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Editoriale = Editorial

Saggi = Essays

JLIS.it Manifesto 2015

With this first issue 2015, in the fifth year of JLIS.it activity, we decided to bring some important changes in the scientific and organisational structure of the journal.

The most relevant news is that the journal will be divided in two specific sections, devoted one to LIS, the other to Archival Sciences. The latter will welcome the Editorial Board and the scholarly tradition of the eminent Italian journal "Archivi & Computer", managed from 2002 to 2014 by Mariella Guercio, who has now joined the Editorial Board of JLIS.it.

JLIS.it is going to be organised as follow: it will have two separate Scientific Committees respectively chaired by Gianfranco Crupi for LIS, and by Mariella Guercio for Archival Science. Mauro Guerrini will keep his role of Editor in Chief.

Since the journal structure is more complex than before, JLIS.it will also have and Editorial Board made by Andrea Capaccioni, Pierluigi Feliciati, Andrea Marchitelli, Graziano Ruffini, and two managing editors, Andrea Marchitelli e Pierluigi Feliciati. They will be supported by the secretarial staff (Valentina Demontis, Ilaria Fava, Antonietta Folino, Maura Funari, Daniela Giglio, Erika Pasceri, Giovanna Spina).

Moreover, the English headline has been changed in “Italian Journal of Library, *Archives*, and Information Studies”, in order to highlight the Archives side and to align it to the Italian one.

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This new way corresponds to a change in publication frequency, from six-monthly to four-monthly issues, to a restyling of the journal look, and to modifications in journal sections: "Essays" (as well as in "Archivi & Computer"), "Contributions" (corresponding to "Contributions" in "Archivi & Computer") and "Reports & Reviews". Each issue will list together essays from the two different areas, meaning the pervasive penetration of disciplines at the basis of this new publishing and cultural project.

In the journal *Manifesto* in 2010, we stressed on a different idea of Library, Archives and Information Science «that is able to look beyond the strict academic curricula, towards an interbreeding commixture of knowledge, methods, and different scientific and technical languages». The changes to JLIS.it aim to emphasize the integration between LIS and Archival science on the level of projects and profession (as it happens at a National and International level), considering also theoretical and methodological reflections respecting identities and peculiarities of each discipline at the same time. The most significant and advanced International experiences of establishing digital corpora show that for many areas of research this kind of integration is a reality, especially in the confluence of visions on the different organisational, representation, delivery and knowledge preservation levels.

The start of this project aims at creating a discussion, cooperation and exchange environment among the two disciplinary areas, both lying on common ground, using indexing languages more and more similar, dealing with comparable themes and common audience. It is an extraordinary opportunity for JLIS.it and for the scientific community, which will guarantee a higher visibility of Italian studies in the field. A fortiori the scholarly tradition and the research experiences ripened within "Archivi & Computer" in more than 20 years activity (the journal has been placed among top rated journals by the Italian Agency for the assessment of the University and Research system) will ensure an improved and better promotion of

the scholarly tradition of Library, Archives and Information Science thanks to a prestigious scientific Committee.

In the end, we like to confirm the purpose of JLIS.it of being «a lab for studying and researching what is new in LIS», open to the contribution of young researchers, a place for militant librarianship and archival science, with strong observations on the changes that the digital culture is bringing to cognitive processes and to professional practices.

"JLIS.it 2015 Manifesto". JLIS.it. Vol. 6, n. 1 (January 2015): Art: #11080. DOI: 10.4403/jlis.it-11080.

ABSTRACT: With this first issue 2015, in the fifth year of the journal activity, JLIS.it brings some important changes in the scientific and organisational structure of the journal. The most relevant news is that the journal is going to be divided in two specific sections, devoted one to LIS, the other to Archival Sciences (the latter will welcome the Editorial Board and the scholarly tradition of the eminent Italian journal "Archivi & Computer"). Other major news include two Scientific Committees, a more articulated organisationa and four-monthly periodicity.

JLIS.it new project aims to create an environment of integration and cooperation between librarianship and archival disciplines.

KEYWORDS: Archivi & Computer; Archival Science; Information Science; JLIS.it, Library Science

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The research archives in the digital environment: the Sapienza Digital Library project

Maria Guercio, Cecilia Carloni

1. New definitions and technical responsibilities for representing and recording the scientific knowledge in digital network environments

One of the most critical problems for research archives (specifically in case of archival resources created in digital form for scientific investigations) is their definition, which is also part of the recognition of their relevance. Except from the small group of specialists involved in documenting, recording, managing and preserving the digital records and heritage of science, the reasons and the solutions for these increasing complexities and the effort to transform the traditional frameworks and tools into efficient and updated proposals have not been fully investigated. In many countries and traditions they seem to be completely ignored or developed at a very low level of service. Publishing the results of the research was in the past, even in the recent past, the best, most common and only means to document and preserve the researchers' scientific work. In the last two decades technological developments have transformed the whole process by making it more complex and

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challenging. An increasing number of scientists is critically aware of new phenomena (the relevance of their digital archives and data and the increasing risks for their persistency), but not enough engaged in promoting a stronger cooperation with digital heritage curators. A similar lack of coordination (at least if compared to the level of difficulties to solve and to their strategic value) can be still recognized among most professionals (librarians, archivists, data and records curators) involved in the implementation of digital services and in the exploitation of technologies for creating, communicating and preserving the documentary heritage.

Lack of protection and security, lack of controls and responsibilities, fragmentation of data, documents and record aggregations, no standardized models to integrate administrative and scientific resources and identify on a well stated basis public and personal/private resources: all these factors seriously affect the quality of the readability and intelligibility of the scientific data and archives, specifically those created and preserved in the digital environment and with a digital dimension. Of course, these critical aspects imply a number of significant issues to face, like the risk of misalignments, the quality of the documentation to provide for illustrating projects, scholars and research history, for securing data and assessing their provenance and authenticity.

One of the most important aspect to consider (which has been deeply investigated in Sapienza project) is the quality of the information/data representations in a digital dimension. More specifically, we agreed with the basic assumption that the "textual representations" cannot survive without a "knowledge support-systems" as Richard Vines, William P. Hall and Gavan McCarthy clearly illustrate in their 2011 contribution (and we first tried to build such a system in compliance with both the archival principles and the best achievements of digital library communities):

"What makes the knowledge support-systems in the current era fundamentally different from the historical world of print is that the

exchanges of bits and bytes of coded information can now occur more or less at light speed —and that these exchanges can be enacted simultaneously between the varying levels of hierarchy (for example, between individuals and research teams; individuals and teams and a research domain level; or between individuals, teams and research domain level and national or international standards body). Also, at least some components of the cognitive processing function are increasingly being assisted and automated or semi-automated by technology" (Vines, Hall, and McCarthy 2011, 149; see also Dryden 2007).

In order to define more precisely where our efforts of digital archivists have to be addressed in respect with the creation of knowledge support-systems, we believe that this change does not only concern the research intensive networks (as previously stressed). Nowadays an increasing number of sectors are affected by this transformation and requires knowledge support-systems as intended by the authors previously mentioned, and, even more, implies what they called institutional frameworks as a public knowledge space (p. 149). Recent technologies have made possible the availability (even if their preservation is still a challenge in many cases) of an impressive amount of information and data related to the scientific research processes, expressed in various formats other than traditional publications and scripts: structured datasets or raw data, spreadsheets, e-mails, blogs, wikis, videos, but also new forms and types of records relevant to document the research process, its quality and reliability (such as protocols for understanding, agreements, administrative records, audit manuals, research services documentation). To be re-used and maintained this information and the knowledge it represents, must be "widespread or easily discovered and accessed" (p. 159) by the members of the research network. But, first of all, this information must be recorded as contextualised evidence of the research projects (that is not as fragments in the web but as archival sedimentation/accumulation well organized and easy to be explored) and must be maintained in

formats respectful of their nature and available for a qualified retrieval, adequate exploitation, interoperable environments and, last but not least, persistent and authentic preservation.

The main question concerns the fact that shared contexts or, simply, understandable contexts, usable for scientific cooperation among individuals, teams and organizations and/or for monitoring and making available outputs cannot be planned without structured information and interoperable schemas, whatever tools are available for advanced indexing. A correct approach implies also flexible solutions for sharing and exchanging contents of various formats, aware of the changing frameworks. Of course a large use of standards compliant with these aims is the most relevant functional requirement for building e-science open architectures.

Without a common dictionary and a robust conceptual framework, the scientific research heritage, specifically if represented in the new and less controlled forms of datasets or sheets, published on wikis and web portals, is at risk of intelligibility and the efforts made for its protection and exploitation will not be able to face old and new challenges and even less to exploit the technological potentialities and new languages today available. Our authors suggest that

"support-systems are being developed and applied so rapidly that insufficient attention is being paid to the problems of conceptual and terminological confusion at different levels of organisation. There are two sources of such confusion. First, a wide range of personnel from different research domains are designing and enacting standards and schemas that reflect their own narrowly focused professional or social languages. Thus when exchanging information across professional boundaries the schemas used to support data and information exchange can often be incommensurable with other schemas. Second, and perhaps more importantly, insufficient attention is being paid to the challenges associated with harmonising variant schemas that emerge at different levels of hierarchy in the modern research enterprise" (172).

In particular the concept of "public knowledge space" and its main peculiarities, as developed by Gavan McCarthy, seem able to provide the intellectual framework required to transform the very basic and limited functions of existing tools like the digital libraries and the digital archival systems into consistent institutional services needed by the scientific networks (and not only), specifically for exploiting the web space and its potentialities: they imply the "introduction of contextual information management practices; and harmonising variant schemas and standards" (174). As a matter of fact, these principles are at the basis of the archival knowledge, methods and tools, and refer to concepts like provenance and archival description of the contexts which incorporate the spatial and temporal qualities of the content such as its creatorship, the overtime history of its uses, the technological and administrative relationships and the chain of management and custody events and responsibilities.

More specifically, the diversity of contextual information intrinsically related to the scientific resources can and has to be interpreted and manifested at many levels:

- by *contextualizing the institutional space* i.e. by providing the regulations and the policies at its basis, by declaring and making available the information workflows related to the acquisition, ingestion, management and preservation of the data collections and archives, by defining and documenting the standards applied and the related guidelines, by describing the scientific projects and researches involved, by supporting and describing domains dictionaries and taxonomies), but also
- by providing the *contextual information for each producer and its research* and by organizing the research information, data

and archival records with a sufficient degree of *contextual descriptive elements*.

2. Contextual information and tools: digital libraries with archival functionality

The archival nature of the research documentation and sources can be difficult to recognize and accept (sometimes also by the institutions of memory themselves and their professional community, included those involved in digital libraries network). The tools developed to make accessible and preserve these outputs are usually and still concentrated to support the creation of digital library and institutional repositories for publications or for isolated items produced and maintained as part of peculiar projects based on their own disciplinary dimension. Educational products, research data and databases, documentary evidence collected in the course of scientific investigations are left to the individual capacities of each researcher (this means that in many cases they are going to be lost) or to Google-like search engines. University departments and research centres are not used to investing their limited resources for a comprehensive collection and preservation of their evidential and scientific memory at the conclusion of a research program/project. The library and archival services are often concentrated on their own traditional heritage, less proactive then required, even when their new digital nature could provide the basis for developing a more advanced service to ensure a qualified and wide access and guarantee a preservation environment (Doorn and Tjalsma 2007 and the other articles published in the same issue).

Specialized and efficient series of tools for identifying, describing, making available and preserving this heritage are required. The compliance with the best archival standards is necessary specifically to ensure the contextual information and the qualified control of any hierarchical structure (not avoidable when high volumes of complex information is implied), but it is also essential to define consistent

workflows for acquisition, appraisal and description, to approve adequate internal policies and to build sustainable services. A flexible and dynamic approach must be in place within a common platform, easy to run by IT departments, but also able to guarantee the research diversity.

The object-oriented approach normally supported by the most common digital libraries, Europeana included, cannot satisfy the complexities of the scientific knowledge representation which implies a hierarchically structured and process-oriented description. In the scientific environment it includes at least three levels of attention:

- *for documenting the research context*: this means many degrees of analysis and information retrieval because "the records of a research enterprise can be situated in an information framework that will enable these records [or data] to be understood not just by the people intimately associated with their creation but by others who have an interest or need" and because "there is a focus on mapping the relationship between information and archival resources created through time and the context within which such resources are created" and this approach is part of the archival methodology"[1],

[1] The authors recognize that "Documenting context is an evolving area of archival practice and this is a good time to start using a different term to cover this area. Context control seems to serve the purpose, and could tentatively be defined as: the process of establishing the preferred form of the name of a records creator, describing the records creator and the functions and activities that produced the records, and showing the relationships among records-creators, and between records creators and records, for use in

- *for supporting architectures and representation models* consistent with the research diversity but also its interoperability,
- *for preserving over time both data/archives and their associated meta-information*, including the relevant documentation of the research processes with specific attention to the evolutionary changes which occur in the digital environment.

3. The solutions proposed by the Sapienza Digital Library (SDL): a life-cycle model to govern the research data fragmentation

In line with these functional requirements and based on a standardized approach, Sapienza Digital Library (SDL) has been planned with the goal of identifying, making accessible and preserving in digital form the significant scientific heritage created by the Sapienza researchers. The ambition is to make this material understandable and re-usable both for the scientific community and professionals and for no-academic users. The digital resources are described by the investigators themselves, on the basis of detailed policies and with the support of professionals whose expertise is based both on archival and librarian principles and methodologies.

A special attention is dedicated to the contextualization of the resources (through the definition of flexible partitions and other links), to the provenance information and to the scientific rendition of the research projects and their outcomes. Each collection is described and made accessible by respecting its specific vocabularies and standards. Moreover a validation process is always in place to support a qualified approach. At the same time, the SDL system is

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archival descriptions" (Vines, Hall, and McCarthy 2011, 178–179; see also Dryden 2007).

implemented with the aim of being easily accessible and respectful of access rights for general users and/or (if required) closed research communities. The main goal (a sort of a mission for the SDL team) is to limit the *anarchy* of the data/records collection and curation, by capturing researchers' attention and interest for a broad and qualified usability under the umbrella of a common institutional infrastructure.

The case studies taken into account (such as collections of archaeological documents or audiovisual archives created in performing arts sectors) have clearly shown need of specialized tools able to support the history of fonds/collections, their internal structure and their logical links and relations with creators and preservers. Among other information types, the SDL carefully describes also the collections partitions and the external relations with other collections, their creators and preservers (Yeo 2012).

In order to better discuss the challenging aims previously summarized, this section is articulated in two areas related to i) the innovative nature of SDL as a *digital library with archival functionality* and ii) the *organization services for researchers and users*. A third section will briefly discuss *open questions and new challenges*.

3.1 The nature of SDL

The innovative nature of SDL (if compared with more traditional digital libraries available on the web) is firstly based on the attention paid to the complexities involved in the digitization of multidisciplinary materials and on the aim of ensuring the compliance with methodological specificities of different domains. This goal has implied the definition of a conceptual framework able to provide the respect of contextual information relevant for each scientific domain. The archival principles and methods have been

adopted by the project team[2] to build and implement these contextual dimensions. In particular, the SDL has adopted the archival standards (ISAD, ISAAR and ISDIAH) to describe – at a high level – any kind of collections and archives and their related provenance information (their partitions, their creators and preservers, the scientific projects, methods and techniques behind the digitization processes and/or the creation of digital born materials). The standard MODS has been selected for describing the single digitized or digital born items, according to the Europeana representation model.

A special attention has been dedicated to the definition of the nature of the representation (physical object, reproduction or born digital resource) and, in case of digital representation, to the intellectual relations with the represented physical object and the required level of information mediation. The scientific quality of digital representation of the physical objects and the description and curation of the chain of preservation can be supported only by characterizing the metadata attributes related to the physical object, and those referred to the digital surrogate: the Provided CHO (Provided Cultural Heritage Object) and the related web resource, both represented by the EDM (Europeana Data Model) developed by the Europeana research group.[3]

The digital content aggregators (like Europeana), which do not store the actual digital objects, and of course the related physical resources, which they describe and make available online, have to distinguish clearly the physical (original) object and its digital representation and make their related metadata explicit. Europeana,

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[2] The project team includes professionals and researchers of many domains: archivists, librarians, IT scientists, experts for network communication, digital rights and modelling,

[3] *Europeana Data Model Mapping Guidelines*, http://pro.europeana.eu/c/document_library/get_file?uuid=99ce6a74-8e55-4321-917a-65bdff1fe5bc&groupId=51031.

as metadata aggregator, collects metadata on cultural heritage of many European cultural institutions without direct responsibility as far as the originals and the long-term preservation of their digital representations. For this reason, the conceptual analysis has been apparently less complex than in the case of the digital finding aids developed by the institutions of memory. Nevertheless, the question has been clearly defined only recently, thanks to the shift from the initial and too simple representation model called ESE (Europeana semantic elements) to the more complex and more adequate EDM model, which has already been mentioned.

More specifically, the EDM model solves many limits of the previous ESE model: it not only allows for a clear distinction between a physical object and its digital representation, but also supports the capacity of distinguishing the resources and their descriptive metadata and includes basic references for contextual information. The separation of conceptual levels and the new types of information allow the capture and the preservation of information on provenance, the aggregation of different kinds of materials and the implementation of descriptive and administrative metadata according to the nature of the objects (physical, digitized or born digital). These changes have contributed to the solution of relevant semantic ambiguities, with specific reference to terms such as author/creator, dates and place when applied to physical objects. The most critical issues concern the archaeological and museum objects, but the question of a separate description for the original objects owned and their digital surrogate is relevant at a general level for the qualification of the digitization projects and must be specified at the early stage of the collection description with the cooperation of scholars who are expert and responsible for the collections creation and preservation. Thanks to this collaboration the project has been planned on a systematic basis and with more attention – as it happens for the archival description – to the roles and responsibilities involved in the creation process of the collection.

Also the documentation of the project and its implementations have been designed according to the archival methodology which is considered both for ensuring the reliability of the SDL services and for assessing the quality of the repository selected for digital preservation of SDL resources. Record management functions have been put in place for supporting legal evidence and certification processes. They are a crucial requirement for the creator (the SDL service itself, run by Sapienza administration, and imply a record management service) and for preservation repository (at the moment outsourced to Cineca Consortium and developed in compliance with the best international standards and national legislation).

The role of the scientific responsibilities is always recognized and respected. It is defined at collection level and made explicit in the presentation and documentation of each project. Special attention is dedicated to guarantee various degrees of access: an easy access for unskilled common users and advanced functions implemented for requirements of the investigators and educators.

To ensure the interoperability and the consistency of the descriptive information, the adoption of metadata must be based on standards, and more specifically international standards for authority files and thesauri, possibly expressed according to the linked data language.

TGN (Getty Thesaurus of Geographic Names) and Geonames for places, VIAF (Virtual International Authority File) for individuals and corporate bodies, PICO 4.3 (*Thesaurus del Portale della Cultura Italiana*) and Marc Code List for Relators for roles, PICO and the *Nuovo Soggettario di Firenze* are the most important standards adopted for SDL indexing, with the eventual integration of controlled vocabularies based on domains and disciplines. The standardized approach for descriptors, names, dates and places should be able to qualify the access points and to improve the efficiency of indexing and contextualization with reference to capacity of the search engines.

3.2. Organizational services

Organizational services have been considered crucial elements for qualifying the project. They are based on the definition of a series of internal policies and specific workflows to increase the efficiency of present and future implementations. They include a flexible system for managing digital rights, which is at present under implementation.

More specifically, the SDL regulation (still in draft) recognizes that the digitized or born digital products are part of the University digital ownership. Among other prescriptions, the rules specify the list of potential digital heritage which could be part of SDL. Among others:

a) the collections of digital objects, the digital archives and the individual digital objects created alongside the Sapienza University scholars research and educational activities, with the exception of scientific publications and other products protected by copyright legislation,

b) the scientific products, specifically those communicated as open access, with respect of the authors intellectual property,

c) the digital collections, archives and objects of scientific and educational relevance whose right for digital communication has been legitimately acquired by the University's bodies,

d) the theses and the final dissertations for courses, masters and PhDs,

The regulation and the following policies (which have been identified as a crucial component of SDL system) state specific workflows and procedures aimed at controlling and qualifying the digitization processes and online communication such as:

- each project must be approved by the SDL management committee,
- the scientific plan and related essential metadata (title, history and collection description) must be defined under the responsibility of a scholar involved in the research project and identified on the basis of his/her knowledge of domain,
- the collection description should include: contexts, responsibilities, creators and preservers history (based on ISAAR standard), definition of partitions and levels, chronological dates, quantity and type of materials (based on ISAD standard), the technological analysis related to the digitization project (the phases of the project, the appraisal motivations, the formats),
- the project must include a detailed information on licensing (which will guide the definition of digitization itself with specific reference to the online accessibility of the collection; the authentication process changes for each degree (open access, Sapienza community or the research group),
- the digital collection can be enriched with other materials (publications, videos, reports) able to integrate and further contextualize the information made available,
- many responsibilities can be identified (technical, managerial, editorial),
- procedures for validation are put in place and include documentation to make possible the overtime verification of the integrity and the authenticity of the digital collections but also to make explicit the selection principles at the basis of the digitization.

The project required a relevant effort to guarantee an efficient portal organization with attention dedicated to the quality of information made available and its effective web surfing.

A road map for preserving born digital and digitized resources and associated metadata is also under implementation. It includes the respect of the main standards (OAIS, METS, ISO 16363), rules for responsibilities and workflows for acquiring and maintaining documentation and for ensuring quality and consistency of processes for submission and for archiving. The preservation is a crucial SDL requirement not only for the continuity and the persistency of the investments, but also because the SDL is already (even partially) a place where to recover born digital materials created and managed by the researchers to support their investigations and to improve the communication for any type of users.

From this perspective, but also for accountability reasons, the pilot phase has already proved the need for an accurate management of the digital resource life cycle, to guarantee the accuracy both of the cataloguing metadata and the identification and organization of the archival records involved in the development of the SDL application. For this reason and for the persistency of the digital library contents and functions, a records management platform (the platform active for University electronic records, called TITULUS) will integrate the SDL by providing services to document general plans and each decision related to individual digitization projects with specific reference to the adoption of policies and to the definition of responsibilities.

4. Open questions and new challenges

As previously mentioned, the project is not concluded (we should start with plain service in the course of 2015 but we are already able to provide protection and visibility to our community): the prototype still presents some critical aspects to assess and verify. Among others, the most advanced solutions imply more testing than

expected and must be supported by a large cooperation with other universities and research institutions which operate in the area of cultural heritage. Specific agreements are under definition with the other regional Universities.

An essential condition to verify is the measurement of the effectiveness of this first version which could be transformed into a national framework for the curation of digital heritage created in academic environments. A metric is not easy to define and apply (because of the diversity of the producers and collections involved), but it should include the assessment of political and technical conditions such as:

- the capacity to manage qualified representations and contexts for a significant variety of data/records collections,
- the capacity of capturing the attention of the researchers and persuading them (but not too many at the same time) to commit to SDL the digital outputs of their research both for their "institutional/scientific communities" and for enlarging the SDL users and consumers with less fragmentation and longer lifetime perspectives than those allowed by websites based on single project funding,
- an acceptable and efficient balance of flexibility and standardization for representing scientific knowledge and its documentation.

Of course, the pilot nature of the project is not compatible with conclusive considerations. As mentioned, the project is still under testing and still implies many relevant adjustments and implementations. In any case the enterprise which started three years ago is one of the most ambitious among the existing national initiatives whose aim is to mediate in a digital form the representation of scientific knowledge. As previously mentioned the most difficult task has been the development of an interdisciplinary approach, respectful of the diversities and able to include the best

technical solutions suggested by the professional domains. For archivists and librarians, a key (and not avoidable) question concerns the role that these disciplines will be able to play in such an open environment.

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ABSTRACT: One of the most critical problems for research archives is their definition. Without a common dictionary and a robust conceptual framework, academic research heritage, specifically if in digital form, is at risk; the efforts made for its preservation and exploitation will not be able to face old and new challenges and even less to exploit technological potentialities and new languages available. The tools developed for making accessible and preserving the academic outputs generally support creation of digital library and repositories for publications or for individual items. Specialized and efficient tools for identifying, describing, making available and preserving this heritage are required. Compliance with acknowledged standards is necessary, but it is also essential to define consistent workflows, approve adequate policies and build sustainable services. The paper will discuss these issues by presenting the Sapienza Digital Library and its goals of identifying, making accessible and preserving significant research heritage in digital form. The ambition is to make it understandable and re-usable both for the scientific community and professionals, and for no-academic users. Digital resources are described by the

investigators themselves on the basis of detailed policies and with the support of professionals from the archival and librarian domains. Special attention is devoted to resources contextualization, to the provenance information and to the presentation of research projects and their outcomes. Collections are described and made accessible taking into consideration their specific domain vocabularies and standards and a validation process is in place to ensure a qualified approach.

KEYWORDS: Data curation, Digital library, Research data, Research data archives, Sapienza Digital Library.

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RDA: Resource Description and Access: The new standard for metadata and resource discovery in the digital age

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Reading RDA guidelines will greatly benefit the novices. Keeping in mind the main objectives of RDA, which are to *identify* and to *relate* entities, will help remove preconceptions based on how those objectives were technically achieved in the past to suit a completely different working environment.

RDA has a deeply modern and pragmatic approach to resource description and access. RDA is, in fact, a standard for content and does not provide a standard for displaying data as was prescribed in many previous cataloguing codes. In other words, RDA aims to provide instructions on how to identify the data but does not explain how and where to present the identified data, selected and collected according to the guidelines.

This context raises some kind of warning to the readers experts in cataloguing. RDA requires an original approach, a *metanoia*, [1] a

[1] "Metanoia, a transliteration of the Greek μετάνοια, has been reckoned the greatest word in the New Testament" ("Wikipedia").

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profound transformation of the way of conceiving cataloguing. The process of traditional cataloging starts from the description of a publication and of an exemplar; the description, drawn up according to ISBD – International Standard for Bibliographic Description (International Federation Of Library Associations and Institutions 2011) – is the essential information about a resource. In traditional view, cataloguing is equipped with a series of tools allowing a user to search for resources: headings in the card catalog, access points in the electronic catalog. Always in the traditional approach, a later and complementary task to the description of the resource is the task of authority work to record data about the entities responsible for the resource and related resources and even subject terms, using special attributes and qualifications. RDA approach is different, and one could become, perhaps, confused; particularly, when consulting the general *RDA Toolkit* index, one could notice that a part devoted to the description of the resource and of the exemplar – as it appeared in AACR2 (Joint Steering Committee for Revision of AACR and American Library Association 2002, chap. 1–13) and in other codes – seems to be missing. With RDA, one should keep distinct the two aspects of cataloguing that, by tradition, have been treated together: 1) what data is to be recorded; 2) in what form and order this data should occur and be displayed. The new standard answers the first question, but not the second, highlighting that the choice of visualization and presentation of the descriptive data and relationships depends on the technological choices adopted by those who produce the data and, of course, on the context in which this data will be set according to the readers' information needs.

In the first part of the text, guidelines deal with the registration of attributes of an entity (*identify an entity*) and in the second part with relationships that entity may have with other entities (*relate an entity*). To identify and relate an entity are the two fundamental objectives of the RDA. 'Identifying' implies the recording of attributes of an entity, through a process similar to that of creating an authority record for that entity. For this reason, the RDA guidelines

make systematic identification of all types of entities provided by FRBR: persons, families, corporate bodies, works, expressions, manifestations, and items. This systematic procedure increases the granularity of data that, at this point of the process, serves to identify entities, but not to clarify the relationships that exist between them. For example, one can have data about some author and about some work, and at the same time one cannot know that there is a connection (relationship) between those data. This is the reason why the second goal of RDA is to relate the entities on the basis of conceptual and functional connections. Compared to previous codes, the guidelines devote much space to relationships. Providing relationships enables the navigation function of a catalogue, to guide a user to related entities, including data with different type and origin. The navigation function was conceived by Elaine Svenonius and incorporated in ICP (Svenonius 2000; Svenonius 2008).

After we have identified and related the entity, the process of data creation is completed. What today is defined description, tomorrow with RDA will be the result of the visualization of a set of attributes and relationships related to the resource. Furthermore, the set of displayed attributes and relationships will vary depending on the application that will be used to explore the data, and the same data can be used on the fly, or according to necessity, appropriately to the context in which this data is located.

Barbara B. Tillett writes: "RDA is intended to make possible the creation of *well structured* metadata for the resources so that they can be used in any environment, such as: a card catalog, an online catalog, an advanced and interactive research-based web applications" (Tillett 2014, 13).

The presentation and display of data relating to an entity is a subsequent process independent from the registration of its attributes and its relationships. Consequently, the structured description (for example, according to ISBD, the standard that has permeated the bibliographic description of the early 1970's until

nowadays and which characterizes the record of the current catalogs) is, in RDA, only one of many different solutions to assemble and display descriptive attributes. For this reason, ISBD is contained in an appendix (RDA Appendix D), that is, outside the actual text of the RDA guidelines (Bianchini and Guerrini 2009; Escolano Rodrìguez 2012).

This innovative framework marks the substantial, Copernican, difference that guidelines have with the previous cataloging codes: from the centrality of the record one passes to the centrality of the data. With this data, the meaning of which is defined (or registered) in controlled vocabularies managed by a community of experts, it is possible to create products – datasets – for their reuse in any environment.

RDA replaces AACR2, a code in which the terms *Anglo-American* and *cataloging* had a considerable weight. The new standard abandons in its title the geographical reference. It is due to the fact that, although it finds its origins in Anglo-American context, this standard aspires to become a standard with real international connotation. Moreover, the RDA standard removes from its title the term cataloguing, for now almost exceeded, because the aim of the description is no longer the production of a specific tool (a catalog is considered as a set of bibliographic records), but the realization of a service of access and description integrated with other information tools and access to resources.

Therefore, there is no longer a compilation of record, but the definition of data (about a work, an author, etc.), formulated mostly through terms extracted from controlled vocabularies and ontologies. The use of a common language, recognized and shared for data structuring, gives the opportunity to reuse the same data by anyone interested to do it, whether it is a human entity (person interested in using data for purposes and projects although these are different from those for which the data was conceived), or a machine, for all inferential processes that base their logic on

relationships established in vocabularies and ontologies in understandable machine languages.

This concept of reuse of data and, therefore, of interoperability between different systems able to communicate between each other is possible by the adoption of standards and shared vocabularies. This approach is closely related to the philosophy of linked data, but it carries out also the concept of cultural responsibility. Those who manage vocabularies and ontologies technically, semantically, and linguistically play a vital role in the definition of the words and relationships between them. The controlled and semantic terms will be used automatically and, therefore, uncritically by the processes of inference managed by machines. The choices in definitions of new vocabularies and ontologies assume, therefore, a technical dimension and cultural relevance in the process of global communication.

Even the adjective *bibliographical* is no longer appropriate, because, from the point of view of those who carry out a search, the task is to find recorded knowledge or any resource that conveys information, any resource that is the vehicle of intellectual or artistic content on any media and in any form.

The subject of cataloging (or *data recording*, the contemporary name of cataloging) becomes thus any entity of interest to a user. Therefore RDA has the ambition to present itself as a unique code for data recording for resources that can be found: in libraries (manuscripts, books, periodicals, music, maps, movies ...), in archives (institutional documents, personal and family papers, business documentation ...), in museums (works of art, costumes, artifacts and natural objects, aircraft and space vehicles, models ...) and for resources produced and disseminated using digital technologies (e-book, databases, web sites and the digital version of what is collected by libraries, archives, museums, etc.).

The standard will deepen the process of collaboration with archivists and museum professionals who, in the past, developed specific ways

to describe resources of their collections, very different from those developed for libraries. The development of RDA guidelines has taken and will continue to take greater account of these non-library traditions. The makers of RDA are aware that it may totally replace standards and models developed by other communities. Creating metadata is, however, a transverse operation that affects all those who create data and publish it anywhere in any context and subject area: bibliography, publishing, media, public administration, geography, art, archeology, sports, life sciences, music, religion ... This constitutes a crucial aspect for present and future collections, even more in the context of the Semantic Web.

RDA is a flexible and modular standard, so it can also be used for any new resource types that may appear in the universe of recorded memory. Its purpose is to create "a set of guidelines and instructions for the formulation of data allowing the discovery of resources". This point of view is much wider than those offered by the previous codes, because it acquires knowledge gained over the past decades: how to allow a user to easily find a resource, regardless of its type and its place in the library, in other memory institutions, or anywhere?

RDA is, therefore, a universal standard, although it is based on theoretical documents born in the bibliographic field.

RDA focuses on the information needs of users, the information needs of anyone, anywhere, at any time, and contributes to repositioning libraries in the era of the Web as information and documentation services necessary to modern society.

The RDA guidelines are designed for the digital environment and are connected with Web tools, in particular with search engines. The technological aspect of the RDA Toolkit itself becomes an important part of the connection of the RDA instructions to the digital environment, particularly for linked data. By providing terminology and metadata through the RDA vocabularies for elements and

relationships, RDA Toolkit becomes an essential part of the descriptive process for identifying resources. If data provided by a cataloger is neither exactly identified nor uniquely qualified, it can't effectively carry out its functions. In comparison with prior standards, RDA guidelines allow one to create more granular data and, above all, to provide instructions for associating each element to the relevant FRBR entity, showing, also in this case, the close proximity to the FRBR conceptual model. RDA guidelines have a great deal of novelty and in various directions. One novelty is that RDA promotes the integration of catalogs with other information tools. The RDA guidelines, in fact, have adopted the language and logic of the Semantic Web, thus favoring the inclusion of bibliographic agencies in global communication, within which they can play a renewed role as leading protagonists, along with countless other institutions.

Another novelty is RDA's presentation as an international standard, favoring participation of different international actors, with distinct roles regarding description and access to resources: the sharing of data and of work methods is a qualifying aspect in the paradigm of the connected world. The larger the number of those who produce and share data for the description of resources to be reused in different contexts, the higher is the degree of satisfaction of information users' needs (Bianchini 2012).

A unique standard does not mean the loss of richness and special traditions found in national cataloging practices; it depends on the way each implementation is related with the standard. What to expect? Mere passive acceptance or dynamic participation in the evolution of this international standard, beginning with the preparation of its semantic part?

It is hoped that the new standard will be enriched with the editorial participation of a wide community of professionals from all over the world, each bringing the best of its cultural background, in a collaborative process with a global dimension.

A further challenge of the RDA guidelines is training (we could talk almost about gestation) of a new generation of librarians and cultural operators who will be able to guide and assist IT companies in the creation of new tools to support resource description and access. Finally, another strength of RDA is continuous updating of instructions and vocabulary by experts in various disciplines and from various parts of the world, which should be accompanied by the maintenance of existing bibliographic data and the correction of minor errors in the RDA Toolkit.[2]

We can be proud that, with the publication of RDA, the *great cataloging tradition* is taking another historic step that marks its definitive entrance into the digital age.

