



Global Librarianship

edited by

Martin Alan Kesselman

Irwin Weintraub

*Global
Librarianship*

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*To librarians around the globe who work tirelessly to fill
the information needs of a world in pursuit of knowledge.*

I.W., M.A.K.

*To my partner, David Stahler, my best friend, Lois Trapasso,
and my mom, Rose Kesselman*

M.A.K.

Foreword

Librarians have opportunities, responsibilities, and challenges to be global as we promote understanding among diverse cultures and provide collections and services that help people develop a deeper appreciation of intercultural exchange and global opportunities. Books like this one provide valuable insights into how our profession is becoming more global while maintaining our core values. Authors from Canada, England, Italy, Kenya, South Africa, Sweden, Switzerland, and the United States address a broad range of topics that illustrate why librarianship is a global profession.

Several of the chapters provide broad introductions to the topic of global librarianship and set the stage for more country-specific and issue-specific discussions. Beginning a discussion on any topic with a historical review is always useful and Glynn's chapter on historical perspectives on global librarianship provides a good introduction and a broad overview with useful endnotes for further reading. Wedgeworth's discussion of library organizations provides a look at intergovernmental library organizations, associations, service organizations, and funding agencies working in the global setting.

Today, libraries offer access to worldwide information resources and local accessibility. Several chapters provide good directions for libraries as multicultural institutions that connect even the smallest and most remote communities to global resources. Kesselman's discussion of library collaborations helps us think about the future and how international collaborations can make all our libraries stronger. Globalization and its impact on those who select foreign materials are described by Niessen. The challenges and opportunities of digital resource selection and creating a global education information network are described by Libutti.

Information is one of the most powerful tools available to people around the world for solving problems. Increasingly, many issues are global in scope, and coping with global issues is easier with up-to-date and accurate information.

Rader's chapter on preparing library users for global information use is a good introduction to what we must do in the future to train for effective and efficient information handling. Distance education and the challenges of user education in the online environment are described by Kunneke. At the other end of the technology spectrum, Ruheni and Tate's discussion of libraries in rural development highlights some of the innovative programs serving rural communities in various parts of the world.

McAdam's discussion of libraries in Switzerland provides an example of the development of libraries in one country. Thomas's overview of the development of public libraries in Sweden discusses issues that are similar in many countries. Castagnoli's discussion of the role of information specialists in a global company provides a good example of the role innovative information services can play in the global multinational corporation.

Librarians must help shape the global information infrastructure by being certain that issues of information equity, funding, and related issues are addressed. New communications technologies can help bridge the geographical, social, and economic gaps that currently exist in the availability of and access to information. The digital divide and strategies for providing access to information and communications technologies are covered by Ashcroft and Watts. The challenges and opportunities of developing the global digital library are described by Gartner. Issues of copyright, fair and equitable access to information, and the rights of creators are addressed by Scott. Standards for organizing and providing access to global information are necessary and Hopkinson provides an in-depth discussion of the topic. Intellectual freedom and strategies to discuss this challenging global issue, which is central to our profession, with colleagues worldwide are described by Choldin.

Weintraub's bibliography provides good ideas for additional reading and information on global librarianship with coverage of articles, monographs, conferences and symposia, theses and dissertations, periodicals with global coverage, where to find information on global librarianship, and organizations and agencies promoting global librarianship.

As librarians, there is still much we can do to become more global. We can participate in partnerships and exchanges of staff and materials with libraries in other countries as we share skills, ideas, and experiences. We can become more active in international professional associations and in the development of international standards and practices and broaden our contacts internationally. We must advocate funding and other support needed to keep information free and open in the twenty-first century. This book is another important addition to the

literature of international librarianship and a way to learn, grow, and broaden our horizons and better serve those who use libraries as global citizens.

