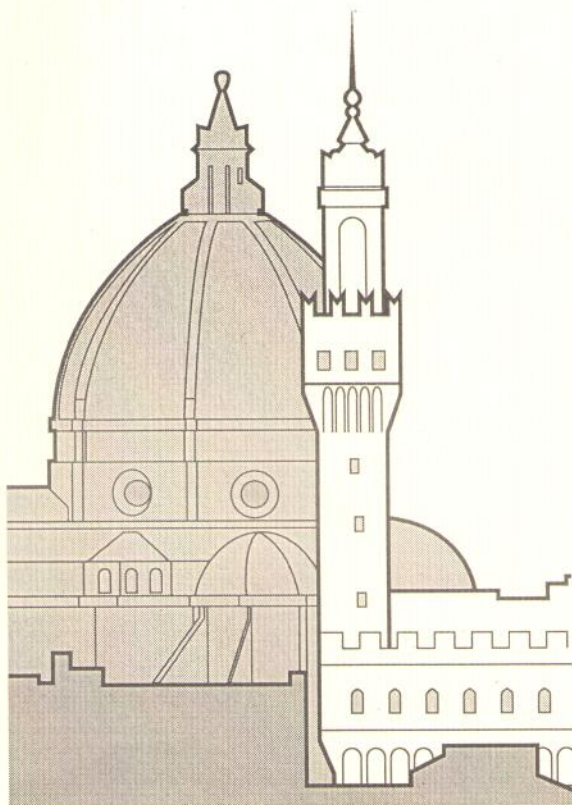


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INNOVATIVE EXPERIENCES IN DIGITAL HISTORY OF EDUCATION: THE CASE OF RESEDUCATIONIS.IT

Gianfranco Bandini

Dipartimento di Scienze dell'Educazione e dei processi culturali e formativi
Facoltà di Scienze della Formazione
Università di Firenze
Via di Parione, 7 – 50123 Firenze, Italia
bandini@unifi.it

Paolo Bianchini

Dipartimento di Scienze dell'Educazione e della Formazione
Facoltà di Scienze della Formazione
Università di Torino
Via Gaudenzio Ferrari 9/11 – 10124 Torino, Italia
paolo.bianchini@unito.it

Abstract – New technologies are revolutionising the shape of communication in our society and the ways in which scientific knowledge is built. Today, dealing with history on line means working together on solid projects that make use of the technological infrastructures as powerful cognitive instruments, and are open to fruitful international exchanges. The portal ResEducationis.it (On-line resources for the history of Education) was indeed created with the aim of contributing to the construction of the new digital culture in history, as well as in response to the need to connect the reader with the historical sources and offer him the keys to building his own knowledge.

INTRODUCTION

The bilingual portal ResEducationis.it (On-line resources for the history of Education) is made up of various sections, some of which are fully operational, while others can be effectively developed in time. The following two paragraphs present the main, innovative nuclei of the project which have been realised thanks to specially developed softwares. The first is a Digital Library dedicated to Italian school texts of the 19th and 20th centuries, constructed in accordance with the specific needs of interpreting and writing history. The second consists of an international opac that enables readers to carry out searches on national data bases, which also refer to school and educational texts in a document base of approximately 100,000 records. The aim of both sections of the portal is to offer multiple and complex interpretations of a source for education history, which can teach a great deal about the overall changes that have occurred in Italian and European mentality and society.

THE DIGITAL LIBRARY: AN HISTORIOGRAPHICAL APPROACH

Digital libraries are no longer a novelty either on the international or on the Italian scene. Nowadays, we can use the experience accumulated in their brief but intense history, and benefit from the theoretical considerations that have accompanied many of the experiments, from the fundamental activity of certain national libraries (particularly the *Bibliothèque Nationale de France* and the *Library of Congress*), to the work of groups aiming at on-line cooperation (such as the *Gutenberg Project*), close to the *open source* idea and, in some way, a forerunner of web 2.0. It becomes clear, then, that the eclecticism of the models (some of which, particularly in Italy, are strongly conditioned by limited economic resources and the projects' lack of continuity in time), cannot be reduced to units, nor can it be limited to a few predefined types. And not only can it be ascribed to the evolution of technology, which means monitoring constantly the on-line resource and assessing carefully any changes: it is more a case of the libraries acting as cultural mediators. In short, it is in their DNA to stand between the final user and the book: between the user and, more

generally, everything that we include in the mission of the library, such as articles, bibliographies, and numerous other digital objects with a specific cultural value [18].