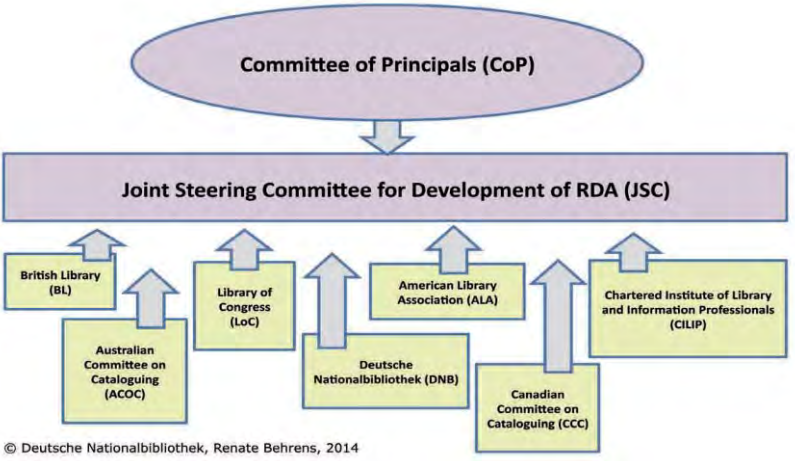

Figure 1: Committee of Principals and Joint Steering Committee for Development of RDA (JSC)

[2] http://www.rda-jsc.org/2013JSCdocumentoutcomes.html

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ABSTRACT: RDA (Resource Description and Access) is going to promote a great change. In fact, guidelines – rather than rules – are addressed to anyone wishes to describe and make accessible a cultural heritage collection or tout court a collection: librarians, archivists, curators and professionals in any other branch of knowledge. RDA offers a "set of guidelines and instructions to create data for discovery of resources". Guidelines stress four actions – to identify, to relate (from FRBR/FRAD user tasks and ICP), to represent and to discover – and a noun: resource. To identify entities of Group 1 and Group 2 of FRBR; to relate entities of Group 1 and Group 2 of FRBR, by means of relationships. To enable users to represent and discover entities of Group 1 and Group 2 by means of their attributes and relationships. These last two actions are the reason of users' searches, and users are the pinpoint of the process. RDA enables the discovery of recorded knowledge, that is any resource conveying information, any resource transmitting intellectual or artistic content by means of any kind of carrier and media. RDA is a content standard, not a display standard nor an encoding standard: it gives instructions to identify data and does not care about how display or encode data produced by guidelines. RDA requires an original approach, a *metanoia*, a deep change in the way we think about cataloguing. Innovations in RDA are many: it promotes interoperability between catalogs and other search tools, it adopts terminology and concepts of the Semantic Web, it is a global standard, it can be applied by different agencies to create data. RDA is expected to be enriched by wide community of professional, from

all the world, in a collaborative, well-aware, recognized and global perspective. By RDA, the great tradition of cataloguing goes one step further and joins the digital age definitively.

KEYWORDS: RDA; Cataloguing; Semantic Web.

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Towards a Semantic Web. A comparison between RDA and REICAT descriptive solutions

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1 Introduction

Making data fully interoperable in the semantic web is the greatest challenge that libraries are currently facing. The transition from rigidly structured record on proprietary formats and their diffusion only in the library field to linked open data, interconnected with the rest of the web, represents a radical transformation in the organization of cataloguing information.

In order to do this, libraries must build their structured data on logical entities clearly defined and globally shared, in order to facilitate the construction of semantic ontologies which could be used even in areas outside the original domains.

The creation of an ontological map of the bibliographic world is the first step to take to create a community library that could interact with the web through a mutual exchange of data. In order to begin an alignment process among logical entities produced by RDA drafters (RDA 2010) and those at the core of the new consolidated edition of the ISBD (International Federation Of Library Associations and Institutions 2011), in November 2011, a meeting was held in Glasgow for the harmonization of data among the ISBD Review Group, the ISSN Network and RDA Joint Steering Committee. This

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meeting produced a table of comparison[1] whose main purpose is to be the first step towards full interoperability between the two texts.

Starting from the structure of the ISBD areas, in this paper the priority is to show how the logical entities described in REICAT, chapter four (Commissione permanente per la revisione delle regole italiane di catalogazione and Istituto centrale per il catalogo unico delle biblioteche italiane e per le informazioni bibliografiche 2009), could be collocated in this alignment process. In the following pages, we will compare the textual architectures, the basic logical entities of RDA, the ISBD consolidated edition and REICAT with one another, analysing the similarities and the differences, to try to understand whether from the new Italian cataloguing rules could emerge a cataloguing structure fully operational in a semantic environment.

2 Area 0

The ISBD area 0 is devoted to the GMD, General Material Designation. This new area identifies the described resource's product group, defining a documentary macro-category for the identification of the typology of the resource. These data, which has been present in the ISBD from 1977, have entered in the ISBD schema for the first time with the ISBD Consolidated edition. After a temporary collocation in area 1, the GMD have been systematized in the new area 0.

The area is divided into two sections: *content form* and *media type*. The former defines the resource expressive form, «form or forms in which the content of a resource is expressed » (ISBD. 0.1), while the latter, devoted to the *media type*, is for entering «the type or types of carrier used to convey the content of the resource» (ISBD. 0.2). For both sections there is a list of controlled terms to be used.

[1] Alignment of the ISBD element set with RDA element set – RDA, Appendix D.1. URL: http://www.rda--jsc.org/2011jscisbdissnoutcomes.html.

The need to put in a "zero" position the instructions about the material form of the resource arises as a result of an ever-increasing amount of non-textual resources appearing in the collections described by the ISBD. In a semantic environment, where the metadata produced by libraries happen to be linked to data coming from different domains, the designation of the material becomes a key element for the resources identification.

Regarding content form and media type, the RDA Joint Steering Committee decided to separate the information in two different portions of the text,[2] devoting chapter 3 (Describing carriers) to the *media type*, and the paragraph 6, 9 (Content type) to the *content form*. This relocation implies a deep conceptual modification. The content form analysis is not any longer connected to manifestation but it is dealt within the chapter devoted to works and expressions. The reason for this relocation is the willingness to build a catalogue structure based on the four different typologies of the resource inspired by FRBR (IFLA Study Group on the Functional Requirements for Bibliographic Records et al. 1998).

The RDA architecture aims at increasing interoperability with data produced in domains external to the libraries. In this way the cataloguer analysis is extended to resources that are not always based on the typical bibliographic quadripartite structure. Finally, we want to emphasize that RDA drafters "explode" the record structure typically identified by the ISBD, by changing the sequence of the elements. At the base of this choice there is a focus change, the attention of the text is no longer focused on the information structure, but on the individual data. In this perspective, the sequence of the areas, a key element for the ISBD world, loses his

[2] RDA has 37 chapters divided into 10 sections. The first two are devoted respectively to the *Recording attributes of manifestation and item* and to the *Recording attributes of works and expressions*.

centrality and the visual organization of data becomes a simple layout choice made by the user.

In the Italian rules, the GMD does not find an autonomous space, unlike the great relevance reserved to it in the other two texts, and it has been relegated to search filter: «the general material designation[3] is not covered by these rules as part of the bibliographic description. It is considered more appropriate to record it separately, usually in coded form, in order to display it according to the procedure and in the most convenient position, as well as possible filter for the search» (REICAT, 4.1.0.1, footnote 1). This choice meets the specific practice of the Italian libraries, still strongly focused on the cataloguing of the print resources, but it is lacking in the theoretical aspect and in the prospect of a cataloguing functional to new semantic platforms[4].

3 Area 1

Compared to the past, in Area 1 there is a radical lexical change made by the ISBD. The standard changes its focus, with regard to the statement of responsibility from the term author to the act of creation, «a statement of responsibility consists of one or more names, phrases, or groups of characters relating to the identification and/or function of any persons or corporate bodies responsible for or contributing to the creation or realisation of the intellectual or artistic content of a work contained in the resource described» (ISBD., 1.4). This definition leads to the use of the term *creator* instead of *author*, a term rarefied in a list of figures (Group and Committee 2011, chap. 1.4.2) and it is unchanged in RDA. Regarding REICAT, the term *creator* does not appear anywhere in the text, but the meaning given

[3] As for the adjective that qualifies the GMD, departing from the old translations and from the REICAT choices for the Italian translation of the ISBD consolidated edition is selected to use the term *generale (general)*.

[4] «The rules are based on the needs of a detailed, rigorous and uniform cataloging that characterize the catalogs of library systems or cooperation networks and those of large libraries» (REICAT 0.1.4 A).

to *statement of responsibility* is very close, «by statement of responsibility we mean a name or an expression that indicates persons or entities that have a relationship of responsibility with the published works or their expressions, or function they perform» (REICAT, 4.1.3.0). The slip from the concept of *author* to that of *creator* has resulted an extension of the concept of *responsibility*[5] in the three texts, especially in the field of audio-visual resources that often see the efforts of several individuals. The *creator* concept results, compared with that of *author*, closely connected to work and expression level rather than manifestation. Furthermore if the changes appear minimal in a descriptive level, the same cannot be said on the conceptual. The *creator* figure is connected to all those personalities who play a creative role in the definition of a resource, and not anymore at the single *author*. The choice of REICAT to not ever refer to the concept of *creation* is muddled and disconnected from the international context. Also clearly demonstrates the lack of propensity to create ontologically well-defined elements, the first step towards a construction of a semantic interface.

Regarding the textual architecture, RDA has chosen to divide the area into two parts 1: Title (2.3) and Statement of Responsibility (2.4).[6] This decision once again demonstrates the perspective shift made by RDA with the change from a focus centred to the record to a data centrality. This split is based on the need to divide the elements in order to better identify the individual entity to be marked. Title and Author have been included in the same area since the first edition of the ISBD as they are considered the most significant elements for the identification of a resource. RDA breaks

[5] The Italian choice is complex, because the use of the entity *creator* would have been a logical simplification compared to the use of a *statement of responsibility*. It also appears the lack of interest towards the creation of ontologically-defined terms usable in a semantic structure.

[6] The second chapter of the RDA, dedicated to the *description of the Manifestation and Item*, broadly reflects the structure of ISBD areas and when this does not occur implies a conceptual shift.

this habit. The use of an XML metalanguage provides that each data should be "atomized" in order to be well defined and used in a semantic architecture.

Area 2

This ISBD section is strictly connected to hardcopy resources. For this reason, the differences among RDA, REICAT and the ISBD are minimal. This area is based mainly on information available in books. Therefore, this area is less subject to a data exchange with areas external to the libraries. As a consequence, there is no deep conceptual difference among the three codes, which do not show the usual differences emerging from the greater or lesser openness towards resources external to libraries.

Area 3

The third ISBD area is restricted to *cartographic resources*, *notated music* and *serials*. In the consolidated edition, the fourth resource, that was traditionally part of the Area 3, the electronic resources, has been placed elsewhere. Area 3 examines the mode of presentation of the characteristic data, observing mathematical data for cartographic resources (scale, projection, coordinates and equinox), musical format statement for notated music (as score, musical arrangement, etc…) and numbering related to serials.

REICAT drafters follow closely, in this portion of the text, the ISBD structure, with the only difference represented by the fact that firstly REICAT deals with notated music and secondly with cartographic resources.

Regarding RDA, even in this case, the text drafters decided to "blast" the area, as they did for area 0. The serials are being discussed in the second chapter, paragraph 2.6 *Numbering of Serials*, while data related to cartographic resources and to notated music are collocated in the portion of the text devoted to works and expressions (RDA 7.4

Coordinates of cartographic content, 7.5 Equinox, 7.6 Epoch, 7.20 Format of notated music).

As for the analysis of the elements present in this area, a deep difference can be noted between the ISBD and RDA. There are two completely different views of the serials in the two texts. According to RDA drafters, the serials are split and identified in their basic elements (the singles numbers), while, in the ISBD (3.3.2 and 3.3.3) and in REICAT (4.3.C.1.0), the series are identified and reported by the first number of the collection and by the last one. In this way, all the collection is perceived as a unique entity. From this structure derive two different cataloguing processes that are considered as one of the most peculiar differences between RDA and the ISBD, and likewise between RDA and REICAT.

This different treatment once again emphasizes the willingness of data atomization carried out by RDA drafters, in order to make the singles numbers individually indexed. On the contrary, the creation of a range of numbers, referred to a series, makes it impossible to search internally for individual numbers.

Area 4

The forth area aims at covering «all types of publication, production, distribution, issuing and release activities connected with resources» (ISBD. 4. Introductory note), and data related to manufacturing. Regarding this area, it is to be pointed out an important fracture between the ISBD and REICAT on one hand, and RDA on the other.

If in the two former texts the concepts of *publication, production, print and manufacture* are gathered in one section of the text, in RDA the drafters decided to assign a paragraph to each figure. Accordingly, RDA emphasizes the difference among the figures of publisher, producer, distributor and printer.

Such a specific subdivision of the roles within the production process is oriented towards the elements atomization, which in this way they

can undergo a process of autonomous tagging. Each element is thereby identified as a "quid" in its own right, in which the punctuation and the quotation order (ISBD cornerstone) loses importance, becoming simple elements of a layout changeable at user discretion. The catalogue is focused, once again, on the data and not on the record. It is the single informative element that will be analysed and structured, not the record structure.

The RDA main goal is to establish a unique set of entities individually marked with a specific URI. It is no longer the area context to define the role of a term but it is the same term that defines itself through its own autonomous tag. This paradigm shift is central to the creation of an ontological grammar of the cataloguing world, the first step towards the loss of the catalogue form in favour of a data cloud structure.

Focusing on two paradigmatic choices made by RDA and REICAT drafters, with regard to the area 4, can help us to understand the different perspectives in the information organization offered by the two codes. RDA distinguish themselves among the examined texts since they include the concept of *parallel place of manufacture*, among the analysed entities. This shows a willingness to cover all the possible options with the purpose of a complete tagging. On the other hand, REICAT are the only text in which the *place of printing* and the *name of the printer* are dealt with together in a single chapter. Although the same ISBD cataloguing choices are made, from the Italian text emerges a more interesting perspective to identify the resource properties and to build a record as complete as possible. On the contrary, RDA loses interest in the record construction and it turns to the unambiguous data marking.

The second element used for showing the differences between RDA and REICAT is found in the following statement of the Italian rules «as editor means the responsible for the publication of the issue. It may be a commercial editor, a public or private entity of any nature, a person, or more institutions or persons presented as responsible for

the publication, regardless of the functions actually performed» (REICAT 4.4.2.0). At first sight, this definition given by REICAT is very accurate and not too far from that provided by RDA (2.7.4). The distance between the two texts emerges when in REICAT is pointed out that in the entity of the *publisher* «are included distributors, booksellers and other figures that appear in relationship with the purchasers, the diffusions or published commercialization» (REICAT 4.4.2.0). As a consequence, the diversity of the roles in the process of production and distribution of a resource is lost, while in RDA autonomous chapters are found for each entity. On the other hand, the roles are defined better in the ISBD than in REICAT, but they are contained in a single entity: «The name of the person or corporate body appearing on the resource that effects respectively the publication, production and/or distribution or release activities for the resource» (ISBD. 4.2). Between the ISBD and REICAT on the one hand and RDA on the other emerges a radical split, as *Resource Description and Access* clearly distinguishes the different figures and creates individual definitions for *producers* (RDA 2.7.4), *publishers* (RDA 2.8.4) and *distributor* (RDA 2.9.4). The RDA main goal is once again the identification of a single information, in the perspective of the creation of a linked data network, and that is how it clearly distinguish itself from the other two texts.

Area 5

The area 5 is the ISBD section based on the material description and includes «the extent, other physical details, the dimensions, and the accompanying material statement» (ISBD. 5. Introductory note). Due to the variety of analysable resources, this area has a great importance and clarifies the codes perspectives as far as the future interests are concerned.

In the section of the text devoted to the description of the material, the ISBD and REICAT have overlapping structures and even the discussed entities are ontologically very close. The first part of the

area is devoted to the *specific material designation* (SMD) and to the *extent*. Then there are the recommendations about *other physical details* and *dimensions*. Finally, both texts end by dealing with *accompanying material statement*.

RDA is detached from this pattern, devoting a separate chapter to the material description, the third one, *Describing Carriers*. It was decided by the drafters not to include the material description in the paragraphs sequence of the second chapter devoted to the identification of Manifestation and Item and abandon the parallelism with the ISBD areas just to express the importance of the element.[7] The use of the rules on platforms used outside the library domains makes the material description, along with the GMD, an element of primary importance. RDA drafters, being more inclined to open towards new fields, build a much more precise text in the specification of the material description, so that in the text appears a division among *base material*, *applied material* and *mount material*.

An element of particular importance, to show the three texts different perspectives in the discussion about the elements of the fifth area is the behaviour of the rules towards the fixed and moving images. The ISBD, debating the issue of colour, points out a single choice between colour and black and white. In REICAT the choice is extended to another "colour" possibility, the *sepia*, and with the chance to mention the system of colour reproduction, e.g. Technicolor (REICAT 4.5.4.5 B). RDA proves to be, once again, like the most adjustable rules, as they speak explicitly of «presence of colours, tones, etc…» and from the examples it draws a complete freedom to define the colour treatment.

RDA remarkable peculiarity to work with a great amount of resources is also evident at paragraph 3.16.2, where, as far as the *recording method* is concerned, the rules refer clearly to *digital*, while

[7] Chapter 3 is in the first section of the text.

for the ISBD and REICAT this option is not mentioned. To stay on topic of *Technical Characteristics of the sound recordings*, the Italian rules dedicate to the theme only one paragraph, the 4.5.2.6., not focusing on the various technical specifications, as both the ISBD and RDA do, which qualify, despite slight differences between them: *Groove direction, Groove size, Number of tape tracks, track configuration, number of sound channels, Equalization* and *Noise reduction*.

Unlike the ISBD and REICAT, RDA deals with the concepts of *Duration*, *Illustrative content*, *Colour content* and *Sound content* not in the chapter dedicated to the description of the material, but in the seventh one: *Describing Content*. This shift towards the section of the text focused on works and expressions shows, once again, a different logical structure aimed at identifying these elements, no longer in the sphere of the manifestation but in the expression domain.

Area 6

Compared to the past, this area was renamed in the latest edition of the ISBD, expanding its scope from *Series area* to *Series and multipart monographic resource area*. This change has occurred as a result of the ISBD RG decision to leave to the library the choice about the level of granularity at which they mean to work and give it the tools to create a description coherent with other levels of descriptive depth.

This openness does not lead the ISBD to an autonomous definition of the sub-collections or sub-series as RDA does, where, with the purpose a specific marking, the following entities are defined separately: *Title proper of sub-series, Parallel title proper of sub-series, Other title information of sub-series, Parallel other title information of sub-series, Statement of responsibility for sub-series, Parallel statement of responsibility for sub-series, ISSN of sub-series* and *numbering within sub-series*. As it is in the ISBD, even in REICAT the identification of an autonomous entity for the sub-series is not retrievable. Unlike the standard in REICAT, to eliminate the arbitrary distinction between collections and sub-collections, are given the opportunity to put first

a common title and at a later stage, that of the different sections. Accordingly, the common title becomes the *main collection title*, to whom the dependent titles of one or more subsections add themselves. Finally in REICAT it is given the chance to indicate independently the sub-collection numbering, connecting it to the dependent title/sub-collection title.

The main difference in the analysis of the series area made by RDA on one hand, and the ISBD and REICAT on the other are born from a different approach to the sub-series. RDA treats them as an autonomous entity to locate and mark, while the ISBD includes them in series, not creating two logically different elements. On a similar way REICAT, in paragraph 4.6.1.2., compare the titles series to main titles and those of the sub-titles to dependent title.

Area 7

The notes area contains all the data that was not possible to debate elsewhere. For this reason, the ISBD drafters have decided to structure this section of the text following the progression dictated by the succession of the areas. REICAT, similar to the principle identified by the standard, did the same, although emerge some slight differences from the text.[8]

RDA are structured on a more complex textual architecture, in which the notes are grouped only for a small part in section 2.20, and for the rest, are traceable across the various chapters of the text.[9]

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[8] The Italian rules does not follow constantly the numbering of the areas as done by ISBD, but rather the succession of them. For this reason, paragraph 4.7.8. does not refer to the area 8, because the section about the notes on identifiers is framed in 4.7.7. Furthermore, the notes relating to specific material of the area 3, are separated with the numbering treated in 4.7.3., the notated music to 4.7.1. 4 A d) and cartographic resources to 4.7.1.8 E.

[9] In REICAT this occurs especially with regard to the notes on the relationships among the different levels of the same resource and among different resources, which are deepened in other parts of the text and not in the part devoted to the description.

At the base of this architecture there is a logical structure different from the ISBD one, able to structure a catalogue closely near to the FRBR conclusions, so often what appears in the standard as an indication notes about an one-dimensional element tied to the event, in RDA appears to be quadripartite among work, expression, manifestation, and item. Often the note, which in the ISBD and REICAT appears connected to a manifestation attribute, in RDA is in relation to each of the four different existence planes of the resource identified by FRBR. Just look in the text the proliferation of identifiers notes and the relationship centrality in the notes structure.

The focus shift from record to data resulted that the notes in RDA, rather than a practical element to describe, are "super- elements", since they are RDF data model super-properties, representing a possible record layout and no more an independent ontological entity to be defined and connected to the web.

Area 8

In the ISBD consolidated edition, area eight changes denomination going from *Standard number area* to *Resource identifier and terms of availability area*. Thus, the definition of *standard number* is abandoned in favour of *identifier*. At the core of this change there is the desire to highlight that the primary function of a standard number is to identify univocally an element. This transformation in the header area indicates the strong interest, by the ISBD RG, towards the digital semantics environment. The unique identification of the elements is indeed one of the basic elements for the creation of ontologies, because the identification numbers are alphanumeric strings built to identify a specific resource. So, this elements can be easily inserted in a semantic network. The standard identifiers defined in the ISBD glossary are:

- **ISBN** (Books)
- **ISMN** (Notated music)
- **ISSN** (Serial resources)

- **ISAN** (Audio visual resources)
- **ISRC** (Sound recording)
- **DOI** (Electronic resources)
- **Key title** (continuous resources)

Along with these elements there are: the *footprint* for older monographic resources, the *plate number* for notated music resources and the *publisher's number* for multimedia resources, sound recordings and video recordings. Alongside the ID numbers, the ISBD collocates within the area the *terms of availability*, which consist in the price and in the intended use (censorship limitations or web address indications for the retrieval of the resource).

The standard identifiers, indicated by the ISBD in the glossary and in the examples, are gathered from REICAT which explain standard numbers identified by ISO for the cataloguing world.[10]

RDA, unlike the other texts that are here analysed, has a view on a possible future[11] development, locating identifiers and standard for works, expressions, and items, in addition to the manifestation level, as already provided by the ISBD and REICAT. In today's usage there are no identifiers for other resource levels of existence, but RDA, in order to a complete conceptual cover, create a structure designed to the inclusion of these possible future creations. This decision shows, once again, a logical architecture designed to interface an environment based on a unique tagging, necessary element in the perspective of development of the semantic web. Also, as regard to the identifiers area, RDA explicit an inclination towards a new way of managing the cataloguing data, planning a future for cataloguing in which the concepts of a cataloguing record, uniform punctuation and catalogue become obsolete.

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[10] ISBN, ISRN, ISRC and ISAN are standard numbers defined by International Organization for Standardization. *REICAT*, cit., 4.8.1.

[11] Today regarding the works identifiers exists only the ISWC, International Standard Musical Work Code, widely used for music recordings.

Conclusions

From the analysis of entities treated in the preceding pages, it is clear the intention of REICAT drafters to build a completely different structure compared to that structured by the RDA JSC. The Italian rules are born at the dawn of the linked data development and are not developed to interface with them, but rather to be used in a traditional cataloguing environment. This theoretical delay is also detectable in the use of certain words, which represent the world of printed texts that now no longer appear in the lexicon of international theoretical. The persistence in the Italian text to use the terms *publication* and *header*, now almost disappeared from the international debate, is symptomatic of a perspective linked to the centrality of the printed text. In addition to the use of obsolete terminology, in REICAT we can also find a lack of definition that is not found in the other two texts.[12] Concepts such as *Main title, Title proper* and *Dependent title* are discussed without giving them a clear formulation. The definition of *Title proper and Dependent title*[13] is not clear and does not explains what they are, but indicates only how the common title can be a main title and how the dependent title can indicate a piece of text. Furthermore, in the text does not appear a clarification about the relationships between them or what makes a title, main or dependent (on the problems of identifying clear boundaries of the title proper in ISBD see Escolano Rodrìguez 2012, 79; Escolano Rodrìguez 2013). In the discussion on *material or type of resource specific area*, there are different concepts from the "scientific" realm which are not given a definition: *Projection*, *Coordinates*, *Latitude*, *Longitude*, *Right ascension*, *declination*, and *Equinox*. In RDA instead all these terms are uniquely defined, in order to make them

[12] REICAT are the only text here analyzed that do not have a *glossary*.

[13] «The title may be composed by two parts, called the common title and a dependent title, if a publication that should be described independently has, in any order and without a grammar link, both a general title and a title or expression of any kind that specifically indicates the part or section that contains» (REICAT, 4.1.1.3 A).

sharable in a semantic organization of information. The difference between the RDA and REICAT developments RDA and REICAT emerges also from the two texts goals. The former has as aim to build «a set of guidelines and instructions on formulating data to support resource discovery» (RDA), while for REICAT the goal is to provide «guidance for cataloguing *publications* of any kind and in any media and unpublished documents considered appropriate to include in the catalogue» (REICAT, 4. Italic by the Author). There are two different views of the organization of cataloguing information: on the one hand a text aimed at the creation of a traditional catalogue structured on bibliographic records, on the other hand a set of guidelines based on the aim to standardizing the information in order to create a structured metadata cloud in full connection with the web.

REICAT does not seem to have a structure fully operable with all the resources of the semantic web. RDA instead, proving to be the standard for the recording of structured metadata, break with the past and propose themselves as a new standard for the world of information retrieval, beyond the boundaries of librarian cataloguing.

In a future where «there will be even more obsolete and useless OPAC, sign of the individual system prominence» (Buizza 2010) the only RDA nowadays propose a credible option for librarian cataloguing and beyond.

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ABSTRACT: The paper proposes a descriptive comparison among the choices carried out by the authors of RDA and REICAT using 9 areas identified by the ISBD as a guide. Through a detailed analysis of individual choices, two different modes to understand the basics about cataloguing description and consequently also two different perspectives for future resource organization take shape. REICAT is still linked to "sheet" organization, uniform punctuation and

[14]The ISBD, RDA and REICAT basic entities mapping is available on: http://www.ifla.org/files/assets/cataloguing/isbd/OtherDocumentation/isbd-rda-reicat_table.pdf.

catalogue concept, while RDA outlines a new structure designed for a full data flow through a semantic platform.

KEYWORDS: Cataloguing; ISBD; linked open data; RDA; REICAT; Semantic web.

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Feasibility Study of Websites Cataloging at the National library and Archives of I.R. of Iran (NLAI)

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Introduction

Internet as a global network contains a tremendous variety of resources. The Web is getting more and more extensive and is seeping through the world's remotest countries. It is beneficial in several ways, as it enables users to access the latest world news, to know every detail of an event, to be informed as regards innovation and culture. However, despite its advantages, one has to cope with some problems and challenges. Information is dispersed throughout thousands of pages. To access the exact information you are looking for, you are bound to carry out an accurate search. Under these circumstances the main challenge is that of recall and precision (Ali Mohammadi 2002).

In collecting, organizing and distributing information, libraries and information centers are confronted with the difficult task of selecting and organizing resources from the web. The way to do so is the real challenge. A variety of standards, manuals and guidelines have been produced in this regard (Neshat 2003).

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Dealing with websites

Web materials are works which have been published in various formats by different individuals. They include: websites, weblogs, E-books, E- journals articles and so on. Among these, websites are considered to be the most numerous. A website is a collection of webpages within an internet domain providing multimedia services, such as text, voice, static and moving images. A webpage is a document written in HTML format that can be reached and accessed using HTTP protocol. The main part of a website is its homepage. The website of an institution, whether or not of a commercial nature, is its face to the world and the starting point for most users' visits (Nielsen 2002).

In order to evaluate the usability of a website the following issues should be considered: contents, language, structure, design, navigation and accessibility. The evaluation can be carried out according to two methods:

1. Evaluation with user participation
2. Evaluation without user participation

The first method will be especially useful for assessing whether the language and structure of the website is easy to understand for users (Poll 2007).

Standards and metadata projects for web materials organization

Various standards and metadata schemes have been developed for describing internet materials, among which the following should be mentioned:

1. Dublin Core (DC)
2. Machine Readable Cataloging (MARC21)
3. Resource Description Framework (RDF)

4. Encoded Archival Description (EAD)
5. Global Information Locator Service (GILS)
6. Text Encoding Initiative (TEI)

Cataloging electronic resources at the National Library and Archives of the I.R. of Iran (NLAI)

The following standards are currently in use at NLAI for cataloging books and no-book material:

1. Anglo American Cataloging Rules, Second Edition (AACR2)
2. International standard Bibliographic Description (ISBD)
3. Universal MARC

The use of MARC dates back to 2006. IRAN MARC is a customization of UNIMARC. Based on this standard, specific codes and worksheets were defined for describing electronic resources, which is carried out according to Draft guidelines for cataloging electronic resources (2003). According to the kind of access, electronic resources are divided into two groups: Direct Access and Remote Access resources (Abdoullahi 2002). Websites fall within electronic resources with a remote access. As far as direct access electronic resources are concerned, over 3,600 items have been catalogued at NLAI to date. It seems that, by paying attention to the above mentioned issues, standards and description rules for electronic resources are adequate for cataloging websites.

Definition of the problem

Websites are information resources playing a role in knowledge and information cycle. Cataloguing and organizing information resources is the basic, technical and central function or core element in regard to this. It is therefore necessary for NLAI to pay attention to these websites, furthermore because one of its main

responsibilities (as well as many others), is to supervise, control and compile cataloging standards for other libraries and information centres.

Since NLAI has entered the field of processing and cataloging books and non-book material consisting of electronic resources, it is quite obvious that it should have a clear programme and a plan for cataloging, updating and managing the websites. This research aims at exploring the feasibility of cataloguing websites as well as the most significant electronic resources both at a national and an international level by NLAI.

The research background

The research background in Iran is as follows:

1. (Haji Zeinolabedini 2002) has dealt with problems regarding the organization and information retrieval in the internet. He produced a manual on cataloguing internet resources by using criteria based on the Anglo-American cataloguing rules, some rules specifically designed for internet and electronic resources and those used for Persian material.
2. (Fattahi and Hasanzade 2006) have carried out an evaluation study on the information organizing styles in the academic libraries websites.

The research background out of Iran is as follows:

1. (Koch et al. 1997) have studied the role of classification schemes in describing and retrieving internet resources. They have recommended the use of these schemes to organize the contents of websites. They do not address issues related to the application of different styles of organization, nor to the point of view of librarians and users.
2. (Williamson 1997) with emphasis on the knowledge structure exist in the internet resources, in relation with the

knowledge organizing and management and information retrieval, has emphasized mentioned on the importance of the organization.

3. (Ward 2001) has produced a list of the activities which are carried out in the US libraries with respect to internet resources organization.
4. (Willer et al. 2008) have made an assessment of processing and organizing web resources, based on the costs supported by the Library and National University of Croatia. The conclusions of the research show that the processing time of printed and web material is the same.
5. (Younghee 2011) has investigated the time lapse between the creation of a web resource and the improvement of the original metadata by a third party. The research findings show that user satisfaction is related to usability, information elements, effectiveness and efficiency.

The importance of this research

The following issues have been addressed:

1. To establish a database of websites and enrich the National Bibliography of Iran;
2. To search websites by using the (Rasa) library software[1];
3. To establish access points or links for the end users based on descriptive and analytical aspects;
4. To improve recall and precision in websites bibliographic records;
5. To define standards and integration of websites cataloging in regard to descriptive and analytical aspects.

[1] Rasa is the special library software that has been used in NLAI, since 10 years ago.

The research scope

The main object of the present study is to carry out websites cataloging adopting the same standards as at NLAI. For this purpose the study in subdivided as follows:

1. Techniques for gathering websites information;
2. Bibliographic description of the websites on the basis of the same standards and rules as at NLAI;
3. Recall and precision accessibility improvement by establishing links and carrying out topical analysis;
4. Websites indexing based on subject systems in use at NLAI.

The main questions

1. How do we obtain information on/from the websites?
2. What is the situation regarding websites bibliographic descriptions based upon the use of NLAI standards and rules?
3. What is the situation regarding recall and precision accessibility to the websites links and subject analysis?
4. How are NLAI subject systems used for indexing websites?

The sample selection

The sample analyzed in the present study consists of 50 websites. They belong to 20 subject areas which have been selected at random from the Pars Index websites[2].

[2] http://www.parsindex.com.

Methodology of the research

The present research has been carried out through a descriptive survey and a library study. To collect the necessary information we have used check lists and descriptive statistics for data analysis.

The research findings and answers to the main questions

12.1 First question
How do we obtain information on/from the websites

In this research, for accessing the websites information, two approaches have been studied:

1. Using the websites list

   Some databases and websites show a list based on subject classification. Thus one of the approaches for accessing the websites information is to use the websites directory. Catalogues of this kind that could be included in the search sample were: Iran Website[3], Alexa[4] and Parsindex.[5] In the present research we chose to use the Pars Index. We could then access many websites and carry out our study.

2. Entering data regarding websites in the NLAI Websites.

   Since internet resources are information resources, they should be treated by NLAI as part of its mission. The

[3]. http://www.iran.ir/directory.

[4]. http://www.alexa.com.

[5]. http://www.parsindex.

NLAI Website can be a portal to access websites information. So by designing an "electronic worksheet for data entry of websites information" and locating it on the NLAI Website, we could obtain the websites addresses and their information.

Table 1 shows the recommended fields to design the "electronic worksheet for websites information data entry".

Table 1: The recommended fields to design the "electronic worksheet for websites information data entry"

Field name	Persian title	Parallel title	Owner	Computer designer	Production year	End edition time	Language	Subject area	Keywords	URL	Description
Field type	Required	Optional	Required	Optional	Required	Required	Required	Required	Required	Required	Optional

12.2. Second question: What is the situation regarding websites bibliographic descriptions based upon the use of NLAI standards and rules?

Table 2 shows the frequency of Anglo American Cataloging Rules and UNIMARC standard elements in the websites descriptive cataloguing.

Table 2: The frequency of Anglo American Cataloging Rules and UNIMARC standard elements in the websites descriptive cataloging

Area	Descriptive element	AACR2	UNIMARC (field)	UNIMARC (block)	Frequency percentage
Title and statement of responsibility	Title proper	9.1B	200$a	Descriptive Information (2)	76%
	GMD [Electronic resources]	9.1C	200$b		
	Parallel title	9.1D	200$d		
	Other title information	9.1E	200$e		
	Statement of responsibility	9.1F	200$f		
Edition		9.2B	205$a		68%
Type and extent of resource area: not used					
Publication and production	Place of production	9.4C	210$a	Descriptive Information (2)	70.6%
	Publisher and Concessioner	9.4D	210$c		
	Date of production	9.4F	210$d		
Physical description area: not used					
Note	Nature and scope	9.7B1	300	Notes (3)	51.4%
	Language	9.7B2	300		
	Source of title proper	9.7B3	304		
	Statements of responsibility	9.7B6	304		
	Edition and history	9.7B7	305		
	Publication , distribution, etc	9.7B9	306		
	Physical description	9.7B10	307		
	Related title	9.7B4	312		
	Pertaining to intellectual responsibility	9.7B6	314		
	Content	9.7B18	327		
	Abstract	9.7B17	330		
	Audience	9.7B14	333		
	Type of electronic resource	9.7B8	336		
	System requirements	9.7B8	337		
Total frequency percentage					60%

As shown in table 2, the most frequent application of standards and rules which have been studied for websites descriptive cataloging are in the title and author fields with 76 percent and the least frequent are related to the note field with 51,4 percent. So in relation with the second question, we can say that the possibility of websites descriptive cataloging, on the basis of the standards and rules which are being used at the NLAI, is approximately 60 percent.

