controversy

Since the mid-nineties and the public dissemination of the world wide web, the circulation of cultural heritage on the internet has become an important challenge for libraries. Countless conferences and congresses have been held to deal with this issue, numerous projects and case studies have been discussed in the librarian community. New services emerged at the turn of the century which are called digital libraries and are provided by various organizations, be they private-owned companies (Google), public-private partnerships (Open Content Alliance) or public institutions (national libraries).

Can we consider digital libraries as innovations ? Norbert Alter (2005) made a distinction between invention and innovation using the definitions provided by Joseph Schumpeter (as cited in Alter, 2005). According to the latter, an invention was the elaboration of new goods, new products, new methods of production, new technologies. An innovation was the integration in a given social environment of these very same inventions. Invention was an event, innovation was a process. There was no direct link between the quality of an invention and its dissemination. An invention had to be socially and economically successful to become an innovation.

Digital libraries are based on technologies like the internet protocol, 2D digitization, OCR, electronic storage facilities, servers, metadata, search and retrieval systems which were invented at the end of the twentieth century. The innovation called the digital library is still developing as a process. Digital libraries created by different institutions, though based on very similar technological bricks, are characterized by their high degree of interpretive flexibility, meaning that different innovators have their own idea of what a digital library should be. These actors -or actants according to the sociotechnical approach- and their relative position in the global network surrounding the innovation named the digital library can be identified when a controversy arises. This paper will study the controversy Google Inc. triggered when it launched its digitization project in 2004 to characterize a type of digital library which was born out of it.

This article comes within the scope of studies dealing with innovation in libraries. They have taken into consideration various services ranging from the perceptions of the OCLC system among the member libraries of the Association of Research Libraries (Luquire, 1983) to the rate of diffusion of digital reference services among 140 academic libraries in universities and colleges (Domas White, 2001) or the link between strategy and innovation in libraries (Deiss, 2004). More recently, Marija Dalbello (2004, 2005, 2008, 2009) has published articles which are milestones for research about digital libraries. Her perspective is original as she combines document analysis and interviews as well as different theories, from institutional change and sociology of culture to the social construction of technology. This paper seeks to contribute to the history of digital libraries by focusing on a controversy out of which competing representations of the digital library have emerged.

Sources and Methodology

The corpus consists of written sources such as articles published by *Le Monde*, the French newspaper of reference, between 2005 and 2009, and articles published by various English-speaking newspapers between 2005 and 2009. The paper also makes extensive use of the book *Quand Google défie l'Europe* published in 2005 by Jean-Noël Jeanneney, then the director of the Bibliothèque nationale de France. This volume was an expanded version of the editorial « Quand Google défie l'Europe » (When Google challenges Europe) which appeared in *Le Monde* on Jan. 23rd, 2005. A second edition of the book was released in Sept. 2006 in France. Soon afterward, it was translated to English and published by the University of Chicago Press under the title *Google and the Myth of Universal Knowledge : a view from Europe.* The English version had a large impact in the USA (Bearman, 2006, Darnton, 2008). Reports from the French government and the European Commission expressed the attitudes of official bodies during the controversy. The Google Press Center gives online access to all Google press releases. Those concerning Google Book Search and the subsequent legal battle with the U.S. publishing industry were of particular interest for this paper.

The theoretical framework for this study is based on the actor-network theory (ANT). According to it, technology is contingent and shaped socially. The sociological, political, economic and historical circumstances have an influence on the process that leads to innovation. Before a technology is stabilized or comes to closure or is « blackboxed », it is taken amidst conflicting interests. « The pattern is that the protagonists –entrepreneurs, industrial or commercial organizations, government bureaucracies, customers or consumers, designers, inventors or professional practitioners- seek to establish or maintain a particular technology or set of technological arrangements and with this a set of social, scientific, economic and organizational relations. » (Bijker & Law, 1992, p. 8). M. Akrich (1992) took up this idea of inscription: « like a film script, technical objects define a framework of action together with the actors and the space in which they are going to act. » (p. 208).

The actor is « an element which makes other elements dependent upon itself and translates their will into a language of its own » (Callon & Latour, 1981, p. 286). The actor « tells you what you want, what you will be able to do in 5, 10 or 15 years, in which order you will do it, what you will be glad to possess and of what you will be capable. And you really believe this, you identify with the actor and will help him or her with all your strength. » (id. p. 288).