Barbara J. Ford

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Preface

Librarianship is a profession that has existed for centuries, beginning in ancient times when written records and images documenting human existence were carved in stone. As the volume of records increased and the formats for recording knowledge expanded, librarians were needed to organize the records and manage the retrieval and dissemination of that knowledge. Although we have come a long way since the era of stone carvings, information dissemination and retrieval is still the *raison d'être* of librarians around the world. A unique aspect of the role of librarians is their endurance and the constant striving to meet the extraordinary information needs of a growing and changing multicultural world and evolving digital environment.

An international network of national, public, academic, special, and private libraries serves users extensively with an array of print, audio, and video and a host of technological innovations designed to bring information to the people of the world rapidly and effectively. Some offer well-established and effective information services with cooperative links to libraries around the world. Others are endeavoring, despite economic and cultural restraints, to include library development and expansion in their national plans. The advent of computers and the Internet and the ability to transmit information across borders changed the face of libraries and expanded the role of librarians and information professionals. Innovations such as interlibrary loan, cooperative catalogs, full text databases, digital scanning, and other audio and video enhancements have made information easier to find and more accessible to those who seek it. Cooperation and networking greatly enhanced information retrieval and dissemination and facilitated the concept of “libraries without walls” in which location or distance is no longer an obstacle to acquiring information. In the future, any individual will have the opportunity to sit at a computer at virtually any location and access library resources and a voluminous amount of information in a matter of minutes. Computers changed the way librarians do

their jobs and how they interact with those who seek their services. Modern librarianship is a multifaceted service profession requiring skills that were not even envisioned before the application of computer technology.

Numerous books have been published in the last two decades that offered readers many opportunities to learn about the world's libraries. One of those works was *World Librarianship*, by Richard Krzys and Gaston Litton, published in 1983 by Marcel Dekker, Inc. This book gave readers a broad perspective on the origins, history, training, education, and development of librarianship as a profession. Other authors confined their coverage to comparison of libraries in specific countries or regions or to particular aspects of international librarianship, such as education and training.

Why is it important for libraries and librarians to think globally? First, information is becoming more internationalized and globally interdependent. Global information allows us to learn more about our world. Changes in one part of the world, be they health, environmental, socioeconomic, or political, have repercussions throughout our planet. Second, by observing how libraries in other countries serve their patrons, librarians gain new insights into solving the problems that face their libraries and enhancing cooperation and dialogue among colleagues. Third, in the evolving digital environment, we are seeing the rapid transformation of the library from a building to a gateway with access to worldwide information.

Global Librarianship provides a new approach to informing readers about the convergence of old ways and new ideas in libraries around the world and its impact on the future of the profession. Chapters were written by a wide range of international experts in all areas of information work. Topics include the role of libraries and library organizations with literacy and information access; global challenges such as language, access to resources, the digital divide, and intellectual freedom; the growing importance of international standards and guidelines; cooperation among libraries that crosses traditional international boundaries; and the emerging digital library. The role of libraries as international providers of information for research, for corporate information, and as sociopolitical entities is covered in detail.

In the new millennium, as we enter an era of global librarianship, it should no longer matter where in the world the information is housed or where the librarian or user is physically situated. In the global networked environment, unique databases and other information resources can be made available to the scholarly and business community worldwide. The networked environment lends itself to cooperation and the sharing of ideas and solutions to problems common to libraries no matter where they are located. We invite the readers of this book to

share our excitement and wonder about the global impact libraries make in each of our lives.

Martin Alan Kesselman
Irwin Weintraub

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Historical Perspectives on Global Librarianship

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As libraries across the globe are transformed by new technologies, librarians increasingly look to the future and explore ways to exploit the possibilities of the digital environment. Yet at the same time these dramatic changes also compel us to look to the past. In order to assess fully the impact of the digital revolution it is essential to compare emerging practices in librarianship with those that preceded them. In particular, we must first determine if there were general trends or continuities throughout the history of libraries that transcended the particulars of time and place, and then, if such continuities indeed existed, whether they have been disconnected by the emergence of new technologies. I argue that the digital revolution is revolutionary only in a relative sense. The current changes in librarianship, however dramatic, are for the most part a rapid acceleration of trends in library practice that have been an important part of the profession from its beginnings.