12.3. Third question: What is the situation regarding recall and precision accessibility to the websites links and subject analysis?

The second part of AACR2 is related to subject analysis and link points. Table 3 shows the frequency percentage of relevant UNIMARC fields.

Table 3: The frequency of UNIMARC standard application in the websites links and subject analysis

Field name	Field number	Block number	Frequency percentage
Parallel Title Proper	510	Related Title (5)	61.5%
Other Variant Titles	517		
Expanded Title	532		
Additional Title Supplied by Cataloguer	540		
Personal Name Used as Subject	600	Subject Analysis (6)	82%
Corporate Body Name Used as Subject	601		
Title Used as Subject	605		
Topical Name Used as Subject	606		
Geographical Name Used as Subject	607		
Personal Name - Secondary Intellectual Responsibility	702	Intellectual Responsibility (7)	53.3%
Corporate Body Name - Primary Intellectual Responsibility	710		
Corporate Body Name - Secondary Intellectual Responsibility	712		
Electronic Location and Access	856	International Use (8)	100%
Total frequency percentage			70.4%

By observing table 3, we notice that the most frequent use of UNIMARC standard is related to block 8, with 100%. Block 6 comes next with 82% and then block 5 with 61,5%. The least used is Block 7 for which a frequency of 53,3% was recorded. So in response to the third question, we can state that the possibility of recall and precision access of websites with subject analysis and using the retrieval links established at NLAI is approximately 70 per cent.

12.4. Third question: What is the situation regarding recall and precision accessibility to the websites links and subject analysis?

At NLAI the non-book resources are indexed with the use of controlled language.

Table 4 shows the subject headings systems. It should be mentioned that other subject heading systems such as LCSH, thesauri, subject dictionaries, as well as encyclopedias, public databanks, special databanks for subject authorizing, are being used in addition to the subject systems listed below.

Table 4: The frequency of subject systems used in websites indexing

Subject system	subject area	Frequency percentage
Persian Cultural Thesaurus (ASFA)	Humanity sciences	66%
Persian Medicine Thesaurus	Medical sciences	100%
Science Thesauruses	Engineering sciences	100%
Persian Subject Headings	All sciences	72%
Total frequency percentage		84.5%

By observing table 4, we notice that every subject system has been studied. So in response to the fourth question, we come to the conclusion that the use of subject systems used for websites indexing at NLAI is possible in more than 84 per cent of cases.

Discussion and conclusion

By comparing the present research with other ones it can be mentioned that:

1. Websites organization is very significant, for user's satisfaction (Willer et al. 2008; Ward 2001; Younghee 2011).
2. The term "websites organization" by libraries or librarians, have been mentioned by Willer and Ward researches (2008; 2001).
3. Fattahi and Kock (2006; 1997) have emphasized on the websites classification and cataloging, for accessibility of the websites.
4. In some researches and studies (Haji Zeinolabedini 2002; Williamson 1997; Koch et al. 1997), use of resources cataloging rules and standards, are emphasized and confirmed.

The findings of this research examines that the organization of websites is possible at the NLAI;

- In this regard, we can design the "websites registration electronic worksheet" for organizing the websites;
- By accomplishment of the above step, the information of the websites can be seen by the end user. Thus we have, accessibility, usability and satisfaction of the users;

- Thus the websites information, can be seen at NLAI website;
- With the use of AACR2 in the UNIMARC metadata domain and customizing of the rules according to our needs, and by using the "websites registration electronic worksheet", the analysis and description of websites will be possible;
- Thus, the websites accessibility, with different access points, will be possible;

So that the websites indexing and subject analysis will be achievable.

Recommendation on the basis of the research

1. To design and create a portal for websites data entry (collecting and cataloging) in the NLAI Website;
2. To carry out specialist training in the websites cataloging field;
3. To program for websites information dissemination in a recall and precision situation.

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ABSTRACT: The focus of this research is the feasibility of websites cataloging with the use of the NLAI standard rules. For this purpose 50 websites in 20 subjects were selected at random from Parsindex Websites. The study was carried out following two different methodologies: a preliminary checklist was compiled in order to gather the necessary data and information and then descriptive statistics were used for data analysis. The findings show that the use of NLAI standards to organize and to catalog websites is both practicable and convenient.

KEYWORDS: Websites, electronic resources, cataloguing, National Library & Archives of I.R. of Iran (NLAI)

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Investigating the Educational Use of Web 2.0 Among Undergraduates in Nigerian Private Universities

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1. Introduction

The advent of Web 2.0 technologies has been a sort of breakthrough in the sharing and dissemination of information among various individuals and group while the impact is also felt on intellectual interactions most especially among the undergraduate students. The term Web 2.0 was first coined in a conference between O'Reilly and MediaLive International (O'Reilly 2005) where technical issues that borders on principles and practices of the entire web and its services were discussed. Its role in the academic and learning process can not be over emphasized. Web 2.0 is an umbrella term which describes several new web technologies and tools and its foundation encompasses a number of web based services and applications which ideally are not technologies themselves but most of them are being used in education (Salehe 2008). Web 2.0 generally refers to the social software tools such as; Educational blogging, Podcasting, Photo and Video sharing communication tools, Collaborative Authority, Social Networking and Synchronization of files which generally aided the communication and sharing of information online. Web 2.0 also refers to the social

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software tools such as book marking, RSS feeds, and Instant messaging that provide users with the ability to create and disseminate content (Zhang Leilei and Jinmin 2012). It has transformed not only the people's perception of the use of the internet, but also the way information is organized on the web (Leung and Kaiwahchu 2009).

The process of blogging involves publishing of selected educational materials such as school news photocopies lecture notes as well as other class activities on the internet for benefit of concerned students while a podcast is an educational digital audio and video recordings on an MP3 player or on a range of other devices such as PC, Mobile phone, ipods, PDAs, laptop, etc. it is normally played with the aid of iTune or windows media player. Media sharing involves uploading of selected visuals including pictures, photographs e.g. Flickr[1]. The communication tool may comprise of the email messages, online chatting and the VoIP (Voice Over Internet Protocol) which allow real time instant messages and communication between two individuals or between several individuals major examples are: MSN messenger, Yahoo messenger, RSS feeds, Skype, Nonoh Google talk etc. The collaborative authoring allows for users participation that is, one can add his own comment to any document online while other contributors share the idea, wikis and Wikipedia are the most common while Writely and Rally point are other examples[2].

The social networking made use of all aforementioned techniques in one single site based on its mode of operation, for instance, it allow real time communication, sharing of visual media and sharing of files, communication and sharing most especially in the area of learning among students in Nigeria tertiary institutions based on its methods and application. There are lots of idea and knowledge

[1] <http://www.flickr.com>

[2] <http://www.wikipedia.org> and <http://www.pbwiki.com>.

sources through the social networks, these days, for instance, Facebook update alert someone about what people on the network are posting, reading, and sharing whereby a student can follow the one of interest while students circle network made it easier for students to share academic content only. University can create a special link on a social network where students can visit for current information from the school, while the lecturer also can crate pages and blogs to engage students interactive but academics conversations. Therefore, social networking are gradually integrating with every other aspect of web 2.0 activities like job searching, blogging, activism etc. while education and online learning are no exemption (Godil 2013).

A podcast is simply defined as a media that are available online, to be downloaded freely and played with the aid of specialized software on a personal computer or other mobile devices at users' convenience. It is usually in audio and video files. The term derived from combination of two technology terms "ipod and broadcast" There are many educational podcasts online available in specific subject areas for both secondary and tertiary education. Podcast are similar to email messages considering its creation, students can also create their own podcast to be used repeatedly. It can provide for make-up lectures because it can be replayed while it also provides for a preferred study language, obviously, the added value of podcasting as a technology is the ease with which both teachers and students can record, manipulate and distribute digital sound files over the internet (Edirisingha et al. 2007). Meanwhile, creating a podcast involves recording (using microphone and software e.g. Audacity Garage Band etc.), then, publishing by saving the file in MP3 file and also publicizing by uploading it on internet using Blogger and other sites that offer free hosting. An RSS aggregator such as juice receiver (formerly ipodder) or itunes also help to publish podcasts. Similarly, RSS (Really Simple Syndication) is an XML format which allows users to know about the content of RSS enabled websites, blogs or podcasts without necessarily visiting its

actual site (Anderson 2007), while the information from the site is collected within a feed which has RSS format and "Piped" to the user in a process known as syndication (Salehe 2008). Again, Cloud computing opens new opportunities for students and researchers, one of such is free online file synchronization and storage. Now adays one can sync PC files and manage the documents on the go. We can also share files with friends or other co-researchers and also make an online backup or roll back to previous file version. All these actions are possible with modern online file sharing applications. Among are: Dropbox, SugarSync, icloud, Skydrive etc. Meanwhile, private varsities in Nigeria are partners to the public Varsities, there establishment are keen to make university education more dynamic and responsive to the needs of the society this has indeed lead to the approval of License for the first set of Private Universities on 10th May 1999, by the FG through the National University Commission (NUC).

2. Review of Prior Research

Recent research has highlighted how teaching and learning can benefit from the inclusion of web 2.0 applications in higher education but there is insufficient empirical evidence to support the discipline specific usefulness of certain new technologies over others (Kumar, 2010). How ever, (Salehe 2008) evaluates the potentials of web 2.0 tools in enabling the process of sharing of teaching know ledge that is related to computer science in higher educational institute and the results showed that wiki, blogs, pod and RSS were useful for teaching and learning as well as facilitating sharing of teaching knowledge among the lecturers. An important noticeable development is the high use of instant messaging, media sharing and social networking by young people, especially those below 24years of age in the study of (Sandars and Schroder 2007), the work also revealed that web 2.0 offered new opportunities for undergraduate and post-graduate medical students with an overall high awareness of a range of new tools for educational purposes while calling for

increased training on the specific use of more tools among the students. (Kumar 2010) however, established that although no students were identified to have compared the use or benefit of any one web 2.0 tool over another across the disciplines or for a particular field, but the three (3) most useful tools according to his findings were online forums or blogs; class capture in the form of video casts, audio podcasts or smart board capture as well as Google documents, his study also shown that undergraduates welcome teaching and learning experiences with adoption of new technologies adding value to the existing practice thereby leading to the enhancement of the learning process which gratify all types of learners. (Davi, Frydenberg, and Gulati 2007) also submits that the use of "blogs" has become popular among colleges because faculty members have integrated blogs into their courses to enhance class discussion. They concluded that liberal learning depends on students taking responsibility for their education while instructors in any discipline can use blogs to begin conversations about courses materials before and after classes and as such enhance active learning. they stated further that the idea behind blogging makes it an improvement for classroom use over the discussion groups because one can visit a blog occasionally to see if there is any new content posted by visitors to the blogs because of its "publish subscribe" model in which the author publishes content and the subscribers use a program known as aggregator which checks the blog from time to time to notify the subscriber whenever new content are posted. Blogging makes use of really simple syndication RSS technique and presents the blog content in a standard XML (Extensible Mark-up Language) it improve students writing ability and also enhance their developmental and critical thinking. The aim of using a blog according to (Cooper and Boddington 2005) is to provide a way of promoting interactions between students in a relatively large undergraduate class in particular so as to enable students to learn from insider.

Consequently, evidence from the students who use podcasts according to (Edirisingha et al. 2007) clearly showed that they immensely benefited from its usage and that the key objective for the use of podcast among the undergraduate module was to improve the students learning and study skills, while the data analysis also revealed that podcasts were successful in supporting students preparation for assessed work as well as provision of significant advice on portfolio and presentations. Furthermore, (Radel 2011) opined that majority of the past research into the social networking sites and their uses actually suggested that the World Wide Web usage is changing rapidly while the higher education institutions are also following the trend and also working to develop their blended leaving opportunities. He also confirmed that web 2.0, 3.0 and beyond are the greatest opportunity in offering "environments of collective intelligence", where every users participate in the process of creating new knowledge it's also established how the participation within the social site, facebook as a charge agent that propelled the students learning process as well as provision of an in-depth evaluation of the online learning environment in other to develop the program delivery to student's needs. However it was concluded that the use of social sites such as facebook can significantly contribute to students life-long learning outcomes while there must also be a carefully defined goals and needs of participating in such online activities. Meanwhile, the study of (Leung and Kaiwahchu 2009) on using Wiki for collaborate learning examined the use of wiki in a group project among undergraduate students in the Kong and discovered that wiki logs and discussion boards greatly assist in the learning process and also contribute the learning community in higher education. The work also revealed that limited collaboration exists between the students in the course of using wiki.

3. Objective of Research

The main objective of this work is to investigate the academic usage of web 2.0, among the undergraduate students of the selected private universities in Nigeria, while the specifics objectives were to:

1. determine the students current awareness of the term web 2.0
2. identify the types of web 2.0 tools most widely used by the undergraduates
3. identify the web tool most relevant to their studies
4. measure the students current usage of these tools and
5. make suggestions towards a more purposeful usage of web 2.0.

4. Research Questions

Some questions were asked in course of this research, these includes:

1. What is the students' level of awareness about the term web 2.0?
2. Which of the web 2.0 application is most widely used by the students?
3. Which among the web 2.0 tool is considered most relevant to learning among the undergraduates
4. What is the student's current level of usage in any of these tools for academic purpose
5. What are the students prospects on the use of web 2.0

5. Methodology

In order to achieve the specific objectives, researchers-designed questionnaires were administered randomly using Two hundred and forty (240) respondents i.e One hundred and twenty (120) each, who were undergraduate students of both universities, that is, Crescent University Abeokuta and Caleb University Lagos. Eighty Six (86) was eventually retrieved from the Crescent University while

Seventy Five (75) was also retrieved from the Caleb University and both were used for the research.

6. Data Analysis

Data, having been collected through the use of the questionnaire were analyzed using tabulated frequency count and simple percentage. A total of two hundred and forty questionnaires (240) were randomly distributed among the undergraduate students of the two universities, while the questionnaires rate of return are 71.6% for the Crescent University and 62.5% for Caleb University respectfully.

Table.1 Questionnaire's rate of returned

University	**Total administered**		**Total Returned**	
	No	**%**	**No.**	**%**
Crescent	120	100	86	71.6
Caleb	120	100	75	62.5
Totals	240		161	67.1

Table 2. Demographic details of the study.

University	**Crescent**		**Caleb**	
Gender	Male 30		Male 34	
	Female 56		Female 41	
Totals	86		75	
Colleges	**No.**	**%**	**No.**	**%**
Social & Management	58	70.7	45	60

University	Crescent		Caleb	
Sciences				
Environmental Science	1	1.2	14	18.7
Pure & Applied Science	23	28.1	16	21.3

7. Question about access to computer devices:

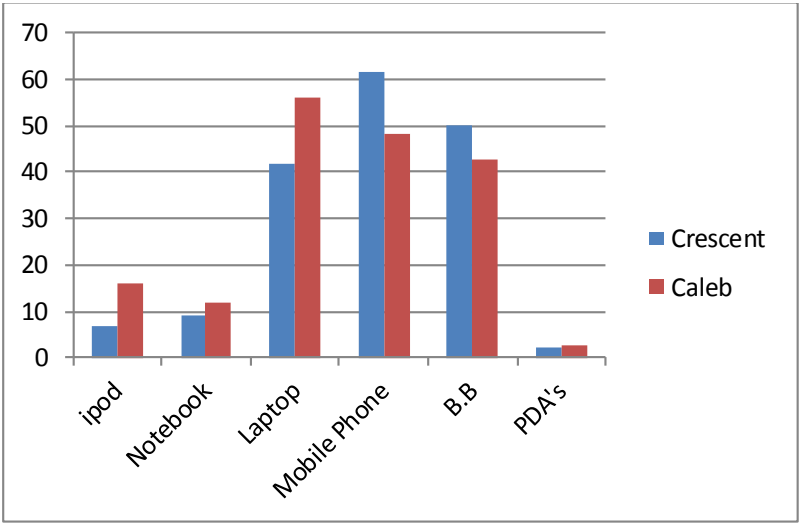
Do you own any MP3 or digital player?

Majority of the respondents used laptops, mobile phones, and Black Berry phones to access web 2.0, but the ones with highest number of users are: Mobile phone (61.6%), Black Berry (50%) for Crescent university and Laptops (56%) in the case of Caleb university. Meanwhile, PDA's Personal Digital Assistants recorded the lowest usage in both cases, i.e. 2.3% as well as 2.7% respectfully as shown in table 3.

Table. 3 Access to computer devices

University	Crescent		Caleb	
Devices	No.	%	No.	%
ipod	6	**6.9**	12	**16**
Notebook	8	**9.3**	9	**12**
Laptop	36	**41.9**	42	**56**
Mobile Phone	53	**61.6**	36	**48**
B.B	43	**50**	32	**42.7**
PDA's	2	**2.3**	2	**2.7**

Chart 1: Access to computer devices



7.2 Question on student's awareness of web 2.0

Are you familiar with the term web 2.0?

Responses from both universities confirmed the students relatively low awareness of the term web 2.0 (table 4) for instance, just 42 students (48.8%) of Crescent university and 28 students (39.4%) of the sampled students from Caleb university were familiar with the term web 2.0 although, this does not affect their use of web 2.0 notwithstanding, they were not just familiar with the term as a general name for all the various available communication tools.

Table 4. Familiarity with the term web 2.0

University	Crescent		Caleb	
	Response	%	Response	%
Yes	42	**48.8**	28	**39.4**
No	44	**51.2**	43	**60.6**

7.3 Question on the use of web 2.0

Are you familiar with the use of podcast?

Table 5a. Familiarity with Podcast

University	Crescent		Caleb	
	Response	%	Response	%
Yes	41	49.4	37	50.0
No	42	50.6	37	50.0

Podcasting is of average use among the students of the two universities, when they were asked about their familiarity with the tool, i.e podcast (table 5a), only 49.4% of Crescent university and 50% of Caleb students answered in affirmative to this question, meaning that podcast is still relatively new to the whole student population. But their responses on the usage confirmed the usefulness of the tool, despite the little awareness about the term as 75.7% of Crescent and 53.1% of Caleb students responses actually confirmed the findings (table 5b).

Question 4: How useful is the podcast to your academics?

Table 5b. usefulness of Podcast

University	Crescent		Caleb	
	No.	%	No.	%
Useful	56	75.7	34	53.1
Not Useful	18	24.3	30	46.9

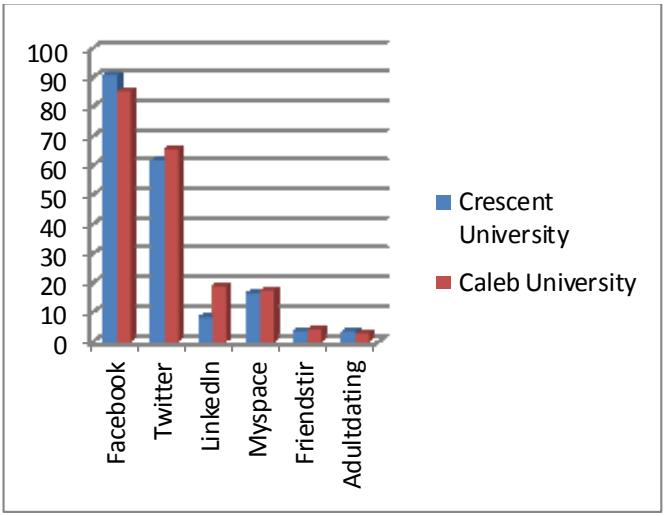
When they (students) were asked whether they registered with any of the social sites (table 5c), the response was enthusiastic as 78 (90.7%) and 64 (85.3%) responses from both Crescent and Caleb

universities used Facebook, this was followed by 53 (61.6%) and 49 (65.3%) of followers of twitter from both universities. But Adult dating recorded the lowest use from the two universities as only 3 (3.5%) of Crescent and 2 (2.7%) Caleb respondents identified with its use.

Table 5c. use of Social Networking

University	**Crescent**		**Caleb**	
	No.	%	No.	%
Facebook	78	**90.7**	64	**85.3**
Twitter	53	**61.6**	49	**65.3**
Linkedln	7	**8.1**	14	**18.7**
Myspace	14	**16.3**	13	**17.3**
Friendster	3	**3.5**	3	**4.0**
Adultdating	3	**3.5**	2	**2.7**

Chart 2: Use of Social Networking



Consequently, School Assignment recorded the highest of the information shared among the students i.e. 62 (72.1%) Crescent and 40 (53.3%) Caleb university respondents, and this was followed by friendship gist 31(36.0%) in Caleb while Personal information 37 (49.3%) and Friendship gist 35 (46.7%) were also recorded in Caleb university as displayed on table 5d.

Table 5d. type of information shared or downloaded

University	Crescent		Caleb	
	No.	%	No.	%
Lecture notes	14	**16.3**	13	**17.3**
Assignment	62	**72.1**	40	**53.3**
Personal info.	23	**26.7**	37	**49.3**

University	Crescent		Caleb	
School info.	17	**19.8**	20	**26.7**
Friendship gist	31	**36.0**	35	**46.7**

Chart 3a: Information shared (Crescent University)

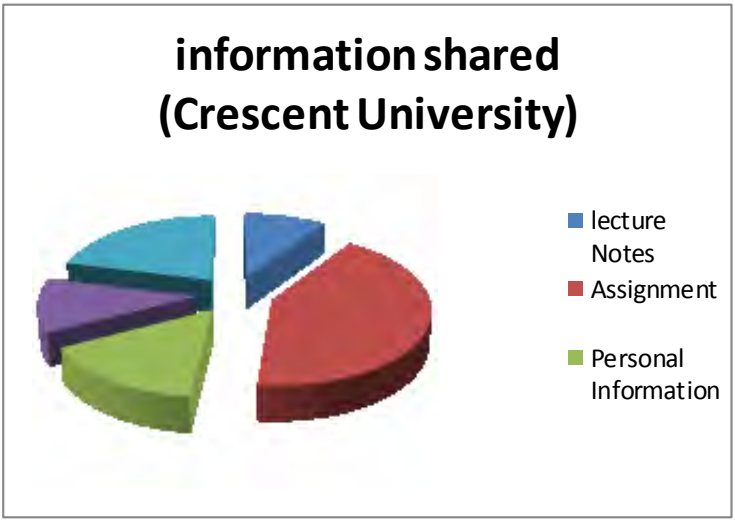
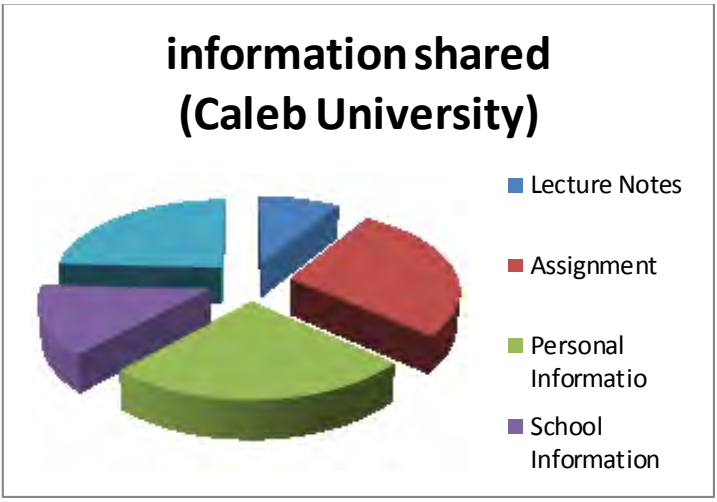


Chart 3b: Information shared (Caleb University)



In the same vein, opinions on the use of blogs (table 5e) revealed that 63 (76.8%) of Crescent university and 43 (58.9%) Caleb University respondents agreed to the fact that they sometimes come in contact with useful blogs when browsing, while majority of them also found blogging easier, the statistics are 49 (59.8%) of Crescent and 31 (53.4%) of Caleb Universities respectfully. At large, web 2.0 was generally accepted by students as an effective means of sharing educative information by the entire sample space according to (Table 5e.), 58 (70.7%) and 58 (79.4%) responses from both universities serves as an indication to this fact. So, looking at the usage familiarity with many of these tools, the social networking appears to be the most appealing to the students based on this section of the research.

7.4 About relevance of web 2.0 tools.

When respondents were asked to list the tools considered to be relevant to learning among the various web 2.0, the response (Table 6.) showed that Wiki/Wikipedia recorded 71 (91%) and 62 (95.4%), Google docs 57 (80.3%) and 59 (90.8%), Google Translator 50 (69.4%) and 52 (70.4%), Youtube 47 (65.3%) and 36 (56.3%), Yahoo Messenger 46 (60.5%) and 33 (54.1%), Facebook / Twitter 44 (53.6%) and 41 (54.7%), Blog 41 (50%) and 38 (63.3%) in the order of Crescent and Caleb universities respectfully. Though the responses from both ends were similar, there is however a difference on the use of Online group, it was considered relevant to learning by the respondents from Crescent university i.e. 36 (52.9%) as against 30 (49.2%) responses from Caleb university. On the contrary, Linkedln 48 (76.2%) and 40 (78.4%), Dropbox/icloud 47 (78.3%) and 40 (85.1%), Podcast 45 (75%) and 34 (69.4%), Skydrive/Sugarsync 41 (73.2%) and 38 (86.4%) in the same order of the sample study were considered less relevant to academics judging by the outcome of this findings.

Table 6. type of information shared or downloaded

Web 2.0 Tools	Relevance of tools								
	Crescent University					Caleb University			
	Relevant	%	Not Rel	%		Relevant	%	Not Rel	%
Facebook/Twitter	44	**53.6**	38	**46.4**		41	**54.7**	34	**45.3**
Linkedln	15	**23.8**	48	**76.2**		11	**21.6**	40	**78.4**
Blog	41	**50.0**	41	**50.0**		38	**63.3**	22	**36.7**
Podcast	15	**25.0**	45	**75.0**		15	**30.6**	34	**69.4**
Dropbox/icloud	13	**21.7**	47	**78.3**		7	**14.9**	40	**85.1**
Skydrive/sugarsync	15	**26.3**	41	**73.2**		6	**13.6**	38	**86.4**

Web 2.0 Tools	Relevance of tools								
	Crescent University					Caleb University			
	Relevant	%	Not Rel	%		Relevant	%	Not Rel	%
Google docs	57	**80.3**	14	**19.7**		59	**90.8**	6	**9.2**
Youtube	47	**65.3**	25	**34.7**		36	**56.3**	28	**43.8**
Yahoo messenger	46	**60.5**	30	**39.5**		33	**54.1**	28	**45.9**
Wiki/Wikipedia	71	**91.0**	7	**9.0**		62	**95.4**	3	**4.6**
Google Translator	50	**69.4**	22	**30.6**		52	**70.3**	22	**29.7**
Online group	36	**52.9**	32	**47.1**		30	**49.2**	31	**50.8**

Table 6. Relevance of web 2.0

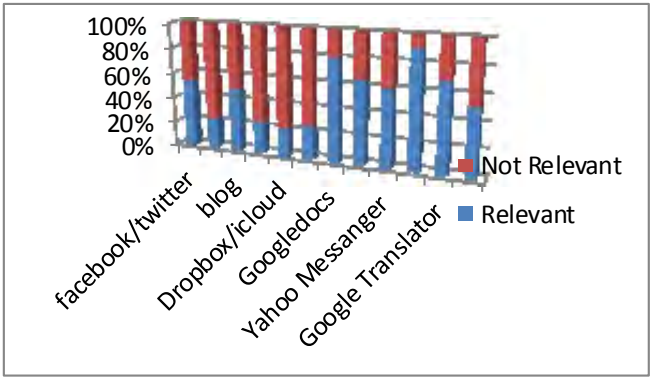
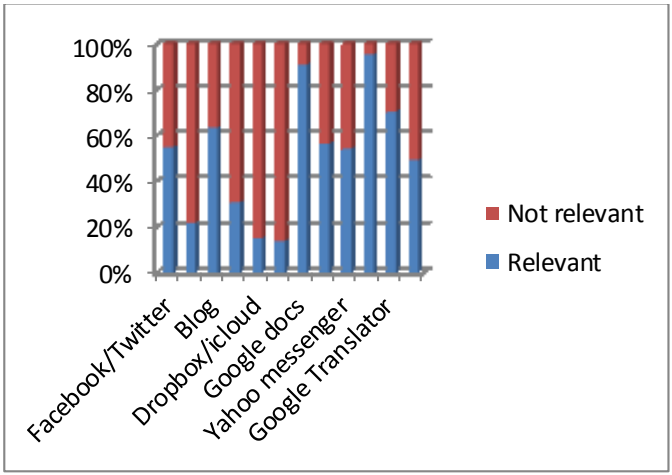


Chart 3b: Relevance of web 2.0 tools by Caleb University respondents.



Considering the level of usage of web 2.0, the study charged the respondents to do a self-appraisal on the use of the tools, and the result as presented on Table 7. Show clearly that Wikipedia, Google docs, wiki were the tools where students shown highest level of expertise, followed by others such as the social sites; Facebook, Twitter and Youtube. The figures are displayed as follows using Crescent : Caleb universities order; Wikipedia 49.1%: 44.9%, Google docs 34.5% : 26.5%, wiki 34.1% : 26.9 etc. The highest average level of usage i.e. (expert + high) was found in Google docs 78.9%: 69.3% while the lowest average level of use was that of Dropbox/icloud (7.5%) Crescent university and Sugarsync/Skydrive (10.2%) Caleb university which still connotes a very low appreciation of the online storage. Also, Linkedln, Myspace, Friendster and Adultdating were not so popular among the students populace.

Table 7. Level of usage.

University	Caleb									Crescent							
Web 2.0	Level of Usage									Level of Usage							
	expert	%	high	%	moderate	%	low	%		expert	%	high	%	moderate	%	low	%
Facebook	22	**33.5**	16	**25.8**	18	**29**	6	**9.7**		32	**39**	23	**28**	24	**29.3**	3	**3.7**
Linkedln	3	**4.7**	19	**31.1**	12	**19.7**	27	**44.3**		5	**8.1**	4	**6.4**	10	**16.6**	43	**69.4**
Twitter	19	**33.9**	13	**28.2**	11	**19.6**	13	**23.2**		26	**32.1**	15	**18.5**	23	**28.4**	17	**21**
Myspace	4	**8.2**	5	**10.2**	10	**20.4**	30	**61.2**		13	**19.1**	7	**10.3**	15	**22.1**	33	**48.5**
Friendstir	4	**9.1**	2	**4.5**	5	**11.4**	33	**75**		5	**8.6**	10	**17.2**	2	**3.4**	41	**70.7**
Adult dating	3	**7**	5	**11.6**	4	**9.3**	31	**72.1**		4	**6.4**	5	**8.1**	10	**16.1**	43	**69.4**
Podcast	1	**2.5**	5	**12.5**	6	**15**	28	**70**		4	**6.4**	3	**4.8**	19	**30.6**	36	**58.1**
Blog	9	**18**	13	**26**	18	**36**	10	**20**		10	**14.7**	14	**20.6**	23	**33.8**	21	**30.9**
Wiki	15	**34.1**	11	**25**	13	**29.5**	5	**11.4**		18	**26.9**	22	**32.8**	14	**21**	13	**19.4**
Wilkipedia	28	**49.1**	17	**29.8**	10	**17.5**	2	**3.5**		35	**44.9**	19	**24.4**	17	**21.8**	7	**9**
Dropbox/ icloud	1	**2.5**	2	**5**	5	**12.5**	33	**80**		2	**3.2**	7	**11.3**	17	**27.4**	36	**58.1**

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University	Caleb									Crescent							
Web 2.0	Level of Usage									Level of Usage							
	expert	%	high	%	moderate	%	low	%		expert	%	high	%	moderate	%	low	%
Sugar sync/ skydrive	3	**7.7**	1	**2.6**	2	**5.1**	33	**84.6**		2	**3.4**	4	**6.8**	15	**25.4**	38	**64.9**
Youtube	16	**29.1**	7	**12.7**	20	**36.4**	12	**21.8**		18	**23.7**	17	**22.4**	21	**27.6**	20	**26.3**
Flickr	4	**10**	4	**10**	5	**12.5**	27	**67.5**		5	**6.8**	18	**24.3**	12	**16.2**	39	**52.7**
Google docs	19	**34.5**	18	**32.7**	8	**14.6**	10	**18.2**		18	**26.5**	25	**36.8**	12	**17.6**	13	**19.1**
Google talk	9	**17.6**	14	**27.4**	11	**21.6**	17	**33.3**		16	**23.5**	19	**27.9**	14	**20.6**	19	**27.9**

Chart 4a: Level of usage (Crescent University)

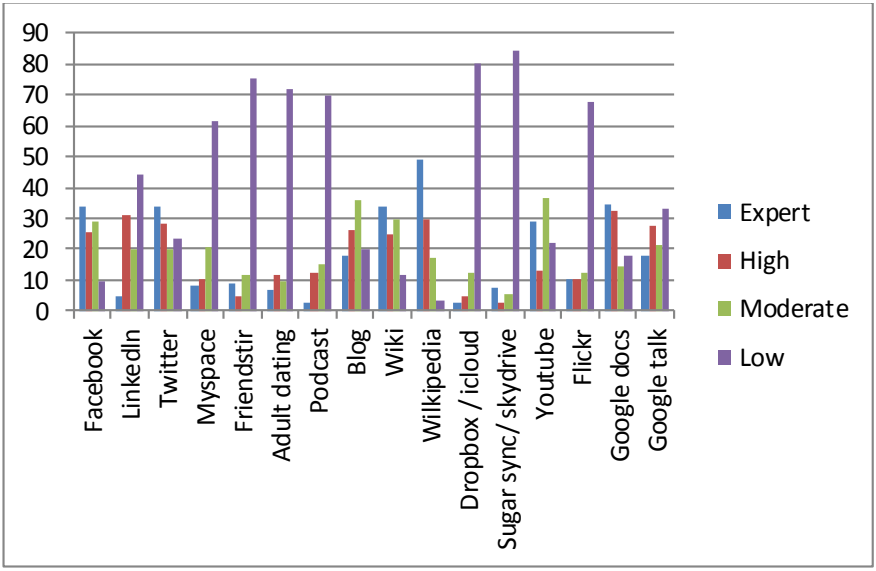

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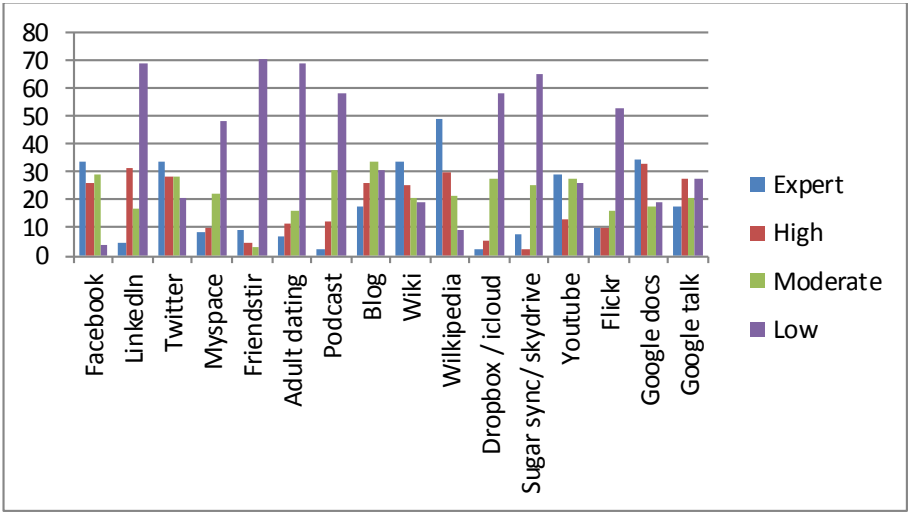
Chart 4b: Level of usage (Caleb University)



Generally, respondents agreed that web tools such as blogs, wikis, social sites, Google docs, instant messages etc. are effective in taking lecture notes, sharing classroom discussions, communicating class assignments by 70.7% to 29.3% and 79.4% to 20.5% in both Crescent and Caleb universities respectively.

