Libraries in the Contemporary Society – challenges, mutations, perspectives in a digital context

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Abstract

In contemporary society libraries are actively involved in the process of acquisition, collections management, communication, preservation and archiving of information and of documentary resources. In order to fulfil their mission, libraries should find viable solutions and provide pertinent answers related to the new challenges of the electronic environment, by integrating new information and communication technologies. A series of obvious changes take place within the library as the major info-documentary structure, at the level of the processes of librarianship, of the services and products offered, finally at the level of library and information science practitioners, taking into account the users and their information needs. Currently, we are witnessing a real transformation of the libraries from analogue to hybrid, and libraries with important digital collections are becoming leading institutions managing information and knowledge that become developing activities in the new context of Information and Communication Technologies.

Keywords: Libraries, Digital Library, Library Professions, Electronic Environment, Information and Communication

Information and Communication Technologies produce and impose a new information and communication context hence the notions of space and time becoming relative; individuals and communities gather in a unitary global space, in which each of us has to develop own strategies for adaptation, information and communication by assimilating specific knowledge and competences. Libraries are component parts of this new electronic context of information and communication and accordingly develop specific strategies.

The electronic environment can produce major mutations at society's level, just as the invention of printing had produced mutations leading to the development of the society we currently know (the Gutenberg Galaxy). It is not by chance that we talk about an Information Society. The electronic environment generates profound changes and transformations in society on all its levels.

In these circumstances, libraries have to face a number of ***challenges***:

- the enlargement of the community of users and their increasing requirements;
- assimilating informatics in biblioteconomic activities;
- diversifying the typology of products and services offered;
- shifting the emphasis from the document to information;
- mutations in the life-cycle of a document (its construction, processing, communication, use, archiving);
- mutations in the content of biblioteconomic processes that depend on the documentary typology and on the products and services required (and offered);
- the need to overcome the space-time barrier in communication and information use;
- etc.

Mutations at the library level in terms of information and documentation structure

When speaking of a digital library a number of terms are implied: data bases, multimedia, on-line information resources, new information and communication technologies, information retrieval, multimedia applications, electronic library, computer networks, internet, intranet, World Wide Web (www), WAIS (Wide Area Information Services) etc. Analysing the above terms we notice that all are related to the processes of construction,

processing, communication and use of information. The digital library should be in a simple meaning the "meta-term" combining them all. By digital library we intuitively understand the organisational concept that gathers information resources in electronic form, structured in data bases, products and multimedia applications, accessible through information and communication technologies.

In the specialised literature there are several definitions for "digital library" depending on the meaning given to it by the authors of those information constructions.

In addition, there is no clear distinction between *digital library* and *virtual library.* Virtual library may by just an organisational concept or a digital library without clear space-time delimitation. The internet space might represent such a "virtual library".

Borgman, Cl. when analysing several definitions of a "digital library" considers that the definitions relate mainly to two meanings (1):

- *A construction structured according to users needs and made available to them;*
- In the community of biblioteconomic professionals "digital library" is considered as *an institutional structure that provides a number of products and services in the digital space.*

Most projects for digital libraries adopted the first meaning of the concept.

From traditional libraries to virtual library, there are the hybrid library, the electronic library, the digital library. All these concepts relate to the processes of organisation and use of an information content (existing or not in an institutional structure) and are interwoven and reciprocally interdependent. Up to a point, there is a similar semantic content.

The evolution of the term "library" may be represented as follows:

Traditional library → hybrid library → electronic library → digital library → virtual library.

In the case of *traditional library* emphasis is put on the printed form (over 85%). We speak about acquisition of documents, documents processing, documents communication, their preservation and conservation. The user comes to the library to look up a document, alone or under the guidance of specialised staff, in order to find the information resources needed. The traditional library tells him/her where he can find the information he/she is looking for, in which document, without giving directly the information.

The *hybrid library* is the library where computers are present. The concept of hybrid library entered into the Anglo-Saxon literature and designates the structure in which traditional, printed documents with audio-visual documents, multimedia documents coexist and where there is a possibility to gain access to information resources via networks, mainly the Internet. Meanwhile, users have at their disposal electronic tools for finding the documentary resources.

The *electronic library* is a library having printed, audio-visual, multimedia documents *transferred* on electronic support, organised in collections and imposing specific conditions for consultation. The electronic library proposes to users on-line access to computerised catalogue and to other secondary information documents (e.g. bibliographies, including abstracts, reviews) and may also offer electronic information resources existing or not in the library. Several electronic libraries linked in a network may share their information resources.

By providing electronic resources which are not in its own collections, the electronic library may become the bud of the *digital library*.

