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Planning for the 21st Century Networking for Communication and Information Sharing

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Introduction

It is with gratitude that I stand here today and that I wish to thank the organizing committee members of this workshop for having included my contribution in this program.

The message I wish to convey to you is an appeal to get involved professionally at the broadest level possible to fulfill the objectives set by EAHIL or which you may have defined for your career. My presentation may thus appear more as a publicity stand than an awareness raising talk. I very much hope though, that it will be both!

EAHIL Objectives

In the latest issue of the EAHIL Newsletter and on the EAHIL Home Page, one can find the objectives set by EAHIL for the coming decade.

Developing an efficient network communication system as well as maintaining human connections through partnership stand very high in the priorities defined. The communication network for EAHIL has been started with the well designed Home Page, and the establishment of a List-Serve, for its members. Partnership should be developed at all levels: local, within your community in your institution, whether it is a hospital, a university setting, a corporation. Partnership at the national level, within your country, with libraries and librarians catering to a variety of users groups, managing a variety of information sources and resources. Partnership at the international level, with associations uniting librarians working in the same discipline, in our case, librarians in the health sciences

field. But also partnership across disciplines because one should not and one cannot confine ourselves today solely to one's own discipline. The increasing complexity of the world we are working in, the need to gather, to sort out, to sift an ever increasing amount of information sources in a variety of formats, through an increasing number of channels, all these factors demand that we expand our links to the outside world so that we can keep up meaningfully with the changes around us. And I stand here, today, as much as a EAHIL active member, though I do not work anymore, as I stand as a messenger for the Section of Biological and Medical Sciences Libraries of IFLA, the International Federation of Libraries Associations.

"What will be"?

As I was preparing for this presentation, I search for some recent books or articles which could help me shape the basis for this paper. What was more appropriate, it seemed to me, than the work

by Michael Dertouzos, published in the spring of this year, 1997, and entitled "What will be". By the way, Michael Dertouzos, in the likelihood that you do not know about his work, is not a librarian. He is the Director of the Computer Sciences Laboratory at the Massachusetts Institute of Technology, in Boston, Massachusetts. In spite of its title, this is not truly a futurist's book. The author himself states that "all futuristic scenarios in this book depict realistic situations and technologies..."¹⁹

The book is full of predictions and visions about our future and about how we shall be directly affected by all the technological changes which will revolutionize our daily life in every facet of our activities, because of the Internet, in all what it promises or threatens to be. The author also shows for example, how our perception of reality will be affected by virtual and what he calls "augmented reality"²⁰ which can [superimpose] virtual images on real images" with the help of a "head-tracking helmet" device for example and "goggles gadgets".

Such entertainment devices already exist as amusement gadgets. But their likely applications in the medical field is mind boggling.

Our tools for communication for whichever purpose will be essentially linked to the Internet which many call today the "global marketplace", because of the prominence of commercial and business information and

¹⁹ "What will be" Dertouzos, Michael, 1st.ed., HarperCollins, San Francisco, 1997 (inside cover page)

²⁰ id., p.68

transactions already taking place, but which the author prefers to call "the Information Marketplace".²¹

***A "Reference Librarian"
in the age of Internet***

Since decades, librarians have ventured to catalog all kinds of media and more recently even resources on the Internet, with all the pitfalls to be expected of something ephemeral because it appears on the Internet!

Are we perhaps already treading on quicksand?

On the Internet, the many search engines available are in a way borrowing the classification techniques of librarians by the building up of their huge indexes. Though the search engines of the Internet function on a very different basis than a classification system, they may appear as some sorts of classification agents. It is a crude classification system doing away with all the nitty-gritty details which librarians have developed in their classification schemes over more than a century but their power is enhanced however by the virtual links which can be created!

In his book, Dertouzos speaks of the need to develop what he calls "hyper-organizers to manage the text, graphics, video and audio media we get from the Information Market Place".²² As he points out, "Machines are not smart enough to do this kind of organizing themselves... Human editors and [the] software tools [they have designed] are needed to bring order"²³ in what already appears, sometimes, as truly chaotic.

Librarians have been good at organizing things. Their future role then may be more important in the computer room and the software design laboratory than in the library itself.