Throughout the history of libraries, librarians have performed two essential tasks. They have provided physical and intellectual access to textual material in a variety of formats. Physical access is primarily the building of collections tailored to patrons' particular needs. Intellectual access requires the development of classification and cataloging standards and the compilation of catalogs and

bibliographies that enable patrons to identify and locate items in a collection that meet their needs. Another common denominator among practically all libraries at all times has been a limited amount of resources to carry out these two functions. Thus one essential means of enhancing physical and intellectual access throughout the history of librarianship has been for librarians to cooperate in various ways in building collections and developing bibliographic tools and standards. Of course this is not to say that libraries have not changed dramatically through the ages. Like any other social institution they have reflected the needs and values of the societies in which they have operated. Yet a common thread throughout their history has been increasingly sophisticated and comprehensive cooperation for more efficient and effective physical and intellectual access. At the same time, however, the ways in which librarians have cooperated throughout the centuries has been determined to an extent by the technologies available to them. The history of library cooperation is closely tied to three epochal developments in the history of textual communication: the evolution of writing, the invention of the movable type printing press, and the advent of computers. Each of these technologies is associated with a particular type of cooperative access.

Scholarship on the earliest stages in the evolution of writing is largely conjectural. Writing systems certainly evolved independently in all the earliest civilizations (1). Libraries most likely appeared some time afterward, as groups within these societies felt the need to organize and make accessible growing accumulations of textual material. The ancient Sumerians used cuneiform script on clay tablets as early as 3600 BCE and in the centuries after 3000 BCE organized them for use in temples and palaces (2). In China archeologists have discovered evidence of an early form of modern Chinese characters in the Shang dynasty in the second millennium BCE and collections of records, primarily divinations, in special repositories (3). These very early proto-libraries comprised mostly documents related to religious, economic, or government activity; it is a moot point when the first true libraries appeared. Certainly the collections built up by the Assyrians in ancient Mesopotamia, in the 7th and 8th centuries BCE, can be called libraries. They were often extensive, contained literature as well as records, and were cataloged and arranged by subject by specially trained personnel (4).

The ways in which these early libraries and later manuscript libraries cooperated were largely circumscribed by the format of the materials they collected. The most obvious and effective means of widening access to unique manuscript collections is to copy and exchange texts between libraries. Before the invention of the printing press the bibliographic universe was relatively small and there was less need and therefore little effort to enhance intellectual access through cooperative efforts. Cooperation between manuscript libraries therefore focused primarily on expanding physical access through copying. It has been a

common practice from the very beginnings of librarianship, but the extent to which it was used has varied greatly in different times and in different places.

Bibliographic cooperation in whatever form requires some sense of identity or community that transcends the identity of a particular library. Its fundamental assumption is that cooperation will benefit not only the patrons of your library, but also a more extended community of users of which they are a part. Before modern times this sense of community was usually associated with religion, the state, or both. Library development in ancient China, for example, was greatly facilitated by a series of dynasties that centralized political power and thus provided an administrative structure for bibliographic cooperation. During the Han dynasty, which flourished from the 2nd century BCE to the 2nd century CE, there was established an Office of Secret Records, under the direction of the Great Compiler, that administered an extensive system of imperial libraries. There was also an Imperial Storage Building that essentially served as national library and collected or copied texts throughout the provinces. At its height it held some 33,000 manuscripts (5). In later dynasties this cooperation was international in scope. In India by the 4th century CE there were extensive libraries in monasteries and universities, and for centuries Chinese Buddhist scholars traveled there to obtain copies of religious works (6).