The actant, a material or human actor, is part of a global network, « a set of relations between an actor and its neighbors on one hand and between those neighbors on the other » (Callon & Law, 1992, p. 21) that must be distinguished from the local network which is « the development of an array of the heterogeneous sets of bits and pieces that is necessary to the successful production of any working device. » (Callon & Law, 1992, p. 21). There must be a/some link(s) between the two networks, known as « obligatory passing point(s) » (Callon & Law, 1992, p. 46), for the project to succeed.

Heterogeneous actors belonging to a global network can reach an agreement to promote an innovation thanks to the concept of translation. « By translation we understand all the negotiations, intrigues, calculations, acts of persuasion and violence, thanks to which an

actor or force takes or causes to be conferred on itself authority to speak or act on behalf of another actor or force. » (Callon & Latour, 1981, p. 279). Four steps are necessary to build a network : “problématisation” (the main actor defines the problem), “intéressement” (the main actor seeks allies), enrolment (the various actors take the stage) and mobilisation (the main actor entices the others to act). Both authors stress the importance of the controversy which is the expression of the translation process.

ANT heavily relies on innovation case studies, be it an aircraft, fluorescent lighting or scallop industry. Hanseth and Monteiro (1998) used ANT to study the emergence of information infrastructures such as the internet and the Norwegian health care network and demonstrated that this theory was particularly relevant to their purpose since it was « more specific and concrete with respect to the functions of an IS [information system] » (chapter 6: Socio-technical webs and actor network theory, para. 34). They favored ANT more than the structurational model of technology devised by Orlikowski (1992) or the social construction of technology (SCOT). This paper will follow the same approach considering the digital library as an information system. Nevertheless, the aforementioned theories can also be used to study innovation in libraries (Dalbello, 2009).

The Constitution of a Network: the Controversy about the Digital Library (2004-2009)

Context Analysis

The controversy about the digital library has been growing within a specific context since 2004. M. Dalbello studied the emergence of digital libraries from 1997 onwards in the USA and compared them to « cabinets de curiosité in their limited ability to support scholarship or address information needs of defined community users » (Dalbello, 2004, p. 265). This period was characterized in the USA by pilot project policies as far as digitization was concerned. It was also the case in France where funding had been allocated by the Ministry of culture for the digitization of special collections belonging to various memory institutions. The latter had submitted projects in response to regular calls for proposals since

1998. The European Commission had also adopted this approach. Therefore, the period from the mid-1990s until 2002 could be identified as « the first wave of digital library development in Europe » (Dalbello, 2008, p. 391).

During this first phase, digitized materials mostly belonged to the public domain. Though the French national library (BnF) had digitized copyrighted materials, it did not reach an agreement with publishers to give online access to these documents when the new building opened to the public. Apart from publishers specialized in sciences and law, who had created their own database services or signed contracts with online vendors, publishers specialized in literature, and especially the French ones, were at that time very reluctant to digitize their collections and go online (Bibliothèque nationale de France, 2006).

The Google company was created in September 1998 : at that time, its main product was « a large-scale search engine which makes heavy use of the structure present in hypertext » (Brin & Page, 1998). On Aug. 19th, 2004, Google entered the stock market (NASDAQ) and launched an initial public offering, quickly raising 1,7 billion dollars. The company was thus in a position to invest massively and undertake new projects.

The Sociotechnical Network in Progress

During a press briefing at Frankfurt Book Fair in October 2004, Google Inc.'s two founders unveiled the Google Print Program which was developed to scan books published by Penguin, Hyperion, Scholastic, Houghton Mifflin and some university presses with which Google Inc. was still negotiating. A user would perform a Google search and books containing the search term would show up among the search results. The user could browse only two pages backward and forward from any page where the search term appeared. At that time, some publishers had signed an agreement with Google Inc. which was similar to the one they already had with Amazon.

Two months later, Google Inc. announced a second project: the company was to digitize the entire collections of five world-class libraries, namely the University of

Michigan's, Harvard's, Stanford's, Oxford's and the New York Public Library. The company was eager to offer out-of-print material that only libraries kept.