***Man and Machine -
A Conflict in Power?***

Last spring, a contest opposing a man and a machine, the chess match between Gary Kasparov and Deep Blue the IBM computer, retained the attention of the whole world. Of course it was possible to follow the match scores, live,

on the Internet. Who, man or machine, was going to win the match. The machine did. What did it prove? Had man really become the Apprentice

²¹ id., p.21

²² id., p.97

²³ id., p.42

Sorcerer and had man really designed a machine more powerful than himself, a machine which could outguess, outwit, outsmart man himself, the very designer of this machine? But no. Today or in the foreseeable future, no system, no matter how powerful, will be able to function totally without any human intervention. The dehumanization so feared by many in view of the increasing mechanization of our world and because of a communication system which seems to do away with a human actual presence, is a fear which does not seem fully justified.

The replacement of human help by a machine has scared librarians too. Think of today's increasing limited intervention of a librarian in the realm of reference work in a modern library setting, for example!

In the academic setting of a well wired library, if you observe students at a computer work station, you may notice that most of them are either busy with their electronic mail or are searching the Internet. And few of them are actually browsing through library catalogs or bibliographic databases. They are browsing through sources which you may not even be aware of! The role of the librarian as an intermediate between data sources, whether we refer to the book, to a periodical, a videocassette, a compact disk, or an online database, this intermediate role seems to be over.

Students of the new generation can teach many librarians how to manage their personal computers, and how to use more efficiently the search engines, these new "computerized reference librarians" so to speak. It should be no surprise to see in many institutions, libraries come under the same administrative direction as the computer centers. Both departments, the library as well as the computer center deal very much with similar problems, they pursue the same goal, managing and distributing information in digital form, through electronic devices.

Internet, good or bad?...
A Political decision fit
for the 21st Century

On July the 4th, as I was preparing this presentation, an electronic message from the IFLA List-serve of IFLANET, flashed an astonishing message on my screen, at home: Medline was free and accessible from now on to every user on the Internet, free of charge and without

any more requirements for identification numbers or passwords to access the National Library of Medicine huge database of Medline directly on the NLM server! Momentous news! And you were doubtful, perhaps, about letting your users search freely on your CDROM? This is passé, we all

agree! The implications of such free access to such a professional database relegates in the attics all the limitations set up by librarians for their users in the access to computerized databases. That is the spirit which must dominate the strategic planning of our services for the coming 21st century!

One of the computer magazine, the Gateway magazine wrote in its summer 1997 issue that "Progress [is] the watchword of the computer industry. Not just steady progress, but progress in leaps and bounds that sometimes moves so quickly it almost seems like a blur."²⁴ The news about the free access to Medline as well as to some of the other MEDLARS databases, on the Internet, through the entire world is no doubt one of the nearly unexpected leap forward.

This opening may have some important repercussions and perhaps even political implications for other governments who must decide on a politics of access in their country for the Internet. In its July 5th issue, the Economist, a British magazine, writes in its editorial ²⁵, that "In fact there are many things that countries might reasonably want to regulate on the Internet".

As pointed out by Jack Kessler in his book "Internet Digital Libraries"²⁶, "the instantaneous and widespread accessibility of information, thanks to online information and the growth of digital libraries, is something [still] very new [for most countries]". The freedom of speech, the controversial issues, religious issues, political issues, may appear as revolutionary and even of an offending nature in more than one country. On the other hand, in the United States, it was recently deemed unconstitutional to impose indecency laws on cyberspace. Some non English speaking countries are even frustrated by the dominance of some form of the English language on the Internet. And yet, a public consensus seems to emerge slowly about the use of the Internet and to dictate to governments a politics of freedom of access and freedom of expression, world-wide, disregarding geographical, political, racial, religious barriers. Where will it leads us all?

Limitless network communication and broad information sharing through the anarchical, entangled path ways of the Internet, is not without its dangers and pitfalls. We must acknowledge that we are still today ill-prepared for such a revolution! But, ultimately, as with many other things, Internet is neither good, nor bad, it just is, and it is very much what we are going to make of it which will define its usefulness or its destructive influence!

²⁴ Gateway Magazine, Summer 1997

²⁵ "Hands off the Internet", The Economist, July 5th, p. 15

²⁶ "Internet Digital Libraries", Kessler, Jack., Artech house, Boston, 1996, p.188

***Internet is no
Threat to the Library
Profession!***

Some sites on the Internet attempt to give you a glimpse of things to come, especially in the But multimedia area. will all of this animation enhance the information which is being delivered?

Will it make it easier to understand?