The largest and most famous library in ancient times was in Alexandria. The city itself was founded in 332 BCE in Egypt by Alexander the Great as a center from which Greek culture would spread throughout the world. What is commonly referred to as the Alexandrian Library was actually two separate collections. Around 297 BCE Demetrius of Phalerum, under the direction of King Ptolemy I, established the "Museum" in the royal palace. His successor, Ptolemy II, founded a smaller library, the "Serapeum," in the temple of Serapis. The Jewish historian Joseph wrote that Demetrius "was anxious to collect, if he could, all the books in the inhabited world, and, if he heard, or saw, any book worthy of study, he would buy it" (7). Agents visited libraries, scholars, and booksellers abroad to acquire or copy whatever texts they might find. The Museum attracted Greek, Egyptian, and Hebrew scholars who were employed to copy and translate works. Ptolemy III directed that any ship entering Alexandria's harbor was to be searched and any manuscripts found were to be temporarily confiscated and sent to the Museum to be copied. Such enforced "cooperation" was remarkably effective. At their height the Alexandrian libraries probably contained well over 600,000 manuscript rolls, most if not all of the literature extant during this period (8).

The libraries at Alexandria declined gradually with Hellenistic culture as a whole. A fire that broke out during Julius Caesar's invasion of Egypt in 47 BCE is said to have destroyed a significant part of the collection in the Museum (9). By this time Rome, not Greece, was the political and cultural center of the ancient world and the Roman Republic, and later the Roman Empire provided a sense of

identity that encouraged a degree of library cooperation. Unlike in China, there was not a vast, geographically dispersed system of imperial libraries. Just as Alexandria was to be the intellectual axis of Greek culture, the leaders in Rome strove to make their city the center of Roman culture. Their keen interest in libraries probably began around 170 BCE when Crates of Malos, a librarian from the Kingdom of Pergamon, delivered a series of public lectures in the capitol (10). By the middle of the 4th century CE there were 28 libraries in Rome, in addition to many others scattered throughout the empire. These 28 were usually connected with temples or baths and were public institutions, open to any literate person, slave or free (11). A chief librarian, known as the *procurator bibliothecarum* administered the system and each library had its own librarian, the *bibliothecarius*, and possibly staff of lesser ranks. Early librarians were often highly educated slaves or prisoners of war from Greece or Asia Minor. Their collections were sometimes augmented by the Roman legions. Many successful generals confiscated libraries in conquered territories and these books were frequently donated to the public libraries (12).

By the time Rome fell in 476 her public libraries had long been in decline. The Germanic armies that swept across Europe during in the fifth century were more inclined to burn libraries than to patronize them. As the Empire crumbled, a new type of library developed within an institution that provided a new sense of community and a new focus for library cooperation. The various monastic orders within the Christian Church maintained libraries that preserved the intellectual heritage of Greece and Rome and, on a limited scale, practiced the first truly cooperative collection development in the West. Isolated monasteries are known to have existed in Egypt and Palestine as early as the third century CE, and the idea had spread to Europe by the end of the fourth century. In 529 St. Benedict of Nursia founded the Benedictine order in Monte Cassino, Italy, the model for monasteries throughout the West. The Rule of St. Benedict prescribed the reading of Christian literature as one of a monk's essential duties and the maintenance of a common library to provide such literature (13). About 540 Magnus Aurelius Cassiodorus founded a monastery at Vivarium in southern Italy and donated his private collection to start a library. He also wrote *Institutiones Divinarum et Saecularium Litterarum*, a guide to everyday life in a monastery. It included detailed instructions for the care of libraries, including how manuscripts should be handled, repaired, copied, and corrected (14).

