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Humanizing the Information Revolution

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If a school is a kind of gymnasium for the mind, a library is what the Greeks called Alexandria, a hospital for the soul. However large or small, a library gathers in fragments of what people have known or imagined and gives to others not only a little more knowledge but a little more wholeness. Transfusions of words make connections with collections; and those who have gone before us help us cope with what is to come.

The heart is reading. The vessel is the book. The heartbeat began with man's search for salvation' the Vedas, the Sutras, the Torah, the Koran. The thirst grew not just for preservation but for circulation of stories that gave meaning to life and coherence to communities.

Compendia of written knowledge are of ancient lineage. Paper, wood-block printing, even movable type originated in the Orient. But the great breakthrough in creating the book, as we know it today almost everywhere in the world, was the replacement of the scroll by the codex in the 4th century A.D. in the Eastern Mediterranean. For the first time pages were created, codified, and bound like a modern book; and a reader could move around easily in a text, guided by an index, and was able to compare sources that made correlations possible and raised ever-new questions. Whereas a scroll could contain only about 1,000 lines, a codex could produce a single artifact large enough to contain the entire Old and New Testaments. Thus was Christianity codified into a Bible that still today is the central element in the faith of the two billion adherents of the largest, if most fractious, of the world's religions.

A distinctive new civilization developed in the European peninsula of the Eurasian land mass in the course of the millennium that followed. In Western Europe, where the Roman Empire collapsed, culture was preserved and defined less by power than by those Christian codexes - handwritten on animal skin in liturgical Latin and preserved in monasteries. Institutions called universities grew up after the recovery of pre-Christian classical learning in 12th-century Spain - mediated by Muslims and Jews as well as Christians, though the Muslims were often seen as an external enemy and Jews as an internal enemy of Europe as it moved to modernity.

Then came Gutenberg and the modern book - composed in vernacular languages, printed on paper by a press with movable type in large editions, reaching ever more people with increasingly secular content - and creating in the North American extensions of the North European Protestant Reformation and Enlightenment - the first and only world civilization created solely in the age of print. That the United States of America, the newest of all world civilizations, has been held together for more than two centuries by the world's oldest continuously functioning written constitution is in no small measure because its framers were themselves framed by books. Both the first meeting of the Continental Congress in 1774 and the first meeting of the Congress under our new constitution in 1790 physically took place in libraries - in Philadelphia and New York respectively; and the first committee involving both houses of Congress in the new capital of Washington, D.C., was the Joint Committee on the Library of Congress, founded in 1802.

Self-government became self-correctable and federal officials accountable largely thanks to the First Amendment guarantees and through Congress's free use from the beginning of the Postal Service formed in 1792 to give constituents free information on the activity of their government. Slowly - but not without sustained and unconscionable injustices to Native and African Americans - the United States grew from a republic into a more inclusive democracy. This evolution was driven inexorably, if at times subconsciously, by the realization that the dynamism of a continent-wide free society drawn from many strains depended on more people having access to more knowledge to be used in more ways. The quintessential expression of this ideal is our amazing public library system - for which we must specially thank Justin Morrill in the Congress, Andrew Carnegie in the private sector, and above all thousands of dedicated librarians throughout America whom one of my predecessors, Archibald McLeish, called our "sentinels of liberty." It is appropriate here to pay special tribute to another of my New England predecessors, Herbert Putnam, who came to the Library of Congress from the Boston Public Library, which hosted us all so graciously last night.

American libraries share with American society a tradition of adding without subtracting. New immigrants to America do not evict old inhabitants; and they do not reject, but rather renew old institutions. In like manner, new books do not generally replace old ones in libraries. Books that succeed and often contradict each other sit peacefully next to each other on the shelves, just as readers who disagree work peacefully next to one another in the reading rooms.

But the basic challenge now facing American libraries - and American society more generally today - is whether adding electronics means subtracting books, and losing in the process the values of the book culture that made democracy and the responsible use of freedom possible in the first place. We are, in short, faced with the greatest upheaval in the transmission of knowledge since the invention of the printing press: the electronic onslaught of multimedial, digital communication. It bypasses the traditional limits of time and space and raises the haunting question of whether libraries - those historic houses of refuge for reading, those temples of pluralism and seedbeds of humanism - can continue to serve as hospitals for the soul in a medium that so far basically markets commodities for the body?

