**World Library and Information Congress:
70th IFLA General Conference and Council**

**22-27 August 2004
Buenos Aires, Argentina**

Programme: http://www.ifla.org/IV/ifla70/prog04.htm

Evolution of the access to information technologies in the public libraries of Bogota

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- *Abstract*

At the present Bogotá has the most developed system of public libraries of the country, which consists on approximately 105 libraries (Espitaleta: 1998: 34) strategically distributed in different sites of the city. This system, which annually receives more than six million users, is characterized by having a high level of technological development represented both in a sophisticated technological infrastructure which goes from modern hardware and software equipment for libraries, Internet connection, collections in electronic format, to audiovisual services properly equipped, and special services for populations with some kind of physical disability. This paper presents how the technological evolution of the libraries in the capital city has been, and which are the future projects in terms of technological innovation.

- **Stages of Development of the Public Libraries of Bogotá**

The first public library created in Colombia, was the Real Biblioteca Pública de la Nueva Granada, which was created in 1777 with the collections expropriated to the Compañía de Jesus during the reign of Carlos III (Reyes: 2001: 74), on the initiative of don Francisco Antonio Moreno y Escandon located in the capital of the Viceroyalty of the Nueva Granada. Years later,

General Santander transforms it into the Biblioteca Nacional de Colombia (National Library of Colombia).

Despite the early birth of the public libraries, this institution was able to develop very little in the following years; in fact, the convulsed political situation of the Republic, after the independence from Spain, didn't contribute at all in giving life to the Colombian librarian system or to the libraries of the capital city; except from the libraries of the universities and schools, the libraries were almost strange entities for most of the population in the capital city.

The evolution of the system of public libraries of Bogotá can be divided into four stages, each one related to a landmark of special historic significance. By the end of the XIX century, the total lack of libraries with access for all the population, was the common denominator; the few initiatives were led by private entities or by those which didn't have the responsibility of creating and supporting libraries; in 1928 the Biblioteca del Concejo de Bogotá (Library of the Council of Bogotá) was created; in 1933, the Banco de la República[*] opened to the public its library specialized in economic subjects, which 25 years later (1958), became the Luis Angel Arango Library; in 1945, five branches of the Library of the Council were created, which had the purpose of providing a public service to different sectors of the capital city (NAVARRO : 1996)

The second stage is the creation, by the district government of Bogotá, in 1982, of the Sistema Metropolitano de Bibliotecas del Distrito – SIMBID (Metropolitan System of District Libraries), which had the following goals:

- Planning, programming and putting into operation the services of Public Libraries, School Libraries and Documentation Centers required by the District Administration.

- Studying and analyzing the necessities of information and documentation of the community of Bogotá as a base for the definition of strategies and programs.

- Recommending the regulations and rules for the services of: Public Libraries, School Libraries and Documentation Centers of the District and supervising their fulfillment.

- Selecting and recommending the books, magazines, audiovisuals and other materials for the Public Libraries, School Libraries and Specialized Libraries which are part of the Metropolitan system.

- Technically processing and analyzing the bibliographic and non bibliographic material acquired for the Public Libraries, School Libraries and Documentation Centers of the District Administration.

- Implementing services of Public Libraries for children, adolescents and adults who live in the Special District of Bogotá.

- Putting into operation the services of libraries in buses, trains and the traveling boxes.

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[*] Denomination for the Central Bank in Colombia.

- Organizing joined activities with diversified institutions of basic and intermediate education of the District, in order to facilitate the students, teachers and parents the access to information and documentation.

- Recuperating, controlling and spreading the bibliographic and non bibliographic information produced by authors from Bogotá and about Bogotá.

- Organizing programs of interchange of school texts and consultation books between the users of the libraries.

- Guiding the community in terms of the services and public and private resources available in the city and in the country.

- Organizing information services that support the investigations made by the District Administration and that guarantee the scientific and technical actualization of professional and technical personnel related to the entities of the Special District.

- Elaborating the bibliographic tools which could provide the interchange of information between the Libraries of the System.

- Collaborating in the selection and recommending the personnel for each one of the Libraries of the System.

- Organizing events on training and improvement for the personnel related to the Libraries.

- Developing cooperative programs and activities of coordination with the branch offices of the District and with other national and international entities in the field of libraries and information sciences.

The next stage begins in 1989 when the Caja de Compensación Familiar Colsubsidio, designs a strategy of mobile bibliothecary services for the most distant areas of the city; in 1995, the first public libraries attached to it are created, and later on they became the Red de Bibliotecas Públicas de Colsubsidio (Network of Public Libraries of Colsubsidio) which are the result of the educative function assigned to the compensation banks, according to which these entities could establish services of libraries, documentation centers and services of learning for the improvement of education and training of the family and the organization of scientific and cultural events to which the members, their families and the community in general can have access.