Just as important as the library itself was the scriptorium, in which scribes sometimes spent years producing an illuminated copy of a text. The various monastic orders had different rules concerning their libraries, but they all sought to enlarge their collections by copying manuscripts and cooperated by borrowing reciprocally or exchanging duplicates. Monasteries were established wherever Christianity penetrated, so that by the sixteenth century there were libraries and scriptoria from Latin America to the Middle East, and this form of cooperative

collection development was truly international. Usually loans or exchanges were arranged between monasteries near to one another, but in exceptional cases libraries as far apart as France and Greece or England and Austria cooperated for their mutual advantage (15). Their collections were usually relatively small, most often only a few hundred volumes or less. At the core of a typical collection were several copies of the Bible and the works of the early church fathers. In addition, there were normally titles used by the monastery's administrators, such as legal texts and books on agriculture and surveying. Finally most monastic libraries included a few works of poetry and prose in Latin and, occasionally, in Greek (16). As small as they were, the monastery libraries played a critical role in preserving ancient literature and scholarship during the medieval period.

In the Middle East, during roughly the same period, another religion also provided a sense of identity and community that greatly facilitated cooperation between libraries. The Islamic era began in the year 622, when the prophet Mohammed fled with his followers to the city of Medina. Within 300 years Islam dominated much of the globe, from India in the East to Spain in the West. Like Christianity, it was a religion revealed in a divine text, the *Koran*, and thus great value was placed upon literacy. Islam fostered a culture that not only respected books, but also actively encouraged their dissemination. The devout Moslem was enjoined to copy the *Koran* and give it to others and this injunction encouraged the production of other texts as well. Under these conditions learning flourished and libraries flourished (17).

The political and cultural capital of Islam at its height was Baghdad, founded in 762. By the time the city fell to the Mongols in the middle of the thirteenth century it boasted over thirty publicly accessible collections. These libraries encouraged copying and often lent out manuscripts to facilitate it (18). Their collections were usually far broader than those of the monastic libraries in Europe. They carried texts from all over the world, books of poetry, philosophy, law, history, and science, as well as multiple copies of the *Koran* and commentaries on it. By far the most impressive library in Baghdad was the one attached to the Bayt al-Hikma, or the House of Wisdom. Modeled after the Museum in Alexandria, it held manuscripts in a dozen foreign languages and attracted scholars from Asia, Africa, and all across Europe (19). Taken as a whole, the libraries in Baghdad were a model of the role that libraries can play in the transmission of culture across time and space. They served as a focal point from which the literature, philosophy, and science of the East and West were exchanged (20). They also helped to preserve the Roman and Greek classics that for many centuries were lost to the West. It was largely texts that were rediscovered in Islamic libraries that sustained the rebirth of learning known as the Renaissance (21).

Just as essential to the Renaissance was the invention of moveable type and refinement of the printing press about 1450. Before Gutenberg, the largest monastic

libraries in Europe, laboriously reproducing manuscripts in their scriptoria, had at most a few thousand volumes. Only a half century later, it is estimated that tens of thousands of titles and at least ten million volumes had been printed in 260 printing houses across the continent (22). This explosion in the production of textual material was a necessary precondition for the production of Renaissance scholarship. This second revolution in the history of textual communication also transformed librarianship in the West and brought about an epochal shift in the nature of library cooperation. The invention of writing had encouraged an emphasis on copying, on physical access as the focus of cooperative efforts. With the invention of printing, books became relatively cheap and accessible, and copying was no longer an efficient means of enhancing access. Librarians had to manage exponentially larger and generally more diverse collections, and the focus of cooperation shifted to intellectual access, to ways of sharing bibliographic information so that library users could be informed about what was available in the bibliographic universe beyond their particular library (23).

During the Renaissance and the Enlightenment a new community emerged in the West which, like the Church before it, provided a source of identity that encouraged library cooperation. The citizens of the “Republic of Letters” or the “Commonwealth of Lettered Men” saw themselves as part of a global fraternity, working together to advance the boundaries of letters and science. Librarians were an integral part of this international community. As John Durie exhorted in his *Reformed Librarie-Keeper* (1650) “they ought to become Agents for the advancement of universal Learning” (24). The finest libraries of the age were private, collected by wealthy scholars to display their wealth and support their scholarship. These learned gentlemen advised one another in bibliographic matters and allowed each other to use or even borrow from their collections. Lorenzo de Medici was one of the most ardent collectors in 15th century Italy. His collection was open to the humanist scholars of his day, and after his death in 1492 became the Biblioteca Laurentiana, which is still open in Florence today (25).