To use the language of cyberspeak: Is this post-Gutenberg world that is becoming hominized (that is to say brought under the control of an individual with a keyboard and screen) also becoming dehumanized (no longer serving worthy human ends)? Is communication replacing community? Are the new digital enhancements deepening social inequality by disproportionately favoring those who already have money and education to use them? And above all, is virtual reality displacing real virtue?

Public libraries, by their nature, have constructive answers to all these questions; and American libraries have already prepared themselves by bringing the new electronics more seamlessly and systematically into their traditional services than have many other public institutions.

Let me briefly describe how the Library of Congress has been working for more than a decade now to help meet these challenges and perform its traditional historic functions of acquiring, preserving, processing, and making accessible materials in the new digital age.

The Library of Congress assumed the broad functions of a true national library in the late 19th and early 20th century, when it acquired the mint record of American creativity through Copyright deposit, gathered in most papers of presidents up to Hoover, collected unparalleled records of Native and African American

culture, assumed most of the burden of cataloging for the library system as a whole, and produced free materials nationwide for the blind and physically handicapped.

Now the basic direction of where to go beyond electronic cataloging in producing services for the digital age for the Library of Congress emerged from a series of 12 forums that we coordinated with thousands of librarians all over the country in 1988. From these came the idea for the American Memory pilot project with CD ROMS in 44 schools and libraries across the country in the early 1990s. Then, of course, came the explosion of the Internet, and American Memory was amplified in the late 1990s into a National Digital Library, which, by the end of 2000, as our generous introducer has mentioned, had put seven million items of American history and culture on-line. Just as the Library had traditionally lent other American libraries books through interlibrary loans free of charge, we were now providing digitized versions of our massive - and often one-of-a-kind - special collections free of charge to libraries everywhere.

We used part of the private money that largely funded this program to subsidize adding unique American historical materials from 37 other institutions, libraries, and repositories from all over America to this American Memory Web site. We were trying to bring one-of-a-kind primary materials of broad interest and importance from special collections, which only a few had had access to and only in a special place, out to a broader audience but at the same time into the world of books, since American Memory was designed as an archival transfer and bridge to other libraries. We are trying to help bridge the resource gap between major repositories and local libraries; to blend old material into the new technology; and to provide memory for an inherently ephemeral medium that is forever updating information and erasing previous drafts.

What was new for the Library of Congress was the assumption of a broad and nationwide educational function in an institution previously focused on serving the Congress, the government, the scholarly community, and the broader public mainly as a library of last resort.

American libraries have always served as local centers of lifelong learning. So a more active role for the national library was fully in keeping with the growing bipartisan recognition in political Washington that better education is essential for dealing with almost all our national and international problems. By raising large amounts of private, philanthropic money for the first time in the Library's history, we were able to sustain the historical American library tradition of providing to the public even this expensive new type of material free of charge.

As technological change accelerated and the educational crisis deepened in the 1990s, it has become clear that there are three separate, sequential needs each of which has to be met if American libraries are to sustain their historic function of transmitting inert stored knowledge democratically to a broad and diverse population.

First is the need to place on the Web educational content that is easily accessible, of dependable quality, and free of charge for everyone.

Second is the need to provide the hardware and software that can deliver this positive content to public institutions like libraries and schools where everyone can access them freely in local communities everywhere.

Third is the need for human mediators within those public institutions who can serve the special needs of a community and help integrate the new on-line knowledge with the older wisdom in books.

Only the second and the most impersonal of these needs has begun to be met. Both public and private funders in America have been relatively generous in equipping public schools and libraries with the hardware and software for new educational efforts. But the humanizing first and third stages that would provide free humanistic content at one end and humane guidance in its use at the other have yet to be seriously subsidized in America.

The Library of Congress has in recent years been trying to address precisely these two areas of national need with additional new programs that reach beyond our original National Digital Library Program.