The fourth and last stage of the development of a system of public libraries for Bogotá, was possible with the formulation of the Plan de Desarrollo Económico, Social y de Obras Públicas para Bogotá 1998-2001 (Economic, Social and Public Works Development Plan for Bogotá 1998 – 2001) (Espitaleta: 1998: 9) within which it was foresee the construction of 4 megalibraries, located in different geographic areas of the city, with an initial investment of 30 million dollars; this project which today is a reality, cleared the way for the Red de Bibliotecas Públicas de Bogotá – BIBLORED (Network of Public Libraries of Bogotá), that substituted the Sistema Metropolitano de Bibliotecas – SIMBID (Metropolitan Libraries System).

- **The technological development in the public libraries of Bogotá**

The use of new technologies has been relatively recent regarding the public libraries of Bogotá. Even though the concept of technology covers a lot more than the computer science innovation, as an effort to characterize the technological development of the public libraries of the capital of the Republic, this paper pretends to show how the computer science development of the public libraries has been, omitting other kind of innovations like the ones related to the adoption of administrative models of contracting by outsourcing, architectonic innovations (construction of new buildings with modern specifications) and the innovation of services (association, lending library, etc.), which ended up in the definition of a modern system of public libraries, at the level of the developed countries.

The technological development of the public libraries can be divided into the following stages:

- Automation (1988-1998)
- Services of Electronic Reference (1996-2000)
- Electronic Services on Line - based on the Web (1998 – 2001)
- Technical modern procedures of Complementary Services (1998 – 2004)
- Development of projects of Virtual Library (1996 – 2004)

The first stage includes from the conversion of the catalogues in cards into automated catalogues to the acquisition of integral systems for the management of the library, including the processes of acquisitions, circulation and lending of the materials, management of users, management of budget and the electronic cataloguing itself.

A second stage of this development came with the arrival of Internet; in fact, some libraries designed some services of factual reference, based on the use of the electronic mail, in order to formulate specific questions about some subjects which are answered through this same means.

The third stage is associated with the use of Internet as a supplier of information services and it is characterized by the development of services for different sectors of the community of users, such as information about the services of the library, electronic bulletins, electronic texts, portals, access to data bases, etc.

Later on begins the implementation of technologies that could be operated directly by the user (self-service), amongst which we stand out the card copy machines, coin readers printers and microfilm readers with digitalization system.

Finally, the current technological processes of innovation are characterized by the tendency towards the publishing of contents in Internet, as well as towards the development of projects aimed at solving particular needs of each community through the simulation of the services of the traditional library and the extension of them through the use of technologies of communication and the participation of the libraries in cooperative projects of this kind.

- **First stage: the process of automation of the public libraries of Bogotá**

In the middle of the decade of the 80's, none of the public libraries of Bogotá was automated; the access to the collections was through the catalogues of cards, organized in the traditional way (author, title and subject).

At the end of 1987, the Luis Angel Arango Library, acquires the system Notis, developed by the Northwestern University, thus becoming the first public library to have an integral information system; by the year 1990, the library is enlarged and totally modernized; for the reopening 150 OPAC terminals were installed, from which the publications were directly requested to the deposits. Also other 100 terminals were acquired for the personnel of the library, besides an IBM server in which the system was installed.

Special systems of identification and security were purchased in order to control the robbery of materials, using security magnetic bands; in order to put into service the books from the deposit to the reading rooms, transporting bands and elevators to carry books were installed which permitted, in average, to respond to a consultation in 14' (from the request to the delivery to the user).

Another one of the advantages of the new system was the possibility of making precise inventories of the collections, in a lesser time; besides, the automation permitted to have a better control over the circulation of the material during the whole process (from the acquisition to the placing on the shelves). In terms of cataloguing, the acquisition of the Notis system facilitated the conformation of a collective catalogue, thanks to the fact that the system was shared with other libraries like the Biblioteca Nacional (National Library) and several university libraries, besides the libraries of the Red del Banco de la República (Network of the Banco de la República) (12 libraries located in other cities of the country) extending the search options and the recuperation of information for the users, being the first cooperative cataloguing exercise done in Colombia in a successful way. In the first stage of this collective catalogue the public libraries of Bogotá did not participate because their level of development was not optimal and their collections were not updated completely. Currently, this catalogue has more than 1.000.000 registers and there are about 100.000 new registers per year.