Institutions, researchers involved in the development of "digital library" projects made attempts to give a definition of the concept, explaining and justifying the final product they intended to develop.

The "Association of Research Libraries" has identified the following elements for defining the "digital library"(2):

- the digital library is not a singular unit;
- the digital library needs a technology compatible with the resources of other libraries, a technology that would ensure access to external information resources;
- links between several electronic libraries and information services are transparent for the final users;
- the aim is to ensure universal access to digital libraries and to information services;
- collections of virtual libraries are not limited to text documents, hypertext or hypermedia but are extended to digital documents that cannot be represented or distributed in printed form.

The digital library is supported by three important pillars: the electronic library, information and communication technologies, the user.

By integrating information resources, information and communication technologies and the user in an organisational concept we could say, along with Paul Duguid that the "digital library" represents the context that includes in a strong interdependence electronic collections and management tools of

information (3): *the digital library concept is not equated to that of digital collections and management tools of adequate information; it represents the context that brings together collections, services, users in order to ensure the whole life-cycle of information: creation, dissemination, use, preservation, the process proper of information, knowledge.*

The digital library is equally an organisational concept and a stable structure. The virtual library has very diverse meanings, all proceeding from the meaning of virtual, of virtual reality. In this case virtual reality is being considered as the one defined by the electronic context. In the specialised literature there is no scientific definition of the virtual library concept, the meanings circulated are contextual, colloquial or imposed as a clichė.

The virtual library is therefore a mere organisational concept that integrates in a unitary concept electronic resources, information and communication technologies and users without a precise spatial and temporal delimitation. In other words, the virtual library is a digital library without a spatial and temporal delimitation and, we could add, without the rigorous respect of construction, structuring, processing, communication, use and preservation principles for exclusively electronic information resources.

In the scientific field of Information and Communication Sciences the terms digital library and virtual library are considered partially synonymous and in fact when speaking of virtual library we have in mind the much more correct and explicit meaning of digital library.

Mutations at the level of biblioteconomic processes, of the products and services provided

The electronic medium has an influence on the development of biblioteconomic processes both in the perspective of enhancing their quality and changing their content. Taking into account the traditional library processes we may notice a number of mutations at the level of electronic documents available in the networks:

The selection

Identifying the titles selected by users of a library is to a certain extent a much easier task in the electronic media. Big printing houses (4), professional associations; research institutes, universities signal on lists or repertoires their editorial production and electronic journals that are being considered the most important in the scientific and professional world.

All the selection criteria used in traditional selection are applicable when dealing with electronic documents: relevance for users needs, the

profile of the library, continuity of collections, status and prestige of editors, price and, in addition, the characteristics of the electronic medium.

Evidence

The evidence of printed periodicals is not a complicated operation for libraries especially if they have an integrated library system and there are no significant changes for electronic documents. As for electronic periodicals the issue is not as simple. There are periodicals issuing "pre-prints", i.e. materials, papers that have not yet obtained the opinion of the scientific committee and therefore there is no certainty that they will be included in the final version. Moreover, there might be web sites which change their contents when up-dated (even if not totally).

In these circumstances the question is: which document should the library signal?

Cataloguing

Currently very few libraries do catalogue electronic documents available on the networks. The method most used is not cataloguing at the source but rather taking bibliographic registries from authorised sources such as OCLC.

Another issue related to cataloguing these documents is the format used. A MARC type format is in use, which through fields in bloc 8 enables making a link between the electronic periodical and the catalogue or the data base of the library.

When there is no Web interface with the library catalogue the method used is that of creating lists; on Web pages with the electronic periodicals requested by users.

Availability

Acquisition of an electronic document is in fact acquiring an access license. The most frequent are licenses for data bases of electronic periodicals. In practice institutions buy licenses (mostly libraries and research institutions) for their users and in doing so the periodicals are available in a controlled framework. The common user may consult electronic periodicals free of charge either by subscription (subscriptions to prestigious periodicals are very expensive) or by resorting to a library that acquired licensed access to them.

Even if a library or an institution bought the right of access to an electronic periodical, internal access may be limited to certain users through password procedures.

Printing of a paper requested by users is the equivalent of classical photo-copying. Issues related to printing depend on the format of the paper, the construction of the Web site and the costs incurred by the operation.

Archiving

The issue of archiving electronic documents is unsolved as yet. There may be alternatives of centralised distance archiving or locally by transposing on CD-ROM or on paper. Currently, editors proceed to archiving their own electronic periodicals (in most cases they charge another price for archived periodicals). Some consider that archiving those documents should be the competence of national libraries. In this case how does the law on legal deposit operate?