Table 8. Acceptance of web 2.0

University	Crescent			Caleb	
opinions	No.	%		No.	%
Agree	58	70.7		58	79.4
Disagree	24	29.3		15	20.5

Chart 5a: web 2.0 (Crescent University)

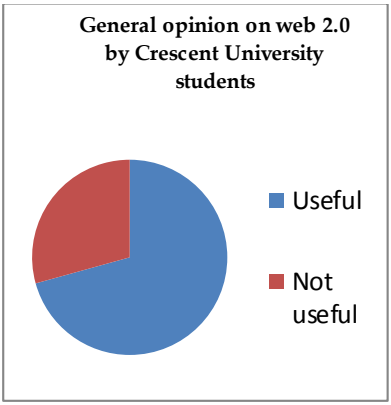
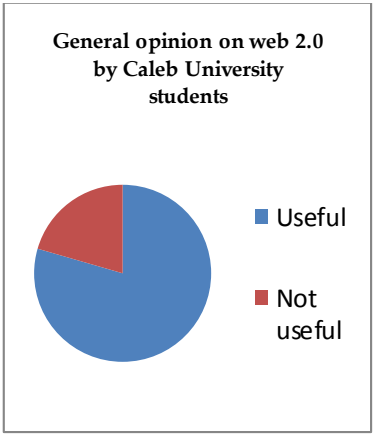


Chart 5b: web 2.0 (Crescent University)



8. Discussion of Findings

Results of this study revealed that respondents were adequate in terms of access to computer and information resources, this had greatly influenced their access to the desired web 2.0 tools for easy communication and sharing of information. For instance, Black Berry and other mobile phones, and laptop computers tops the list of their digital resources. But inequality in access to computing facilities was reported by (Sandars and Schroder 2007). Findings also show that majority of the students were not familiar the term web 2.0 as also noted by Kumar (2010) but this does not dictate their use of the tools, this position was also corroborated by (Sandars and Schroder 2007). But reverse was the case of (Garoufallou and Charitopoulou 2011), because the research found that although most of the students have heard of the term Web 2.0 and its tools, but further knowledge of the subject is limited. The relevance of web 2.0 was complemented by the general acceptance and its popularity among the students, this was clearly supported by the findings of this work, students found its use very relevant to their academics and mostly work with Wikipedia, Wiki, and Google docs, blogs, Google translator, Facebook, Twitter, Youtube, Yahoo Messenger and various Online groups. Some previous work also support this findings, for instance, (Duffy and Bruns, 2006) supports blogging, (Yang, Zhang, and Chen 2007), (Radel 2011) exemplified the use of social networking, (Leung and Kaiwahchu 2009) corroborates use of wiki, while relevance of instant messaging was underscored by the research of (Makdisi 2006) There is however, a significant low appreciation of tools such as podcast, though it was found useful, but its relevance to education was yet to be known to the students, so also the online archives such as Dropbox, icloud, Sugarsync and Skydrive etc. whereas Cloud-based file storage is becoming the expected method for file sharing these days, both on personal devices and in the workplace, and such solutions according to (Kerr 2013) simplify document sharing and collaboration across teams, which is a huge boon for productivity.

Both (Taylor 2012) (Furrier 2013) (Kumar 2010)(Edirisingha et al. 2007) made similar submissions on various benefits of using the online storage. The work of (Edirisingha et al. 2007) had earlier-on reported increasing value of podcasting and its consequent application in education based on its numerous advantages as also established by this work. Again, the level of usage complements the students choice of tools as the same sets of web tools frequently used by the students were also the ones that recorded the high level of expertise in terms of use i.e. students were more expert in the use of Wikipedia, Wiki, and Google docs, blogs, and the social networking, this findings was similar to that of (Anderson 2007) and many others.

On a general note, students widely accepts the use of web 2.0 for educational and personal use, hence that explains the reasons why they share mostly, school assignments and friendship gist, among others while on web 2.0 platforms.

9. Summary

This study investigated the use of web 2.0 among the undergraduate students of two (2) private universities in Nigeria, namely; Crescent university Abeokuta and Caleb university, Lagos. The result showed a very high level of enthusiasm and acceptance on the part of students. Although, some web tool were much more preferred against others based on their relevance to academic pursuits, the findings also revealed that some important web 2.0 tools were yet to be harnessed by the students and as such, suggestions were then offered on how to make the best use of such tools for a more purposeful acts.

10. Conclusions and Recommendations

The research indicates that undergraduates students appreciates information sharing using web 2.0 technology, though, they were not much conversant with the term web 2.0 notwithstanding, they

commonly used many of the tools such as Google docs, wiki, Wikipedia, blogs, and social networking; translator, Facebook, Twitter, Youtube, Yahoo Messenger and various Online groups for sharing school assignment, friendship gist, school information among others, having confirmed its relevance for academic purposes. But their (students) personal experience about some tools does not connotes overall knowledge of all existing web 2.0 platform, there are still more of the technology to be harnessed for educational purposes, for instance use of podcasts and various online storage database will further aid their learning abilities.

Faculties can learn from these and fashion out ways of applying various tools to help students for course activities. The school can introduce online technology course among its curriculum to improve the students' status on web applications. Universities can develop their own online community forum where relevant information about their school can be shared. Students too can also think about acquiring more knowledge on the use of web 2.0 for the improvement of their career.

On the last note, these findings cannot be automatically generalized, as it was only based on the opinions of students in two (2) private universities, further research may include public varsities, similarly, a subject-based survey involving both students and lecturers will further determines the suitability or otherwise of web 2.0 for academic activities.

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ABSTRACT: This study reports findings from a survey on the use of web 2.0 among the undergraduate students of two private universities in Nigeria namely: Crescent university Abeokuta and Caleb university, Lagos. The research was aimed to find the students current awareness about the use of web 2.0, capture their pattern of usage, and also determine its relevance to academic pursuits. To this end, about one hundred and sixty one (161) students representing 67.1% of the whole sample study took part in the survey by filling the opinion questionnaire. The paper provides detailed reports of the results together with the discussion of findings as well as recommendations.

KEYWORDS: *Web 2.0; Nigeria; University libraries; Information devices; Social networking*.

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Il paradigma di Darnton. Riflessioni sulle origini del ruolo sociale delle biblioteche digitali

Andrea Capaccioni

1. Introduzione

Si è cominciato a parlare di biblioteche digitali dai primi anni Novanta del secolo scorso, a partire dagli Stati Uniti, anche se in un primo tempo l'argomento è stato appannaggio di pochi esperti di informatica e di qualche bibliotecario desiderosi di approfondire alcune intuizioni pioneristiche di studiosi quali Vannevar Bush (1945) o Joseph Carl Robnett Licklider (1965; Arms 2000). Superate le prime incertezze terminologiche (biblioteca "elettronica", "virtuale", ecc.), le biblioteche digitali sono diventate un oggetto di studio interdisciplinare e un ambito di ricerca all'interno della stessa Biblioteconomia (per un quadro generale si veda Ridi 2004). Con il passare degli anni si è potuta notare l'evoluzione delle tematiche e degli approcci e in particolare il passaggio da una discussione incentrata sulla gestione delle risorse digitali e sugli aspetti tecnologici a una riflessione più interessata a riscoprire il contributo che la digital library può fornire alla società. Il presente contributo si concentra su quest'ultima fase ponendo l'attenzione soprattutto sul valore sociale delle biblioteche digitali.

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2. Il paradigma di Darnton

Robert Darnton è uno storico noto per l'attenzione verso il mondo bibliotecario (2011a; 2014). Le sue analisi rivestono in questa sede un particolare interesse in quanto sono frutto di un diretto coinvolgimento nella storia più recente delle biblioteche digitali americane. Darnton è stato tra i fautori di Google Book search (evoluzione di Google Print del 2004), il motore di ricerca in grado di rintracciare informazioni all'interno di volumi digitalizzati resi disponibili online. Per aumentare l'efficacia di questa iniziativa Google aveva programmato una vasta campagna di digitalizzazione di opere a stampa e la stipula di una serie di convenzioni con alcune università americane e con atenei ed editori di tutto il mondo.[1] L'accordo tra l'Harvard University e Google (2006) sarà gestito dallo stesso Darnton nominato nel frattempo direttore del prestigioso sistema bibliotecario di ateneo. Il nuovo impegno costringe lo studioso a esaminare con attenzione la politica editoriale di Google e a tenere conto delle difficoltà che stanno nascendo, come per esempio il contenzioso scoppiato tra l'azienda e un nutrito gruppo di autori ed editori americani. In questo periodo la posizione di Darnton si fa più articolata: "credetemi parlo da sostenitore entusiasta di Google anche se mi preoccupano le sue tendenze monopolistiche" (Darnton 2011a, 56). Lo studioso si mostra critico verso l'incapacità della classe politica americana nel cogliere l'esigenza della società civile, sollecitata da una rapida diffusione di Internet, di avere a disposizione un numero sempre maggiore di testi

[1] L'evoluzione del giudizio di Darnton su Google Book è ben testimoniata in particolare dai saggi *Google e il futuro dei libri* (pp. 25-42) e *Il paesaggio dell'informazione* (pp. 43-64) scritti rispettivamente nel 2009 e nel 2008 per la rivista «The New York Review of Books» (Darnton 2009b; Darnton 2008) e ripubblicati nel volume Robert Darnton, *Il futuro del libro* cit. L'edizione italiana, come ha osservato Alberto Petrucciani (2011) presenta "un neo non tanto piccolo" e cioè omette le date e gli estremi di pubblicazione dei saggi presenti nel volume. Per una corretta indicazione bibliografica si veda la nota pubblicata nel verso del frontespizio dell'edizione originale (Darnton 2009a).

elettronici. Il mancato adeguamento delle norme sul copyright costituisce una prova di quel disinteresse. In questo vuoto legislativo e culturale Google aveva potuto assumere nell'arco di pochi anni un ruolo di primo piano nella produzione e distribuzione degli ebook. A fronte di questa situazione Darnton sentì l'esigenza nel 2009 di chiarire ulteriormente la sua posizione:

> Le biblioteche esistono per promuovere un bene pubblico: per 'favorire la conoscenza', una conoscenza 'aperta a tutti'. Le imprese capitalistiche esistono per fare soldi a beneficio dei loro azionisti – anche questa un'ottima cosa, perché il bene pubblico dipende da un'economia fiorente. Tuttavia, se permettiamo la commercializzazione del contenuto delle nostre biblioteche, ci scontriamo inevitabilmente con una contraddizione di fondo. Consentire che un soggetto privato digitalizzi le raccolte delle biblioteche e ne venda il risultato con modalità che non garantiscono il più ampio accesso possibile equivarrebbe a ripetere l'errore compiuto quando le case editrici vollero sfruttare il mercato delle riviste scientifiche, ma su una scala infinitamente più grande, perché questo trasformerebbe Internet in uno strumento per la privatizzazione di un sapere che attiene alla sfera pubblica (Darnton 2011a, 56).

Le affermazioni di Darnton ci permettono di cogliere un momento importante e delicato della storia delle biblioteche digitali: il passaggio da quella che potremmo definire l'"*utopia commerciale*" a una nuova fase in cui torna a prevalere l'esigenza di mettere l'accento sul loro valore pubblico. Con il termine di utopia commerciale intendiamo descrivere l'idea coltivata nel corso del primo decennio di questo secolo da bibliotecari, studiosi e alcune prestigiose istituzioni pubbliche di dar vita ad ampi programmi di digitalizzazione di testi a stampa ricorrendo al supporto tecnologico

e finanziario di partner privati. Un'idea che traeva origine dall'esigenza di sviluppare una politica per le biblioteche digitali in grado di superare la pratica frammentaria e dispendiosa che fino ad allora si era affermata, anche se aveva registrato risultati di qualità, e che consisteva nella creazione e gestione da parte di istituzioni pubbliche e private (Internet Archive, HathiTrust, ecc.) di collezioni digitali non coordinate tra di loro. Nel volgere di pochi anni gli amministratori, gli intellettuali e i professionisti dell'informazione che avevano immaginato di realizzare iniziative grazie al sostegno di Google cominciano a rendersi conto, come testimoniano gli interventi di Darnton, che occuparsi di biblioteche digitali non consiste soltanto nell'incrementare le collezioni o nel trovare finanziamenti, ma che bisogna elaborare progetti che tengano conto delle esigenze culturali delle comunità nazionali e locali. La rottura con le strategie di Google è oramai compiuta. L'azienda si era nel frattempo dedicata al rafforzamento della sua posizione sul mercato degli ebook e con la stipula di accordi diretti con editori e autori aveva trasformato Google Books in una grande libreria commerciale online. Nel 2011 giunge la sentenza del giudice Denny Chin della Southern Federal District Court di New York che ridimensiona i piani di Google e in qualche modo contribuisce a cambiare l'idea di biblioteca digitale (Darnton 2014). Si rafforzano così le posizioni di quel gruppo di studiosi e bibliotecari che si sta preparando a lanciare la Digital Public Library of America (DPLA) con l'obiettivo di costruire:

> an open, distributed network of comprehensive online resources that would draw on the nation's living heritage from libraries, universities, archives, and museums in order to educate, inform, and empower everyone in current and future generations.[2]

[2] DPLA <http://dp.la/>. Riportiamo la testimonianza di Darnton sulla DPLA: "The trajectory of its [DPLA] development can be understood from the history of it origin—

Darnton stesso, in un articolo sulla sentenza del giudice Chin, si dice convinto del declino del progetto di Google e dell'esigenza di costruire una biblioteca digitale nazionale di natura pubblica online, accessibile a tutti e in grado di ospitare opere prodotte nel territorio nordamericano (Darnton 2011b; si veda anche De Robbio 2011). È la definitiva consacrazione della DPLA che compie i primi passi ispirandosi a Europeana, la biblioteca digitale dell'Unione europea. Darnton ha definito Europeana "an aggregator of aggregators" apprezzandone in particolare l'organizzazione articolata su tre livelli: nel primo troviamo le singole biblioteche che digitalizzano le loro collezioni; il secondo ospita le istituzioni nazionali che sovrintendono al coordinamento delle risorse digitali del territorio; e infine il terzo è costituito dalla stessa Europeana che ha il compito di elaborare gli standard, di gestire e di conservare in un database online l'insieme delle informazioni raccolte in modo da garantirne l'attendibilità e la coerenza e accrescerne la reperibilità.[3] Nel volgere di pochi anni, grazie a Darnton e ad altri esperti, il progetto della DPLA si è sviluppato in modo originale. Oggi la biblioteca digitale americana presenta un'infrastruttura coordinata dalla Boston Public

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and it does have a history, although it is not yet three years old. It germinated from a conference held at Harvard on October 1, 2010, a small affair involving forty persons, most of them heads of foundations and libraries. In a letter of invitation, I included a one-page memo about the basic idea: "to make the bulk of world literature available to all citizens free of charge" by creating "a grand coalition of foundations and research libraries." In retrospect, that sounds suspiciously utopian, but everyone at the meeting agreed that the job was worth doing and that we could get it done"(Darnton 2013).

[3] "Information will be accumulated and coordinated at three levels: particular libraries will digitize their collections; national or regional centers will integrate them into central databases; and Europeana will transform those databases, from twenty seven constituent countries, into a single, seamless network. To the users, all these currents of information will remain invisible. They will simply search for an item - a book, an image, a recording, or a video - and the system will direct them to a digitized version of it, wherever it may be, making it available for downloading on a personal computer or a handheld device" (Darnton 2011b).

Library, in precedenza dal Berkman Center for Internet & Society dell'Harvard University, e riceve finanziamenti da alcune fondazioni interessate al miglioramento delle condizioni culturali del paese (Europeana è invece finanziata dei singoli stati dell'Unione europea). La DPLA è un'organizzazione non profit ed è dotata di una struttura gestionale (simile a quella di Wikimedia Foundation) coerente con la natura "orizzontale" del progetto. L'organo principale è costituito da un comitato in cui sono rappresentati i fondatori, un direttore esecutivo e da volontari raggruppati in comitati[4]. Le biblioteche, gli archivi, i musei, le associazioni e gli enti che aderiscono sono suddivisi in un livello detto delle *local institutions* e in uno riservato allo stato federale. I singoli istituti possono contribuire ad arricchire la collezione digitale della DPLA attraverso la selezione di documenti, manufatti o opere in loro possesso e che sono particolarmente rappresentativi dei singoli territori. Il supporto tecnologico e finanziario viene fornito da un certo numero di biblioteche universitarie e pubbliche, centri di ricerca e altre istituzioni che prendono il nome di *content hubs* e *service hubs* (Darnton 2013). La DPLA ben rappresenta questa nuova fase della *digital library* i cui tratti distintivi sono il carattere pubblico (inteso non come proprietà statale ma come "risorsa condivisa da un gruppo di persone"), la riscoperta del proprio ruolo sociale, l'esigenza di dotarsi di un'organizzazione non verticistica ma distribuita ("distributed character". In particolare si veda Darnton 2011b; Darnton 2013; Darnton 2014). Tutte caratteristiche che fanno della biblioteca digitale uno dei principali strumenti di accesso all'informazione e la connotano a tutti gli effetti come un "bene comune"(Sul concetto di conoscenza come bene comune si veda Hess and Ostrom 2009b).

[4] DPLA, *DPLA Committees, purpose and structure*, [04/2013], <http://goo.gl/vKZtuI>.

3. Verso una nuova sensibilità

Gli interventi di Darnton e le riflessioni che si sono sviluppate intorno alla nascita della DPLA sono segnali di un'accresciuta attenzione verso il ruolo sociale delle biblioteche digitali. In realtà si dovrebbe parlare di riscoperta di un tema già presente negli anni passati come conferma un'autorevole ricognizione degli studi dedicati alla biblioteca digitale realizzata da Christine Borgman alla fine degli anni Novanta del secolo scorso:

> Some people are working on fundamental enabling technologies and theoretical problems, others are working on applications, others are studying social aspects of digital libraries in experimental and field contexts and yet others are deploying the results of earlier research. Their concerns and foci are understandably different. The variety of concerns within the digital libraries research community reflects the interdisciplinary nature of the topic (Borgman 1999, 229).

Se dunque fin dagli inizi è presente un certo grado di attenzione verso gli aspetti sociali della biblioteca digitale, per un lungo periodo l'interesse del mondo accademico e bibliotecario si è concentrato su altro. In ambito biblioteconomico è prevalso fin dai primi anni Novanta del secolo scorso l'interesse per i processi informativi (selezione, organizzazione, conservazione, ecc. Sull'"evoluzione del discorso biblioteconomico" si veda: Di Domenico 2009; Faggiolani 20012; Morgese 2014; Faggiolani 2013). Fornisce una testimonianza di questo stato di cose la monografia di William Y. Arms *Digital Libraries* pubblicata nel 2000, un punto di riferimento in questo ambito non solo negli Stati Uniti (Arms 2000). Il volume contiene un'approfondita ricognizione delle problematiche legate alla progettazione, realizzazione e gestione di una biblioteca digitale, ma dedica poco spazio a una riflessione sui principi e finalità e soprattutto non prende in considerazione gli aspetti sociali. Questa

impostazione verrà in gran parte replicata negli anni a seguire dalla letteratura sull'argomento. Chern Li Liew, nel curare una rassegna di studi sulle biblioteche digitali pubblicati tra il 1997 e il 2007, ha fatto notare che rispetto a un cospicuo numero di contributi dedicati a tematiche legali, economiche o sull'uso e sull'organizzazione, si deve invece registrare la scarsità di ricerche sugli aspetti sociali, etici e culturali della biblioteca digitale (Liew 2009). Le conclusioni della studiosa sono state riprese e confermate da Gobinda G. Chowdhury e Schubert Foo nell'introduzione al volume *Digital Libraries and Information Access* (Chowdhury and Foo 2012, 4–5). Secondo i due autori le ricerche sulle biblioteche digitali negli ultimi venti anni hanno registrato un aumento considerevole anche se fino a pochi anni fa alcuni ambiti, in particolare quelli legati al sociale o alla valutazione e all'impatto, non sono stati adeguatamente coltivati. Recentemente è tornata sull'argomento anche Karen Calhoun in un'accurata panoramica circa lo stato delle ricerche sulle biblioteche digitali. La studiosa sostiene che il ruolo sociale delle biblioteche digitali è stato sottovalutato in quanto:

> for many years conventional thinking has tended to emphasize the collections of libraries over their societal or community-based roles. Many perceive libraries as collections of things (especially books), or tende to place information processes (selecting, collecting, organizing, preserving, providing access to information) at the center of how they define libraries (Calhoun 2014, 140; si veda inoltre il capitolo 6, Social roles of digital libraries, pp. 139-158).

Per gettare uno sguardo, necessariamente incompleto, sulla situazione italiana prendiamo in esame tre autorevoli contributi scelti in quanto accomunati dal tentativo di fornire lo stato dell'arte degli studi in questo ambito di studi. Il primo saggio *La biblioteca digitale: definizioni, ingredienti e problematiche* di Riccardo Ridi è stato pubblicato nell'ultimo numero del 2004 del «Bollettino AIB» (Ridi

2004). Fin dal titolo è evidente l'intento dell'autore di affrontare l'argomento a partire dalla definizione di *digital library*. Ridi propone una rassegna delle principali questioni: dal concetto di biblioteca digitale agli aspetti tecnologici, dalle tipologie di documenti digitali alle questioni relative all'organizzazione, dal ruolo dei soggetti coinvolti alla conservazione, dai metadati alla valutazione. All'interno di questa approfondita disamina non troviamo riferimenti espliciti al valore sociale della biblioteca digitale. Segnaliamo poi l'edizione aggiornata del volume di Alberto Salarelli e Anna Maria Tammaro *La biblioteca digitale* (2006), considerato fin dalla sua prima uscita (2000) uno tra i migliori contributi italiani sull'argomento. La biblioteca digitale, presentata come "un prodotto della società", è inserita in un conteso in cui "l'organizzazione della conoscenza" è analizzata nei suoi aspetti economici e sociali (Salarelli, Alberto and Tammaro 2006, 153). Il libro, in particolare nella parte curata dalla Tammaro, mostra una convinta sensibilità verso i temi sociali anche se nel complesso all'argomento è riservato uno spazio limitato. Segue poi il contributo di Gianfranco Crupi pubblicato all'interno del volume *Biblioteconomia: principi e questioni* (2007) una raccolta di saggi il cui scopo, come dichiarato dai curatori Giovanni Solimine e Paul Gabriele Weston, è di affrontare "le principali questioni che sono oggi al centro del dibattito biblioteconomico internazionale e che assorbono tanta parte delle preoccupazioni e delle riflessioni quotidiane dei bibliotecari" (Weston and Solimine 2007, 15). Coerente con i propositi dell'opera, Crupi approntа un'attenta disamina delle problematiche legate alla biblioteca digitale, ma dedica solo qualche riferimento alle implicazioni sociali di quest'ultima. Da segnalare un accenno all'organizzazione "distribuita" ("orientata all'accesso più che al possesso, al servizio più che al patrimonio") delle biblioteche digitali (Crupi 2007, 330).

4. La biblioteca digitale tra valori e bene comune

La crescita di interesse registrata in questi ultimi anni verso le funzioni sociali della biblioteca digitale è stata favorita da due fattori. Il primo consiste nella riscoperta da parte del mondo bibliotecario dei valori della biblioteca pubblica (democrazia, accesso equo all'informazione, ecc.) e il secondo lo si può rintracciare nell'emergere, a partire dall'ultimo decennio del secolo scorso, del tema dei "beni comuni della conoscenza". L'attenzione verso i valori della biblioteca si presenta in modo ciclico. In anni recenti negli Stati Uniti questo tema è stato riproposto da Lee W. Finks, docente di biblioteconomia alla North Carolina Central University School of Library and Information Sciences di Durham, con un articolo intitolato *Values without shame* (1989). Lo studioso, prendendo spunto da un invito a riesaminare i fondamenti della professione rivolto dall'allora presidente dell'American Library Association (ALA) F. William Summers ai bibliotecari, si è proposto di fare il punto sui valori della biblioteca suggerendo una suddivisione in quattro grandi gruppi: *professional values* (comprensivi dei valori filosofici e democratici), *general values* (con i *social values*), *personal values* e *rival values* (gli aspetti negativi). Una decina di anni dopo Michael Gorman, riprendendo le tesi di Fink, pubblicava per l'American Library Association il volume *Our enduring values: librarianship in the 21st century* (2000) con lo scopo di fornire una riflessione più ampia centrata sui "presupposti filosofici del lavoro in biblioteca, cioè sui valori, sulle radici, sui fondamenti della professione" (Guerrini 2002). Il volume usciva in anni in cui il mondo delle biblioteche era sottoposto a profonde trasformazioni e riflette un approccio che oggi consideriamo conservatore: si pensi per esempio alla contrapposizione tra la *virtual library* e la biblioteca tradizionale (Gorman 2002, 52. Secondo Gorman le biblioteche virtuali si potranno affermare solo attraverso la "demolizione" di quelle tradizionali). Nel volgere di pochi anni però la diffidenza verrà

sostituita dalla presa d'atto dell'importanza che riveste l'ambiente digitale per la produzione e la circolazione delle conoscenze (Solimine 2014, 62–86. La rete come contesto). A questa nuova fase sono riconducibili gli studi di David Lankes, docente di biblioteconomia presso l'Università di Syracuse (Stati Uniti)[5]. Secondo Lankes la biblioteca anche nella sua dimensione virtuale può svolgere un ruolo importante e diventare uno strumento di partecipazione. In che modo? Favorendo le occasioni di contatto ("conversazioni") tra cittadini e documenti all'interno del nuovo spazio pubblico che Internet ha contribuito a costruire. La biblioteca (tradizionale e digitale) si trasforma in un "facilitator of conversation" e così riconquista un ruolo centrale nei processi di accesso alla conoscenza. L'altro fattore che abbiamo indicato come determinante nell'aver contributo ad accrescere l'interesse verso il ruolo sociale delle biblioteche è il tema dei beni comuni (*commons*). In Europa le riflessioni sulla natura pubblica delle biblioteche possono vantare una lunga tradizione, ma è a partire dall'ultimo decennio del secolo scorso che gli studi in questo ambito hanno ricevuto un impulso nuovo grazie a Elinor Ostrom. Dopo aver pubblicato *Governing the commons: the evolution of institutions for collective action* (1990), la studiosa americana ha preferito concentrarsi sulla comunicazione scientifica e culturale. I principali risultati di questa ricerca sono confluiti in un volume, curato in collaborazione con Charlotte Hess (Hess and Ostrom 2009b. Nel presente saggio faremo riferimento all'edizione italiana La conoscenza come bene comune. Dalla teoria alla pratica), che ospita i contributi di esperti di vari ambiti disciplinari (Informatica, Economia, Diritto, Scienze politiche e Biblioteconomia). L'opera, da un lato, vuol promuovere il dialogo tra studiosi di diverse discipline con lo scopo di individuare un

[5] R. David Lankes noto per il volume *The Atlas of new librarianship* (2011), ora in traduzione italiana *L'atlante della biblioteconomia moderna* (D. R. Lankes 2014), aveva anticipato la sua idea di biblioteca come "conversazione" nel saggio *Participatory networks. The library as conversation* (D. R. Lankes, Silverstein, and Nicholson 2007).

approccio in grado di rispondere ai "nuovi problemi" determinati "dall'affermarsi dell'informazione digitale distribuita" e, dall'altro, si propone di ampliare la categoria di bene comune accogliendo al suo interno nuove realtà (Hess and Ostrom 2009b, 4). Tra queste c'è anche la biblioteca digitale alla quale viene riconosciuto un ruolo importante nel processo di creazione, diffusione e conservazione della conoscenza. Le biblioteche digitali devono essere dunque considerate come dei "beni comuni della conoscenza" che appartengono a "una molteplicità di tipi diversi di beni e regimi giuridici, che pur tuttavia mantengono molte caratteristiche tipiche dei beni comuni" (Hess and Ostrom 2009b, 6. Sulle tipologie di beni comuni (common-pool resources, common property)). Secondo Giovanni Solimine, la Ostrom ha avuto il merito di individuare l'esistenza di una terza via, tra Stato e mercato, in grado di garantire una gestione "comunitaria" dei beni collettivi globali (l'atmosfera, l'acqua, ecc.) e in questo modo ha sottoposto "con grande forza a chi si occupa professionalmente della circolazione del sapere una questione cui forse andrebbe dedicata maggiore attenzione: le condizioni in cui oggi avviene l'accesso alla conoscenza e ai documenti in cui essa è registrata, e quindi agli archivi e alle biblioteche, alle carte e alla storia" (Solimine 2010, 46). Le analisi contenute nel volume ci aiutano ad osservare le biblioteche digitali in un modo nuovo. È possibile rileggere l'evoluzione di alcune recenti iniziative come Google Books che nella sua prima fase ha contribuito alla costruzione di una biblioteca digitale internazionale accessibile a tutti, ma nel momento in cui ha preferito adottare una strategia commerciale è andato incontro a una "tragedia dei beni comuni" facendo prevalere gli interessi dell'azienda su quelli della comunità (Levine 2009, 286–290). Un altro aspetto interessante che ricaviamo dalla lettura del volume è il ruolo può svolgere la comunità (territoriale, culturale, accademica, ecc.) nella gestione dei beni comuni e dunque anche delle biblioteche (tradizionali e digitali). I beni culturali entrano a far parte della nostra "dimensione identitaria" nel momento in cui si trasformano in "patrimonio di

ciascun membro della comunità" (Solimine 2014, 109–110; Solimine 2010, 45, 47). Per questo motivo negli ultimi tempi le biblioteche digitali hanno puntato su un più stretto collegamento con il territorio proponendosi come "beni comuni associativi radicati in comunità geografiche" (Levine 2009, 286–290). Questo nuovo rapporto ha imposto alcuni cambiamenti nell'organizzazione e h favorito la diffusione di un modello "distributivo" ispirato in buona parte all'approccio condiviso alla produzione dei beni (*commons-based peer production*) di Yochai Benkler[6]. Questo tipo di organizzazione orizzontale viene considerata più adatta alla gestione delle relazioni tra la biblioteca digitale e la comunità di riferimento[7].

5. Alcune considerazioni finali

Negli ultimi anni si è potuto osservare un costante anche se disomogeneo aumento dell'attenzione verso il ruolo sociale della biblioteca digitale. Gli Stati Uniti e la Gran Bretagna sono da tempo impegnate non solo in un forte investimento tecnologico, ma anche in un impegnativo dibattito sul ruolo pubblico delle biblioteche. In questo modo la funzione sociale della biblioteca digitale è diventata

[6] Il modello di *commons-based peer production* è stato esposto per la prima volta da Yochai Benkler (2002). L'argomento è stato ripreso e sistematizzato in Yochai Benkler, *The Wealth of networks: how social production transforms markets and freedom* (2007b) (traduzione italiana *La ricchezza della rete. La produzione sociale trasforma il mercato e aumenta le libertà* (2007a)). Per l'applicazione di questo modello alle biblioteche digitali si veda Aaron Krowne (2003).

[7] Come esempio di collezione digitale con "radici locali" possiamo indicare l'"Archivio della memoria condivisa" <http://archiviomemoria.comune.perugia.it/>, un progetto promosso dal Comune di Perugia, in collaborazione con la Regione Umbria, con lo scopo di raccogliere e rendere consultabili in Internet copie digitalizzate di fotografie, video e filmati, documenti, oggetti, ecc. riguardanti la storia della città. L'Archivio ha organizzato alcuni centri di raccolta in diversi punti della città in cui si può portare il materiale per la digitalizzazione. L'iniziativa si basa su tre fattori: il legame con la città che si realizza con la partecipazione diretta dei cittadini alla raccolta delle risorse documentarie; la collaborazione tra i soggetti che hanno dato vita all'iniziativa; l'ottimizzazione delle risorse. Si veda Andrea Capaccioni (2014).

oggetto di studio per gli specialisti e si è ritagliata uno spazio nella letteratura e nella manualistica[8]. In Italia, così come in Francia o in Spagna, non si è registrato lo stesso interesse a causa forse di un motivo su tutti: il ritardo nel comprendere la portata dei cambiamenti che si sono verificati all'interno del mondo della produzione e della circolazione delle informazioni. Per questa ragione la *digital library* è rimasta relegata al ruolo di partner tecnologica delle biblioteca tradizionale. La sfida lanciata dall'universo dell'"informazione digitale distribuita" (Hess and Ostrom 2009a) ha costretto studiosi e bibliotecari a prendere atto che la biblioteca digitale è diventata uno degli strumenti che garantiscono l'accesso alla conoscenza. Questa funzione costituisce il fondamento stesso della sua dimensione sociale e può essere declinata in modi diversi. Karen Calhoun ha recentemente indicato otto tipi di "contributi sociali" che le biblioteche digitali possono fornire:

> broad access to content, infrastructure component, free flow of ideas, individual empowerment and an informed citinzery, formal education, progress of knowledge, economic benefits, preservation and curation (Calhoun 2014, 146–157).