For the first stage of generating positive free content, Congress, led by Senator Stevens of Alaska, has begun to extend our national program to a global one by providing funds for a project in which the Library of Congress is collaborating with the national libraries of Russia and with other repositories in both countries. We have already digitized and put on-line nearly 100,000 primary documents that illustrate our parallel experience of these two former adversaries as continent-wide frontier societies, adding bilingual text from our curators. We have started another such project with Spain, and are in advanced discussions with two others. Our collaborative multinational projects are becoming more widely accessible through the electronic gateway of the Bibliotheca Universalis. Representatives from the G7 and six other European countries are coordinating their policies for digitizing primary documents. All 13 participants have already contributed content for this Web site; and all this should eventually feed into a global on-line library and network.

We are increasingly conscious of the need to help a wider range of people not merely get access to, but creatively use and grow through the materials we are digitizing. In 1996, we introduced the Learning Page, an interactive Web site that helps teachers integrate digital content from the Library of Congress with common curriculum topics. Last year, we introduced americaslibrary.gov an interactive and child-friendly educational Web site to promote intergenerational reading and storytelling. This prize-winning site logged 100 million hits in its first year, though it has only a small range of images. It is being supported by the first-ever nationwide public service campaign conducted by the Advertising Council on behalf of a library program. You can hear more about this from Public Affairs Officer Jill D. Brett on Thursday.

In addition to providing humanizing content at one end of the electronic delivery system, the Library has also been trying in a small way to help develop human mediators at the other end.

A recent Markle Foundation study highlights the need for a trustworthy public face to mediate the Internet, a real person to go to with problems. For years now, we have been conducting summer institutes for local librarians and teachers with expertise for integrating the new electronic materials with the old books. But ours is only a small stream feeding into an enormous and ever-expanding ocean. The imaginative, recent call of the Digital Promise report by Newt Minow and Larry Grossman could open up new possibilities for this massive national training need if money could be obtained from the forthcoming sales of licenses for the electromagnetic airway spectrum.

Something, in any event, will have to be done to equip fully our libraries with knowledge navigators conversant with both the new technology and the old books. And children within schools must have better access to libraries, to books, and to knowledge navigators than they now have. There is presently only about one school librarian for every thousand schoolchildren nationwide.

Our great repositories can do much by sharing on-line more of their rarely seen but appealingly human multimedial and manuscript treasures - and also by inviting more librarians and teachers from their localities into their institutions for substantive visits. Those who work in the educational trenches can become stimulated and inspired - as our summer institute fellows have been almost without exception - by seeing the originals of the documents being digitized and talking with their curators.

The manuscript material now available on-line free from the Library of Congress has direct human interest (Jefferson's working draft of the Declaration of Independence, with all the corrections, you can see their minds at work; the diaries of Teddy Roosevelt and George Patton; Lincoln's handwritten speeches; the letters of Susan B. Anthony and Frederick Douglass). The rich multimedial materials that we now have on-line (like Brady's Civil War photographs; early Edison movies; panoramic, block-by-block aerial images of American cities in the 19th century) appeal to an audiovisually active generation - and, at the same time, raise questions that can only be really answered by going back to reading in books.

The role of the librarian has become more, rather than less, important: to help learners of all ages make connections between print and electronic materials, and to help navigate through the sea of illiterate chatter,

undependable infotainment and gratuitous sex and violence that is proliferating and that many say is the only real profit-making on the Internet. The Internet tends to feed upon itself rather than independently validate the material it transmits. You may have seen the lines making the rounds of library e-mail: "A Zen librarian searched for 'nothing' on the Internet and received 28 million hits."

The Library of Congress is trying to help develop librarianship for the new era through a variety of programs that, like the Internet itself, are inherently cooperative and networked activities. I am glad to be speaking with all of you. We will all have to be working much more interactively together.

Our Collaborative Digital Reference Service now available worldwide 24 hours a day, seven days a week. The first question asked on it a year ago came from a Londoner seeking information on Byzantine cooking. It was routed through a Library of Congress file server and answered in a few hours by a librarian in Santa Monica, California.