Another issue is related to library lending.

If a library makes a subscription for the electronic version of a periodical, the copy-right legislation does not allow making copies for another library.

Products and services provided by a library have a number of characteristics generated by the electronic medium: the basic element is information not the document; they have the form of integrated information resources; they have a specific dynamics of the information content; they need various standards and norms to be used in the stages that constitute the life-cycle of information and documentation resources; are made available through networks; are integrated in complex processes (see for example e-learning etc.).

Documentary resources of libraries have become considerably diverse as typology. Beside the traditional resources, great use is made of documentary resources through telecommunication networks: textual data bases (much used are those including activity press and scientific periodicals); of the electronic funds of libraries; electronic funds of images (specialised phototeques, museum funds); documents in electronic format without printed equivalent; grey literature (usually excepted of copy-right rules and easy to put in networks); virtually ungrouped thematic Web sites (a weakly structured information enabling hypertext links unfortunately of poor quality).

Mutations in the profession of librarian

The librarian is the third intermediary on the information channel (5). Like other book-related professions, the profession of librarian became a profession practised most of the time via the computer.

ICT produce mutations in the content of all biblioteconomic processes: from acquisition, to registration, to processing, to communication of documents, to developing information products and activities of cultural animation. Repetitive activities that may be subject to an algorithm are taken over by the computer; the librarian should just verify the correctness of the data introduced in the system, to perform their critical analysis and to develop value added intellectual products. Automated integrated systems of libraries have become a familiar presence in almost all great libraries. Meanwhile, due to information and communication technologies, libraries enlarged their field of manifestation both in their physical aspect and the form of content. Speaking about physical aspect we could speak, with a certain exaggeration, of libraries without walls, of virtual libraries, as far as we can access collections of famous libraries via networks from our own offices or homes, without going to the respective institutions. As concerns content, a shift of emphasis from document to information has already been noticed. It is not sufficient anymore to signal the existence of a document in the collections of the library; attempts are made to provide the user with the information content of that document.

Under these circumstances, the incumbent role of the librarians is that of managers of knowledge and trainers, by helping users to find and efficiently use information resources. Contrary to the editor and book-seller, the librarian is not a mere intermediary of a document; along the document, the librarian provides information related to the content of the document, in a form as unitary and complete as possible and provides moreover the user with a number of traditional and information tools he/she needs in order to access information.

Mutations at user's level

When they analyse the communities they cater for, libraries notice that they have extended ones; there are alternative sources of information and there is competition in providing information for the community; the "classical" user of library changed his/her behaviour; the user exerts "pressure" for more diverse types of products and services.

In the information context defined by ICT we don't have anymore an *innocent* reader as user capable to access information content having a minimal knowledge and just intuition. Controlling and mastering information implies a whole bundle of concomitant activities that reciprocally complete each other: pre-university training, university training, life-long learning of adults (various forms of training and self-training of users).

Information culture is a sum of theoretical knowledge and practical competences that enable the identification of an information need followed by the localisation, evaluation and use of the information, in an approach of problem-solving, of answer-finding and of communicating the retrieved and processed information.

A classical model of acquiring information culture contains the following aspects (6):

– knowledge on information and documentation structures mainly libraries (location, organisation, services provided etc.);

– training in library research (knowledge on catalogues, libraries, reference works etc.);

– training in using information resources (location and exploiting information no matter the source of information).

ICT has changed working tools, leading to new services and products, to a new approach of the domain and its information content. The aim of research remains the same: *building meaning* from the identification of sources and creating products that express and communicate that meaning, that significance.

In order to reach this aim each individual should be capable to:

– precisely establish and define information need;
– efficiently localise information sources;
– critically assess information elements and information sources;
– integrate selected information in his/her basic knowledge;
– use information efficiently in achieving the proposed activity;
– understand economic, social and legal issues related to information and use information in an ethical and legal way.

Methods of producing, processing and retrieving information should be known and in addition the basic methods and techniques for information control and use (7).

Conclusions

It is obvious that libraries are obliged to carry out their activity in a new information and communication context, being those structures of information and documentation that should capitalise, process, made available and valorise in specific forms the most diverse information and documentation resources. In order to achieve their mission, libraries should be concerned with the preparation and application of **new models of information organisation**; they should establish and provide **criteria for information retrieval** (criteria derived from the analysis of the community

they cater for, from the mission and objectives of the library, from the knowledge of information building and communication); ensure **selectivity** in information retrieval (stemming from the criteria adapted to the express request of the user…selectivity models related to contextual information situations); prepare **products and services of electronic information** accessible via internet; develop **basic and applied research** in the domain of Information and Communication Sciences.

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