O'Sullivan and Smith (2004) stated:

> We launched the first part of Google Print in October to make the world of books more discoverable. The thing is, most books in the world are out of print. By working with libraries as well as publishers, we'll have access to millions of books, including many unique volumes that haven't been read in years. Soon a new generation will be able to discover them too. (para. 3)

Though libraries and publishers were supposed to work together with Google Inc. in harmony, the Library Digitization Plan caused publishers to react defiantly and to sue the company for massive copyright infringement in October 2006. Publishers were concerned by the fact that Google Inc. had not cleared the copyright prior to digitizing the libraries' collections and that the opt-out system required publishers to monitor the digitizing process which would have been costly and work-consuming.

Jean-Noel Jeanneney, then the president of the Bibliothèque nationale de France, published his two-page long editorial entitled « Quand Google défie l'Europe » on Jan. 23rd, 2005 in the elite French newspaper Le Monde. In April 2005, he published a book with the same title. A new edition was issued in 2006 with an introduction entitled *Chronicle of a battle.*

Referring to ANT's terminology, Jeanneney acted as the « translator ». This « actant » is the focus point of the network: Jeanneney made an analysis of Google's strategy and voiced his critiques which were taken seriously by other « actants » because he had the legitimacy to do so. Jeanneney's family belongs to the so called « noblesse d'État » as described by Pierre Bourdieu (1989). Jules Jeanneney, Jean-Noël Jeanneney's grandfather, was president of the French Senate from 1932 to 1944. Jean-Marcel Jeanneney, Jean-Noël Jeanneney's father, was appointed minister of industry in 1959 and subsequently held various public offices. Jean-Noël Jeanneney himself was secretary of state for trade (1991-1992) and for communication

(1992-1993). An alumnus of the Ecole normale supérieure, he is also a university professor and a historian of the media.

As the president of the French national library from 2002 to 2007, he also had legitimacy conferred upon him by the institution and the Gallica experiment. The French national library was created by King Louis XI during the 15th century. Since 1537, the library has managed French legal deposit for books (and later, for other materials) in order to create a reference collection and to preserve it. At that time, Gallica, the French encyclopaedic digital library, held 80000 image-digitized books and 70000 digitized pictures. This digital library was the cornerstone of the new national library officially launched by President François Mitterrand in 1988 who had conceived of « a totally new kind of library » (as cited in Stasse, 2002). Along his own words, this new library was supposed to be « the biggest and the most modern library of the world » that embodied what « France was able to achieve » (as cited in Bouchard, 1996). Hence the symbolical and political importance of the new library and the legitimacy of its president Jeanneney.

What were Jeanneney's main criticisms against Google's project which have triggered the coalescence of the actants of the sociotechnical network which gathered around the French project of a digital library? They ranged from political reflections to cultural and technical remarks.

Being a member of the « noblesse d'État », Jeanneney quoted Charles de Gaulle in his book: « The market is not above the nation and the State. The State and the nation must dominate the market. » (as cited in Jeanneney, 2006, p. 49). Jeanneney criticized Adam Smith's liberalism and advocated state regulation. Google had taken advantage of the fact that the American federal state did not interfere with the internet apart from domain names regulations. This point of view was shared by Robert Darnton, who was appointed librarian at Harvard university in 2007 : « While the public authorities slept, Google took the initiative. » (Darnton, 2009).

According to Jeanneney (2006), Google was only interested in digitizing English-language resources and did not abide by the UNESCO declaration about cultural diversity. The European states and the European Commission should be concerned about Google's project since it excluded multiculturalism. The Google's project's main goal was to generate profit through targeted advertisement and to have private companies pay for the digitization. The results ranking on Google Book Program search page would be biased because of advertisement. Moreover, Jeanneney made a distinction between retrieving web pages and retrieving whole books: in the latter case, bibliographic data should be provided automatically in order to define the context of the book.

The book is the only medium that has remained free of any advertisement until now and Jeanneney would like to preserve the status quo. According to him, the agreement between Google and the five libraries was unbalanced since these libraries had, for some time, been acquiring and preserving their collections by investing massively. Comparatively Google was investing less in digitizing books since it recuperated its money via advertisement.

