

YEAR 2000

TRENDS IN LIBRARIES AND INFORMATION SCIENCE

P. VIDANAPATHIRANA

Acting Librarian

University of Sri Jayewardenapura

The year 2000 is now already within our reach. There is a considerable progress in technological engineering and communication fields throughout the world. Traditional boundaries are changing gradually and creating a new world order. Technological advancements have been made in the field of electronics. New products and services are coming up attracting the people more and more. It is remarkable that new technology presents enormous opportunities and challenge to librarians. The demand for co-ordination of services and linking with international systems for augmenting national resources are increasing. Now those who can have and who can afford are benefiting by having maximum access to the resources. It is necessary to reduce the gap between information rich and information poor nations in the present world. Therefore, time has come to study the capabilities of new technology and how to integrate it throughout their library services with the purpose of providing excellent avenues for the clientele in the emerging environments.

A glance at the recent past

Two hundred and fifty years ago at the British Museum Library the compilation of a catalogue code by Anthony Panizzi and application of

these rules in some other libraries brought about an idea of an uniformity in cataloguing practice. In 1876 at the Amherst College, Melvil Dewey devised a system to arrange books on the library shelves in a helpful order using Arabic numerals with decimal points. It has opened appropriate avenues for experiments in classification schemes. The indexing techniques developed by specialists in various disciplines in a variety of formats enhanced the potential use of library resources.

Librarians and information specialists have utilized microforms in collection development, collection management, reproduction and preservation of library materials, specialised information storage and retrieval systems, and industrial record management. It was also able to augment their collections substantially through the increased availability of micropublications.

In the early 1960s a study had been carried out on the feasibility of using computers to store and maintain the whole of the libraries' bibliographical records of the Library of Congress. Subsequently Machine Readable Cataloguing (MARC) Project revealed that libraries could use the information on the tape for a variety of purposes. Although it was intended to use only

as cataloguing copy has subsequently extended to use for acquisitions checking, SDI services and procurement of materials. The MARC has been the leading record format standard in library automation for almost 25 years. This record format fulfilled a requirement of this decade and was established in most of the developed countries as well as in some of the developing countries for mutual exchange of cataloguing data and distribution of services, co-ordinated by various agencies. It could be imagined that there are over 8 million cataloguing records in the vast Library of Congress bibliographic and authority record databases. Library of Congress's MARC Distribution Service is the premier source for bibliographic records and could be used as a versatile resource in library and information services.

The PRECIS (Preserved Context Index System), was probably the most significant development in the field of subject indexing since Charles Ammi Cutter first tried to formulate the rules for the construction of subject headings in 1876. It approached the task of subject indexing and the construction of subject headings for books and other documents from a completely new direction. It had a different approach from the chain procedure developed by S.R. Ranganathan. It is based on the fundamentals of natural language and an ingenious conjunction of human indexing skills and computer capabilities. The British Library still continues this system in conducting experiments as required by various situations.

Another contributory factor was the emergence, from the International Meeting of Cataloguing Experts held in Copenhagen in 1969, of a programme of International Standard Bibliographic Description (ISBD) under the aegis of the International Federation of Library Associations and Institutions (IFLA). The purpose of ISBD is to make it easier to recognize data elements irrespective of language to standardize national practices in the content and arrangement of bibliographic record, and to facilitate the application of computer processes to the manipulation of bibliographic data. These standards were incorporated into the (Anglo-American Cataloguing Rules, (AACR) in 1974 and later appeared in the AACR2 with a purpose

of achieving an integrated and standard framework for the systematic description of library materials. It could be treated as a meaningful contribution to the development of an international cataloguing code. In the meantime UNESCO published the Common Communication format (CCF) which proposes a common method for structuring bibliographic records. The main purpose was to allow free exchange of information among different information systems at international level. Computer application for bibliographic data was a significant step to enter into the online era. Access through an online terminal to a computer database was a common feature in the majority of libraries in the developed world in the 1980s. Library operations were automated and the catalogue was only an integral part of the total library system. Online Public Access Catalogue (OPEC) is a gateway to a vast amount of information resources with the minimum boundaries. It is interactive, infinitely expandable public and versatile.