This role, which goes against the trend of "disintermediation" that the Web is undergoing in a huge way, has some positive features, linked to its important added value and its special formative and didactic nature. In this sense, the experiences of some museums and libraries are of particular interest (and should be duly noted): they have opened to what are defined as user-generated content, and social networking practices [15; 20]. Such experiences are still at an experimental stage and are not widely known, but they are extremely interesting, so much so that they can be indicated as a hopeful development of the presence on line of cultural institutions. They are projects that help us catch a glimpse of some of the characteristics of the technological infrastructures aimed at the cooperative construction of knowledge [7].

In the field of humanities, and particularly history, it is possible to create stimulating and mutually positive relationships between professional researchers and those with a passion for the past, between academic history and the public use of history [1; 16]. At the heart of this view of history on line stand the digital libraries, representing the great repository of historical sources, duly organised, labelled and linkable. It should be noted, however, that there is an abundance of libraries on line but the quantity of documents they contain is not adequate for historical research. Many of them tend to favour books linked to an event of great artistic value, or associated with the nation's historical memory, or are of symbolic and patriotic value. Others, on the contrary, tend to comprise anything, thanks to easy access or availability. In both cases (and many other similar ones), there is a total absence of an initial question addressed to the "sources": in other words, what is missing is the focus on a historical problem, a question from the past to which we wish to give some answers. It is not the mass of digitalised books that produce historical knowledge (as is naively supposed), but their place in an argumentative and demonstrative network which has the aim of defining and interpreting historical problems [3]. In this paper, I would strongly like to suggest that, starting from the needs of a specific public, a digital library model with a historiographic orientation is both useful and necessary [4].

Installing and managing a digital library that takes into account the specific nature of historical knowledge means guaranteeing that digitalisation is selected progressively, following the research carried out by historians who define a context (territorial, chronological, and thematic), identify the sources and determine the interpretative outlines which, in time, become increasingly extensive and convincing [21]. If the project starts from such assumptions, the point of arrival will be constituted by at least two parallel digital resources: the library (containing not only books, but also manuscripts and other sources), and the historical essays which are connected to and discuss the library's sources. The digital library thus becomes the *alter ego* and an indispensable element of historical interpretation. All this has immediate and profound repercussions on the model of communication: operations should be transparent and easily modulated by the different users who have access to the resource (from the occasional browser to the student, from the professional historian to the local historian and teacher). Many users will thus be able to enter the argumentative network, writing texts, organising didactic units, virtual exhibitions and processing other types of material [6]. The sources, then, can be visited and understood according to many, diversified paths (as *The Valley of the Shadow* has demonstrated for some time [2]).

What has been said is clearly presented in the intent of the digital library of the bilingual portal www.RESeducationis.it (Online Resources for the History of Education). This website's purpose is the study of educational and schools publications, educational culture and teaching practices from the 19th to the 20th centuries in Italy, and it comprises various subjects, especially in the primary and popular schools: Italian, history, geography, etc. The project is meant to develop in time, in accordance with that combination of contributions to which I referred earlier: several concentric circles of debate, essays, didactic units, virtual exhibitions, etc. that all refer back to the same "reservoir" of documented digitalised sources [14]. The books are all scanned to guarantee high-quality images, and all include detailed bibliographies (designed specifically to respond to the needs

of historical research). Furthermore, they are all linkable, printable and can be downloaded in pdf format. The software architecture is designed to divulge culture. Even though the books we scanned are free from copyright restrictions, we met with many obstacles during the process. We followed the precise needs of research, endeavouring to stipulate agreements with the various libraries where the volumes of specific interest to us had been identified. Unfortunately, many of the people responsible for the libraries (both public and private) give a strict interpretation to the norms governing copyright in Italy, which do in themselves penalise heavily any activity connected with reproducing material on the web. It can only be hoped that some agreement will be reached which effectively mediates between the undeniable right to protection of intellectual property, and the cultural and educational demands of the public, which also merit protection and safeguarding.

HISTORY AND SEMANTIC WEB: THE MULIOPAC OF NATIONAL DATA BASES ON TEXTBOOKS

If the digital library is a collection of sources of a purely qualitative nature, the portal www.RESeducationis.it aims to provide expert historians, as well as non-professional researchers, with documents of a quantitative nature [3]. Undoubtedly, they are less attractive from an aesthetic point of view, but they are no less important from a heuristic point of view. Such a consideration is behind the conception of the data base, known as *Edisco*, which covers the publication of Italian textbooks from the 19th to the 20th centuries.