We have two programs that have begun to put tables of contents on the Web - throwing open the door to those who browse the Internet for information as well as those who use our on-line public access catalog. One program is an enhancement of the Library's Electronic Cataloging in Publication Program. We now enter some tables of contents directly from the electronic galleys into the on-line bibliographic record without having to rekey the data. A second program scans and provides the tables from already printed publications - encouraging catalogers and reference librarians to decide which are most broadly important.

We have also set up a project to link Library of Congress catalog records with the full-text electronic versions of many social science monographic series of the working paper type, such as those of the National Bureau of Economic Research.

A fourth new program will provide full on-line information about new books (including jacket blurbs, summary, sample text, and author information), and it will be discussed later today in the Open Forum of the Section on Bibliography by John Celli, Chief of our Cataloging in Publication Program.

Finally, the Library of Congress has initiated a project to identify those international Web resources that are of most value to researchers and scholars. When completed, the project will produce an international homepage with pointers to reliable on-line resources for all of the nations of the world. By mid-September, portals for 20 countries will be available to users worldwide.

By far the most difficult new challenge looming for librarianship will be preserving and providing access to "born-digital" materials, that swelling mass of material that appears only in electronic form. We have defined our task at the Library of Congress in recent years as "getting the champagne out of the bottle." But here the problem of capturing bubbles is another matter. Digital material and the technology to use it are constantly changing and evanescent. The average life of a Web site is only about 75 days, and a growing body of important material has already been lost forever.

Election 2000 is our first large-scale collection of data-searchable Web sites to be archived and made available on-line. We chose the subject long before the election became so historic. It was conceived by the Library's specialists and developed in cooperation with the Internet Archive and Compaq Computer. It collected copies of more than 1,000 election-related Web sites, gathering some 2 million megabytes between August 1, 2000, and January 14, 2001, archiving many times a day - and often hourly - in order to record candidate responses to each other and to demonstrate at the same time the dynamic nature of Internet content.

Last year Congress directed a major special appropriation to the Library of Congress to develop and begin implementing a national plan cooperatively with other governmental and private institutions in order to preserve for future access important born-digital materials.

Congress incidentally deserves great credit for supporting all the work that the Library of Congress is doing to preserve and make accessible the nation's creative heritage and now much of the world's knowledge.

Consistently for 201 years, on a bipartisan basis, our national legislature has been the greatest patron of a single library in the history of the world. And, in the last decade generous private donors have also helped us in many new ways to get the champagne out of the bottle. Nothing, I repeat, nothing, would be possible, however, without our truly dedicated and diversely talented staff, so many of whom you have had a chance to know at these IFLA meetings over the years. The Library of Congress is doing more work with fewer people than ten years ago. The staff, which is doing it all, and they are all, as a body and individually, every bit as great a national treasure as our 121 million-item collection.

Electronic networks must become not just technological pipelines for marketing and infotainment, but a healthy circulatory system that regenerates all parts of the body of humanity. And that will not be possible without the heart, which is still reading, and the main vessel, which is still the book.

We are celebrating this year the 25th anniversary of our Center for the Book, which is linked with 43 state centers. On September 8, the Library will be mounting on Capitol Hill the first-ever National Book Festival. It will be hosted by Laura Bush, and I hope many of you will come for the wide variety of all-day, open-air activities that will be available.

Without books, the Internet risks becoming a game without a story - the game of mergers, speculations, increasingly violent video games, a surfing game on the surface of life, motion without memory - one of the clinical definitions of insanity.

The United States was built by people who read stories and did not have much time for games. The biblical story was at the core. The first book published in North America was a rhymed version of the Book of Psalms, often sung in its entirety in Puritan worship. It is from sacred stories that written books emerged almost everywhere; and those who forget altogether their own basic stories will have difficulty understanding those of others, as we must in the global age. If we do not listen to other people whispering their prayers today we may have to meet them tomorrow when they are howling their war cries.