Electronic library is a general-purpose library system which helps the user to search, read and browse full-text information solely in electronic form. A reader can sit at a computer terminal and view the information required by author, title and subject etc. Any lines or the pages of the text can be printed for the user only by a matter of pressing a button. The materials of several libraries may become available to millions of users through the use of computer utilities.

Compact Disc Read Only Memory (CD-ROM) technology is rapidly changing the two way store and access information. This technology is having a tremendous impact on library and information services in the modern era. The capacity of a disc is over 650 megabytes which is equivalent to several hundred diskettes. Paperwise one disc can store the text of an entire set of an encyclopedia, which is running into more than 20 volumes. CD-ROM disc can also store a variety of media such as text, graphics, video or audio. It can not only an enormous amount of information but also find and retrieve desired data quickly and accurately. Most CD-ROMs allow the user to search for information in command driven or menu driven

systems. The user can try at least two ways: the browse search and the keyword search with logical connections (analytic or Boolean).

Year 2000

It has been forecasted that by the year 2000 the amount of paper stored will not diminish although digitally stored information will increase. Document imaging will replace microform for commercial archives. Electronic disc cameras will outperform conventional 35mm still cameras. Most professional publications will still be in printed form. The appearance of conventional books will not change although most of them will be produced from author's discs. Publications on CD-ROM will lead to the demise of journals - but specialist journals are not expected to disappear very rapidly. Academic libraries may become marginalized and consequently downgraded to "swotting sheds". New professionals with high-tech skills will replace traditional librarians.

Information Age

As a result of combinations of computers and tele-communications, hardware and software, services and systems, we can see how information technology became powerful in the modern world. Information technology today, allows to create, store, manipulate, retrieve and transmit information on a scale never dreamt of before. "By the year 2000, to all intents and purposes, information technology will be able to create a nearly information transparent world where fibre optics will carry libraries of information to anyone, anywhere, who pushes a button". (Hughes G.G. "The Information Age". *Information Development* 1991 - pp. 72 - 80)

It is said that "we are currently experiencing a technological change, which is every bit as significant; the combination of the power of computers and the transmission capabilities of telecommunications is moving us inexorably towards a society that will prove qualitatively different from the one we know today" (Moore N. "Coming to terms with information" *British Books News*, 1990 - pp. 500 - 503).

If we look at the recent past in 1980s, we would have found novelties like CD-ROM, more micros with better peripherals, many more fax machines, smaller modems, more word processors, more online services and a number of improvements.

Integrated Services Digital Network (ISDN)

It has created a new paradigm of thinking and the globe we live in is shrinking. Shrinking in the sense that virtually every home in the industrialized free world can be electronically connected either by satellite communication, electronic mail/or the traditional telephone in a global village network, that transcends geographic and physical boundaries. The world has already entered a new revolutionary phase, where the circuit switched technology of the Integrated Services Digital Network (ISDN) takes over as the primary means of access. In this system each telephone is potentially a 64 K bps link and its use need not be restricted to voice traffic-data of any kind. Universal connectivity, low cost and high data rates are three basic factors, which can have a profound impact on current information services. It is possible that the fibre optical cable and ISDNs will make the technology readily available in the last decade of this century and into the 21st century.

***"By the year 2000,
to all intents and purposes,
information technology
will be able to create
a nearly information
transparent world
where fibre optics
will carry libraries of
information to anyone,
anywhere, who pushes
a button".***

Information networks are sets of interconnected information systems based on formal or informal agreements between the participating institution with a view to accessing and utilizing all the data and information resources of these institutions. Such networks enable access to other data bases both outside and within the country.

Multimedia

Multimedia is a technology that allows the integration of image formation, text video, graphics, automation, speech synthesis and other audio into a final product. There is increasing emphasis on the creation and storage of multimedia documents. The nature of this technology merits that there is a need for sophisticated user appliances, since media require, selecting and manipulating graphical items on the screen. High-bandwidth is required for efficient operation of the system. To provide ubiquitous high-bandwidth over large geographical areas, there is a need for a technology which will perform like LANS. An attempt has been made to address this through the introduction of ISDN and its expansion as Broadbandwidth Integrated Services Digital Network (BISDN).