Come abbiamo visto, nella riscoperta del ruolo sociale della biblioteca hanno avuto un ruolo importante la rivalutazione dei valori della biblioteca e l'approccio al patrimonio culturale come bene comune. Oggi si sente l'esigenza di far convergere queste riflessioni in un quadro teorico più coerente. Il compito non è facile. È in atto un processo di ridefinizione di concetti, aspetti tecnologici e finalità della biblioteca digitale, ma soprattutto si assiste a un dibattito sui valori e sul bene comune che presenta un notevole

[8] Si veda uno dei primi contributi in cui appare l'espressione "the social role of digital libraries": Derek Law (2003). Per un esempio di manuale si veda Karen Calhoun (2014).

livello di complessità. Quando si parla infatti di sistemi di valori si fa riferimento a principi, idee e norme che possono incontrare un moderato consenso e perfino un dissenso in paesi diversi da quelli in cui sono stati elaborati. La stessa trasposizione di concetti legati alla storia e alla tradizione giuridica anglosassone come i *commons*, in italiano al termine "comunanze" si è preferito il più diffuso "beni comuni", può generare incomprensioni. In Italia la discussione sul bene comune è recente e come si poteva prevedere ha registrato il contrapporsi di varie interpretazioni. Un caso esemplare è costituito dalla polemica tra Ermanno Vitale (2013) e Ugo Mattei (2011). La discussione, ricca di puntualizzazioni di natura filosofica e giuridica, conferma il fatto che l'adozione da parte dei singoli paesi di idee o categorie provenienti da differenti contesti culturali spesso si trasforma in un serrato confronto di idee. Il mondo delle biblioteche comincia solo ora ad occuparsi di beni comuni e in Italia l'attenzione si è concentrata sulle biblioteche tradizionali. In questa sede, oltre ai già ricordati interventi di Giovanni Solimine, ci limitiamo a segnalare i lavori di Giovanni Di Domenico (2013) e Anna Galluzzi (2011) che risultano particolarmente utili anche per una riflessione sul ruolo sociale della biblioteca digitale. Di Domenico (2013) fornisce una ricostruzione del dibattito in corso in Italia sul tema dei beni comuni basandosi soprattutto sulle proposte avanzate dalla Commissione ministeriale presieduta da Stefano Rodotà e incaricata di preparare uno schema di disegno di legge delega per la riforma delle norme del codice civile sui beni pubblici (2007-2008) e sulle proposte di Salvatore Settis esposte nel saggio *Azione popolare. Cittadini per il bene comune* (2012). Secondo Di Domenico ci troviamo di fronte a una fase in cui "sotto l'aspetto giuridico, la definizione dei beni comuni rimane incerta, così come non risolto appare il rapporto tra beni pubblici e beni comuni: tutto consiglia prudenza nell'uso di una formula che, al contrario, è già fin troppo inflazionata" (Di Domenico 2013, 17). L'articolo prende in esame anche le tesi di Ugo Mattei in quanto aiutano a comprendere il legame esistente "tra biblioteche pubbliche e comunità di appartenenza in termini di condivisione

sociale della conoscenza, qualità ambientale e arricchimento culturale dei nessi di cittadinanza" (Di Domenico 2013, 18). Anche il saggio di Anna Galluzzi pone al centro la riflessione sul ruolo della biblioteca pubblica nella società contemporanea. La studiosa ritiene che una corretta disamina del futuro delle biblioteche debba tenere conto di due fattori tra loro collegati: la "dinamica pubblico/privato nelle società occidentali contemporanee" e "i processi di smaterializzazione dei beni e dei servizi" che si sviluppano "all'interno dell'economia della conoscenza" (Galluzzi 2011). Si sente l'esigenza di definire con maggiore chiarezza i confini tra la dimensione pubblica e quella privata dell'istituto bibliotecario in un'epoca in cui i cambiamenti incidono in modo radicale nei processi di produzione e circolazione del sapere. In questo scenario non solo è importante rileggere la storia delle origini della biblioteca pubblica, ma si deve anche riesaminare il complesso rapporto tra beni pubblici e privati e bene comune.

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ABSTRACT: The interest in digital libraries began in the early nineties of the last century, particularly in the United States. At first the discussion involved a few computer scientists and some librarian. However, after the first terminological uncertainties ("electronic" library, "virtual" library, etc.), digital libraries have become an object of interdisciplinary study and today constitute a research field of LIS. Over the years there has been an evolution of topics and approaches. The earlier prevailing interest was in the management and technological aspects of digital libraries and then emerged the need to rediscover the role of digital libraries in society. This paper focuses in particular on the most recent international debate on the social value of the digital library.

KEYWORDS: Digital libraries; Social value; Evolution; Interdisciplinary research; International debate.

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The Casalini Libri Approval Plan: Origins, Contexts and Future Prospects

Maria Chiara Iorio

1 Introduction

This contribution comes from a desire to improve knowledge of approval plans, a system of book supply for libraries that is particularly wide-spread throughout the United States. In Italy, this method is used successfully by a Florentine company that has been active in the diffusion of Italian publishing and culture worldwide since the late 1950s. In the period that saw the birth of the so-called "made in Italy" in Florence, at the hands of the first fashion designers, Mario Casalini, a young intellectual, began his contribution to promoting recognition of Italian cultural productivity, founding a business that still supplies services to many of the most important libraries across the world today. In this article we will consider the origins, characteristics and future prospects both of approval plans and of Casalini Libri's own relationship with this particular tool for book acquisitions and sales. A first for Italian professional writings on the subject, we will analyse the various stages of approval plans from the company's perspective.

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2 Approval plans: definitions, origins, developments

With origins in the United States of the early 1960s, approval plans have evolved over time to become an established method of book acquisition, contributing significantly to the birth of important collections and close collaboration between libraries and suppliers. As a result, the majority of studies on this subject are from the American domain, with the greatest developments coming in the second half of the 1990s, when approval plans began to be introduced elsewhere, including, to a marginal degree, in some Italian libraries.[1] Today the characteristics and methodology of approval plans are known and recognised as a valid and effective system almost unanimously both by the library community and suppliers of the service, although this does not necessarily mean that the system is commonly adopted everywhere. The expression "approval plan" is not usually translated into Italian, a language lacking an exact equivalent in terminology, and requiring a circumvolution to convey the meaning. The term implies a model for acquisitions of published material based on collection development profiles and formal agreements undertaken with service providers. The libraries have a determinant role, both in the definition of the conditions and in checking acquisitions, including the right to return items that do not meet the established criteria; involving, in some cases, the input of main user reference groups. From an historical perspective, an initial form of book acquisition by libraries based on a structured plan to be shared with publishers was provided by the extraordinary Farmington Plan, a national USA programme, established and guided by the Library of Congress following the Second World War, which aimed to deal

[1] Given the vast range of literature on the subject, the bibliography quotes only the most important documents used in the writing of this article.

with the difficulties libraries faced in receiving documentary material from countries on whose territory the war had been fought. The plan required that at least one of the major research libraries in the US acquired, from selected suppliers, a copy of every book relevant to its own specialist subject or linguistic area published in the leading country of reference for that subject or language. In contrast to the approval plans that were introduced later, the Farmington Plan did not give participating libraries the right to return books to the supplier; rather, libraries were forced to share among themselves everything that was sent to them, in this way answering the national cause rather than the real needs of their own users. In the late 1940s, various acquisitions plans were developed in the US, allowing academic libraries to spend as efficiently as possible the notable budgets granted by the federal government for the purchase of foreign language books. These include the so-called "Blanket order plans", which still exist today. Similarly to the Farmington Plan, "Blanket order plans" always require an agreement between libraries and publishers, or book distributors, and usually foresee the supply of a copy of each title published by a certain publisher or in a particular subject area. Although in this case, also, returns are not permitted, at least the agreements are drawn out on the basis of users' interests. The introduction of approval plans can be traced back to the fortuitous meeting, in the early 1960s, of the entrepreneur Richard Abel, bookseller (of the company of the same name), and Don Smith, librarian at the Washington State University Library. It is Abel himself (Abel) who recalls how the notion of the new method was born: a result of a discussion with the librarian, who demonstrated his surprise at the speed with which his staff received the books that had been ordered. Abel explained to him that such speed was possible because his company always managed to acquire a copy of the catalogues of the libraries that it supplied, allowing

him to analyse and understand the characteristics of the different collections, the subjects of interest, level of coverage, perspectives from which subjects were considered and much more. In this way, when he examined the publishers' catalogues of new titles, he was able to anticipate which titles, and how many copies, would be requested by his customers. The experiment that followed became a success and the new system took the name of approval plan since, unlike blanket orders, it offered a great degree of flexibility: books supplied to the library could be either approved or rejected, if they did not fulfil the established criteria. Abel was so carried away by the success of this system that he invested more than he could afford and consequently went bankrupt in 1975. In the meantime, however, approval plans became more and more frequent in North American libraries, with the same methods adopted by other suppliers. One such supplier, Yankee Book Peddler, was bought by Baker & Taylor, while Abel's company became part of Blackwell; both larger firms taking over from the first two companies to have guaranteed this service are still active in the field today.

From the outset, the work flows of approval plans were formulated taking into account the possibilities offered by information technology, which was beginning to be introduced into American libraries during the early 1960s. This immediately facilitated the selection of titles by experts and assisted suppliers in the introduction of added services such as cataloguing for books sent, the management and conservation of large volumes of bibliographical data, and shelf-ready options allowing books to be shipped to libraries ready for placement on the shelves. New technology also provided possibilities for virtual selection via electronic bibliographic notifications, order placement and the exchange of messages based on the EDI standard. In time, approval plans have made use of tools such as: ever more sophisticated and detailed thesauruses; the Conspec-

tus system (which, since 1978, has permitted suppliers to evaluate and compare collections, facilitating the elaboration of co-ordinated plans for the functional development of approval plans); Kenneth Whittaker's systematic evaluation method (introduced in 1982 for the analysis and evaluation of documents to be selected); the development of telecommunications and Internet, which have contributed to making the diffusion of information and the interaction between the parties involved in approval plans much faster and more efficient. It has rightly been said that approval plans will continue to evolve as long as libraries continue to purchase books (Jacoby). We should now add "even in the case of electronic books". For e-books, publishers, aggregators and distributors usually propose subscriptions to packages or, alternatively, orders for single titles, standing orders, short-term loans or the so-called Patron Driven Acquisition or Selection models (based on selections made online directly by library users as they navigate e-book platforms). In order to maintain control of collections in digital format, however, libraries can acquire e-books under approval plans. The main suppliers of this service are equipping their platforms to enable them to manage requests for e-books, a format completely different from print in terms of characteristics and specifications and therefore requiring substantial changes to be made to existing work flows. It will be the suppliers' responsibility to ensure access to electronic material and activate control systems in order to avoid unwanted duplicate purchases of print and electronic formats by libraries. Library profiles in this context will therefore become more and more sophisticated and personalised, foreseeing not only the subjects and fields in which the electronic version is to be preferred to the print, but also describing the period of time libraries are prepared to wait to acquire material.

[2] Other new parameters to be introduced in the profiles may include: the overlap of e-book content compared with corresponding print titles (the e-book will be selected only if the content is identical to its print equivalent), Digital Rights Management (a profile may prefer e-books only if the permissions offer multiple access, download, limitless printing), the possibility for libraries to view the full text before purchasing in order to decide whether to accept or refuse suppliers' selections, and so on.

Main factors limiting the acquisition of e-books, in particular regarding the study of approval plans, are:

- the delay, if not the uncertainty of release, or the lack of e-books of a sufficiently scholarly level, especially in the Humanities and Art History (publishers currently concentrate much more on e-books for commercial literature, or tend to offer immediate e-book supply only to customers that contact them directly, without going through intermediaries.) (Walters, p.190-91);

- higher prices on average, particularly for the Humanities and Social Sciences;

- a large percentage of users that persists in its preference for print;

- unknown complications depending on technological problems (such as compatibility between platforms, formats and users' electronic devices).

The first examples of approval plans for e-books have been carried out in US libraries. Professional literature dates the first case of

[2]The embargo publishers dictate in order to guarantee themselves a slice of print sales currently varies from 3 to 18 months: on the whole it is shorter (and is being progressively reduced) for scientific disciplines, and longer for publications dealing with the Humanities and Social Sciences.

an e-book approval plan to 2008 (at Nova Southeastern University, Florida), with Coutts Information Services the supplier. Coutts has since created mixed solutions that foresee integration with PDA for interdisciplinary titles and more frequently updated works. Titles are made available to users based on specific parameters and limits set by the library and resources selected for inclusion according to approval plan profiles (one of the first examples can be found at the University of Colorado Boulder) (Buckley and Tritt; Forzetting, Wiersma, and Eager). The principal suppliers of approval plans today, besides the Americans we have already mentioned, include: Harrassowitz (Germany), Starkmann (UK), Puvill libros (Spain), Erasmus (Netherlands) and Libraire internazionale Touzot Aux Amateurs de Livres (France). In Italy, the company of reference for this service is Casalini Libri which, like the other foreign companies, has created agreements specifically with North American and European university libraries [3]. Indeed, Casalini is the publisher of the only Italian monograph to be written on approval plans to date: Approval plans within the library, comparative experiences, a publication that collates brief testimonies from members of various libraries on their experiences of approval plans with Casalini. [4]

Figure 1: Mario Casalini

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3 Casalini Libri: a small success story

Let's take a brief look at the roots of Casalini Libri. The company was founded in 1958 by Mario Casalini, a 32 year old Florentine hailing from a family of typographers from whom he had inherited his passion for books and publishing. Mario's grandfather, Cesare, had been the owner of the Carnesecchi typography; his predecessor at the firm, Giovanni Carnesecchi, had founded the publishing house G. C. Sansoni in 1873, together with his friend, Giulio Cesare Sansoni. The Casalini family operated, first under the guidance of Cesare, then with his son Pietro, under the name "Giovanni Carnesecchi e figli" until 1950.[5]

Born in 1926, Mario began to work in the Florentine publishing house La Nuova Italia from very young and quickly became director, then president. A highly educated and cultured man, he was inspired to create what was to become his own company following an official visit to the USA in the company of a group of directors of Italian publishing houses. On that occasion, various libraries had spoken about the difficulties they regularly encountered in receiving new books published in Italy: information on the existence of new titles arrived very slowly, if at all, and when it did arrive it was usually too late, considering the short print runs. In the USA the

[3]Approval plans are offered in Italy by other suppliers, including Cafoscarini (where the system is defined as "the continuing supply of publications selected according to library requirements") and Licosa (which supplies libraries with "publication announcements").

[4]Published in 2008 with introduction by Assunta Pisani and contributions from: Silvia Arena, Katharina Beberweil, Paola Bottecchia, Luca Guerra, Eugenio Pelizzari, Klaus Kempf, Rossana Morriello, Elisabetta Viti (Pisani and Arena). Some of the texts had been published previously. The bibliography cited is almost exclusively limited to the USA.

[5]Historical information is taken from: Aquilani; Casalini, "Italian-language books"; Strauch; Pisani; Lottman , the website http://www.casalini.it, interviews with Barbara and Michele Casalini.

phenomenon of mass immigration and the development of academic institutions after the Second World War had increased the interest for Italian language and culture, bringing a rise in the number of people capable of reading Italian books and of using them for their research. A variety of factors made the system by which Italian publications arrived in the US often complicated and problematic. Mario Casalini understood that there was a vacuum waiting to be filled: the Italian national catalogue, Bibliografia Nazionale Italiana (BNI), was very accurate but too slow in the creation of records to be of use as a reference to libraries; the catalogues of individual publishers were partial, incomplete and insufficient. Returning to Florence, Mario established the family business with his wife Gerda von Grebmer with the precise aim of supplying Italian publications to foreign libraries, an activity that required an enormous commitment in terms of research if he were to obtain information and material that otherwise would have remained unknown or difficult to acquire. During the 1960s, when approval plans were becoming a well-established practice in the USA, the system was adopted by Mario Casalini, who began to work with the Library of Congress in Washington in 1967. At the time, he had already built up a wide and solid network of contacts that permitted him to acquire a large number of scholarly books that were not otherwise easily available. In this way, he succeeded in ensuring that his customers received good service, extending the business to include professional cataloguers and maintaining contacts with the BNI (headquartered at the National Library in Florence, BNCF), through the US shared cataloguing programme that the Library of Congress [6] had agreed with 20 countries in order to manage as best possible the cataloguing of vast numbers of books in foreign languages. In particular, the agreement signed in 1968 between LC and the BNCF stipulated that around a hundred titles

[6]The Library of Congress in Washington will henceforth be referred to as LC.

from among the books selected each week by Casalini for supply to the LC would be transferred to the BNI offices for cataloguing by the organisation's personnel. Each week, therefore, Casalini collected the books that had been catalogued by the BNI to forward them to LC and, in their place, delivered another hundred to be catalogued. Thanks to this agreement, LC received a large percentage of books already catalogued by the BNI, which, in turn, was able to update a section of its catalogue in a timely fashion.

Figure 2: Working at Casalini Libri

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The Italian collaboration in the shared cataloguing programme ceased in 1984, when the BNI became part of the SBN (National Library Service), which ruled out the inclusion in its catalogue of

Figure 3: Mario Casalini with Marion Schild

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books that had not been acquired by Italian libraries. For many years, Casalini continued to inform our bibliographic agency regarding important Italian publications that should be acquired (Maltese). The services offered today by Casalini include the in-house production of bibliographic descriptions for new Italian publications immediately following their release, since it is not possible to rely on the promptness of the BNI. Barbara and Michele Casalini, Mario's children, who have taken over the company reins, have amplified the firm's activities, putting the company forward no longer only as a supplier of Italian publications, but also of published titles from France, Spain, Portugal and Greece. Speaking about the fam-

ily business, Michele Casalini remembers (Casalini, "Insieme per l'innovazione tecnologica: Fiesole Retreat") how the IT system was developed in the 1970s, bringing automation to all sectors and making it possible to supply bibliographic services in internationally recognised electronic formats not just to university and national libraries, but also to consortia and specialised databases (such as OCLC and RLIN [7]). In the 1990s, the company was one of the first in Europe to activate the entire production cycle (from the promotion of new titles to the invoicing of books and journals) in the ISO EDIFACT standard, and therefore finalise various models of data exchange that were compatible with numerous library systems. In 1996 the site www.casalini.it was created, providing a constantly updated database of bibliographic descriptions for titles with abstracts, ToC (Tables of Contents) and other information that assists librarians and scholars in selection and acquisition processes and approval plan activities. The Casalini Libri Digital Division was established in 2000 to provide services for electronic publishing at the forefront of the sector; in 2003, EIO – Editoria Italiana Online was introduced as the first Italian multimedia portal for institutional use, dedicated to the fields of the Humanities and the Social Sciences; the Casalini Full-Text platform was born in 2010 at the address <www.torrossa.it>, offering to libraries a continually growing collection of academic content from over 130 Italian, Spanish, French and Portuguese publishers. The new operative hub in Caldine was added to the historic headquarters of the Villa Torrossa (Fiesole) in 1998 and later extended in 2008 to accommodate the growing staff, which currently comprises around 90 people. Despite the many changes over the years, 25% of the company's turnover is still connected to approval plans [Photos 4 and 5].

[7] Online Computer Library Center and Research Libraries Information Network.

4 Casalini Libri and approval plans

One of the characteristics of Casalini is its ability to satisfy the multitude of different library requests through personalised services. This implies a notable organisational commitment and investment of resources, as well as making it impossible to set out work flows that are linear, repetitive and simple: there are so many variants based on library requirements that a number of procedures is required, each with its own complexities and details. All of the company's interdependent departments work in close collaboration, intertwining to create the nucleus of a single structure in which respect for timescales in each separate sector is fundamental to ensure that all areas reach their targets.

4.1 Formalisation of profiles by the library

Prior to the activation of a new approval plan, Casalini holds discussions with the library to exchange information, make agreements and define in writing the typology, areas and modality of supply for the services required. The data provided by the library is grouped as follows:

- general information, essentially relative to the countries of publication, the available annual budget, characteristics, modality and timescales for the supply of bibliographic records, "not selected" title lists, statistics, returns, payment and other administrative procedures;

- formal criteria (non-subject parameters) regarding: typology of publication required, publication year, edition, level of coverage (according to the 5 levels set out in the Conspectus system: 0 for exclusion, 1 basic information, 2 selective, 3 research-level,

4 comprehensive), publishers to be included or excluded, collections and monographic series, minimum number of pages, price limits for each individual volume and more;

- thematic criteria for content (subject parameters) based on 2 and 3 digit DDC (Decimal Dewey Classification), or other classifications and category lists. It is advisable for libraries not to limit themselves too much to rigid classification schemes, as these may automatically exclude the selection of interdisciplinary works;

- stop-lists detailing the type of publications that should not be selected.

Over time, profiles are naturally subject to tweaks and changes. The constant verification of profiles and procedures is fundamental to guarantee the quality of supply and reciprocal satisfaction, but most importantly the satisfaction of library users.

4.2 New Title Information Service

If approval plans are to be successful, it is necessary to have access to a vast number of publications from which to select, within a very short time of their release; publications not only from the major publishers but also, and especially, from specialised "niche" publishing houses that are less well-known but offer high quality titles, at times only available outside normal trade channels. To make this possible, Casalini uses its New Title Information Service, a department dedicated to the development and maintenance of relations with suppliers, distributors and publishing houses, as well as with printers, art gallery curators and individuals. This department has a central role within the company, as it evaluates all of the

publications that it traces or receives to decide whether they should be passed to approval plan selectors for consideration.

4.3 Bibliographic production

The Bibliography office has a complex organisation. Each year it produces almost 50,000 records of bibliographic announcements, around half of which deal with Italian publications, 7,500 French titles, and 16,000 Spanish and Portuguese books (O'Loughlin). These new title announcements are visible on the company website or sent on a weekly or monthly basis to librarians requesting the service. Once approval selections have been made with book in hand, titles are catalogued to different levels depending on the requirements of the libraries to which they will be supplied. If a library requests cataloguing according to the Anglo-American rules, the book will follow a particular course. Casalini specialists access the Cataloger's desktop, an on-line platform of the LC with instructions on all aspects of cataloguing, from the description (following the new RDA Resource Description and Access) to the semantic (according to LCC, including the application of an LC Call number, and the LCSH).[8] For customers with local classification systems, "custom cataloguing" is offered and the Anglo-American cataloguing adapted. This personalisation is provided for the Bayerische Staatsbibliothek in Munich (using as reference the authority files of the Bavarian consortium) and for the Library of the Libera Università di Bolzano (using the RVK classification, Regensburger Verbundklassifikation), among others. It is possible to offer a high level of cataloguing to the Anglo-American world thanks to the shared cataloguing project enthusiastically supported by a group of American research libraries (ARL, American Research Libraries, including the libraries of Har-

[8]Library of Congress Classification; Library of Congress Subject Headings.

vard, Yale, Stanford and Princeton), through which participating libraries and OCLC (Online Computer Library Center) share the benefits and costs with the Library of Congress. [9]

4.4 The true approval plan

Selection and supply may begin in virtual form: in a first stage, Casalini can send lists of selected titles only, allowing libraries to implement approval plans gradually, adjusting profiles with greater ease. Approval selectors are very much aware of their position of responsibility, which requires them to keep in consideration the existing collection of the library and the need for consistency, and at the same time follow the guidelines given by libraries, respecting at all times the specifications and limiting as much as possible an inevitable margin of subjectivity. Over time, a reciprocal understanding and knowledge grows between the two parties, although attention is always needed due to the changeable dynamics of profiles and collections. Other aspects to be considered are: "Budget control", or the detailed time plan of selections made for individual libraries based on the quoted and agreed levels of spending; analysis of the reasons for any returns from the library in order to avoid repeating errors in successive selections.

4.5 Shelf-ready

Contracts between Casalini and libraries may include so-called "added-value services" which, in addition to the supply of bibliographic records at different levels of cataloguing, can refer to the

[9] "For Casalini's partecipation in the Program for Cooperative Cataloging (PCC) and in the Shelf-ready Project: "Casalini's participation in the for Cooperative Cataloging (PCC) and the Shelf-ready Project", (Genetasio and Terravecchia), and bibliography.

physical processing of books with the application of barcodes and security strips, placement of spine labels, library stamps and, in some cases, binding. In this way, volumes arrive at the library ready to for immediate placement on the shelf and availability for loan. Libraries receiving shelf-ready books benefit from a service guaranteeing a precise correspondence between the books that arrive and the data already present in their library systems. Classification derives from the semantic cataloguing produced by the bibliography department that is meticulously assigned according to library instructions, which, in addition to general specifications, also dictate the modality and frequency of shipping.

4.6 Future prospects

Casalini Libri has made provisions for the technology necessary to manage e-books and PDA for approval plans. To date, however, approval plans for e-books have not been activated as there have not yet been definite requests from libraries. An essential element for the management of electronic or hybrid approval plans is a knowledge of the release times for electronic editions, a factor which currently presents a number of unknown factors relative to the effective availability of electronic formats. The problem is particularly notable in the field of scientific-level texts in languages other than English, particularly in the Humanities, Art History and Social Sciences, the principal fields of bibliographic production in Italy and other romance-language countries and, as such, precisely the publications that Casalini supplies.

5 Italian libraries and approval plans

Around 300 libraries have an approval plan with Casalini, mainly university and research libraries which include some of the most important and prestigious cultural institutions in the world, as well as public lending libraries. Overall, 63% of approval plan sales are made to American libraries. This is most likely due to historical and cultural factors because of which the USA acquires larger quantities than any other country of publications in many different foreign languages, an activity made much more manageable by the introduction of approval plans. In Italy, many library directors have had the opportunity to get to know this acquisition system through the "Master in library management and organisation" course organised by the Università Cattolica del Sacro Cuore in Milan, in collaboration with the IAL Cisl nazionale which, since 1994, has hosted lessons on collection development taught by Assunta Pisani, tutor and librarian at Harvard and Stanford libraries. Despite the interest that these lessons have generated, they have rarely laid a foundation for the diffusion of approval plans in Italy, where the practice remains marginal. Casalini Libri's first approval plan for an Italian library was implemented at the end of 1997 with the Seminario Giuridico dell'Università di Catania; the institution wanted to provide all scholars and legal practitioners with a growing collection of up-to-date reference documents, both from Italy and abroad. In 1999, an approval plan was created for the library of the Università Cattolica of Milan for Italian publications in the Social Sciences, Pedagogy, Economics, Political Sciences, Psychology, Italian Studies and Linguistics. [10] The Università Cattolica of Milan still has an approval agreement with Casalini. Another important Italian

[10] In 1998 the university had begun an approval plan with Blackwell for publications from the USA and UK (Bottecchia).

library to have an approval plan (since 2003) with Casalini is the Bicocca, also in Milan (Arena, p.11-14). For reasons that we will discuss, approval plans in Italy are adopted more frequently by private institutions or libraries belonging to foreign institutions, rather than by public entities. These include the libraries of the European University Institute (EUI) in Fiesole and the Berenson Library at Villa I Tatti in Florence. If not immune from the general economic downturn, Casalini continues to operate at the highest level, as can be seen by the company's collaboration in international projects and with demanding foreign customers. On 31st March 2013 Casalini made the switch to RDA cataloguing, unlike the SBN, which at present will not participate in this wide-spread innovation. Returning to approval plans, these have never caught on in Italian libraries, apart from rare exceptions. Casalini believes that the tendency to "maximum savings", ever present in tender exercises run by public institutions, means that price becomes the determining factor more and more, penalizing companies that offer additional services. This can be partially justified if we consider the continuous reduction in funds for book acquisitions and the fact that less generous discounts are applied to approval plans in comparison with the conditions that can be obtained through firm order purchasing. The AIE (Associazione Editori Italiani / Association of Italian Publishers) has recorded the progressive reduction in public funding made available by institutions (State, local authorities and universities) which, in the period between 2005 and 2010, has halved the buying power of libraries in the publishing market (Frigimelica). Let us not forget that in 2012 the Central National Libraries in Rome and Florence had a total of Euro 250,000 at their disposal for the development of their collections, and the 46 Italian state libraries, together with the Istituto Centrale per i Beni Sonori e Audiovisivi received, collectively, Euro 1,900,000, compared with over 6 million dollars spent

on book acquisitions by the Library of Congress alone. [11] We are faced with such incomparable figures that these may explain the reason why our libraries do not consider approval plans for the development of their collections. In terms of university libraries, we must consider "the network" of the Italian system; since 2005 numerous universities have joined together in one of the most significant examples of inter-university co-operation in terms of the number of institutions involved, impact on management and collective economic value. This consists of an inter-university tender for the acquisition of monographs, run by the Polytechnic University in Milan and under which the 13 libraries involved have invested 3 million Euro per year for a three-year period (Bardi, Bezzi, and Scolari). In addition to the acquisition of monographs, it would be advisable for this agreement to include the co-ordinated development of acquisitions with the criteria of stability and rationality that approval plans can guarantee. A sort of co-operative approval between university libraries could work if, once competitive instincts were overcome, it were adequately supported by a related organisation to assist the circulation of books through interlibrary loan and by a "catalogue sharing" programme similar to the Program for Cooperative Cataloguing. This would guarantee a sustainable collaboration, thanks to a division of cataloguing costs, even with the controlled involvement of private enterprise. In Italy, there are various examples of regionally co-ordinated collection development, but none of these make use of approval plans. A questionnaire I

[11] The figures for the state libraries were quoted by Paolo Arrigoni of the Ministry for Culture in his email of 23rd August 2013. The sum spent by the LC was communicated by library staff members in an email dated 9th April 2013. As far as regional public libraries in Italy are concerned, an article by Panullo (2013) states that in 2012 the collective spending on books was around 30 million Euro, for an average of Euro 7,850 each.

distributed by email to many libraries [12] reveals the recurring motivation as the desire to maintain tight control over acquisitions. Such fear of losing a post of autonomous decision making reveals how little is really known about approval plans, which are challenged not only by economic problems but also by a number of various cultural factors.

6 Conclusions

It is clear that much suspicion still surrounds the role of private enterprise in the public domain, and specifically in the areas of cultural heritage in this country; libraries fear that market factors will prevail over the unconditional promotion of books. The fear is probably not completely unfounded, since we are aware of the weaknesses within the public institutions that should safeguard the public interest above the presence of private profit-making firms. It is a complex question on which there may be many differing opinions. Other historical and cultural factors that limit the diffusion of approval plans in Italy include:

- little familiarity with collection development policy and in general with the culture of long-term planning, rationalisation and collaboration among libraries;
- the regulations governing the acquisition of goods and services by public bodies, as these foresee a rotation of suppliers at the expense of long running, tried and trusted relationships that are the basis of approval plans;
- the lack of demand for approval plans means that suppliers do not invest and, consequently, do not develop the service;

[12] Questionnaire sent by mail in April 2013.

- the desire of many university tutors to continue to select personally the titles that the library should purchase.

In conclusion, we can affirm that:

- if carried out correctly by both of the parties involved, approval plans are a very valid tool for collection development according to criteria of structure, rationality and conformity to users' needs;

- the adoption of an approval plans implies the existence of conditions such as: an awareness of its value and effectiveness; certainty of the available budget, a centralisation of libraries and powers of decision (where there is no central library it is difficult to manage unified work flows); an ability for planning, programming and control; competence and a notable effort on the part of the librarians, again with the involvement of user representatives.

In Italy, it is rare for all of these conditions to be fulfilled, and this study aims to contribute to greater awareness not only of the origins of the system, but in particular the characteristics, organisation, procedures, value and even limits of a tool that has ensured the success of the largest company in the sector in Italy, where it is to be hoped that in time conditions will develop allowing approval plans to be considered for the rationalisation of acquisitions, be this in collaborative schemes involving more than one library.

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ABSTRACT: This article deals with the approval plan method of book acquisition and discusses one of the few Italian companies active in the cultural sector that has offered and provided this service for many years, enjoying huge success across the world, if only marginally in Italy.
In preparing this study, the author has made valuable use not only of the existing

literature on the subject, but of the opportunity to spend a period of time within , where she was able to follow the different phases of the approval plan work flow, benefitting from first-hand explanations and clarification on the procedures, direct contact and conversations both with approval selectors and with the company directors. In order to provide a full overview of the topic, interviews were also held with various directors and heads of acquisitions and library systems of a number of Italian libraries.
Conclusion is that approval plans are still today a highly valid acquisition method. Determining motives for which libraries turn to this method are not so much economic issues, although these must not be ignored, but are mainly social-cultural aspects including a greater international outlook and a widening of horizons within the academic institutions served by the libraries, as well as more meticulous planning by library authorities.

KEYWORDS: Acquisitions; Approval plan; Casalini Libri.

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Ancora sul diritto all'oblio: cosa cambia dopo la sentenza della Corte di Giustizia Europea contro Google

Alberto Salarelli

1. *A landmark decision*

Con questo breve intervento ritorniamo sul tema del diritto all'oblio, argomento che avevamo già trattato con una particolare enfasi in riferimento agli archivi online dei quotidiani (Salarelli 2013). È d'uopo riprendere le fila del discorso poiché la sentenza della Corte di Giustizia Europea del 13 maggio 2014[1] ha aperto scenari di notevole interesse relativamente alle responsabilità nel trattamento dei dati personali in carico ai gestori dei motori di ricerca: infatti, come si ricorderà, nei provvedimenti del Garante italiano della privacy (provvedimenti che avevamo commentato nell'articolo summenzionato) il loro ruolo era stato collocato in una posizione del tutto secondaria rispetto ai gestori degli archivi online dei quotidiani, considerati come primi responsabili nella fornitura di un'informazione completa ed aggiornata, soprattutto quando, nel corso del tempo, siano accaduti fatti in grado di incidere in modo

[1] C-131/12, 13 maggio 2014. Il testo della sentenza è consultabile alla URL http://curia.europa.eu/juris/document/document.jsf?text=&docid=152065&pageIndex=0&doclang=IT&mode=req&dir=&occ=first&part=1&cid=15140.

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significativo sul profilo e sulla immagine di una persona citata negli articoli pubblicati dalle rispettive testate. La recente sentenza europea, invece, individua una precisa responsabilità dei motori di ricerca generalisti, una responsabilità considerata strategica in merito alla facoltà di un cittadino a veder rispettata la propria sfera personale qualora le informazioni che lo riguardano non si ritiene abbiano più alcuna rilevanza per la collettività. Si tratta, quindi, di una sentenza di rilevanza storica, una vera e propria "landmark decision", e cioè un precedente giurisprudenziale a cui dovranno attenersi tutti i tribunali dei paesi membri.

Ma andiamo con ordine e vediamo, innanzitutto, il merito della vicenda su cui si è pronunciato il massimo organo di giustizia comunitario.

Nel 2010 un cittadino spagnolo, il signor Mario Costeja Gonzalez, aveva rivolto un reclamo alla Agencia Española de Protección de Datos (AEPD) contro il quotidiano "La Vanguardia" colpevole, a suo dire, di aver reso disponibili online due pagine risalenti al 1998 che lo riguardavano da vicino, trattando entrambe di una vendita all'asta di immobili connessa ad un pignoramento effettuato per la riscossione coattiva di crediti previdenziali. Il reclamo, tuttavia, non si limitava a mettere in discussione la violazione della propria privacy da parte della società editrice del quotidiano, ma coinvolgeva anche Google in quanto, inserendo il proprio nome e cognome nel motore di ricerca, si ottenevano link mirati agli articoli in questione. La AEPD aveva respinto il reclamo relativamente alla responsabilità de "La Vanguardia" ritenendo che la pubblicazione delle informazioni fosse pienamente giustificata, dal momento che essa era stata imposta dal Ministero del Lavoro allo scopo di ottenere il massimo di pubblicità possibile e, dunque, di allargare al massimo il numero dei partecipanti per l'asta pubblica. Invece era stato accolto il reclamo per la parte relativa a Google, dovendo i motori di ricerca – secondo il giudizio dell'autorità spagnola – sottostare alla normativa in merito alla protezione e al trattamento dei dati

personali, dati di cui sono direttamente responsabili come tutti gli intermediari della società dell'informazione. A questo punto la multinazionale di Mountain View, rifiutandosi di ottemperare alla decisione assunta dall'AEPD che la obbligava a mettere in atto tutte le misure necessarie alla deindicizzazione (*delisting*) dei due articoli dal proprio database, aveva impugnato la questione davanti all'Audiencia Nacional, la quale disponeva la sospensione del procedimento allo scopo di sottoporre alla Corte di Giustizia Europea una serie di questioni pregiudiziali relative all'interpretazione della direttiva 95/46/CE,[2] anche alla luce dell'evoluzione tecnologica verificatasi dopo la pubblicazione della direttiva stessa.

Le questioni pregiudiziali sulle quali la Corte è stata chiamata in causa sono tre. La prima concerne l'ambito di applicazione della direttiva e, quindi, l'effetto della giurisdizione europea su un motore di ricerca avente una filiale con propria personalità giuridica e sede legale in Spagna (Google Spain), seppur evidentemente vincolata ad una società madre con sede in California (Google Inc.). La seconda questione riguarda il ruolo di Google come gestore delle informazioni, se cioè l'azienda debba considerarsi come operante un'attività di trattamento dati ai sensi dell'art. 2, lettera d della direttiva, dunque responsabile del trattamento dei dati personali contenuti nelle pagine web indicizzate dal motore di ricerca. Infine la terza pregiudiziale si riferisce alla facoltà di un soggetto di richiedere la cancellazione da un motore di ricerca di quei dati ritenuti dall'interessato come irrispettosi della propria privacy, anche nel caso in cui essi siano stati pubblicati lecitamente da terzi sui siti web di relativa competenza.