Beginning in the 17th century a unique genre of writing evolved that aided men of letters in their use of such libraries throughout the continent. Bibliophiles and librarians who traveled through Europe to conduct research sometimes wrote general descriptions of the collections they visited in order to aid others with similar interests. The most impressive example of such library travel writing was written around 1780 by Adalbert Blumenschein, an Austrian priest and librarian. His monumental work in four volumes surveyed 2489 libraries of all kinds in 926 cities and towns, 396 of which he visited personally, and cited nearly 300 secondary sources, including library catalogs and earlier library travelers. *Beschreibung verschiedener Bibliotheken in Europa* (“Description of Various Libraries in Europe”) was intended as a reference work. It was arranged first by country, then city, then by library in order of decreasing importance, and included

an index. Blumenschein's manuscript provides not only a fascinating description of the libraries of his day, but also an excellent example of a popular form of library cooperation during the Enlightenment that has received little attention from modern scholars (26).

This period also saw more ambitious efforts to describe and provide intellectual access to the bibliographic universe and greater cooperation among libraries in developing their collections. Bibliographies and union lists in various forms had been in use for many centuries. In China around 10 CE Liu Xin compiled *The Seven Epitomes*, essentially a national union catalog of the imperial libraries (27). The Moslem scholar Muhammad al-Nadim wrote *Index of the Sciences*, an extensive annotated bibliography of works in Arabic in 987 (28). As the number of books expanded dramatically in the early modern period, such bibliographic guides became increasingly critical tools for both librarians and library users. In 1545 Conrad Gesner compiled his *Bibliotheca universalis*, a comprehensive bibliography of works in the three classical languages, Greek, Latin, and Hebrew. In the late 17th century the German philosopher and mathematician Gottfried Wilhelm von Leibniz proposed a *Nucleus librarium semestralis*, a biannual bibliography to be cumulated from book fair catalogs. Although this idea never came to fruition, Leibniz's classification scheme and his views on cataloging and indexing were widely adopted by contemporary librarians. By the early 19th century library cooperation began to assume more concrete forms. In 1817 the German Akademischer Tauschverein was founded to exchange publications, such as theses and dissertations, that were not available through the regular book trade. It eventually included 68 academic libraries throughout Europe and the United States (29).

The terms "Computer Age" and "The Age of Information" are used almost interchangeably. In fact the Age of Information had its beginnings in the mid-nineteenth century. As the United States and the countries of Western Europe modernized, increasingly larger and more complex organizations developed that generated immense quantities of information and implemented elaborate, structured systems for managing it (30). These revolutionary changes occurred at different rates in different places and in different spheres of activity, but they were most evident in the new, technologically advanced industries. The railroads, for example, required unprecedented systems for managing information in order to run trains safely and efficiently (31). During the same period, a series of innovations in the printing trade, including stereotyping, electrotyping, and the steam press, enabled industrialized printing establishments to produce textual information at a rate and in volumes unheard of in the preindustrial era (32). Librarians, men and women in the business of organizing and making information accessible, were profoundly affected by the advent of the Age of Information. The nineteenth century witnessed the development of new standards for information management and the emergence of librarianship as a recognized

profession, with an array of professional organizations that served as the basis for increasingly effective library cooperation.