After the automation of the Luis Angel Arango Library (1990), 8 years later came the automation of the libraries of COLSUBSIDIO, which system (SAIB-MASCAL) was developed by a Colombian software company. This system permitted to connect in a single network the 14 libraries of COLSUBSIDO facilitating the use of the collections by the users of it; nevertheless, due to the technological incompatibility between Notis and SAIB-MASCAL, it was not possible to connect the two catalogues, and each of the systems of the libraries kept working in an independent way, causing the duplication in the processing of the publications, particularly in the cataloguing of books. This network currently has enough equipment for the consultation of the catalogue and for the staff.

The Red Capital de Bibliotecas de Bogotá (Capital Network of Libraries of Bogotá) (BibloRed), which depends on the Secretaria de Educación del Distrito (Secretary of District Education) , created in the year 2001 and consisting on more than 20 libraries, acquired the system

UNICORNIO for the automation of the collections; The catalogue of BibloRed has almost 100.000 registers and it permits the consultation on line of all the publications and materials existing in the different libraries which are part of the Network; in terms of the infrastructure, each megalibrary has 15 terminals to have access to the catalogue (OPAC); each one of the minor libraries has 5 terminals OPAC and the neighborhood libraries have 2 computers for OPAC.

The previous panorama shows that the three systems of libraries are currently totally automated, and the three catalogues can be consulted from any of the libraries that are part of the network.

- **Services of Electronic Reference**

The first library which had a service of electronic reference to fulfil the necessities of the users was the Luis Angel Arango Library. The service basically consists on the possibility for the users to send questions to the library through the electronic mail; in order to give this service, the library would send the questions to the people in charge of the references who would solve them and send them through e-mail to the users.

This service permitted to structure an archive of frequent questions, because in the majority they were about school homework; in the same way, with the service there was a reduction in the volume of school users who would go to the library only to do a simple consultation.

In a similar way, electronic services grew in the public libraries of COLSUBSIDO and BibloRed, which operate through the electronic mail.

These services appeared almost simultaneously with the creation of the Web Site of the different systems of libraries of the capital city, which permitted the users to use this means to do all kinds of requests, many of them not only related to the services themselves, but with consultations of all kinds. As the libraries were fulfilling this consultation, a service of electronic questions and answers grew naturally and it evolved towards a service of reference, directed to segments of more specific users; through this service in the year 2003 approximately 25.000 consultations were fulfilled.

- **Electronic Services on Line (based on the Web)**

As a consequence of the technological modernization in the public libraries of Bogotá, projects orientated to the satisfaction of the necessities of the community started to be implemented, from the use of the new information and communication technologies and basically thanks to the web environment established in the different libraries. Bogotá had an incipient technological infrastructure in 1998 and in less than five years it has the best technology available in the sector of the public libraries in the country, even superior to the technology of many university libraries.

This permitted to extend the offering of services of the libraries, using Internet as a platform of communication between them and the users as well as between the libraries themselves; this greater covering was possible because Bogotá has the most complete level of access to the telephonic services in the country, with more than two million lines installed, and currently it has a digital data network which facilitates and makes possible the traffic of millions of data through

the information networks, which presented an increment of 86 with respect to year 2002 in the volume of data transmission.

Some of the services that are offered nowadays in the public libraries of the city are:

- o Electronic Bulletins
- o Web Sites
- o Access to bibliographic data bases
- o Access to catalogues from other libraries
- o Access to documents on line

In general, the access to the libraries through Internet presented a significant increment in the last five years; a single library received in 2003 nine million consultations [*] through its Web Site, against 200.000 consultations in 1998. The statistics of access to the web page of the Luis Angel Arango Library can be found in http://infobanco/aplicaciones/estwww/home.htm.

A significant fact was that in year 2002 the foundation *Bill and Melinda Gates* gave the BibloRed the prize "Access to Learning" as an acknowledgement to the work of the labor of the network permitting the access to new technologies to more than 3 million inhabitants located in the center of influence of the libraries of the network.

Regarding the services by subscription, the Luis Angel Arango Library has, since 1996 services of access to bibliographic data bases (Proquest, Ebsco, Gale, etc), thus being the only public library of the city that offers this service, which is absolutely free. The users can have access to the data bases through Internet and it is one of the services with a greater welcome amongst the students and university professors; on the other hand, the BibloRed is now evaluating different services to be implemented in year 2005.

The libraries of the network of Colsubsidio and BibloRed have multimedia rooms for services to the users, where, amongst others, courses on Internet and alphabetization in new technologies are given.

One of the newest services is the one of electronic books. Several libraries have collections of electronic books which are available to the users, both through the internal networks and through Internet. This is the case of the Luis Angel Arango Library which has a collection of more than 13.000 electronic books both in Spanish and English, in different areas of knowledge.