From 2000 to the present, *Edisco* has grown alongside similar projects undertaken in other countries in Europe and beyond. In order to broaden the potential for research on school manuals offered by national data bases, an Opac, or Online Public Access Catalogue, has been proposed [22]. This venture is the first of its kind on an international level, and it has forced researchers in the participating countries (Italy, France, Spain, Germany, Canada and Brazil) to confront unexplored technical and historiographical problems.

Indeed, the service which forms the basis for what may be called "generic" Opacs allows simultaneous searches in some or in all the fields of the data bases, even in different languages, returning results which, in the majority of cases, can be consulted and further analysed by directly consulting the individual data bases. This principle is widely used in the field of the conservation and cataloguing of books, where it gives the user rapid and effective access to libraries and networks of libraries.

While maintaining a remarkable cognitive value and discreet practical qualities, the underlying principle of generic Opacs is only partially suitable for specialist Opacs. The Multiopac of the national data bases on textbooks is an example worthy of note from this point of view; it is forcing the teams of the participating countries to find new and more complex methods of communication and interaction between the single data bases.

In the various countries, such data bases started life in the mid-1990s in response to a dual objective: on the one hand, the safeguard of a cultural heritage of books otherwise destined to disappear, especially since the texts in question were produced in the past using lesser-evolved means and designed for hurried use; on the other, the principal advantage of recording the entire catalogue of books used in a country in a given period of time (normally the last two centuries), is to be able to study the changes in knowledge that schools have been called on to transmit, methods that schools have created in order to perform such a duty, and the evolution of the dominant culture in the given country.

To remain in line with these two functional qualities, the textbook data bases, without being pre-arranged, are made up of fields which contain two types of information: one is purely linked to the field of librarian science, the objective data concerning the texts (author, title, publisher, date published, etc.), and the other is descriptive, relating to the subject matter (subject, argument, scholastic level and target class).

As can be imagined, the catalogue fields do not prove to be particularly problematic [9]. In fact, the Multiopac enables searches to be performed in such fields, even though a number of difficulties

have had to be overcome in order to render homogeneous the pre-selected fields, namely author, title, publisher and, above all, date of publication. The latter does share, albeit in a lesser proportion, the characteristic problems which emerge with the subject matter fields, in that it is one of those pieces of information that, despite appearances, can be open to interpretation.

All texts, in fact, have a life that goes beyond "being in print" and coincides with their use. This is particularly true for textbooks, especially in the past, which were often reprinted and passed through the hands of generations of students. For this reason, French historians have replaced the field "date published" with "duration of publication", effectively substituting the single example of a book to be catalogued with the entire series of editions of the text. In any case, in dating texts it has been easy to find an empirical solution to the problem which has allowed researchers to carry out transversal searches among all the data bases, in that the reference date assumed for the French data base is that of the first edition.

However, unless the Multiopac performs a semantic and historical re-elaboration of the data found, searching the fields relating to the subject matter has neither use nor value [13]. It should be remembered that in librarian science the subject matter is one of the most complex and controversial tasks, which is difficult to render objective [10].

The problems multiply when it is necessary to combine not only different languages, but above all, cultures and education systems which are often only apparently similar. Moreover, the school cultures in each single country have evolved incredibly over the last two centuries: today's Italian *ginnasio* is only a distant relation to the *ginnasio* of the end of the 19th century, and has nothing at all to do with the German *Gymnasium* or the French *gymnase*.

It is, therefore, necessary to rely on the discipline of semiotics to construct an International Thesaurus of educational culture thanks to which the various terms used in the differing countries can be indexed, compared and mutually understood [5]. The intention, then, is to perform a semantic analysis of the subject matter fields and identify the meanings common to all the data bases and hidden behind different symbols. The objective is to integrate Multiopac's search mask fields used for cataloguing, with semantic fields, which will be useful not only in understanding the use and purpose of the individual books, but also the history of the disciplines and of the school systems in the various countries [11].

In this search for sense, particular attention goes to the Semantic Web, the architecture of which is represented by multi-level layers, each characterised by its own language based on metadata, that is, data that describe data/documents.

From the historiographical viewpoint, the Multiopac finds justification in a problem which has not been explored in the literature. To date, research has been concentrated on the use – legitimate or not – that countries have made of schools and textbooks for the education their citizens. Very little, if anything, is known about the contamination in modern and contemporary times between various European regions and states. There is no doubt that school textbooks, with their methods and contents, have passed from one country to another. But little is known about how this has happened and how the contents have been re-elaborated, in order to build not only education systems, but also national cultures and ideologies.