Properly used, the Internet will help scientifically to solve common problems shared by widely dispersed groups in fields like medicine and the environment, and at the same time to share on-line the primary documents that tell the distinctive stories of different peoples. We may even begin to see the outside world as a series of celebrations rather than just a source of problems.

An old Native American came up to me after a speech I gave at one of those forums I mentioned in Nebraska to librarians of the Great Plains states in which I described librarians as gatekeepers to knowledge in the information age. He told me that, even before the culture of the book came to America, the most experienced member of a tribe preserved the stories that contained the collective memory of its people the way librarians later did. "We did not call him a gatekeeper," he gently explained, "we called him the dreamkeeper."

One of the most imaginative of the many uses that libraries across the country have been making of our on-line American Memory materials is to ask students to use them to reconstruct not just the accomplishments, but the dreams of some other people in some other time or place. Electronic technology must be integrated into the world of books - new technology linked with old memories and old values. Above all, there must always be human intermediaries on the spot (teachers, librarians - local dreamkeepers) who can encourage curiosity and direct users back to books as they seek answers to the questions raised by fragmentary electronic materials. No machine can, or should, be a surrogate for direct discourse between people.

Readers enter into a kind of discourse with writers and often find that mute witnesses from the past are often better guides to life than talking heads in the present. For, alone with a book, the reader's imagination is free to roam. Boundaries are not set by someone else's picture on a television screen; thoughts are not drowned out by someone else's sounds on a boom box.

Last year for our Bicentennial we received the greatest monetary gift in our history from John W. Kluge, who has been chairman of the Library's first national private-sector support group since it was founded a decade ago. With his gift, we are setting up a new, and we hope, catalytic center for advanced study in the

human sciences within the Thomas Jefferson Building on Capitol Hill, hoping renew the discourse between thinkers and doers that created America in the first place, bringing more of the life of the mind and spirit into the city of power and politics - a little more Greece, perhaps even a little of Alexandria, into Rome. We will be bringing from all over the world very senior scholars both to range widely in our multiform collections and put things together rather than just take them apart. And we will also be bringing to the center very young scholars who are not yet embarrassed to keep on asking big questions.

Our hope lies in the words of the prophet Joel:

I will pour out my spirit on all mankind . . .
Your old men will dream dreams,
Your young men will see visions.

Some of the best analysts of this new digital revolution have suggested that only artists can predict what the future will bring. So I end by quoting one of the great poets: T.S. Eliot's - famous lament, "Where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information?" But even more, in "Burnt Norton," Eliot somehow suggests that a mix of blood and electricity might yet redeem the petty materialism of the modern world that he had previously seen only as a wasteland.

The trilling wire in the blood
Sings below inveterate scars
Appeasing long forgotten wars.
The dance along the artery
The circulation of the lymph
Are figured in the drift of stars
Ascend to summer in the tree
We move above the moving tree
In light upon the figured leaf
And hear upon the sodden floor
Below, the boarhound and the boar
Pursue their pattern as before
But reconciled among the stars.

Another poem I like to cite was written by an unknown European priest for a nonexistent Asian audience in the already-dead language of Latin. Somehow these lines suggest to me, that whether any of us, we at the Library of Congress, or others in the global networks of the future, will be able to find the means and willingness to understand other parts of the world and of the human past, we will still be ennobled by the effort.

When the Jesuit order left China after the most deeply scholarly and the most nearly successful effort in history to build a cultural bridge between that ancient eastern culture and the Christian west, they left behind, as their last legacy, a haunting epitaph.

Move on, voyager,
Congratulate the dead,
console the living,
pray for everyone,
wonder, and be silent.

Wonder and silence - easier for dreamkeepers than image makers. A library, even a small one in a home or a public place takes us out of our noisy, hurry up, present-minded lives and into what Keats called the world of "silence and slow time."

For whatever the confusion in our minds and the profusion of our electronic information, diverse things do still come together in a book - just as the hemispheres (east and west, north and south) come together in our

single, fragile planet, and the left and right halves of the brain in one human mind. And within that mind, as the greatest poet of the English language reminds us at the end of his last play: "We are" - all of us - "such stuff as dreams are made on."