Se si considera come la risposta dei giudici del Lussemburgo a queste pregiudiziali sia stata ritenuta da più parti una vera e propria

[2] Si tratta della cosiddetta "direttiva madre", cioè il testo di riferimento europeo in materia di protezione dei dati personali

rivoluzione del tormentato rapporto tra il diritto e il ruolo dei motori di ricerca, si comprenderà come la Corte, su ciascuno di questi punti, abbia assunto una posizione del tutto nuova, ancorché per molti aspetti imprevista, rispetto all'interpretazione finora vigente della normativa. Di fatto è stata individuata una precisa responsabilità di Google su tutti e tre i fronti.

A livello di applicazione territoriale della direttiva europea 95/46 i giudici hanno osservato che, sebbene le funzionalità del motore di ricerca siano gestite direttamente da Google Inc. e non da Google Spain, è condizione sufficiente che il trattamento dei dati sia stato effettuato «nel contesto delle attività» di un'organizzazione stabile rappresentativa degli interessi della multinazionale (cioè una semplice succursale o una filiale dotata di personalità giuridica) con sede in uno Stato membro dell'UE, per estendere la validità della giurisdizione europea sulla tutela dei dati personali anche a quei servizi della casa madre usufruibili tramite Internet dai cittadini residenti nell'Unione.

Sulla seconda questione pregiudiziale, e cioè sul fatto che Google debba essere considerato responsabile del trattamento dei dati personali contenuti nei database frutto dell'attività di indicizzazione del Web, la Corte ha ritenuto che, essendo «il gestore del motore di ricerca a determinare le finalità e il trattamento dei dati personali che egli stesso effettua nell'ambito dell'attività medesima», deve necessariamente essere considerato come responsabile, e non mero intermediario, nel trattamento dei dati stessi.[3] Questa affermazione di non neutralità dei motori di ricerca viene corroborata dai giudici con la sottolineatura del loro ruolo decisivo nella diffusione globale

[3] In ambito italiano questa presa di posizione ha immediatamente indotto il Garante italiano della privacy alla emissione di un provvedimento prescrittivo nei confronti di Google, il quale dovrà adottare un sistema di informativa all'utente sull'utilizzo dei dati personali (Provvedimento n. 353 del 10 luglio 2014, http://www.garanteprivacy.it/web/guest/home/docweb/-/docweb-display/docweb/3283078).

dei dati, per questo motivo i gestori di questi servizi devono farsi carico di una responsabilità nei confronti della tutela della privacy ancor maggiore rispetto a quella dei titolari delle pagine online dove tali dati sono stati originariamente resi pubblici; pagine, nel caso in questione, apparse su un quotidiano ma, in senso lato, riferibili a qualunque sito, di qualunque natura, accessibile nel mare aperto di Internet (con l'esclusione, quindi, del cosiddetto deep Web, cioè di quella porzione della Rete non indicizzabile dai Web spiders). Ma non basta: infatti, aggiungono i giudici, la responsabilità di Google non è unicamente legata alla maggiore visibilità che i dati personali ottengono tramite il motore di ricerca, dal momento che essa si estende anche alla combinazione che tali dati assumono in relazione ai procedimenti di aggregazione e visualizzazione dei risultati. Questo significa che, se gli utenti della Rete effettuano una ricerca a partire dal nome di una persona fisica, sono in grado di ottenere «una visione complessiva strutturata delle informazioni relative a questa persona reperibili su Internet, che consente loro di stabilire un profilo più o meno dettagliato di quest'ultima». C'è, quindi, un valore aggiunto nel modo attraverso cui un motore di ricerca ci concede l'accesso ai dati: l'elenco dei risultati – insomma – è una struttura olistica il cui valore supera la mera somma degli elementi che la compongono. In altri termini, ciò che viene negata è la presunzione che un algoritmo di ricerca sia qualcosa di neutro rispetto ai dati a cui viene applicato: non basta affermare, come Google del resto ha sempre fatto, la mancanza di una qualsiasi forma di intervento diretto volto a manipolare il ranking dei risultati del proprio motore; a titolo di esempio, il fatto stesso che il motore sia disegnato in modo tale da tener conto del profilo dell'utente che sta effettuando una query per organizzargli i risultati in un particolare modo, è sufficiente a stabilire un grado non certo indifferente di trattamento dei dati stessi al quale, nell'interpretazione della Corte, devono essere collegate specifiche responsabilità.

L'ultima pregiudiziale su cui si è espressa la Corte affronta una questione di indubbia complessità poiché concerne le modalità

attraverso cui si può concretamente esplicitare il diritto all'oblio nei confronti di una persona, modalità che – in differenti combinazioni – coinvolgono diverse pedine del gioco: il responsabile delle pagine Web, il motore di ricerca, l'autorità giudiziaria e/o l'autorità amministrativa preposta alla protezione dei dati personali. La questione è complessa non solo in merito all'aspetto procedurale ma anche in considerazione del fatto che, trattando di diritto all'oblio, come ha scritto Stefano Rodotà, «il punto chiave sta nel rapporto tra memoria individuale e memoria sociale» (Rodotà 2014, 45). La Corte europea, in proposito, ha osservato che il rispetto dei diritti fondamentali del singolo cittadino garantiti dalla Carta di Nizza (in specifico negli articoli 7 "Rispetto della vita privata e della vita familiare" e 8 "Protezione dei dati di carattere personale") prevale, in linea di principio, «non soltanto sull'interesse economico del gestore del motore di ricerca, ma anche sull'interesse di tale pubblico a trovare l'informazione suddetta in occasione di una ricerca concernente il nome di questa persona». Di conseguenza la persona in questione risulta legittimata a richiedere direttamente ai gestori dei motori di ricerca la rimozione dei link che la riguardano, qualora essi configurino una lesione al rispetto della propria vita privata e alla protezione dei propri dati personali. Questo pronunciamento, non si mancherà di notare, è davvero sorprendente, dal momento che l'individuazione di quel difficile punto di equilibrio tra le esigenze di tutela della privacy del singolo e l'interesse generale alla libertà di informazione del corpo sociale risulta consegnata nelle mani di chi controlla i motori di ricerca, imprese commerciali che, al di là delle enunciazioni di principio (si ricordi il motto di Google: "don't be evil"), hanno dimostrato in passato condotte non propriamente cristalline nei confronti della tutela dei diritti di libertà e di riservatezza dei propri utenti. Si pensi ai casi che coinvolgono persone note, per le quali la sfera della privacy è notevolmente più ridotta rispetto ai signor Mario Rossi, o a situazioni nelle quali la cancellazione dei dati venga a confliggere con l'interesse commerciale del motore: come si comporteranno Google, Bing e

Yahoo!? Pur con tutti i migliori auspici, francamente risulta difficile pensare che i motori di ricerca debbano rivestire quella «funzione pubblica di natura para-costituzionale» (Pollicino 2014, 45) che i giudici del Lussemburgo hanno loro attribuito, demandando ad essi quei compiti fino ad oggi esercitati dalle autorità giurisdizionali ordinarie o, in subordine, da quelle amministrative indipendenti preposte alla tutela della privacy.

La questione assume connotazioni ancor più singolari se si considera il ruolo dei responsabili delle pagine Web indicizzate dai motori. Il fatto che un cittadino possa richiedere direttamente ai motori l'eliminazione dei link relativi alla propria persona, ma non possa fare altrettanto richiedendo ai responsabili dei siti l'eliminazione delle pagine verso cui questi link puntano, come ad esempio nel caso degli archivi online dei giornali, fa emergere come la pubblicazione di informazioni sul Web possa considerarsi come risultato del diritto di espressione del proprio pensiero, mentre l'indicizzazione di queste stesse pagine Web come una mera procedura strumentale rispetto al soddisfacimento del diritto riflessivo a potersi informare.

Di conseguenza una persona che, ad esempio, ravvisi un'ipotesi diffamatoria nelle pagine di un sito Web dovrà sporgere denuncia presso l'autorità giudiziaria per tentare di far valere i propri diritti; e sarà questa autorità a stabilire fino a dove i diritti di cronaca e di critica saranno da considerarsi prevalenti rispetto all'istanza del singolo cittadino, anche tenendo conto della natura del sito e delle eventuali guarentigie applicabili all'esercizio dell'attività giornalistica.[4] Questa stessa persona potrà invece immediatamente

[4] E, si badi, secondo la Corte di Cassazione italiana, tali diritti possono essere in ipotesi applicabili a siti Web di qualunque natura, non solo alle testate giornalistiche: «i diritti di cronaca e di critica, in altre parole, discendono direttamente - e senza bisogno di mediazione alcuna – dall'art 21 Cost. e non sono riservati solo ai giornalisti o a chi fa informazione professionalmente, ma fanno riferimento all'individuo *uti civis*. Chiunque, per tanto, e con qualsiasi mezzo (*scil*. anche tramite internet), può riferire fatti e manifestare opinioni e chiunque -nei limiti dell'esercizio di tale diritto (limiti, da

rivolgersi ai gestori dei motori di ricerca per richiedere la deindicizzazione delle pagine incriminate attraverso una procedura paragonabile a quella di "notice and take down" abitualmente seguita negli Stati Uniti per la tutela del copyright.

Siamo certi che questa configurazione sia adeguata alle esigenze di contemperare la tutela della memoria individuale e di preservare, al contempo, quella collettiva?

2. I primi effetti della sentenza: Google giudice e giuria

Riteniamo che, al momento, nessuno abbia in tasca una risposta pronta all'interrogativo precedente: non vi è dubbio, infatti, che la sentenza della Corte abbia aperto uno scenario del tutto nuovo nel quale, in primo luogo, è opportuno imparare ad orientarsi. Per fornire qualche elemento in più, utile a comprendere la portata rivoluzionaria della pronuncia, vediamo in sintesi quali sono stati i primi effetti della decisione dei giudici del Lussemburgo.
Google fin da subito ha assunto una posizione di pieno rispetto della sentenza rendendo disponibile in pochi giorni un modulo online[5] che i cittadini dei paesi membri della UE (ma anche di Islanda, Liechtenstein, Norvegia e Svizzera) possono utilizzare per sottomettere al motore di ricerca le loro richieste di deindicizzazione. In un documento diffuso a fine luglio 2014,[6] per rispondere ad alcuni chiarimenti richiesti dai garanti della privacy europei riuniti nell'Article 29 Working Party, sono stati resi noti i primi numeri: le richieste sono state 91.000 in riferimento a oltre 328.000 URL.[7] Di esse

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anni, messi a punto dalla giurisprudenza)- può "produrre" critica e cronaca», Cass. Pen. 31392/08.

[5] https://support.google.com/legal/contact/lr_eudpa?product=websearch.

[6] https://docs.google.com/file/d/0B8syaai6SSfiT0EwRUFyOENqR3M/.

[7] Nel dettaglio, 17.500 richieste sono state formulate in riferimento alla legge francese, 16.500 per la normativa tedesca, 12.000 per quella del Regno Unito, 8.000 per Spagna e 7.500 in conformità alla legge italiana.

circa la metà (53%) sono state accolte da Google, mentre per il 15% degli indirizzi segnalati è stato richiesto un ulteriore approfondimento a chi ha effettuato l'istanza di *delisting*.
Al di là dell'aspetto quantitativo, comunque di notevole significanza, la questione che rimane aperta è con quali modalità Google sia in grado di accettare o rifiutare le richieste di deindicizzazione: su questo punto Mountain View assicura che ogni segnalazione viene attentamente valutata da un team di esperti, tuttavia ammette un'intrinseca difficoltà nella procedura, difficoltà che consiste, per molte situazioni, nella mancanza di elementi utili per contestualizzare il singolo caso e, di conseguenza, per poter bilanciare in modo corretto gli interessi contrapposti. Le perplessità sulle modalità pratiche di applicazione della sentenza europea ma, ancor di più, la necessità di ampliare la questione del diritto all'oblio e del ruolo dei diversi prestatori di servizi nella società dell'informazione, allo scopo di evitare che tali questioni rimangano confinate all'ambito delle procedure giuridiche, anche al fine di alimentare un dibattito più ampio in seno alla società civile sul rapporto tra diritti e Internet, hanno portato Google all'istituzione di un comitato consultivo il cui compito dovrebbe proprio consistere nella definizione di una serie di principi a cui il motore dovrebbe attenersi nella formulazione di quei giudizi che la sentenza impone ad esso di formulare. I primi atti di questo comitato, composto da una decina di esperti della più varia estrazione, da Jimmy Wales, fondatore di Wikipedia, all'oxfordiano filosofo dell'informazione Luciano Floridi, dimostrano come esso voglia, innanzitutto, mettersi in ascolto in merito a ciò che pensano gli utenti della Rete attorno ai temi in questione: ci riferiamo al questionario pubblicato online sul sito del comitato[8] e alla serie di incontri aperti al pubblico che i membri terranno nella principali città europee entro la fine del 2014. Si vedrà quali risultati scaturiranno dal lavoro degli esperti, per il momento è importante sottolineare questo ruolo di Google

[8] https://www.google.com/advisorycouncil/.

nell'alimentare il dibattito attorno a un provvedimento che, val la pena notare, ha visto schierate davanti ai giudici del Lussemburgo posizioni niente affatto unanimi da parte degli stessi poteri esecutivi dei paesi membri dell'UE, come dimostra il fatto che la scelta di consentire al singolo cittadino di richiedere la deindicizzazione dei dati che lo riguardano dai motori di ricerca sia stata sostenuta solo dal governo spagnolo e da quello italiano, contro il parere opposto dei governi ellenico, austriaco, polacco, della Commissione europea e, addirittura, dell'avvocato generale della Corte.
Ma, ben oltre lo scontro tra visioni opposte in seno all'Unione Europea, la sentenza evidenzia in modo netto, se ancora ce ne fosse bisogno, la difficile compatibilità tra la giurisdizione europea e quella statunitense attorno al tema del diritto all'oblio, infatti una decisione di questo tipo in America sarebbe verosimilmente giudicata incostituzionale alla luce del Primo Emendamento della Costituzione che, come noto, protegge in modo pressoché inossidabile la libertà di espressione (Pizzetti 2013, 54–57). Il che, a livello di applicazione concreta della sentenza, rende del tutto discutibile l'effettiva possibilità per una persona a vedere cancellato il proprio passato, potendosi evidentemente ritrovare i dati che lo riguardano tramite un accesso a Internet effettuato al di fuori di quei Paesi ove il provvedimento della Corte esercita la propria efficacia.
Di certo i giudici sono del tutto consci di questa discrasia tra la dimensione globale di Internet e l'applicabilità geografica limitata della normativa, del resto il loro compito consiste nell'interpretazione delle leggi vigenti, non nella redazione delle medesime. Ciò che forse è giunta inaspettata, perlomeno in riferimento alla rapidità d'azione, è stata la risposta che Rete stessa, attraverso l'operato di alcuni utenti, ha dato alla sentenza: dopo la pubblicazione del provvedimento in un lasso di tempo brevissimo è stato aperto il sito "Hidden from Google",[9] ideato da Afaq Tariq, informatico del New Jersey, per tenere traccia dell'attività di

[9] http://hiddenfromgoogle.com/.

ripulitura dei database europei di Google. Similmente Wikipedia ha deciso di rendere note le comunicazioni provenienti da Google relative alla deindicizzazione di determinate voci dell'enciclopedia dal motore di ricerca.[10] Due esempi che dimostrano, se ancora ce ne fosse bisogno, come la cancellazione delle proprie tracce da Internet, malgrado le leggi e le sentenze, non sia per nulla semplice dal punto di vista tecnico, per non dire affatto impossibile, come affermano gli esperti dell'Enisa (European Union Agency for Network and Information Security) che hanno redatto il rapporto intitolato *The right to be forgotten - between expectations and practice*.[11]

Riassumendo, da tutte queste considerazioni si ricava l'impressione che

> se la particolare natura della vicenda sottoposta alla corte UE ha reso inevitabile la conclusione cui è pervenuta, i principi generali individuati rischiano di incentivare un contenzioso sconfinato fra chi intende mantenere viva la memoria e chi, spesso per ragioni inconfessabili, attende solo che una coltre di silenzio copra il suo passato, ancorché prossimo e non remoto (Malavenda 2014).

Per dirimere questo "contenzioso sconfinato" la Corte europea ha posto in prima linea i motori di ricerca, mettendoli nella difficile posizione – per usare le parole del portavoce di Google Peter Barron – di chi esercita al contempo il ruolo di giudice e di giuria (Warman 2014), depotenziando il compito delle autorità indipendenti di garanzia per la privacy. Quello che sembra emergere come dato incontrovertibile è il fatto che non solo la sentenza non ha il potere di cancellare ogni dato che riguarda il nostro passato ma, forse, nemmeno la capacità di rendere questi dati più difficilmente fruibili

[10] http://wikimediafoundation.org/wiki/Notices_received_from_search_engines.

[11] «For any reasonable interpretation of the right to be forgotten, a purely technical and comprehensive solution to enforce the right in the open Internet is generally impossible. An interdisciplinary approach is needed and policy makers should be aware of this fact» (European Union Agency for Network and Information Security 2011, 2).

dal pubblico indifferenziato degli utenti di Internet. Anzi, si potrebbe paradossalmente verificare la situazione opposta: le deindicizzazioni potrebbero essere rese note con enfasi ancor maggiore dai siti oggetto del provvedimento o da archivi online specificamente creati allo scopo di raccogliere le informazioni censurate. *Summum ius summa iniuria*?

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ABSTRACT: The brief paper examines the recent judgment of the Court of Justice of the European Union on the right to be forgotten issue, highlighting main responsibilities of search engines managers in processing personal data. Google has been held directly responsible for the protection of personal data contained in search results, so that individuals have the right - under certain conditions - to ask search engines to remove links with personal information about them.

The analysis of the first effects of this judgment shows that the double role of Google both as a judge and as a jury must be reconsidered in order to ensure a new balance between the protection of the individual memory and the rights to information for citizens.

KEYWORDS: European Court of Justice; Right to be Forgotten; personal data processing and protection; search engines; right to information.

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Authority control. Aspetti operativi in un contesto universitario e nuove esperienze

Sabina Cavicchi

1. Caratteristiche di un archivio d'autorità

Il controllo d'autorità viene esercitato per identificare con esattezza un'entità (persona, ente, soggetto), tramite un corredo di informazioni utili allo scopo e per evitare la disomogeneità formale delle intestazioni del catalogo di biblioteca.

Il campo di indagine del presente lavoro è limitato ai nomi di persona, attraverso l'analisi dell'archivio dedicato alle voci oggetto di controllo presenti nel catalogo dell'Università di Firenze, i legami di queste voci con i record bibliografici descrittivi presenti nel catalogo stesso e le azioni necessarie alla sorveglianza dei dati immessi (Guerrini 2002).

La problematica del controllo dei dati viene inoltre inquadrata in un panorama più ampio di gestione delle risorse informative nel web.

Per garantire univocità e uniformità dell'intestazione nel record bibliografico, i vari codici di catalogazione prescrivono le azioni di scelta del punto di accesso e la scelta della forma che tale accesso deve avere (per la normativa italiana v. *Regole Italiane Di Catalogazione Per Autori* 1979; Commissione permanente per la

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revisione delle regole italiane di catalogazione 2009; *Guida alla catalogazione in SBN. Pubblicazioni monografiche, pubblicazioni in serie* 1995).

F*unctional requirements for authority data* (FRAD, *Functional Requirements for Authority Data: a Conceptual Model* 2009, pubblicato in italiano come *Requisiti funzionali per i dati di autorità: un modello concettuale* 2010), è il modello concettuale alla base della architettura degli archivi d'autorità. Tale modello si incentra sull'impostazione dell'analisi dei requisiti funzionali che i dati di autorità devono avere per soddisfare le esigenze di ricerca e di coerenza all'interno del catalogo e individua le funzioni utente tipiche alle quali deve rispondere il controllo d'autorità: "trovare" l'entità che corrisponda a determinati criteri, "identificare" con certezza l'entità trovata, "contestualizzare" quella entità in un determinato contesto e "giustificare" le ragioni della scelta o della forma del punto d'accesso prescelto (termine che nella revisione dello standard si è affermato su 'intestazione' (*heading)*.[1]

2. Il catalogo di ateneo dell'Università di Firenze nel contesto di SBN

2.1. Il Servizio Bibliotecario Nazionale

Nell'ambito condiviso dell'Indice del Servizio Bibliotecario Nazionale (SBN) l'uniformità degli accessi deve essere garantita

[1] Nella prefazione a UNIMARC/A, terza edizione, viene sottolineato questo passaggio concettuale (International Federation of Library Associations 2009). Nelle GARR 2001 (la traduzione italiana è del 2005), si utilizza 'Intestazione autorizzata' e non più 'Intestazione uniforme' (International Federation of Library Associations and Institutions 2001). Nel 2009, nella Dichiarazione dei Principi internazionali di catalogazione viene sancito l'uso di 'Punto d'accesso', confermato come rinvio dal termine 'Intestazione' (International Federation of Library Associations and Institutions 2009). La Dichiarazione di principi internazionali di catalogazione è disponibile online all'indirizzo: http://www.ifla.org/files/cataloguing/icp/icp_2009-it.pdf.

all'interno del catalogo collettivo. L'Indice SBN è la base dati del catalogo collettivo, ed è incrementato da tutte le biblioteche che aderiscono al Sistema.[2] Le biblioteche partecipanti a SBN sono chiamate a rispettare l'applicazione delle norme di catalogazione e a seguire la *Guida alla catalogazione in SBN* e sono riunite collegialmente in Poli di appartenenza.[3] Una buona parte dei Poli utilizza il software applicativo Sebina OpenLibrary, altri SBN-WEB e altri ancora tipologie diverse di software meno diffuse, e tutti il protocollo di colloquio SBN-MARC. Nel Sistema bibliotecario d'ateneo dell'Università di Firenze il dialogo con Indice SBN è consentito in quanto il *software* Aleph di ExLibris, in uso dal 2006 al posto di SBN-BULL, è in grado di interoperare attraverso il Protocollo SBN-MARC.[4]

Il progetto partito nel 2001 per la valorizzazione dell'Indice SBN ha portato alla realizzazione di un authority file strutturato secondo le prescrizioni delle RICA per la creazione di voci di autorità, le codifiche, i caratteri e la punteggiatura previsti dalla *Guida SBN* e le codifiche richieste dalle GARR.[5] L'interrogazione delle 'Voci di autorità' permette di recuperare solo una parte degli autori presenti nell'intera base dati, e cioè quelle voci corredate da dati completi per cui sono soddisfatti tutti i requisiti previsti, e che quindi hanno ottenuto il massimo livello di autorità, stabilito con il valore '97'

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[2] Il catalogo SBN è consultabile pubblicamente, dal settembre 2011, all'indirizzo http://www.sbn.it.

[3] Per un elenco di poli e biblioteche aderenti a SBN e per la tipologia dei Poli, vedi rispettivamente
http://www.iccu.sbn.it/opencms/opencms/it/main/sbn/poli_biblioteche e
http://www.iccu.sbn.it/opencms/opencms/it/main/sbn/poli_biblioteche/tipologia.html?query=tipologia.

[4] Aleph è un prodotto per gestione di archivi bibliografici utilizzato da diverse biblioteche, rappresentate in Italia dal consorzio Itale, le quali solo in parte aderiscono a SBN. Per una lista completa vedi: http://www.itale.it/index.php?option=com_content&view=article&id=45&Itemid=209.

[5] Progetto di valorizzazione dell'Indice SBN - Fondi UMTS
http://www.iccu.sbn.it/opencms/opencms/it/main/attivita/naz/pagina_164.html.

(Bonanni 2011). Nelle 'Voci di autorità' è prevista la ricerca, oltre che nell'archivio autori, anche in quello per titoli, soggetti, marche e luoghi, ma al momento i link non sono attivi e la ricerca è inibita.[6]

L'archivio complessivo delle intestazioni dell'Indice SBN, SBN-AUT, comprende invece tutte le voci create dai Poli partecipanti ed è "interrogabile e gestibile sia attraverso la procedura centralizzata di Interfaccia diretta, sia mediante le funzionalità di polo" ("Authority Control" 2014), che comunque rimangono limitate per le azioni di fondere, creare o eliminare le voci.

2.2. Il catalogo d'Ateneo e il colloquio con Indice

L'interfaccia gestionale *Graphic user interface* (GUI) del software Aleph permette l'accesso alle operazioni di catalogazione e prevede di poter strutturare dieci possibili archivi: nel catalogo di ateneo un archivio d'autorità separato (UFI10) viene utilizzato per registrare le voci relative a tutti gli autori che sono presenti nell'archivio bibliografico (UFI01). Il catalogo d'ateneo visualizza tutte le schede relative agli autori presenti in UFI10, anche se non complete, al fine di rendere visibile l'informazione registrata, e in particolare le forme varianti.

L'archivio locale d'autorità si deve rapportare all'archivio SBN-AUT dove sono inseriti, da parte di tutti i Poli, i punti di accesso controllati. Per interagire con l'Indice SBN esistono diverse forme di colloquio che dipendono dal 'livello di cooperazione'.[7] Il livello Super (valore '97' nei record di autorità) appartiene solo alla BNI e

[6] http://www.sbn.it/opacsbn/opac/iccu/authority.jsp?db=solr_auth.

[7] I quattro livelli di autorità individuati dal Comitato nazionale di coordinamento SBN sono:

Livello Retroconversione	Codice REC	Numerazione	05
Minimo	MIN		06-51
Medio	MED		52-71
Massimo	MAX		72-90
Super	SUP		91-95

alle biblioteche nazionali centrali. Per le biblioteche che lavorano a livello '4' sono permesse le procedure di allineamento, che è la prassi con cui i Poli mantengono i loro record coerenti alla versione presente in Indice (rilevabile dalla data della versione del record). Colloquiare con Indice a livello '3' (*status* dell'Ateneo fiorentino) significa poter catturare i record, alimentare l'archivio, localizzare i documenti posseduti, e intervenire, o correggere nel caso che la notizia non sia stata ancora oggetto di condivisione (per quanto attiene al bibliografico).

All'interno di Indice SBN, a ogni record d'autorità viene automaticamente attribuito un codice identificativo SBN-ID univoco, formato da dieci caratteri, la cui specifica natura è indicata dal carattere in quarta posizione 'V' per gli autori (VID), da *vedette*, composto dal codice del Polo che crea il documento, e da un numero progressivo. Nella scheda UNIMARC/A occupa il campo '001', ad esempio 'UFIV185268', e in opac SBN viene registrato nella forma completa 'IT\ICCU\ UFIV185268'.

Mettendo a confronto in locale la versione UNIMARC/A del record 'PUVV088567' (Bertini, Ivano), come esempio di mancato allineamento, è possibile notare nei due campi '005' (identificativo della versione)[8] diversi valori: '19940329000000.0' nel record del catalogo di ateneo, e '20120719104357.4.' nel record di Indice. In opac SBN il campo è etichettato 'Data di ultimo aggiornamento', e la data registrata è quella in cui è avvenuto il passaggio del record a 'Voce di autorità', con il completamento delle informazioni mancanti. Infatti nel campo '980' (informazioni sul record di autorità SBN) il sottocampo '$1' (informazione sul 'livello di autorità) nel record di Polo ha valore '51' e in quello di Indice '97'.

[8] I sedici caratteri del campo indicano la data e l'ora dell'ultima transazione sul record effettuata, registrate secondo quanto previsto dagli standard ISO 8601 (International Federation of Library Associations 2009, 44).

Gli altri sottocampi del campo '980' sono relativi alla 'forma del nome', sottocampo '$f' con valore 'A' (forma accettata) e al 'tipo di nome', sottocampo '$t'. Nell'esempio, il valore immesso nel sottocampo '$t' è 'C' in quanto il nome 'Bertini Ivano' è nome personale in forma inversa il cui gruppo principale è costituito da un solo elemento (*Guida alla catalogazione in SBN. Pubblicazioni monografiche, pubblicazioni in serie* 1995).

I codici del tipo nome previsti da SBN sono:

-'A', nome personale in forma diretta il cui gruppo principale è costituito da un solo elemento, come ad esempio 'Avicenna' o 'Giovanni : Bosco <santo>';

-'B', nome personale in forma diretta il cui gruppo principale è costituito da più elementi, come ad esempio 'Alain-Fournier' o 'Ioannes Paulus <papa ; 2>';

-'C' Nome personale in forma inversa il cui gruppo principale è costituito da un solo elemento, come ad esempio Cavour, Camillo : Benso, conte di De_Cataldo;

-'D' Nome personale in forma inversa il cui gruppo principale è costituito da più elementi, come ad esempio Tomasi di Lampedusa, Giuseppe.

Per la tipologia 'A' e 'B', la seconda parte del nome è preceduta da spazio due punti spazio e può contenere il segno diesis '#' in caso di presenza di prefisso, come in 'Giovanni : da#Capestrano <santo>'.

Per tutte le tipologie si inserisce la sottolineatura "_" nel gruppo principale degli autori quando il prefisso deve essere considerato unito alla parola che segue, come ad esempio 'Le-Potier, Joseph'.

Per gli autori persona, la tipologia SBN viene codificata nel campo '200' del record di autorità e nei campi '700', '701' o '702' del record bibliografico, dal secondo indicatore, che può avere valore '1' per indicare 'Nome in forma inversa (tipo di nome SBN 'C' o 'D')' o

valore '0' per indicare 'Nome in forma diretta (tipo di nome SBN 'A' o 'B')'.[9]

Le qualificazioni degli autori si introducono nei sottocampi previsti esclusivamente quando è necessario disambiguare due omonimi e a tal fine si utilizzano preferibilmente le date di nascita e morte. I sottocampi per le qualificazioni sono:

-'$c' per le qualificazioni generiche (professione);

-'$d' per i numerali romani; non essendo accettato da Indice non è in uso e per l'inserimento dei numerali viene utilizzato il sottocampo '$c';

-'$f' date;

-'$4' relazione (solo nell'archivio bibliografico); indica la natura della responsabilità intellettuale (ad esempio compositore, illustratore, traduttore).

La lista completa è presente nell'Appendice C di UNIMARC/B (International Federation of Library Associations 2009 Appendix C: Relator codes).

2.3. Struttura dei record, flussi di lavoro e qualità del catalogo

La complementarietà del formato UNIMARC/B bibliografico e di quello UNIMARC/A di authority permette l'integrazione dei dati e il collegamento tra i due archivi.

Ad esempio, ai sottocampi del campo '700' autore personale (nel blocco UNIMARC/B delle responsabilità) corrispondono gli stessi sottocampi del campo '200' autore persona (nel blocco UNIMARC/A

[9] Per la corretta formulazione del nome personale vale quanto stabilito da RICA e Guida SBN (*Regole Italiane Di Catalogazione Per Autori* 1979, 89–90 e 90–93; *Guida alla catalogazione in SBN. Pubblicazioni monografiche, pubblicazioni in serie* 1995, 188–208).

dell'authority): $a elemento principale; $b ulteriore elemento; $c qualificazione; $f date; $3 numero record di autorità.

Le procedure di catalogazione di una voce di autorità, così come per un record bibliografico, osservate nel catalogo di ateneo sono principalmente di due tipi: cattura e creazione.

Creando una nuova voce di autorità nell'archivio UFI10, il VID viene assegnato al record al momento del salvataggio in Polo e il campo '801' viene compilato con la sigla dell'Università di Firenze quale ente responsabile della creazione (IT UNFI); un altro campo '801' si compila con i dati provenienti da Indice al momento dell'invio del record. Il campo '801' è obbligatorio e ripetibile, e identifica l'agenzia responsabile della registrazione, il paese di appartenenza e la data dell'intervento.

Nel creare invece una nuova voce d'autorità a partire da un nuovo record bibliografico da inviare in Indice SBN, è necessario compilare correttamente i campi relativi alla responsabilità intellettuale ed eseguire la procedura di invio per creare in Indice, contestualmente alla scheda bibliografica, anche quella dell'autore, e infine duplicare il record esterno di Indice nell'archivio UFI10.

Se il record d'autorità esiste nell'archivio SBN-AUT, è possibile utilizzarlo attuando la procedura di cattura, duplicandolo quindi nell'archivio UFI10 e compilando coerentemente i campi '700', '701', o '702' del record bibliografico contenente quella voce catturata.

Per specificare la tipologia del record sono previsti tre codici, di cui in uso il primo:

-'x', registrazione di autorità: forma controllata;

-'y', registrazione di rinvio usata per i casi di rinvii complessi, in cui si compila anche la nota 310 (nota di rinvio 'vedi' testuale);

-'z', registrazione generica esplicativa.

Infine, dove necessario, il campo '400' della scheda di autorità è dedicato alla registrazione delle forme di rinvio del tipo 'vedi', che nella scheda del catalogo d'ateneo sono precedute dall'etichetta: 'Forma variante'.

In Indice SBN il campo '400' presente nel record di authority gestisce le forme di rinvio registrate con un proprio VID, che permette la creazione del legame con il punto di accesso prescelto; questa relazione è visibile in Interfaccia diretta.

Oltre alla corretta implementazione dell'archivio, le altre operazioni fondamentali per il raggiungimento della qualità del catalogo sono la bonifica e il mantenimento (Sabini 2003; Turbanti 2007). Le operazioni di bonifica sono azioni straordinarie e possono essere attuate anche tramite azioni di controllo mirate o con servizi appositi del *software* o con azioni programmate per tempi e risorse da dedicare.[10] Il mantenimento dell'archivio di autorità viene espletato ogni qualvolta si intervenga su una notizia che necessiti di correzione, in genere per 'deduplicare'. La casistica degli eventi che portano alla creazioni di due o più punti di accesso diversificati per la stessa entità può essere ricondotta alle seguenti occorrenze:

- grafie diverse per problemi di traslitterazione;

- qualificazioni sdoppiate (professione e date) o mancanti;

- diverse forme adottate (iniziali puntate, presenza o meno di caratteri speciali, errata punteggiatura o errato uso dei sottocampi).

Un altro caso per cui si rende necessario l'intervento di correzione è il mancato inserimento nell'archivio di authority di voci presenti nel record bibliografico nei campi '700', '701', '702', per i seguenti motivi:

[10] I report che Aleph offre si trovano nel Menù Servizi, in UFI10, sotto 'Report manutenzione catalogo': 'Rilevazioni intestazioni analoghe' e 'Lista intestazioni con più record'. Nell'archivio bibliografico UFI01, sempre sotto 'Report manutenzione del catalogo' dei Servizi, sono inoltre disponibili i seguenti report: 'Lista intestazioni non collegate' e 'Rileva intestazioni simili'.

- mancata cattura da Indice SBN-AUT;

- creazione del record di authority in locale e mancato successivo invio in Indice SBN-AUT;

- mancato allineamento tra record di authority e campo '700' del record bibliografico.

Nella base dati UFI01 è possibile evincere la presenza di anomalie ed errori tramite lo scorrimento del listato di 'Intestazioni per Autori', con recupero dei dati dai campi '700', '701' e '702'. Se il nome ricercato appare tra le liste di intestazioni del bibliografico, legato quindi a un documento (visibile nella colonna 'N. doc.'), ma non è corredato da alcuna informazione nella colonna 'Info Auth., ciò significa che il record di authority nell'archivio relativo è assente.