- **Use of technologies in the Complementary Services**

The use of information technologies in the public libraries of Bogotá, can be defined as wide and varied; currently, the three systems of public libraries have different technological developments

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[*] This figure corresponds to the Luis Angel Arango Library; from the other networks of libraries of Bogotá it was not possible to get information, but it can be inferred that they should have had a significant number of cyber visitors during the past two years, because these libraries developed web services and they modernized their technological information.

for their users, extending the coverage of services to special segments and to information sources with a frequent consultation.

This is how the libraries of Bogota, have special services for users with some kind of physical disability. We can stand out the fact that the libraries of the Banco de la República and the BibloRed acquired assistant software equipment for people with sight diminution, intelligent reading machines, DVD players and collections of books in Braille and macro type, as well as spoken books, facilitating the access to information for thousands of sight disabled people who live in the city, cooperating with the improvement of their life conditions through the access to culture and knowledge.

The Luis Angel Arango Library acquired several microfilm reading equipment with dispositive for digitalization of the microfilmed images, which permitted to increase the demand for this kind of information and greatly reduced the costs derived from the operation of printing equipment.

All the libraries of Bogotá have the right audio visual collections; people can have access to them in modern rooms with televisions, video equipment, multimedia equipment, audio systems to listen to music. Some libraries have projection rooms for the exhibition of a varied cultural programming.

The Luis Angel Arango Library has the best Music Room of the country, with especial cabins so the music students can practice; this service is complemented with the lending of musical instruments (piano and organ) as well as audio equipment, scores, etc.

Other technological projects which deserve to be mentioned are the editing of products in digital format, like the catalogue in CD ROM of the Luis Angel Arango Library, with more than 1.000.000 registers and the List of Registering of Subjects for Libraries (LEMB)   in digital format, which will be published by the Luis Angel Arango Library at the end of year 2004. The libraries also offer services of reproduction   of information (photocopies and digitalization) through the use of self service photocopy equipment, operated with magnetic band cards.

The Luis Angel Arango Library has a sophisticated system for the transportation of books, through transporting bands that reduce the operation of the collections and give the service in a shorter time.

- **Development of projects of Virtual Library**

One of the most significant achievements in terms of the technological innovation was the development of virtual or electronic libraries, as a response to the growing demand of users who cannot attend to the libraries because of many reasons.

The main project of virtual library was developed by the Luis Angel Arango Library, that arranged the digitalization of works in the public domain, documents and other kind of digital information or converted into electronic format and published in Internet. This project has been able to digitalize and put into service for the community, a library with materials in electronic format with more than 100.000 pages of documents about Colombian topics which are consulted

by all kinds of users, from students to professors, as well as by public in general inside and outside the country and it pretends to put in the Web more than 200.000 pages for year 2005.

The Luis Angel Arango Library also participates, along with the Biblioteca Nacional (National Library) in the project Biblioteca Digital Iberoamericana (Ibero American Digital Library) sponsored by UNESCO and coordinated by the Universidad de Colima. This library is working on a project on virtual library with the Banco Santander of Spain.

On the other hand, the BibloRed is working on a similar project with information about Bogotá, which pretends to make it the most important electronic patrimonial library of the city.

- **Conclusions**

  o The technological development of the libraries of Bogotá, is recent; in 1987, not a single library had information technologies; in 1988 the Luis Angel Arango Library is automated and almost 10 years later begins the process of automation of the rest of the networks of libraries of the city, permitting the network consultation of the catalogues of the three systems of libraries of Bogotá, with more than 1.800.000 registers on line.
  o In the last years the services based on new technologies have been multiplied.
  o The access to Internet started working only from 1996, first in one library and then, gradually, in all the libraries of the city (including the BLAA, Colsubsidio and BibloRed).
  o The development of electronic services has had its greatest apogee between the years 2001 and 2004, which coincides with the prize *Bill and Melinda Gates* given to the BibloRed; the funds are being used exclusively for investment in Technology in the Red Capital de Bibliotecas (Capital Libraries Network) (BibloRed).
  o The public libraries of Bogotá have designed special services to promote the use of the new technologies and to facilitate the access to non traditional collections in electronic format.
  o The investment in technology, adding the different library networks that work in Bogotá, exceeds the 300.000 dollars in the last three years. From this investment, more than 50% corresponds to the recently created Red Capital de Bibliotecas Públicas – BibloRed, which gets the money both from funds of the city and from contributions from the private sector.
  o Each year, more than six million users benefit from the different services offered by the libraries, including those related to the new technologies.
  o The public libraries of Bogotá have given a significant contribution to the alphabetization of the community in terms of the use of the new technologies and they keep incorporating the technological progresses available in the market.
  o The Web has become the platform par excellence to bring near the community to the services of the library and to take to the community different options in terms of information.
  o The city tripled in the last three years, the technological infrastructure for the bibliothecary services.

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