The development of CD-I (Compact Disc-Interactive) claims to be able to bring the world of multimedia to a general audience. Ubiquitous highband networks, will make multimedia the technology of the future, Communication and infrastructure especially in the Third World will continue to be a deterrent to the control of intellectual property and copyright. Therefore access to multimedia especially for developing countries will be via the CD-ROM technology, and it will be very difficult to exercise control in this area.

Networking

Information particularly scientific and technological data on both national and international resources should be utilized for socio-economic,

scientific and technological progress of mankind as a whole. the growing demand for information is ever increasing. Information is the resources of resources. In this case "the transfer and use of information to serve development raise two important issues; firstly, the right of all nations to have access to the international flow of information; and secondly the recognition that each nation should develop indigenous systems suited to its own development process" (Horowitz R.G. de. Librarianship: A Third World Perspective. New York. Greenwood Press. 1988)

The tremendous growth of literature in various physical formats in multifaceted areas, on the one hand, and the lack of awareness on the other hand, lead to the danger of fragmenting into a mass of repetitious findings. However the problem of identifying right information pose the danger of an information gap. To avoid such circumstances the free flow of information must be ensured leading to its universal availability. The problems of free flow of information, such as awareness, identification, location and availability could be solved if the information system is planned and well designed and arranged to operate through the concept of networking.

Information networks are sets of interconnected information systems based on formal or informal agreements between the participating institution with a view to accessing and utilizing all the data and information resources of these institutions. Such networks (eg. OCLC and CLASS) enable access to other data bases both outside and within the country.

Future Trends

Some current trends will intensify and open avenues to make major changes in the way that our libraries operate and the way that users benefit the information technologies in the next century. The change is more evolutionary rather than revolutionary.

Information seekers will find their needs satisfied through the information market place developed around the world. There are products, services and access to information in the market. Possibility of developing personal library systems in addition to organizational library systems is clear in the future.

Information infrastructure has been changed and will be required timely adjustments by librarians and information service providers. The nature, format and financing patterns of information are changing remarkably. Today user at the work station become a wired scholar with the facility of access to the wholeworld.

The remote access is feasible in the present environment. CD-ROMs and other products could be used to reduce the gap between the information rich and information poor countries in the future.

Local Area Networks and International Networks are developing rapidly. For an instant Internet Communication System has connected with more than a hundred countries in the world. E-mail facilities are available to supplement the systems.

Book production has become an expensive and time consuming task. Work processing and other production techniques are developing. Authors may prefer to use compact discs for writing in the future. CD-ROMs are playing a major role in libraries in the modern world. The market segmentation is clear and various types of publications are increasing at a rate. Poor librarians may face difficulties with budget cuts and unavoidable inflation situations.

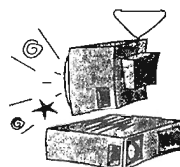
It is essential to think globally to get the maximum benefit for the users. Users may prefer more sophisticated systems rather than existing static systems. Librarians cannot become so carried away by information technologies, that are far ahead of their users. Information has become a function rather than a format. It is not a new challenge. It is happening as a evolution rather than a revolution. Librarians have to accept the challenge and go ahead with the new environment, created in the library and information science.

*Reprodced from "SRI LANKA LIBRARY REVIEW"
(New Series).*

Book production has become an expensive and time consuming task. Work processing and other production techniques are developing. Authors may prefer to use compact discs for writing in the future. CD-ROMs are playing a major role in libraries in the modern world. The market segmentation is clear and various types of publications are increasing at a rate. Poor librarians may face difficulties with budget cuts and unavoidable inflation situations.



SEARCHING S & T INFORMATION THROUGH INTERNET
AT NARESA LIBRARY



NARESA / SLSTIC

IS NOW PROVIDING MEMBERSHIP FOR



INTERNET AND
CDROM SEARCHING FACILITIES

Membership includes:

- Personal membership
- Institutional membership

For more details please contact:

Director/Information or Scientific Officer/Network Administrator

Natural Resources Energy & Science Authority

47/5 Maitland Place, Colombo 07.

Tel: 696771-3 Fax: 691691 E-mail: library@naresa.ac.lk