Un mancato aggancio tra archivio bibliografico e quello di autorità porta alla non visibilità del record di authority (anche nel caso in cui esista) e quindi alla mancata visualizzazione nell'opac. Nonostante il pulsante dedicato, cui corrisponde l'etichetta 'scheda d'autorità', indichi la presenza del record relativo a una intestazione, la risposta che viene fornita è che non sono disponibili ulteriori informazioni.[11]

Infine per i motivi tipici della vita di una biblioteca (scarto o smarrimento dei libri) può verificarsi anche il caso che il record di authority sia privo di legame a un record bibliografico, perché quest'ultimo è stato cancellato. Una volta rimossa la notizia bibliografica devono essere eliminati a livello locale anche i record di autorità relativi. L'eliminazione dei record (sia di autorità che

[11] Tale visualizzazione nel catalogo d'ateneo è resa possibile dalla presenza di uno script *javascript* che genera il messaggio di avviso e che è stato reso possibile dal lavoro dei *system librarian* del Sistema bibliotecario d'ateneo.

bibliografici) può riguardare anche Indice, se l'unico Polo legato alla notizia è quello che sta operando la cancellazione.[12]

L'intera gestione dell'archivio di autorità e delle operazioni di bonifica necessarie è quindi impegnativa in termini di tempo e di risorse umane, e l'espletamento di questa azione è condizionato dal livello di autorità e di partecipazione della singola agenzia catalografica nel colloquio con l'indice nazionale.

2.3- Ampliamento delle prospettive: dal catalogo a *WorldCat Identities*

Sul lato pubblico del catalogo elettronico della singola biblioteca è possibile invece investire con libertà maggiore e integrare le notizie instaurando legami tra varie risorse e archivi condivisi, tramite tecnologie del web e automatismi.

All'inizio di gennaio 2013, all'interno di un più ampio progetto di ottimizzazione del catalogo d'ateneo, è stato messo a punto il collegamento tra la voce di autorità del catalogo d'ateneo e la voce corrispondente in *Worldcat Identities*.[13] Considerati i limiti linguistici e la specificità di regole e standard nazionali diversificati che determinano la forma dei record d'autorità confluiti in *Worldcat identities*, non sono stati presi in considerazione gli enti autori e i congressi.

Tale legame è realizzato grazie a uno *script javascript* che scorre il codice HTML della tabella della scheda di catalogo, e in presenza dei campi con etichetta 'Autore', 'Altro Autore' (nella scheda bibliografica) e 'Persona' (nella scheda di autorità) recupera il nome di ogni autore e costruisce il link a *WorldCat Identities*.

[12] Il mancato inserimento di un record d'autorità in UFI10 è segnalato dal sistema a chi cataloga il record bibliografico, ma l'inverso non avviene. Quindi bisogna periodicamente lanciare un servizio apposito in UFI10 e intervenire a posteriori.
[13] http://www.worldcat.org/identities/.

L'accesso dal catalogo di ateneo all'archivio di *WorldCat Identities* è presente sia nel record bibliografico, tramite l'icona identificativa visualizzata in corrispondenza di ogni autore citato nel record, che nel record di autorità, tramite il link posto nel box di destra 'Maggiori informazioni in *WorldCat Identities*'.[14]

Nel catalogo di ateneo, in presenza di un campo autore compilato, la ricerca viene rilanciata tramite lo *script* predisposto impiegando la funzione '*Name Finder*' in *Worldcat Identities* alla url: http://www.worldcat.org/identities/ con il tipo di *query* 'Cognome, Nome':

http://www.worldcat.org/identities/find?fullName=Cognome.[15]

Il risultato ottenuto è una pagina contenente l'elenco dei nomi che hanno soddisfatto i criteri di ricerca, a partire da quello più rilevante in termini di occorrenze e da cui si accede alla scheda informativa di ogni identità.[16]

Le diverse occorrenze (*matches for*) per le identità ricercate si spiegano per la presenza di qualificazioni del nome a volte espresse in lingue diverse e per la variegata provenienza dei dati, che sono stati trattati in cataloghi diversi tra loro e che sono confluiti successivamente in un unico archivio cumulativo.

Le informazioni presenti nei campi indicizzati, ai fini della ricerca in *Worldcat Identities*, provengono dai campi '700', '701' e '702' della scheda UNIMARC del record bibliografico del catalogo d'ateneo o

[14] Per l'uso delle icone di WorldCat vedi: WorldCat-branded badges and links, http://www.oclc.org/developer/badges/.

[15] Per le diverse modalità con cui attivare un link a WorldCat Identities: Linking to WorldCat Identities, http://outgoing.typepad.com/outgoing/2008/06/linking-to-worl.html.

[16] La scheda fornisce: i nomi alternativi, la panoramica sulla produzione, il numero di Classificazione Decimale Dewey tipico dei lavori prodotti, la cronologia delle pubblicazioni, una lista di identità correlate, e di soggetti associati esposti in forma di *cloud*, cioè di 'nuvola lessicale' dei soggetti correlati.

dal campo '200' dello scheda d'autorità: tali campi comprendono i sottocampi $a (primo elemento del nome), $b (secondo elemento del nome), $c (qualificazioni) e $f (date).

Le qualificazioni dell'autore, ad esempio relative alla professione, espresse nella lingua del catalogo sono spesso causa di inconvenienti per le barriere linguistiche che pongono. Per questa considerazione, nel catalogo di ateneo è stato inserito il simbolo " | " a marcare una qualificazione del nome inserita nel sottocampo "$c". Tale simbolo sostituisce le parentesi uncinate "< >" previste da *Guida alla catalogazione in SBN* (*Guida alla catalogazione in SBN. Pubblicazioni monografiche, pubblicazioni in serie* 1995, 205), che a livello di scrittura di programmazione creano situazioni problematiche, per poter marcare la qualificazione e bloccare il recupero dei dati a quel sottocampo. Nello *script javascript* tramite la funzione *split* si sfrutta il simbolo " | " per eliminare ai fini della ricerca in *Worldcat Identities* il contenuto del sottocampo "$c".

In questo modo il risultato della ricerca in un archivio internazionale non rischia di essere compromesso dalla presenza di termini specifici della lingua italiana, anche se chiaramente evitare l'indagine sulle qualificazione può condurre a un risultato eccessivamente vago, come per esempio nel caso della forma dei nomi dei papi.[17]

Per ottimizzare la ricerca in *WorldCat Identities* inoltre sono stati approntati due ulteriori comandi (*replace* "_" e *replace* "#") per eliminare dagli elementi di ricerca la punteggiatura prescritta dalla normativa SBN ma non condivisa in archivi internazionali. Il segno di sottolineatura (*underscore*) "_" nel gruppo principale del nome degli autori personali, per i nomi con prefissi da considerare uniti alla parola che segue, e il segno *diesis* "#" nel gruppo secondario del nome degli autori personali (tipo A e B), in presenza di prefissi da

[17] Per la voce 'Alexander | papa; 6.' il collegamento a *WorldCat Identities* porta a una lunga lista di nomi, essendo l'interrogazione basata solo su una generica voce 'Alexander'.

considerare staccati dalla parola successiva, sono inseriti nei record del catalogo in ottemperanza alle norme per l'ordinamento dei nomi e alla indicazioni della Guida SBN per la trascrizione dei nomi (*Regole Italiane Di Catalogazione Per Autori* 1979, 185; *Guida alla catalogazione in SBN. Pubblicazioni monografiche, pubblicazioni in serie* 1995, 206).

Le nuove tecnologie del web rendono attuabili una serie complessa di legami che portano a un arricchimento dell'informazione offerta all'utente, il quale, navigando tra i link e le risorse collegate, può ampliare l'orizzonte del catalogo. A corredo della scheda di *WorldCat Identities* sono infatti inseriti i link che rimandano a ulteriori authority file: *Virtual International Authority File* (VIAF)[18] e *Library of Congress Authority File*, e alla voce di Wikipedia, se esistente. Il livello di specificità della scheda della *Library of Congress Authority File* di 'William Shakespeare',[19] facilmente raggiungibile dal catalogo di ateneo tramite il collegamento con *WorldCat Identities*, è esemplificativo di un allargamento sostenibile dell'offerta informativa.

3. Non solo cataloghi: il fronte della ricerca

L'informazione in rete è diventata sempre più ricca e articolata e i luoghi deputati alla gestione dei dati bibliografici si sono diversificati, presentando però comuni problematiche di amministrazione.

Nelle banche dati, ad esempio, la correttezza delle citazioni bibliografiche e l'esatta identificazione dell'autore per l'attribuzione della paternità dei prodotti scientifici è fondamentale nel rapporto

[18] Il VIAF è il risultato di un forte lavoro di cooperazione internazionale tra le maggiori biblioteche. Il VIAF ha come obiettivo "il collegamento automatico, mediante lo sviluppo di algoritmi di schiacciamento (matching algorithm), degli authority record delle agenzie nazionali partecipanti, rendendoli poi disponibili in rete attraverso un authority service globale e gratuito (Manzotti 2010, 358).

[19] Scheda d'autore in: http://id.loc.gov/authorities/names/n78095332.html.

citazione/valutazione dell'autore e della sua ricerca. Se consideriamo per esempio banche dati scientifiche quali *Web of Science*[20] e *Scopus*[21] osserviamo che offrono servizi di controllo e ripulitura degli archivi.

Scopus, che gestisce con propri algoritmi i dati autoriali all'interno della banca dati creando lo *Scopus Author Identifier*, effettua correzioni sugli errori sia periodicamente che su segnalazione degli autori e dal 2013 è connesso a ORCID (*Open Researcher and Contributor ID*), piattaforma aperta non proprietaria che fornisce un identificatore persistente.[22] Anche *Web of Science* pone attenzione al monitoraggio delle omonimie; i ricercatori stessi possono effettuare una registrazione volontaria e gratuita sul sito *Researchid.com* al fine di ottenere un identificativo numerico riconosciuto, erogato da Thomson Reuters, stesso gestore di *Web of science*. Essendo tale ID compatibile con ORCID, un ricercatore ha la possibilità di gestire entrambi i profili associandoli tramite l'identificativo in ciascun account.

Anche in altri settori di spiccato interesse accademico, quali gli open access e i *repository* istituzionali, l'identificazione certa dell'autore è un requisito fondamentale per l'attribuzione completa dell'intera produzione.[23]

Inoltre l'affermarsi del web semantico, l'arricchimento dei dati in rete e le nuove possibilità di organizzarli, hanno allargato le potenzialità di ricerca, e le politiche di gestione delle biblioteche tendono a investire sull'apertura dei propri cataloghi alla rete.

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[20] *Web of Science* consente l'accesso a varie basi dati bibliografiche prodotte da ISI (Institute for Scientific information) e contiene riferimenti bibliografici ad articoli pubblicati su prestigiosi periodici di tutto il mondo. URL: http://apps.webofknowledge.com/

[21] Scopus <http://www.scopus.com/home.url> è una banca dati citazionale di ambito scientifico, tecnologico, biomedico e delle scienze sociali.

[22] http://orcid.org/

[23] Es. il *repository* istituzionale dell'Università di Firenze FLORE – Florence Research: http://sol.unifi.it/flore/consulta.

Alcune esperienze pionieristiche, messe in atto in importanti cataloghi, quali ad esempio la Bibliotéque nationale de France (BNF),[24] e OCLC,[25] hanno portato anche alla pubblicazione di parte dei propri cataloghi in *Linked data*.[26] In altri casi sono state create connessioni e link tra diversi archivi della rete, operazioni rese possibili dalle tecnologie offerte dal web e dai linguaggi di programmazione. Le basi dati dei cataloghi sono 'contenitori' ricchi di informazione strutturata e concettualmente organizzata a rappresentanza di un vasto universo di documenti e di entità che trovano corrispondenza con molta dell'informazione presente nel web. Proprio all'interno dell'enciclopedia del web *Wikipedia* si è compiuta un'esperienza importante che ha interessato i cataloghi delle biblioteche.

All'inizio del 2013 sono state realizzate le connessioni tra le voci biografiche dell'enciclopedia e quelle di autorità di alcuni cataloghi internazionali selezionati.

Max Klein, wikipediano in residenza a OCLC, ha lavorato con Andrew Gray, wikipediano in residenza alla British Library,[27] al progetto *Wikipedia: Authority control integration proposal* al fine di connettere la banca dati *Wikipedia* con il VIAF.[28] Questo progetto è

[24] http://data.bnf.fr/.

[25] https://www.oclc.org/data.en.html.

[26] Sono "dati pubblicati sul web in una modalità leggibile ed interpretabile da una macchina, il cui significato sia esplicitamente definito tramite una stringa costituita da parole e marcatori" (Guerrini and Possemato 2013). Vedi anche i diversi interventi presentati al Convegno tenutosi a Firenze nel 2012, e pubblicati in JLIS.it ("Global Interoperability and Linked Data in Libraries: Special Issue, Editor Mauro Guerrini, Proceedings by Gianfranco Crupi and Ginevra Peruginelli. 'JLIS.it', 4, 1(2013)").

[27] Wikipediano in residenza è un "contributore volontario di Wikipedia che collabora con un'istituzione culturale per facilitare la redazione di voci dell'enciclopedia relative a tale istituzione. La residenza consiste in un periodo di soggiorno presso l'istituzione culturale", http://it.wikipedia.org/wiki/Progetto:GLAM/Wikipediano_in_residenza.

[28] Wikipedia:Authority control integration proposal, <http://en.wikipedia.org/wiki/Wikipedia:Authority_control_integration_proposal>.

nato dall'idea di rendere visibili e utilizzabili una quantità imponente di dati, perlopiù inutilizzati dal grande pubblico. Il risultato è stato la creazione di un *Bot*, cioè di un programma che svolge in automatico determinate funzioni, chiamato *VIAF Bot*, cui è stato affidato il compito di creare il legame agli archivi selezionati, non solo VIAF.

Inoltre, è stato predisposto un *template* per contenere i link agli archivi d'autorità, chiamato 'Authority file', ed è stato posizionato dopo la sezione *External links* della voce biografica di *Wikipedia*.[29] Nel box del *template* è stato previsto l'inserimento delle sigle dei cataloghi indicizzati, seguite dall'identificativo del record nel catalogo. Il link della sigla rimanda alla voce in Wikipedia del catalogo, mentre il link del codice rimanda alla scheda d'autorità prorpio del catalogo.[30]

A seguito dell'esperienza inglese e tedesca, anche in *Wikipedia* Italia è stato aperto un dibattito nella pagina di discussione *La caffetteria della biblioteca* del '*Progetto: Coordinamento/Bibliografia e fonti*, [31]sulla opportunità di utilizzare tale B*ot*, reso disponibile da Max Klein, da

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Alla pagina del progetto approvato è stata affiancata una ulteriore pagina: Wikipedia: Authority control integration proposal/FAQ>.

[29] Wikipedia Authority control integration proposal, http://en.wikipedia.org/wiki/Wikipedia:Authority_control_integration_proposal. Alla pagina del progetto approvato è stata affiancata una ulteriore pagina: http://en.wikipedia.org/wiki/Wikipedia:Authority_control_integration_proposal /FAQ.

[30] Wikipedia Template: Authority control, http://en.wikipedia.org/wiki/Template:Authority_control. Nella pagina di documentazione del progetto, sono indicati i cataloghi accettati come fonte dei dati e quindi oggetto di collegamento; una pagina amministrativa informa sulle statistiche di distribuzione dei codici, http://en.wikipedia.org/wiki/Template:Authority_control, Category: Wikipedia articles with authority control information, <http://en.wikipedia.org/wiki/Category:Wikipedia_articles_with_authority_control_information>

[31] http://it.wikipedia.org/wiki/Discussioni_progetto:Coordinamento/Bibliografia_ e_fonti/.

far 'scorrere' sulle voci biografiche. L'iniziativa è stata discussa e la proposta accolta, sebbene la discussione sia stata molto animata come testimoniato dagli interventi in *Dati Viaf e codifiche varie sulla Wikipedia in italiano*, dove il tema è stato dibattuto a lungo per cercare un consenso unanime, in particolare riguardo a stile e posizione del *template*.[32]

Infine è stata adottata la dicitura 'Controllo d'autorità', in linea con 'Authority control' del modello inglese. Il *template* è stato posizionato in alto a destra vicino alle informazioni biografiche sulla persona, che derivano dalla compilazione di un ulteriore modello preimpostato. Il *template* in uso per la descrizione delle voci biografiche, chiamato 'bio', "genera l'*incipit* della voce, genera le categorie standard per attività, nazionalità, anno di nascita/morte, giorno di nascita/morte, luogo di nascita/morte, rende i dati biografici disponibili a un *Bot* che genera numerose liste, e opzionalmente un riquadro con ritratto e principali riconoscimenti" e che gestisce pure i legami tra le forme varianti del nome.[33]

Gli archivi d'autorità accettati per i quali era stato trovato un accordo iniziale erano VIAF e LCCN, ma dalla fine del 2013 è stato accettato ed inserito anche l'archivio delle voci d'autorità di SBN. Il *template* quindi si presenta secondo il seguente modello, in cui il codice dell'identificativo SBN richiama la scheda della voce di autorità dell'opac SBN:

> {{Controllo di autorità | VIAF = 24599845 | LCCN = n/79/063096 | SBN = IT\ICCU\CFIV\001275}}[34]

Per chiarire i concetti e le convenzioni inoltre sono state create in *Wikipedia* anche due nuove pagine di definizione dei temi: 'Controllo di autorità'[35] e '*Template*: Controllo di autorità'.[36]

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[32] http://it.wikipedia.org/wiki/Discussioni_progetto:Coordinamento/Bibliografia_e_fonti/Archivio10#Dati_VIAF_e_codifiche_varie_sulla_Wikipedia_in_italiano.
[33] http://it.wikipedia.org/wiki/Template:Bio
[34] Codici della voce 'Carlo Lorenzini', http://it.wikipedia.org/wiki/Carlo_Collodi.

Il processo di integrazione e connessione delle risorse di rete ha così inglobato e reso disponibile fuori dall'ambito del catalogo i dati autoriali prodotti dalla attività cooperativa del Servizio bibliotecario nazionale.[37]

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[35] http://it.wikipedia.org/wiki/Controllo_di_autorit%C3%A0 e http://it.wikipedia.org/wiki/Aiuto:Controllo_di_autorit%C3%A0

[36] http://it.wikipedia.org/wiki/Template:Controllo_di_autorit%C3%A0

[37] Altro esempio di interoperabilità è la possibilità di collegare, dalle voci di Wikipedia, le voci identiche del Nuovo soggettario italiano (che a sua volta già prevede link a Wikipedia) che tramite la sua versione SKOS permette il collegamento automatico dei dati (Bergamin and Lucarelli 2012)

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ABSTRACT: Accuracy in management and presentation of data is probably the most relevant feature that characterizes libraries catalogues in the wide universe of information available online. This characteristic, which originates from the basic need of organizing knowledge, requires a constant activity of control. Authority control is part of such an activity. This paper examines authority control of personal names, and how it is carried out. The first part shows the international standards and local codes that govern it: these are necessary to understand the activities that create the network of links and references of the data in a catalogue entry. This activity is also influenced by the management information system; the second part of the paper thus examines the Italian Sistema Bibliotecario Nazionale and specifically the library system of the University of Florence, through an analysis of procedures, workflows and monitoring activities. The third part points out the importance of verifying data and access points in databases and in the web itself, in addition to catalogues, in order to manage information in a uniform and shared way. This work aims at showing the topicality of controlling access points to information in order to avoid data proliferation, an event that ultimately produces noise in the activities of information retrieval and data description. It also aims at stressing

the importance of promoting correct information in the web within a set of sharing policies pursued by library cooperation systems, also through technologies currently offered by the web itself.

KEYWORDS: Authority control; Cataloguing, Bibliographic description; SBN.

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Youth Empowerment Through the Use of Prison Libraries: Case Studies of the Tangerang Juvenile Detention Center Library and the Salemba Detention Center Library in Indonesia

Rahmi, Patrick Lo

1. Introduction

Young people are always considered the most important aspect for the development of a nation. They are the buds that will grow into the next generation. They have a heavy responsibility, because they have to advance the state of the whole nation, or at least to continue the 'advancing' process. No wonder preparing them is one of the main focuses of a country. Being in prison does not mean that the right to receive a proper education, health care, have a social life and access to information, should be denied – especially to these young inmates. In fact, education is one of the most important rights for young people. Good education creates a human resource that has high competence in responding to the globalization era. According to Indonesian Law, every person has the right to receive a basic education. This law implies that the country of Indonesia is obliged to fulfill the educational needs of

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every single citizen without exception; regardless of their gender, ethnicity, race, religion, age, and even social and economic circumstances, etc. Under this law, every single child and teenager in Indonesia are entitled to receive basic education and the right to develop themselves freely. Unfortunately, in Indonesia, education was not made mandatory in juvenile detention centers until 1947 (Dini 2011).

This paper aims to examine the situations and practices undertaken in two different prison libraries in Indonesia, and their roles in addressing the various, social, recreational, educational, and psychological issues amongst juvenile delinquents. This paper is of interest to practicing special library managers, prison staff, social workers and educators who need to work with juvenile delinquents, etc.

2. Correctional institutions in Indonesia

2.1 Why correctional libraries?

Parallel to what Prytherch (2005) said, a correctional library is a library that is part of the operational units built inside a prison or a detention center. Its services and functions are designed to provide the inmates access to information and opportunities for self-learning, since many of them are cut off from the outside world. The prison or detention center library also functions as a social place - i.e., a place for the inmates to interact with the prison staff and meet with their family members. According to Marshall (2011), prisoners are cut-off from the outside world, and meaningful access to information is therefore vital to them. For this reason, prison libraries can play an important role in providing them with information and thereby enabling them to acquire the necessary livelihood and other practical skills – skills that these inmates would depend greatly upon when transitioning back into society one released. According to Clark and MacCreaigh (2006, 2), "We think the reasons libraries in prisons and

jails are important are the same reasons that educational, spiritual, and life-enriching programs in prisons and jails are important", because prison libraries could provide positive influence on inmates' lives. In other words, the prison and detention center libraries do not only provide facilities for carrying out correctional or other related educational activities, but also have other social and recreational functions to serve. It is a safe place that acts as a 'haven' for the inmates, allowing them to escape from the harsh realities of prison.

3. Research method

For this study, two prison librarians in Indonesia were invited to take part in this interview research:

(1) Mr. Adi at the Tangerang Juvenille Detention Center, located in Tangerang City in the Banten Province in Indonesia.

(2) Mr. Budi at the Salemba Detention Center, located in the capital city, Jakarta in Indonesia.

The research interviews with the above two prison librarians were carried out via Skype in October and November 2013. I chose the qualitative (informational interview) approach as it presented a valuable opportunity for these two practicing detention center librarians to describe their own experiences and actual situations, as they perceive them. The interview answers reflect the participants' own viewpoints, not my own. I deliberately allowed the interviewees to take full control of the flow of the entire conversation, as I specifically did not want to influence or interfere with the answers to my open-ended questions – thereby allowing the participants total freedom to respond in their own words, based on their interpretations of the questions. Such a natural and free conversational approach also enabled maximum flexibility for more open, spontaneous, and instant exchanges of ideas, without any preconceived expectations on my part.

3.1 Prison Librarians & Professional Qualifications

In North America, the UK, Commonwealth Countries (Canada, Australia) and in many former British colonies (e.g., Singapore, Hong Kong), for most library and information science (LIS) managerial positions, individuals are required to have an ALA[1]-accredited MLIS (Master of Library and Information Science) degree, which means that LIS students must obtain a bachelor's degree. However, there is no preferred undergraduate major. In order to understand what kind of professional training and qualifications are required for working as a prison librarian in Indonesia, I began the interview by asking:

"Could we begin this interview by introducing your professional training and background, and your major roles and duties at the Detention Centre Library?"

Mr. Budi [Salemba Detention Center]: "I graduated from the Department of Islamic Studies, Syarif Hidayatullah State Islamic University in Jakarta. When I first began my career as a librarian, I did not know much about libraries and their operations. Prior to working as a librarian, I first worked as a clerk at a local Indonesian bank. I then undertook the Probationary Civil Servant Exam in Indonesia. After passing the exam, I got to choose where I wanted to work. And I chose the Salemba Detention Center under the Ministry of Justice and Human Rights Department. I chose the Salemba Detention Center, because the Center was really close to where I lived, and the salary was reasonable. I have been working as the Librarian at the Salemba Detention Center since January 2013. Because there are only a few staff members working at the Salemba Detention Center Library, in addition to the daily operations of the Library, I also need to manage the financial reports of the whole Center. In fact, all staff members at the Salemba Detention Center

[1] American Library Association Accredited Programs. http://www.ala.org/accreditedprograms/home/

Library are expected to multi-task. For example, as well as their core duties, other Center staff members also need to oversee the operations of the Detention Center's Church, the Center's Mosque and the Vihara [the Buddhist monastery], etc."

Mr. Adi [Tangerang Juvenile Detention Center]: [Due to personal and administrative reasons, information regarding Mr. Budi's professional qualifications and on-job training could not be obtained during the Skype interview.]

Interview results indicated that, unlike many other Western countries, professional qualifications (e.g., an MLIS degree) are not a requirement for employment at prison libraries in Indonesia. In other words, newly appointed prison librarians in Indonesia would have to acquire their professional skills and knowledge from on-the-job training, or learn on the job; rather than undertaking any academic programs at a community college or university. Interview results also revealed that prison librarians in Indonesia are also expected to multi-task, due to their understaffing situations – a situation that is common throughout prison libraries in many countries (Greenway 2007). For example, on top of overseeing the daily operations of the Detention Centre Library, Mr. Adi is also expected to undertake other 'side" duties, e.g., managing the Center' Mosque.

3.2 Values & Functions of a Juvenile Detention Center Library in Indonesia

In order to understand the values and functions of the prison libraries in Indonesia, I asked the librarians to provide brief information about the history and missions of these two detention center libraries:

"Could you tell me about the history of your Detention Center and what roles the Center Library plays in terms of

supporting the whole Detention Center in carrying out its missions?"

Mr. Adi [Tangerang Juvenile Detention Center]: "The Tangerang Juvenile Detention Center was built in 1925 by the former Dutch Colonial Government, with an occupancy capacity of 220 prisoners. Finally, Indonesia became independent in 1949, and the management of the Tangerang Juvenile Detention Center was transferred to the Directorate General of Corrections in 1964, and the name was changed to Tangerang Juvenile Detention Center. With reference to the Tangerang Juvenile Detention Center's services and missions, it endeavors to provide services, protections and correctional education for the inmates; its missions can be summarized as follows:

1. create a system that fosters a creative, comfortable and child-friendly environment for these young inmates;
2. provide education and other coaching / correctional services and programs for the best interests of these young inmates;
3. strengthen moral characters amongst the young inmates by developing a positive attitude towards life, i.e., including diligence, devotion, honesty and sense of belongings, etc.;
4. advocate for the fulfillment of children's rights.

"In addition, the Tangerang Juvenile Detention Center's services are designed to protect and to serve the inmates' best interests with values built upon the following principles:

- being fair to others;
- being polite and friendly and caring for others;
- being socially responsible, etc.

Since these young inmates here are cut-off from the rest of the world in terms of their access to information, the Tangerang Juvenile Detention Center Library plays a very important role in fulfilling their learning, recreational and social needs."

Mr. Budi [Tangerang Juvenile Detention Center]: "The Salemba Detention Center was established by the Ministry of Justice and Human Rights in Indonesia in 2007. The Center's missions can be summarized as follows:

1. build moral characters and develop a positive attitude of devotion, courtesy and honesty, etc.
2. implement various prison teachings or correctional initiatives for inmates who will leave prison, that they may become a good citizen;
3. implement humane treatment systems that provide safety, comfort and justice;
4. provide care, protection and fulfillment of the rights of inmates and family or other community members who visit the prison.

The Salemba Detention Center Library is essential for supporting educational, spiritual, and life-enriching programs carried out at the Center."

The interview results indicated that the Tangerang Juvenile Detention Center was established by the former Dutch Colonial Government. We do not know to what extent the former Colonial Government has influenced the current establishments and the practices within these two Detention Centers; but it is apparent that both centers put a strong emphasis on moral and character development amongst these young inmates. They also recognize that the Detention Centers have the responsibility to ensure that human rights are upheld during the implementation of their correctional education or services. Both libraries play an important role in supporting the detention centers in carrying out its missions and objectives. Details regarding the center's library practices and operations are discussed in the subsequent sections.

3.3 Informational, Educational & Recreational Needs amongst the Young Inmates

People in prison are generally cut-off from the world, access to information is therefore vital (Marshall 2011, 24). In fact, Marshall's research shows a correlation between education and reduced recidivism, and libraries play an important role in supporting education (Marshall 2011). In order to understand the library users' backgrounds and their informational needs, I needed to find out who these inmates are. The following two questions were hence administered to the librarians:

"Could you give me a general profile of the inmates committed at your Centre?"

"Who are the majority of your Library users? In addition to the young inmates, are the prison guards, officers and other administrative staff working at your Detention Center also regular users of your Library?"

Mr. Adi: "The Tangerang Juvenile Detention Center offices consist of a total of 107 full-time/part-time staff, i.e., including 36 security personnel, 2 dentists, 5 medical nurses, and one full-time psychologist. This Center can accommodate for a total of 220 children and teenagers, between the ages 12 to 18 years old. As of 2012, there are a total of 206 inmates occupying this Center."

Mr. Budi: Answers: "All data regarding the total number of inmates and human resources in our Detention Center can be obtained directly from the online information system on correctional services and institutes in Indonesia.[2] The Salemba Detention Center has a total of 193 full- and part-time staff. There are currently 572

[2] Online Database System on Correctional Services and Institutes in Indonesia http://smslap.ditjenpas.go.id/.

inmates occupying our Center; out of which 30 are only "boys" between the ages of 12 to 18 years old. "

Mr. Adi and Mr. Budi [both provided similar answers]**:** "The criminal offenses committed by these inmates include: drug abuse, murder, physical violence, theft, reckless driving, as well as other small-scale criminal offenses, etc. In fact, quite a large number of teenagers are committed here, because they drove a car or a motorbike without a license, and without their parents' knowledge…. At the same time, there are others who have been sentenced and committed to this Detention Center for more serious crimes, e.g., drug trafficking, sexual assault, drug abuse, etc. A majority of their problems are caused by poverty."

Mr. Adi and Mr. Budi [both provided similar answers]: "Our Library users here include both inmates and prison officers. Both are entitled to use our Library's services and resources. But most of our library resources (especially printed books) are meant for in-house use only – in order to avoid unnecessary loss and damages. We have cases where inmates would tear off pages from a book, and used them for wrapping tobacco for smoking – something that we definitely want to avoid."

Although the young people being committed to these Centers are labeled as "prisoners", their educational and psychological needs are no different from other children – especially when they have been taken away from their families, and normal schooling opportunities have been denied to them. In addition to providing the standard correctional services, one of the core functions of the Detention Center is to provide these young inmates with an environment, in which these youths can feel safe and cared for - so that they could continue their education and social lives as normal.

3.4 Prison Libraries' Role in Supporting the Educational and Recreational Needs

In order to identify the educational and recreational potentials of these two prison libraries, I asked the two librarians the following:

"In addition to providing regular library services, does your Center's Library also serve as a venue for hosting other activities or programs for the young inmates, for educational and recreational purposes? Or do you, as the Prison Librarian, need to take up the role of recreational activity organizer for the Detention Center?

Mr. Adi: "At the Tangerang Juvenile Detention Center, there are many programs catered especially for youth development, such as: boy scout programs, workshops for journalism, cinematography, computer skills, graphic design, sewing, welding, farming, fishing, motor mechanic, screen printing, coconut shell crafts, catfish farming, motorcycle steam, reflexology [foot massage], hand-phone service training, etc. We try to be as comprehensive as possible in terms of building a library collection that covers all the subjects related to our recreational activities. Having said that, however, we are currently and constantly facing financial difficulties, e.g., catfish farming is a very popular hobby amongst our young inmates, but unfortunately, due to our limited book budget, we are unable to fill the collection gap in this area."

Mr. Budi: "At the Salemba Detention Center, although the library building itself is not used for hosting any sports or other recreational activities, the Prison Librarian and the other supporting staff at the Library are required to take part in conducting these activities. I could give you a list of sports and other recreational activities organized by our Library staff:

1. Sports: badminton, volleyball, chess, table tennis, football, gymnastics, Sepak Takraw [Indonesia-style volleyball], and Futsal [Indonesia-style football], etc.

2. Performing arts: drama club, poetry reading, music band, Nasyid [Indonesia-style vocal music], creative music performance, and marawis (dhol) [Arabic-Indonesian-style percussion music], etc.
3. Social activities: family visits, social visits from outsiders, community service etc."

As you can see, at the Salemba Detention Center, I have multiple roles to play. In addition to my regular duties as the Detention Center Librarian, I also have to serve as an "extra-curricular activity officer", i.e., to co-host a series of recreational activities for our young inmates.

The interview results indicated that prison librarians are expected to multi-task, and have multiple roles to play, i.e., in addition to overseeing the daily operations at the library, they are also required to co-host other recreational activities for the young inmates. The advantages however, are that it would allow the librarians to be "more involved" in these young inmates' lives, rather than just being viewed by them as a 'glorified filing clerks'.

3.5 Prison Libraries & their Future Development

In order to identify the future opportunities for learning amongst these inmates, as well as to find out if the prison libraries are equipped with adequate resources for supporting their information and education needs – which is becoming increasingly diverse and also rapidly changing, I asked the two librarians the following:

"Do you have any strategic plans in place for developing your Library over the next five to ten years?"

Mr. Adi: "In the near future, firstly we would like to strengthen and expand our library collection. Secondly, our Detention Center is planning to provide counseling services to our young inmates with special psychological needs – and our Library is

planning to build a collection to support their services in this regard. Finally, we would like to provide more computer stations and online databases inside our Detention Center Library, with the aim of facilitating our guidance services, as well as building an online community for our inmates for educational purposes."

Mr. Budi: "The Library at the Salemba Detention Center is relatively new, because it was established in January 2013. So we are less than one year old. We wanted to equip the whole Library with all brand new facilities. So far, with the help of other inmates, we [library staff] have just finished painting the walls inside the Library. For the benefit of our users as well as to sustain their interests, we need to expand our Library collection by adding more printed books to our collection. In the future, we aim to provide more online audio-books to our youths, because nowadays, young people simply prefer anything in digital format rather than the traditional printed books. Moreover, we want to provide more PCs or iPads to our users – the major advantage being that it would allow our young users to watch videos (e.g., Youtube) over the Internet, as well as enable them to share their personal stories with other inmates of the same age under the digital environment – and hopefully, via this virtual communication platform / community, they will be able to learn from others; or even encourage and support each other in a positive way."

Interview results indicated that, since these young inmates are cut-off from the outside world, the Center's Libraries are providing vital resources enabling the inmates to create an online community amongst themselves for sharing, and for other social communication purposes. Unlike other 'normal' young people, these young inmates are unable to go to a public library to enjoy its services. However, their needs and interests are very much the same as other young users of public libraries. For these reasons, this online community, which the Prison Librarians helped create, could serve

as a convenient means for the inmates to explore what is actually happening outside the Detention Center.

At Salemba Detention Center, the building is new, and with the help of inmates, the librarian staff were able to paint the library walls. As indicated by the Prison Librarian, involving these young inmates in painting the library enabled a safe environment under which students could learn to:

- contribute to the community without expecting anything in return;
- respect public property;
- take social responsibility;
- accept guidance from Detention Center staff;
- maintain cooperative and effective working relationships with others;
- observe health and safety regulations; and
- work both independently and as a member of a team.