The most important library standard to emerge during this period, in fact perhaps the most widely employed standard to date, was the Dewey Decimal Classification (DDC) system. First developed in 1873 by Melvil Dewey, then an undergraduate employed as acting librarian at Amherst College, it provided a simple, flexible means of classifying and arranging any library's collection. Published in 1876 in an edition of 44 pages, it is now in its 21st edition and totals 198 pages. The DDC also has served as the basis for other widely adopted standards, including the Universal Decimal Classification (33). Dewey's system proved to be ideally suited for a new type of library that emerged in the West during this period, the tax-supported public library. The 19th century was the dawn of the Age of Democracy as well as the Age of Information, and this included the democratization of information and libraries. In the United States a variety of privately funded libraries had provided access to books for a substantial portion of the population since the founding, but it was not until the states, beginning in New England in the 1840s, enacted laws permitting taxation specifically for the funding of local libraries that library service became available to all (34). Great Britain passed the Public Libraries Act in 1850 to allow tax support for municipal collections, and by 1900 over 300 libraries had been founded. Public libraries developed more slowly elsewhere in Europe, but were firmly established in most countries by the early 20th century (35). The proliferation of this new kind of library and the ideals of service associated with it provided a great impetus for library cooperation locally, regionally, nationally, and eventually globally.

Another type of institution that promoted cooperation during this period was the national library. In Europe most of these libraries began as the private collections of kings and princes. The *Bibliothèque Nationale* in France for example can be traced back to the royal library established by Charles V in 1367. In the 16th century the French enacted the first mandatory deposit law, requiring that the *Bibliothèque de Roi* receive a copy of every title printed in the realm. Most of the other European countries enacted similar legislation, and the national library often became an expression of nationalism as librarians strove to develop a comprehensive collection of the country's literary and scientific output as a symbol of national greatness. Antonio Panizzi, the Keeper of the Printed Books in the British Museum, was determined to collect "every book that was printed by Englishmen or in English or relating to England (36)." The catalogs of such comprehensive collections served as virtual national bibliographies. By the later 19th century many of the national libraries provided resources and leadership that promoted library cooperation on the national level and established a basis for international cooperation. For instance in the United States the Library of Congress began to offer printed catalog cards to libraries throughout the country in 1901 and

in 1903 developed a classification system that was better suited than Dewey's to larger collections and was widely adopted by major academic libraries (37).

At the same time that collections were becoming more extensive, better organized, and more widely accessible, librarianship was evolving into a distinct profession. During the latter part of the 19th century professional associations emerged that provided, on a practical level, a forum for discussions of theory and practice. In a broader sense these organizations fostered a sense of professional identity that was critical to the development of truly effective library cooperation. The first librarians' conference was held in New York City in July of 1853. Organized primarily by Charles Coffin Jewett, the participants considered, among other topics, classification schemes, national bibliographies, and exchanges of government publications. Although Jewett had hoped that the meeting would "be regarded as preliminary to the formation of a permanent librarians' association," it was several years before his idea came to fruition. The American Library Association (ALA) was founded at a meeting in Philadelphia in October of 1876. In July of the following year Great Britain's Library Association was organized at a conference in London. The ALA and the Library Association served as models for later national associations and, through their official publications, the *Library Journal* and the *Library Association Record*, facilitated an exchange of ideas that promoted standards and cooperation between libraries. From the beginning both were global in outlook. In the case of ALA this interest was manifested in the creation of a committee on international cooperation in 1900 (38).

The conferences that created these first national associations were, in fact, international events. The meeting in Philadelphia in 1876 welcomed guests from Great Britain and other European nations and ended with a call for the international convention of librarians that was held in London the following year. That conference was attended by 219 delegates from nine countries and included papers on such topics as classification systems, shared cataloging records, and uniform rules for interlibrary loan. In his opening address the chair, John Winter Jones of the British Museum, stressed the "advantages of the interchange of thoughts, ideas, and experiences, and . . . the benefits to be derived from unity of action (39)." Despite a number of attempts to organize regular international conferences by the national library organizations in Canada, Great Britain, and the United States, no further action was taken for several years. However, between 1892 and 1900 six international conferences were called on various aspects of librarianship that helped lay the groundwork for extensive cooperation in the future (40). Truly global librarianship finally became a reality in the 20th century. Library cooperation was institutionalized primarily within three separate organizations with different emphases and organizational structures: the International Federation for Information and Documentation (IFID), the International Federation of Library Associations (IFLA), and the United Nations Educational, Cultural, and Scientific Organization (UNESCO).