Furthermore, Google could disappear or be sold to another company : what then would become of all digitized information ? Jeanneney stated that Google was not an archival trustee but a commercial entity that did not care about long term preservation. « Heritage preservation is the core activity of public institutions which public authorities subsidize with public money ensuring constant or increasing budgets. » (Jeanneney, 2006 p. 112)

Jeanneney did also make a few proposals and then again he played the role of the translator. He was in favour of a cooperative action between libraries and other memory institutions, such as archives and museums, sustained by public money, to build a European digital library. The collections would be selected along the following criteria: encyclopaedias, core texts of the European civilisation, journals of scholarly societies, studies about democracy, law and European integration, landmark publications in the fields of literature, science, law, economics and arts. Commercial publishers were invited to take part in the

venture by providing their copyrighted collections. This was the cultural project defended by Jeanneney who also supported the creation of a European search engine. Only at the very end of his book did Jeanneney mention the public of this digital library consisting mainly of journalists, scholars and students.

Jeanneney's book can be considered as the obligatory passing point around which the global network has been forming itself attracting European national and community leaders, administrations, traditional publishers, online book vendors and R&D companies and media. The book has been translated into English, Arabic, Chinese, German and Portuguese, thereby enlarging its impact.

President Jacques Chirac, who claimed the heritage of de Gaulle, had an interview with Jeanneney and the French minister of culture on March 16th, 2005, six weeks after the publication of Jeanneney's article in *Le Monde*. On April 28th, six European political leaders (France, Germany, Hungary, Italy, Poland, Spain) signed a letter addressed to the Presidents of the European Council and of the European Commission in which they commended the digitization of the European cultural heritage which had to « keep its rank in the future organisation of knowledge ». In April as well, 19 European national libraries signed a motion claiming for a financial support from the European Commission to create the European digital library (Roux, 2005). But, this very same year, the British Library decided to sign an agreement with Microsoft's MSN Book search to digitize around 100,000 out-of-copyright books. Rather than joining the European coalition, it favored another network, the Open content alliance.

The President of the European Commission replied positively to the six presidents' letter and the Council of the European Union subsequently endorsed the objectives of i2010-A European Information Society for growth and employment. A recommendation on the digitisation and online accessibility of cultural material and digital preservation was issued by the Commission of the European Communities (2006):

The digital libraries initiative aims at enabling all Europeans to access Europe's collective memory and use it for education, work, leisure and creativity. The efforts in this area will contribute to Europe's competitiveness and will support European Union action in the field of culture:

– The online presence of material from different cultures and in different languages will make it easier for citizens to appreciate their own cultural heritage as well as the heritage of other European countries. The recommended measures will contribute to presenting Europe's rich and diverse heritage on the Internet and to protecting cultural assets from irretrievable loss.

– Beyond its fundamental cultural value, cultural material is an important resource for new added value services. The measures recommended will contribute to enhancing growth in related high value-added sectors such as tourism, education and media. High-quality digital content is a key driver for large scale industrial activities (hence the interest on the part of major search engines). Digitisation and digital preservation are knowledge-intensive activities that are likely to grow considerably in the coming years.

The European Commission seemed to have endorsed the analysis of Jeanneney and joined the global network while supporting digital cultural diversity, long term preservation and European industrial development based on digital contents. It urged member states to contribute to the European digital library. On July 12th, 2005, the French government issued a decree creating a working group about the European digital library. This working group published a report the following year (Lesquins, Moatti & Tesnière, 2006) in which the European Commission's wait-and-see policy was criticized (p. 59). The French national library set up a prototype digital library called Europeana which was tested with 550 users in 2006 and 2007 (Ourouk, 2006, Lesquins, 2007). Only two European national libraries, Hungary and Portugal, took part in the project developed by the BnF. In 2008, the prototype was given to the EDL Foundation in charge of creating the European digital library.