References

- [1] G. Abbatista, A. Zorzi (a cura di), "Il documento immateriale. Ricerca storica e nuovi linguaggi", numero monografico de *L'indice del mese*, 2000, dossier n. 4, <http://lastoria.unipv.it/dossier/index.htm>.
- [2] E. L. Ayers, "The Valley of Shadow. Two Communities in the American Civil War", 1993-2007, <http://valley.vcdh.virginia.edu/>.

- [3] G. Bandini, "La storia dell'educazione in Rete: una "rivoluzione" inavvertita?", *Nuovo Bollettino del Cirse - Centro Italiano per la Ricerca Storico-Educative*, 2007, N. 1-2, pp. 43-50.
- [4] G. Bandini, P. Bianchini (a cura di), *Fare storia in rete. Fonti e modelli di scrittura digitale per la storia dell'educazione, la storia moderna e la storia contemporanea*, Roma, Carocci, 2007.
- [5] Bechhofer, S.-Goble, C., *Thesaurus construction through knowledge representation*, in "Data & Knowledge Engineering", 37(2), 2001, pp. 25-45, <http://www.sciencedirect.com/science>
- [6] Jay D. Bolter, R. Grusin, *Remediation. Competizione e integrazione tra media vecchi e nuovi*, Milano, Guerini, 2002.
- [7] D. J., Cohen, R. Rosenzweig, *Digital History. A Guide to Gathering, Preserving and Presenting the Past on the Web*, University of Pennsylvania Press, Philadelphia, 2006, <http://chnm.gmu.edu/digitalhistory/>.
- [8] Darnton R., *A Historian of Books, Lost and Found in Cyberspace*, in "Chronicle of Higher Education", March 12, 1999, <http://www.historians.org/prizes/gutenberg/rdarnton.cfm>
- [9] Ghilli, C., Guerrini, M., Novelli, A., *FRBR: analisi del record e nuovi codici di catalogazione*, in "Bollettino AIB", 2003, n. 2, pp 145-160.
- [10] Ghilli, C., Guerrini M., *Introduzione a FRBR: Functional Requirements for Bibliographic Record= Requisiti funzionali per record bibliografici*, Milano, Editrice Bibliografica, 2001.
- [11] Gruber, T. R., *What is an Ontology?*, Stanford, Knowledge Systems Laboratory, Stanford University, 2001, <http://www-ksl.stanford.edu/kst/what-is-an-ontology.html>
- [12] Guarino, N.-Giaretta, P., *Ontologies and knowledge bases: towards a terminological clarification*, Trento-Roma, Laboratory for Applied Ontology, 1995, <http://www.loa-cnr.it/Papers/KBKS95.pdf>
- [13] Buizza P., Guerrini M., *Un modello concettuale per il nuovo soggetto: l'indicizzazione per soggetto alla luce di FRBR*, in "Bollettino AIB", vol. 41, 2001, n. 3, pp. 327-336
- [14] M. Delfino et al. (a cura di), *Come costruire conoscenza in rete?*, Atti del workshop, Genova, 28 ottobre 2004, Ortona, Menabo, 2005.
- [15] R. Loverance, "Digital preservation of users-generated content: the next challenge for museum libraries and archives", in *Conference on strategies for cultural heritage on line, Firenze, 14th-16th December 2006*, Ministero per Beni e le Attività Culturali, Fondazione Rinascimento Digitale, Firenze, 2007, pp. 231-239.
- [16] Minuti R., "Internet e il mestiere di storico. Riflessioni sulle incertezze di una mutazione", *Cromohs*, 2001, 6, http://www.cromohs.unifi.it/6_2001/rminuti.html
- [17] Noiret S. (a cura di), *Linguaggi e siti: la storia on line*, numero monografico di "Memoria e ricerca", 1999, 3
- [18] A.M. Tammaro, A. Salarelli, *La biblioteca digitale*, Milano, Editrice Bibliografica, 2000.

- [19] Tartaglia, S., *Per una definizione di "soggetto"*, in *Il linguaggio della biblioteca. Scritti in onore di Diego Maltese*, a cura di Mauro Guerrini, Milano, Editrice Bibliografica, 1996, pp. 856-867
- [20] "The Art Museum Social Tagging Project", <http://www.steve.museum>, 2005-2007.
- [21] S. Vitali, *Passato digitale. Le fonti dello storico nell'era del computer*, Milano, Bruno Mondadori, 2004.
- [22] Weston, P. G., *Tra controllo bibliografico e controllo intellettuale: qualche riflessione sui sistemi bibliografici elettronici*, in *Le risorse elettroniche: definizione, selezione, catalogazione, atti del convegno internazionale, Roma, 26-28 novembre 2000*, a cura di Mauro Guerrini, Milano, Editrice Bibliografica, 2002.

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