3.6 Funding Situations & Collection Size

In order to find out the funding situations of the two prison libraries – as a way to examine whether the libraries had enough resources to support the educational and recreational needs amongst the inmates, I asked the librarians the following:

"How do you normally spend your library budget? For example, what percentage of your library budget is actually spent on books, i.e., both printed and electronic books? How much is spent on other furniture, computer hardware and equipment?

Mr. Budi [Salemba Detention Center]**:** "It is very hard to say. But I could tell you that having a reasonable budget is the key to providing basic, quality services, regardless of whether it is a school,

a public library or a prison library. Although the funding comes directly from the Indonesian Government, our Library is only one of the many functional units inside the Detention Center, hence, it does not always have a large amount of money to operate on. According to the Indonesian law, government organizations are not allowed to receive any donations in cash or cheque form. Instead, we may only accept donations of printed books and other library materials."

"In addition, at the Salemba Detention Center Library, we [library staff] also need to work as fundraisers – in order to ensure that the Library has enough budget to operate on. Because we are constantly facing financial constraints, we have no other choice but to come up with innovative ways to seek external funding from outside donors. Self-fundraising is considered an effective way to address our funding problems. Since we are not allowed to accept cash donations, we often receive large collections of printed books as donations instead."

Mr. Adi [Tangerang Juvenile Detention Center]: [Due to various administrative reasons, information regarding the funding situations at Tangerang Juvenile Detention Center Library could not be obtained during the Skype interview.]

In order to discover more about the two prison libraries' collections – to examine whether the libraries have a large enough collection to support the educational and recreational needs of the inmates, I asked the librarians the following:

"Could you tell me about the collection size of your Library?"

Mr. Adi: "The Tangerang Juvenile Detention Center Library collections contain 12,056 volumes of books (as of November, 2013), encompassing a broad spectrum of subjects ranging from general genre to books related to religion, self-motivation, creativity, physical and mental wellness, etc. Most book subjects found in this

library are related to education, history, autobiographies, and general studies, etc."

Mr. Budi: "The Salemba Detention Center Library has a collection size of over 2,000 books. Most of our book titles are on religious studies, general knowledge, vocational skills, etc. The collection is rather small."

3.7 Prison Libraries & Promotional Activities

In order to find out how active the prison libraries are in terms of marketing or promoting their services and resources amongst the users, I asked the two librarians:

"How do you promote new services or newly acquired book titles at your Library to attract users?"

Mr. Budi: "Given the limited library staff resources available, we usually don't have any programs or activities for promoting our Library resources amongst our users. Our Library is located at the center of the whole Detention Center building and right next to the basketball field – since the location is very convenient, we just rely on them to come to the Library voluntarily and regularly. Having said that, we make an effort to let our inmates know every new and existing service available at the Library. For example, whenever we receive a new collection, we will put up a list of the newly-arrived book titles in their cell blocks, as a way to promote our new Library collection amongst our inmate users."

Mr. Adi: "As a cost-free and yet effective way for promoting our new books, we [library staff] sometimes write a list of new books and put that list onto the "Wall Magazine" in every prison block – as a quick and easy way for promoting our newly arrived book titles."

Zybert (2011) also highlighted that one could promote a prison's library services by displaying a new book and promote it through the media in prisons. The media promotion in prison libraries could mean putting new notices on the prison's walls.

Given the limited resources available, putting up a list of newly arrived book titles is a feasible and yet effective way of promoting the library's collection.

4. Discussions

Prisons for children and youths are also referred to as juvenile detention centers. Libraries, to a large degree, are a reflection of the communities or organizations they serve. The libraries set up inside these detention centers are designed to support the parent organizations in achieving their goals, i.e., to provide access to information, as well as to fulfill the educational, recreational and social needs of these young inmates, as they are cut-off from the outside world. Standards for the human rights of children in Asia could be very different in comparison to other Western countries. The amount of facilities and resources available inside detention libraries can be used as an indicator for reflecting their perceptions and their expected standards on human rights of children in Asia.

The interview results also indicated that prison librarians are expected to multi-task, i.e., in addition to managing the library's daily operations, they are also expected to perform several non-library-related duties/roles, like recreational activity organizers, i.e., actively taking part in designing and co-hosting various cultural and arts activities, sports activities, etc. Prison librarians are also expected to serve as fundraisers, i.e., to develop effective strategies and take part in campaigns for attracting outside donors to donate books or other materials for enriching the library collection and services. In order to fulfill these roles effectively, one must possess the following skills and character traits:

(1) be an effective communicator, i.e., being able to understand the needs of a person or situation, enabling librarian to resolve differences, build trust and respect, and create environments in which the young inmates can interact with each other;

(2) be flexible and able to adapt – to work with other prison staff – to develop a library collection and to co-host activities. Close collaboration between the library staff and the prison staff is needed to build the library collections and to launch other library activities;

(3) be outgoing. Prison librarians also serve as fundraisers and have to approach donors and ask for funds in order to ensure that the library has enough budget to operate on. They also need to be active promoters of library resources to keep up with the changing information needs and reading interests of the inmates.

4.1 Challenges

According to Keyes (Keyes 1995), one major issue faced by many special libraries (corporate libraries in particular) is the difficulty of putting a 'dollar value' on the intangible services, which the library provides to its parent company. As explained by Edgar (2007), the value of services provided by such corporate and special libraries cannot be easily measured, as no one can determine precisely if and how the knowledge is useful, immediately, or at any unspecified time in the future; and to what extent such acquired knowledge can actually be applied. There is no doubt that many special libraries are facing similar situations. For this reason, librarians often become the first victims of budget cuts.

4.2 Educational Needs

These young inmates are cut off from the outside world; opportunities for a normal education are also denied. In this sense, the Detention Libraries play a very important role in providing the resources and services necessary to fulfill the information and educational needs amongst these young inmates. Hopefully, they would become self-motivated readers and independent learners. Having basic literacy skills is absolutely vital for their survival in the real world, once they leave prison, and there is no exception for a

developing country like Indonesia. Libraries and education always go hand in hand. Making quality library services available inside the detention center would no doubt allow these young inmates to obtain other practical livelihood skills they need to transition back into society once they are released. For this reason, the detention libraries have an important role to play in this regard.

In addition to educational opportunities, prison libraries can also help prisoners develop positive and meaningful relationships with their family members, as the prison or detention center library serves as a social place; a place for interacting with prison staff and meeting with family members.

4.3 Recreational Needs

In addition to merely providing printed books, interview results indicated that these young inmates were involved in redecorating (painting) and renovating the detention center library. This is a good example of fulfilling the recreational needs of these young inmates in a 'fun', 'creative' and 'recreational' manner. Doing so not only helps them build a sense of belonging, team spirit, and mutual respect amongst peers, but it also teaches them to love and respect public property. In addition to supporting their educational needs, another core function of the detention library is to provide reading materials that support recreational activities. According to the American Association for Leisure and Education about Correctional Recreation (*Correctional Recreation. ALLReporter* 1986, 6), the goals and benefits of providing recreational activities at a correctional institute are as follows:

1. provide structured and positive alternatives which can be used to fill leisure time;
2. provide opportunities for inmates to channel and vent negative feelings, tension and anxiety into positive productive attitudes;
3. relieve institutional stress (staff and inmates);

4. improve self-esteem;
5. improve health and fitness levels;
6. improve individual creativity (mental and physical);
7. improve positive socialization skills;
8. keep inmates occupied and reduce idleness;
9. improve athletic and artistic skill levels;
10. educate inmates on various game and sports rules and strategies.

4.4 Psychological Needs

Based on Maslow's hierarchy of needs (Maslow 1954), I would like to highlight several points regarding detention center libraries' effects on the psychological needs of young inmates. They can be summarized as follows:

1. Love & Belonging Level (friendship) – with functions similar to a public library, young inmates are able to use the detention center library as a social place for building friendships with others. Unlike sports, prisoners could gather together in a non-competitive, cultural and calm environment conductive to meeting friends and building social networks. They need to feel a sense of belonging and acceptance in their social groups in prison, regardless of whether these groups are large or small.
2. Self-Esteem Level – Abraham Maslow in his hierarchy of human needs (Maslow 1954), describes the "need for esteem". This need is divided into two aspects: (1) esteem in terms of self-love, self-confidence, skill, aptitude, and respect received from other people's recognition, success, etc. In this context, the Detention Center Library's services could help these young inmates build and improve their academic abilities and literacy skills/level and thereby enhance their self-esteem. (2) The other way of building

self-esteem amongst these young inmates is to engage them in a variety of recreational activities via the Center's Library, e.g., acquiring practical skills through taking part in various Boy Scout programs, workshops for journalism cinematography, coconut shell crafts, catfish farming, etc.

3. Self-Actualization – "What a man can be, he must be" is the basis of the perceived need for self-actualization. This research shows that one of the library roles is to help these young inmates fully develop individual talents and skills, e.g., improving their talents through various recreational activities, such as drama club, poetry reading, and creative music performances, etc.

The convenience of the Internet, as vehicle for delivering information, has indeed altered the way people use archives and libraries. Over the past decades, many scholars and stakeholders have been debating about how the importance of libraries, as a physical space, is diminishing. Despite digital services being the most important part of recent developments, the interview results no doubt serve as evidence for convincing misguided administrators that librarians, as well as library buildings themselves, are still very much needed; and virtual libraries or Google can never completely replace them.

5. Conclusion

This study adds to the emerging body of knowledge on plans and practices of prison libraries in Indonesia, in the new era. It also highlights areas for potential, further research into the area of prison libraries and librarians, in regard to their roles, functions and services. Furthermore, this study provides library planners and practitioners with information on how new prison library buildings and functions are being designed; and more importantly, on how they are and should be used. It suggests that consideration should be given to the desired balance of education and recreation of the future image of prison libraries.

Despite limitations and other constraints, the interview results indicated that prison librarians play a crucial role in implementing activities (both inside and outside of the prison library) conducive to meeting the educational needs and recreational interests of young inmates – a role that is very much similar to that of a public or school librarian. Fulfilling the information and education needs of these delinquent youths is essential in assisting them with their moral development, consequential thinking, as well as awareness of social responsibilities, and becoming competent and able to succeed.

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ABSTRACT: It is widely acknowledged that libraries play a positive and important role in the lives of prisoners, just as they do with other people. They do not only provide resources to support various educational, recreational and welfare programs, but they also create opportunities for prisoners to acquire new skills, skills that they may need once they leave prison. According to the Ministry of Law and Human Rights of Indonesia, as of 2013, there are 4,622 children in 16 different prisons in Indonesia. Such statistics show that there is a great need for well-resourced and well-staffed libraries inside these prisons in order to support the educational, recreational, and psychological needs of imprisoned children. The purpose of this study is to examine the practical, social, recreational, educational, psychological, and spiritual needs of detained juvenile delinquents in regards to using the collections, facilities and services at the Tangerang Juvenile Detention Center Library and the Salemba Detention Center Library.

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stories and insights into their careers as the prison librarians in Indonesia.

KEYWORDS: Youth Empowerment; Library Collection; Prisons; Human Rights.

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Sapere digitale e pensiero critico. Intorno al convegno "Noetica versus Informatica: le nuove strutture della comunicazione scientifica" (Roma, 19-20 novembre 2013)

Luigi Catalani

Merito di Alfredo Serrai, direttore scientifico del convegno internazionale "Noetica versus Informatica: le nuove strutture della comunicazione scientifica", non è stato soltanto quello di aver riunito venti rinomati docenti ed esperti, tra filosofi, documentalisti, scienziati e tecnologi per discutere intorno alle questioni più attuali relative alla gestione della conoscenza e alla trasmissione del sapere scientifico, ma anche quello di aver offerto, fin dall'enunciazione del titolo del convegno, una chiave di lettura funzionale ad una riflessione interdisciplinare sulle profonde trasformazioni che la cultura digitale sta generando non solo nelle pratiche dei professionisti del settore ma, ad un livello filosoficamente più pregnante, nei processi cognitivi dei fruitori della conoscenza[1].

[1] Il convegno, promosso e organizzato da Promoroma, si è svolto il 19 e il 20 novembre 2013 a Roma, nella splendida cornice del Tempio di Adriano. Ringrazio Fiammetta

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1 Il conflitto epistemico

Ponendo con la sua consueta nitidezza intellettuale la questione del conflitto epistemico in atto fra noetica e informatica, Serrai (*L'informazione può essere indipendente dalla Noesi?*) ha posto all'ordine del giorno di tutti gli addetti ai lavori l'urgenza di un approfondimento teorico dell'impatto delle nuove tecnologie dell'informazione sull'insieme delle scienze della documentazione, che sono chiamate ad elaborare in tempi brevi strategie efficaci non solo di 'resistenza' ma anche di rilancio del proprio ruolo in un contesto culturale, professionale e informazionale che negli ultimi due decenni è radicalmente cambiato.

Il riconoscimento della contrapposizione, forse inevitabile, tra l'impianto noetico tradizionale e le regole delle reti informatiche, non è dunque una distaccata presa d'atto di uno stato delle cose neutrale, bensì una chiave di lettura critica, ossia epistemicamente problematica, che l'intensa due giorni romana ha non solo legittimato ma rinforzato nelle sue ragioni speculative e nei suoi presupposti concettuali di fondo.

Come sfruttare gli indiscutibili vantaggi derivanti dalle nuove tecnologie informatiche senza abdicare alla propria funzione culturale e alla propria autorevolezza sociale? Mediatori dell'informazione, *data scientists* e gestori della conoscenza condividono un misto di entusiasmo e disagio, ma è solo da una riflessione comune provocata da un malcelato senso di inquietudine che può nascere una nuova consapevolezza e un rafforzamento delle proprie prerogative professionali.

Se è vero che l'informazione non può considerarsi indipendente dalla noesi, in quanto i dati si fanno informazione solo a fronte di un sistema cognitivo e ricettivo, è altrettanto vero che l'evoluzione

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Sabba, coordinatrice scientifica del convegno, e Fiorella Carnevale, segretaria organizzativa, per avermi agevolato nella raccolta dei materiali del convegno.

informatica non dovrebbe trascurare il plurisecolare contributo teorico proveniente dalla «scienza delle scienze», la bibliografia, da intendersi, come avvertì già Gabriel Naudé nel 1633, non come un mero elenco alfabetico di autori e opere, bensì come la loro «disposizione ordinata e sistematica» (*oeconomia*), come metastruttura logico-noetica, ossia come la disciplina che presiede all'organizzazione scientifico-teoretica delle conoscenze (Serrai 1973).

Serrai auspica dunque che informatici e bibliografi cooperino per l'allestimento di strutture informazionali universali, facendo tesoro dell'inadeguatezza dei sistemi classificatori tradizionali, e delle potenzialità cognitive legate alla prospettiva di una mente allargata. La predisposizione di un'enciclopedia informatica del sapere universale è in fondo un'impresa essenzialmente bibliografica e non meramente elettronica, giacché presuppone l'individuazione e la classificazione del corpus testuale esistente.

2 Quale intelligenza?

In gioco non c'è soltanto il destino della nostra tradizione bibliografica bensì, come ha mostrato con grande efficacia Luciano Floridi (*Presente e futuro prossimo dell'intelligenza artificiale*), la centralità stessa dell'uomo nel processo di gestione dell'informazione, che la rivoluzione informatica (battezzata dal filosofo la «quarta rivoluzione») ha definitivamente ridimensionato, in seguito alla diffusione esponenziale di macchine che processano e manipolano informazioni in modo autonomo (Floridi 2012). In un mondo avvolto da tecnologie, alle quali affidiamo settori sempre più consistenti e sensibili della nostra esistenza, Floridi avverte che occorre ed occorrerà sempre più intelligenza, intesa come la capacità di interrogare l'enorme mole di dati (dai quali rischiamo altrimenti di essere travolti senza riuscire ad estrarne informazioni

epistemologicamente produttive) che nella maggior parte sono prodotti, elaborati e comprensibili soltanto dalle macchine.

Se dunque la rivoluzione dell'informazione ci consente di comprendere meglio non tanto il futuro prossimo delle presunte macchine intelligenti, quanto alcuni aspetti rilevanti del nostro stare nel mondo, la metafora della «mente estesa», ripresa da Alberto Oliverio (*Cervello, tecnologie e mente estesa*), serve a ricordarci che la nostra produzione intellettuale dipenderà in misura sempre maggiore dall'apporto di tecnologie capaci di aumentare le potenzialità della mente umana. È la prospettiva del filosofo della mente Daniel Dennett, che ha definito gli esseri umani «macchine cognitive», e del filosofo cognitivo Andy Clark, che ha utilizzato il termine «wideware» per indicare la struttura allargata della mente intesa come frutto dell'incontro di cervello, corpo e realtà esterna. Una prospettiva che lo stesso Floridi giudica interessante (prima che lo dimostrassero i neuroscienziati, già Platone – come ha ricordato Flavia Cristiano – riflettendo nel *Fedro* sul passaggio dall'oralità alla scrittura, aveva intuito che gli strumenti di cui si serve la mente umana producono inevitabilmente effetti sulla mente stessa), ma sulla quale lo stesso filosofo esprime qualche riserva, motivata da due considerazioni: i filosofi della mente non hanno finora elaborato una definizione concorde della mente; la teoria della mente estesa è basata sulla centralità della mente, che in realtà oggi, come si è visto, appare ampiamente compromessa.

3 Quale informatica?

D'altro canto la rivoluzione informatica è un fenomeno tutt'altro che neutrale e monolitico: anche la sua manifestazione più recente, ossia il world wide web, capace di modificare radicalmente in appena vent'anni le strutture della conoscenza scientifica, ha già alle sue spalle una storia piuttosto sfaccettata (Castellucci 2009), nella quale

la biblioteconomia si è inizialmente riconosciuta, per poi ritrarsi dinanzi alle recenti derive di massificazione e commercializzazione.

Alberto Petrucciani (*Convergenza o divaricazione? La crisi dei paradigmi di organizzazione dell'informazione*) ha mostrato come il passaggio dal primo web, inteso principalmente come strumento di documentazione, al secondo web, inteso come strumento di comunicazione, abbia comportato il progressivo, netto allontanamento dalle funzioni bibliografiche cui spontaneamente veniva accostato dagli addetti ai lavori. E così quella che inizialmente appariva come una possibile convergenza tra l'elaborazione concettuale della scienza bibliografica e la realizzazione di infrastrutture tecnologiche per la gestione dell'informazione, si è poi rivelata come una divaricazione sempre più ampia tra un paradigma volto a favorire lo sviluppo di conoscenza ed un altro orientato al business.

Una critica agli sviluppi recenti della net society che nel contributo di Osvaldo Duilio Rossi e Gabriele Alese (*Rete, cultura e dissenso. L'autorete della Net Society*) appare ancora più circostanziata, corroborata da modelli di pensiero critico (Adorno, Debord, Baudrillard, Foucault, Heidegger) che appaiono particolarmente appropriati alla denuncia dei social network come nuova industria di un sapere pragmatico, conformista e omologante, che nulla a che fare con il sapere scientifico. Il web 2.0 è una rete opaca e pervasiva, che si piega alle istanze di profitto dell'industria culturale attraverso un sofisticato controllo sociale e una sistematica espulsione del dissenso (Metitieri 2009). L'ambiguità epistemica dei social network in quanto collettori decentralizzati di informazioni e di preferenze provoca un'asimmetria informativa, laddove gli utenti devono invece rassegnarsi a perdere le tracce dei propri comportamenti online.

Le conseguenze delle ultime tendenze della rete si estendono a vari livelli: il deprezzamento della merce intellettuale, la disgregazione della paternità e dell'autorevolezza del pensiero, la messa in

discussione dell'attendibilità delle informazioni – su cui si è soffermata Judith Simon (*Trust, knowledge and technologies of information, communication and computation*) – infine la necessità di nuove specializzazioni professionali e la produzione di un nuovo sapere, il knowledge management, per la gestione dell'enorme patrimonio di dati e di informazioni posseduto dalle organizzazioni. Come ha sottolineato Domenico Bogliolo (*Lo Zen e l'arte della manutenzione del Knowledge Management*), nell'ambito del knowledge management, la produzione di conoscenza è l'esito di un processo fluido, caotico (quindi non replicabile da un calcolatore), per cui ne deriva una concezione dell'informazione intesa come potenziale epistemologico in divenire piuttosto che come dato codificato, ordinato e cristallizzato in un database.

Non meno riuscito è risultato il tentativo di Paola Castellucci (S*ense AND Sensibility: l'algoritmo di Google*) di svelare alcuni meccanismi tutt'altro che trascurabili di Google, analizzato come fenomeno insieme tecnologico *e* culturale, ossia come macchina narrativa e interfaccia cognitiva capace di stimolare, attraverso strumenti simbolici (che la Castellucci decodifica mediante il confronto con le questioni epistemologiche che emergono dalla lettura del celebre romanzo *Sense and Sensibility*), tanto gli umanisti quanto i tecnologi. Come nel romanzo di Jane Austen, le nuove modalità di conoscenza rendono inadeguati gli strumenti interpretativi tradizionali e richiedono l'utilizzo combinato di codici cognitivi diversi, capaci di cogliere nuove chiavi di lettura e di produrre altri strumenti di conoscenza.

4 Biblioteche, trasparenza, condivisione

Per quanto riguarda gli aspetti più legati alla pratica professionale, le nuove tecniche di memorizzazione e comunicazione informatica hanno provocato un ripensamento e una ridefinizione dei servizi bibliotecari, costretti a confrontarsi con l'offerta della rete e a

ripensarsi per continuare a offrire, in un contesto informazionale profondamente rinnovato, la garanzia della conservazione dei documenti e del rinvenimento dei corrispondenti nuclei semantici, favorendo così la generazione di nuova conoscenza.

Come ha messo in evidenza Giovanni Solimine (*La comunicazione scientifica, le promesse dell'informatica e la funzione formativa delle biblioteche*), gli utenti della rete, inebriati da un senso di 'onnipotenza informazionale', tendono a perdere di vista il contesto nel quale vengono prodotti i contenuti, rinunciando a quelle operazioni di analisi, selezione e validazione delle informazioni, tipiche di ogni agenzia di intermediazione culturale, che agli addetti ai lavori appaiono invece come attività indispensabili per chiunque voglia districarsi nel *mare magnum* del docuverso o dell'infosfera, per usare i due efficaci concetti teorizzati rispettivamente da Ted Nelson e Luciano Floridi. Per far sì che i raffinati servizi messi a punto dalla comunità bibliotecaria non restino sottoutilizzati, penalizzati paradossalmente proprio dalla loro 'trasparenza', Solimine suggerisce di accentuare la funzione formativa delle biblioteche incoraggiando le attività di *information literacy* (Solimine 2010).

D'altro canto, Alberto Petrucciani ha ricordato che il mondo delle biblioteche, mosso da sincero interesse verso le nuove tecnologie informatiche, ha saputo cogliere con grande rapidità le opportunità messe a disposizione dalla rete. Emblematico il caso delle biblioteche digitali – che Anna Maria Tammaro (*Biblioteche digitali come strumento per gli studi filologici*) ha descritto con particolare riferimento alla filologia computazionale inaugurata intorno alla metà del secolo scorso da padre Roberto Busa (Tammaro e Salarelli 2006) – ossia collezioni che prendono le mosse da un'inevitabile selezione dei contenuti (operazione sempre rischiosa o discutibile, come avverte Serrai), ma che si basano su un'attività realmente collaborativa e capace di coinvolgere gli stessi utenti secondo modalità di interazione ben diverse da quelle consentite dai sistemi di condivisione delle informazioni tipici del web 2.0, nei quali Osvaldo

Duilio Rossi e Gabriele Alese hanno riconosciuto, come detto, una nuova, subdola modalità di esercizio del controllo (e del potere).

Un'altra buona pratica è rappresentata dalla strategia dell'accesso aperto alla conoscenza scientifica, ossia della libera circolazione dei risultati della ricerca, in merito alla quale Paola Gargiulo (*L'accesso aperto alla conoscenza tra opportunità e barriere*) ha evidenziato opportunità e possibili sviluppi: il modo stesso di fare ricerca può avvantaggiarsi delle potenzialità delle nuove piattaforme di condivisione di contenuti nella misura in cui sposa con convinzione il concetto di trasparenza. Un concetto che invece Google, come è emerso dalla relazione di Paola Castellucci, esalta mimando in realtà l'etica dell'open access, giacché custodisce le sue infrastrutture tecnologiche con rigidi brevetti.

5 Semantica, ontologie, metadati

Un punto irrisolto, su cui informatici, bibliografi e bibliotecari dovranno impegnarsi ancora a lungo in un lavoro auspicabilmente sinergico, è quello relativo alla traduzione semantica della conoscenza, ossia ad una mappatura della noesi concettuale. Se è vero, come ha ricordato Alfredo Serrai, che la conoscenza è formalizzabile (e quindi informatizzabile) soltanto per segmenti limitati e che i metodi tradizionali di indicizzazione bibliografica e documentaria appaiono oggi ancora più inadeguati di fronte all'impetuoso incremento dell'informazione scientifica, è altrettanto vero, come ha fatto notare Luciano Floridi, che i computer sono a semantica zero, o quasi. C'è da chiedersi allora, come ha invitato a fare Flavia Cristiano, se l'evoluzione del web semantico potrà restituire una centralità al ruolo delle biblioteche, rinnovando magari l'ideale della biblioteca come luogo di conservazione del sapere universale preconizzato nel 1715 da Leibniz nel frammento *Apokatastasis panton* (Givone 2005).

Il passaggio dal web di documenti (i cui dati sono fusi con il testo), al web semantico o web di dati, inteso come un contenitore di cose reali e di concetti astratti (ontologie) nel quale i collegamenti hanno un loro specifico significato formalizzato in una struttura interpretabile e utilizzabile da una macchina (la grammatica delle triple RDF), può rappresentare, come ha spiegato Mauro Guerrini (*Classificazioni del sapere e ontologie nel web semantico*), una straordinaria occasione per favorire l'integrazione dell'enorme mole di dati contenuta nei cataloghi delle biblioteche con il vastissimo contesto informativo del web (Di Noia et al. 2013) La strada indicata da Guerrini, che riprende le raccomandazioni sull'argomento della Library of Congress, è l'adozione della tecnologia dei linked data, che consente anche ai bibliotecari di pubblicare i propri dati sul web in una modalità leggibile, interpretabile e utilizzabile da una macchina (Guerrini e Possemato 2012, Iacono 2014). Se i dati bibliografici non diventeranno aperti, granulari e linkabili, ammonisce Guerrini, le risorse bibliografiche a cui i dati bibliografici si riferiscono e le stesse biblioteche saranno destinate a un rapido declino e ad un futuro di marginalità.

Tuttavia, ha avvertito Aldo Gangemi (*La semantica del Web: tecnologia, fatti e narrazioni*), la semantica del web appare ancora oggi decisamente inadeguata rispetto alla semantica della realtà (diremmo all'ontologia in senso forte). Nonostante i linked data siano capaci si sviluppare nuova conoscenza attraverso modalità grafiche di esplorazione anche molto accattivanti, le triple RDF da sole non bastano a spiegare i fatti. Ciò che manca, secondo Gangemi, è una capacità semantica più complessa di aggregare queste triple, ovvero una semantic data science che consenta alle macchine di leggere dati strutturati e di percepire i contesti dei termini.

Giovanna Granata (*A cavallo della tigre? Il catalogo tra web 2.0 e semantic web*) ha espresso nel suo intervento una posizione particolarmente critica, e non priva di motivi di vero interesse, mettendo in guardia dai rischi derivanti dall'eventuale confluenza

dei metadati bibliografici nel mare magnum dei dati del web semantico, che potrebbe configurarsi nella sua visione come un abbraccio mortale. I sempre più diffusi discovery tools testimoniano come la logica del web 2.0 stia snaturando gli Opac, allontanandoli dalla logica dei database e della metadatazione strutturata, e assimilandoli progressivamente ai sistemi di information retrieval che semplificano, impoverendola, la possibilità di ricerca. Per cui la liberazione dei metadati nel web semantico potrà servire a collegare dati provenienti da ambiti diversi, ma non dovrà incidere sul modello biblioteconomico di conoscenza, a meno che non si voglia abdicare alla propria specificità in cambio di una maggiore accessibilità e popolarità, che però comporta, avverte la Granata, una perdita di efficacia, un aumento di rumore e un incremento di quell'ambiguità semantica che tutti dicono di voler ridurre. Nel momento in cui il web ha scoperto i metadati (che nel web semantico sono comunque pensati come dati) e quindi i limiti dell'information retrieval classico, sarebbe paradossale, se non addirittura masochistico, se i bibliotecari pensassero di entrare in competizione con il web agevolando la fuoriuscita dei dati bibliografici dal loro contenitore naturale (il catalogo) e la diluizione informativa delle miniere di metadati strutturati e vocabolari controllati nel grande mare della rete.

6 Bibliografia e organizzazione della conoscenza

Dovrebbe apparire chiaro, a questo punto, che per affrontare e provare a risolvere nel modo più indolore possibile le sfide lanciate dalla rivoluzione informatica, occorre considerare, come suggerisce Fiammetta Sabba (*La Biblioteca digitale tra risorsa e aspirazione del bibliografo*), il futuro della comunicazione scientifica non tanto in relazione a problemi di natura materiale, quanto a questioni inerenti l'ordinamento e la ricerca delle testimonianze culturali. L'avvento delle nuove tecnologie non ha fatto altro che amplificare i nodi

problematici dell'organizzazione scientifica, che tuttavia restano – come ha ricordato Serrai – di competenza bibliografica e non di pertinenza informatica.

Lungi dall'essere relegata ad occuparsi dei soli testi a stampa, la bibliografia – il cui esercizio come prassi di esplorazione e di conoscenza è stato oggetto della relazione di Raphaële Mouren (*e-bibliographie: le bibliographe peut-il abandonner le papier?*) – dovrebbe riaffermare il suo impegno e la sua vocazione a garantire la reperibilità delle testimonianze documentarie, a prescindere dalla diversità dei supporti e delle tecniche di registrazione dei testi. Se pertanto l'oggetto di interesse della bibliografia è la bibliotheca nel duplice senso di elenco segnaletico ma soprattutto di collezione, il bibliografo può proporsi, dinanzi al moltiplicarsi dei progetti di biblioteche digitali, come l'architetto dell'infrastruttura cognitiva del sapere scientifico, colui che è in grado di offrire, secondo la Sabba, quel coordinamento teorico e progettuale di cui si avverte la mancanza e che le biblioteche hanno creduto di poter trovare nel web.

A chi, come David Weinberger (2011), crede che la conoscenza non risieda nelle biblioteche ma nella rete, andrebbe ricordato che l'accesso aperto alla conoscenza richiede una capacità di critica, valutazione e contestualizzazione delle fonti anche maggiore che in passato, per cui, avverte ancora Serrai, se da un lato le nuove tecniche di memorizzazione e comunicazione informatica sembrano poter fare a meno delle tradizionali impalcature semantiche e cognitive, dall'altro le mappe dell'universo bibliografico restano strumenti irrinunciabili per chiunque voglia attingere la sostanza noetica, testuale e scientifica dei libri.

La 'bibliografia indicale', come la battezzò Serrai nella sua *Storia della bibliografia*, ossia l'insieme delle strutture indicali allestite dai bibliografi (dai *loci* di Conrad Gessner in avanti) può esser fatto confluire, se si segue l'indicazione fornita da Maria Teresa Biagetti (*L'organizzazione della conoscenza, tra le esigenze della ricerca semantica e*

le soluzioni offerte dall'Informatica), nel vasto campo della knowledge organization, intesa come teoria generale dell'organizzazione del sapere, che si fa carico delle problematiche legate all'organizzazione della conoscenza registrata in qualsiasi tipo di documento (Gnoli 2006). L'organizzazione della conoscenza può esser fatta rientrare a sua volta nella scienza dell'informazione, che studia più in generale gli aspetti relativi alla raccolta, all'organizzazione, all'interpretazione e alla disseminazione della conoscenza registrata, e che contempla anche i sistemi *di information retrieval e multimedia information retrieval*, come lo strumento per la ricerca della musica digitale SoundHound, analizzato da Alberto Salarelli (*Il Multimedia Information Retrieval in ambito musicale: alcune considerazioni sul caso SoundHound*), la bibliometria e le ontologie (Salarelli 2012).

Per esprimere il potenziale epistemologico dei documenti, in particolare nel campo delle *humanities*, si rivela ancora oggi fondamentale l'operazione dell'indicizzazione semantica, che allo stato attuale non può fare a meno del lavoro intellettuale dell'essere umano, l'unico che può garantire una pluralità di approcci interpretativi e di prospettive di ricerca (Gnoli 2008).

Per non perdere la connessione intellettuale dell'uomo con la sostanza noetica dei libri, cui fa riferimento nel 1492 Giovanni Tritemio nel suo *Elogio degli amanuensi*, occorre ripulire il granaio della mente dalle cose inutili (seguendo la metafora dello stesso Tritemio, evocata nella relazione di Giorgio Montecchi *Scrivere e leggere con la mente: la voce, la pagina e il testo dal manoscritto al libro tipografico*) per riempirlo di contenuti ricchi di potenziale epistemologico, stabili, accurati e durevoli, che il bibliografo benedettino, il quale pure ammetteva i vantaggi della stampa tipografica, riconosceva soltanto nel libro manoscritto (Tritemio 1997). Apparirà allora meno azzardato, in un'epoca caratterizzata anch'essa, cinque secoli dopo, da profonde trasformazioni delle strutture e delle forme della comunicazione scientifica (alcune delle quali sono appena agli albori, come ha mostrato la relazione di Fabio

Venuda (*Testi, Rete e modalità di lettura*) sull'attuale fase 'incunabolistica' della diffusione del libro digitale, il richiamo dello stesso Montecchi al modello degli enciclopedisti altomedievali (Cassiodoro, Beda il Venerabile, Ugo di san Vittore), la cui sensibilità intellettuale si è tradotta in una mirabile opera di categorizzazione del reale e di organizzazione logica del sapere[2].

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[2] Gli atti del convegno, a cura di Fiammetta Sabba, sono in corso di stampa presso la casa editice Olschki.

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ABSTRACT: Scopo di questo contributo è quello di esporre le risultanze del convegno internazionale "Noetica versus Informatica: le nuove strutture della comunicazione scientifica", svoltosi a Roma dal 19 al 20 novembre 2013. Alla luce del conflitto epistemico enunciato nel titolo, si è cercato di evidenziare i principali nodi concettuali emersi durante le quattro sessioni di lavoro, che invitano ad un'attenta riconsiderazione del ruolo della bibliografia, dei servizi bibliotecari e dei paradigmi tradizionali dell'organizzazione

dell'informazione, soprattutto alla luce delle tendenze più recenti legate allo sviluppo del web semantico, dei discovery tool, dei social network, dell'open access e delle biblioteche digitali. Vengono sottolineati in particolare i contributi capaci di stimolare una riflessione in merito allo stato attuale e alle prospettive della conoscenza nell'ecosistema digitale, considerato che appare imprescindibile l'adozione di ontologie semantiche, mappe cognitive e infrastrutture indicali capaci di far 'esplodere' il potenziale epistemologico dei documenti registrati.

KEYWORDS: noetica; ecosistema della conoscenza digitale; ontologie semantiche; mappe cognitive; infrastrutture indessicali; conoscenza registrata.

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