Meanwhile in the USA, Google Inc. was forced to stop its digitization program in August 2005 due to the reaction of the Association of American Publishers and the Authors' Guild which both sued Google for digitizing copyrighted material pertaining to the libraries' collections. French publishers, represented by the Syndicat national de l'édition (SNE), also started a legal action against Google in 2006: they did not want to acknowledge the « opt-out » possibility according to which Google could digitize copyrighted books as long as publishers had not express their disagreement. Two official reports, sponsored by the French Ministry of culture and published respectively in 2005 and 2007, stressed the importance of copyrighted material that should be offered by the European digital library along with public domain collections. The first report, written by François Stasse, former director of the French national library (1998-2001), defined a « grey zone » of copyrighted materials belonging to the publishers' back catalogue. These titles are no longer profitable to publishers and digitisation would open a new market. The second report, entitled *Book 2010*, was the result of a series of eleven workshops which took place between Sept. 2006 and Feb. 2007. French publishers were invited to take part in the European digital library and were offered some state funding to start digitizing their back catalogue. These subsidies, coming from a tax on copy machines, have been managed by the Centre national du livre (CNL). French online book vendors (Cyberlibris, Documentation française, Edilivre, Editis, Numilog and Tite-Live) were also called upon to outline a business model for copyrighted materials available on Gallica 2. As the French national library is responsible for the legal deposit of books, it has sustained business contacts with publishers for a long time. That has proved to be a definite advantage.

Relying on the support that the French President had given to him, Jeanneney and the French national library were able to rally several actors to form what can be called a global network: public administrations depending on the Ministry of culture, European authorities and publishers have all contributed to the creation of Gallica 2. The French national library has thus been able to create local networks to eventually set up its vision of the digital library.

In 2007, the French national library signed a three-year contract with SAFIG S.A. to digitize 100,000 new items each year, in text and image mode. Since March 2008, search has been possible for several thousand copyrighted books available in digital format via e-retailers' websites (with free or controlled access). The Quaero consortium, led by the companies Thomson, France Telecom, Jouve and Exalead, was launched in March 2008 after the European Commission authorised aid of €99 million to France for this R&D programme. Its aim is to develop a new search engine to index and retrieve digital media. The participation of the French national library in European projects such as IMPACT is also a way to enlarge the local network around its vision of the digital library.

ANT considers technical artefacts as actants of the network. It has to be kept in mind that Google was first of all a search engine that did full text indexing of Web pages, i.e. content which was not copyrighted. Before 2004, Google Inc. had not dealt with copyrighted material. The naïve tone of the announcement made by O'Sullivan and Smith was marked with the utopia of the universal library and at that time Google Inc. might have overlooked the problem of intellectual property rights. Gallica 1 was a digital library built upon an automated library catalogue: document retrieval was based on traditional MARC metadata for most digitized items. Google's initiative forced the French national library to contemplate mass full-text digitization of documents and thus modify the structure of Gallica to achieve Gallica 2.

Discussion

This paper focuses on the French side of the controversy spinning around the digital library. The ANT could also be used to analyse the controversy which has taken place in the USA. Google Inc.'s global network, though it was threatened for a while by the legal action led by publishers, has gained some strength thanks to the libraries which have joined the project. To date, 20 libraries from different countries are part of the project. Google Inc. has become committed in promoting multiculturalism and the advanced search facility permits users to select the language of the books to retrieve. The agreement which the company

reached with authors and publishers in Oct. 2008 can be considered as the obligatory passing point Google Inc. had to go through to enlarge its network. However, the article published by Robert Darnton in Feb. 2009 shows that the controversy is not dead and that the network is not yet stabilized on the libraries' side.

The advent of the product called Google Book Search is a sign of the industrialization of memory which has challenged the traditional actors of its management like archives, libraries and museums (Merzeau, 2006). A company has the means to question the concept of cultural imperatives defined by Greg Urban (as cited in Dalbello, 2008) and the prominent role played by national libraries in the definition of « authoritative representations of cultural heritage » (Dalbello, 2009). Memory seems to evolve from a pyramidal structure to a rhizome-like one (Merzeau, 2006) in which various actors interfere, large companies but also individuals. Rather than being a threat, this scattered structure appears to some as the ultimate decentralized memory institute (Uricchio, 2005).

This paper does not take into account the positions of the various groups of users. As Gallica 2 and Google Book Search are turned into « black boxes » and submitted to the users' appreciation, it would be stimulating to further study their reactions to these innovations. M. Akrich (1992) chose this approach when studying a photoelectric lighting kit created by European engineers and implemented by African end users. In this case, sources may range from market surveys and interviews to blogs and mailing lists. As Gallica 2 has just celebrated its first anniversary, a user survey has been released which advocates its continuation (Ourouk, 2009).

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