Michael Dertouzos warns us about an overload, a distracting load of bits and pieces, images, sounds which we sometimes feel the need to add to the message we are trying to transmit. He calls this the "perfection fault". He writes that even "when we create [simple] documents we spend a lot of time" [sometimes] "to adjusting margins, changing fonts and styles, choosing different colors and generally fussing over the appearance of our information... as...[if] the message would be substantially improved by its appearance".²⁷ He feels that it is counterproductive, but admits that a good balance in a presentation has to be found. But are we already seeing perhaps the balance tip over from overload on some of the Internet sites? Should we be most watchful when we create our own home pages and avoid loading them with animation figures, extra coloring or a multitude of margins and marginal announcements which we pretend to be information? Those of you who attended the workshop in Prague may remember Lois Ann Colaianne story about the stone soup where everyone passing by adds something to the brew to end up making a marvelous mixture to the taste of everyone.

This is exactly the picture which the Economist used in its May 10th issue of this year, to illustrate the way certain sites grow on the Internet. They call it a cyberspace equivalent of the story of the stone soup.²⁸ Everyone adds a bit of information to make up, overall, a most interesting and rich world of information, the "information marketplace", even if not every morsel is to the taste of everyone.

One site is mentioned by the Economist as illustrating best the metaphor of the Stone Soup. It is the Amazon site, at www.amazon.com, which boasts of more than 2.5 millions of titles available in this virtual bookstore, where every publishing firm and every buyer and reader contributes some information about the book trade. The Economist says:" Amazon.com offers

²⁷ "What will be" Dertouzos, Michael, 1st ed., HarperCollins, San Francisco, 1997, p.257

²⁸ "A river runs through it... Amazon.com offers a glimpse of the future. It may surprise you", The Economist, May 10th, 1997, p.9

a glimpse of the future. It may surprise you.”²⁹ Look at it. It is packed full of information on current and not so current published books. A virtual store, for today at least real books! Communicating through networking and sharing information at the broadest level possible, world-wide, ignoring geographical and political barriers is likely to be the hallmark of the 21st century.

If a virtual bookstore claims to handle 2.5 millions books titles, it should be a clear indication that libraries and librarians are in no danger of disappearing soon in spite of the Internet! So far, then, the book shows no indication of being a disappearing species. But the Internet undoubtedly already replaces some of the printed works we used to consult.

What is disappearing then are the functions which librarians have been used to, but there is still room for activities in the information world.

It may seem that many things are becoming more and more complicated because of their sophistication, and their apparent complexity, but the ease of access, today, to all kinds of information, the direct availability at the tip of our fingers of a truly live encyclopedia covering the entire world of information, has no common measure with the rudimentary terminals and modems we were working with in the middle seventies when online bibliographic databases first made their appearance on the information scene.

Complexity made simple!

To ease the current apparent complexity of systems we are working with, “aglets” have started to make their appearance in the networks scene. What are “Aglets”?

They are defined in a May issue of the Economist³⁰, as some kind of little agents, some kind of software which behaves like little agents, virtual agents, capable of traveling between computers, not unlike a computer virus but without its bad effect. Aglets travel according to a known path, known to them only, perhaps, to get specific information out of one computer and another and manipulate this information, acting as some sort of universal secretaries which would travel from one computer site to another, between two computer laboratories, between institutions, and perhaps over networks as wide as the Internet! without however modifying the computer programs and software they visit. Apparently, according to the Economist again, such

²⁹ id.

³⁰ “Computers.Applets with attitude...” The Economist, May 17th, 1997, p.89

systems exist already on some servers, in Italy. These computer servers are capable of handling and sending out aglets which then interact between computers, according to the information they retrieve and according to the function they have been designed for. The whole scheme sounds very far fetched and yet, it is supposed to be only one of the very many developments which are going to create more than one wonder in the coming century.

How can we assure ourselves to be properly informed, in a timely fashion, regarding all these new developments in the digital world so that we can make educated decisions when we'll be called upon to set things up for the years to come?

***How to stay
abreast of it all?***

IFLA and EAHIL!

IFLA which I have mentioned at the beginning of this presentation, can contribute along with EAHIL to do just that, stay abreast of it all!

Besides answering some of the needs of specific libraries like medical sciences libraries, it offers opportunities for librarians from all over the world to meet annually in a most stimulating conference.

Today, it maintains a very active web site which offers regularly all kinds of information..

Among the sections which cater more specifically to the questions related to electronics in libraries, you can find the Digital Libraries section which would keep you informed on specific developments in the area of network communication for information sharing.. Already, an extensive bibliography on digital libraries and related questions is accessible on IFLANET.

IFLA and EAHIL seem then to complement each other to stay abreast of the formidable changes we are witnessing so that we can bring to our own constituencies the information necessary to plan ahead. Network communication for information sharing is taking an increasing importance in our daily life. It will dominate, no doubt, most of our professional and not so professional activities in the 21st century. Let us be ready for it!

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