The FID was founded as the International Institute of Bibliography (IIB) at the International Conference on Bibliography held in Brussels in September of 1895. Its founders were two Belgian lawyers, Henri Lafontaine and Paul Odet, who had no practical experience in libraries, but had for many years been deeply interested in bibliographic theory and practice. The scope that these men envisioned for FID was in one sense much more focused and in another much broader than that of the international organizations that came after it. On a practical level, Lafontaine and Odet hoped to promote the development of standards for international bibliographic control and to coordinate the compilation of a massive international bibliography of literature in all the disciplines. However, this ambitious project was only a part of the vision that inspired the founders. Lafontaine and Odet were fervent internationalists and they saw global bibliography as a means by which the nations of the world would find peace through more effective communication. For example, they helped to coordinate the work of the IIB with the activities of the Union of International Associations, founded in 1910. Although it began as an association of individuals (many of whom were not librarians), the IIB was reorganized in 1924 as a federation of national centers for bibliography and in 1937 its name was changed to the International Federation of Documentation to reflect the new organizational structure (41).

From the beginning Lafontaine and Odet emphasized three areas of activity: developing bibliographic standards; compiling an international bibliography; and general research in the field of bibliography. The first has always been FID's primary focus. With the permission of Melvil Dewey, who served for a time as the IIB's vice-president, Lafontaine and Odet translated and expanded the DDC, and the first French edition of the Universal Decimal Classification appeared in 1905. It was soon adopted by libraries throughout Europe, particularly those with strong collections in science and technology, and has since been continually revised and widely translated. FID was less successful in developing and maintaining a universal bibliography. In 1895 the IIB began the *Universal Bibliographic Repertory*, a global book catalog, and in 1907 started work on the *Repertoire Encyclopedique de Dossiers*, a comprehensive index of pamphlets, brochures, and newspaper and periodical articles. Both of these monumental projects were abandoned soon after the IIB reorganized in 1924. The IIB and FID also conducted research in other areas relevant to bibliography and bibliographic control. In particular, in the 1930s it was an early and strong proponent of microfilming to disseminate and preserve textual material. Since 1895 FID has published the *Review of Documentation* to make such research public and has hosted frequent conferences on bibliography, at times in cooperation with various library organizations (42).

Unlike FID, IFLA began as a federation of national organizations, rather than an association of individuals. Its founding was the result of efforts within

three of the largest and most active library associations, the French, the American, and the British. At an International Congress of Librarians and Booklovers in Prague in 1926, Gabriel Henriot, president of the *Association Francaise des Bibliothecaires*, recommended the creation of a standing international library committee to be composed of librarians elected by their respective national organizations. The conference adopted his proposal and it was then taken up three months later at the fiftieth anniversary convention of the American Library Association in Philadelphia. ALA likewise approved the measure and began preparations for establishing a permanent international organization at the anniversary meeting of the Library Association in Edinburgh the following year. In Edinburgh in September of 1927 the International Library and Bibliographical Committee was formed with representatives from fifteen national library associations. In 1929 the Committee held the first World Congress of Libraries and Bibliography in Rome and Venice and changed its name to the International Federation of Library Associations. Since that time IFLA has been the primary organization for promoting global librarianship (43).

The resolution adopted in Edinburgh called upon IFLA members to "make investigations and recommendations concerning international relations between libraries, organizations of librarians and bibliographers, and other agencies." To carry out this mandate, six subcommittees were formed at the first convention in 1928 to address such issues as professional education, classification schemes, and cataloging rules (44). During these early years the work of these committees was largely advisory. In particular, IFLA collaborated with the League of Nations' Institute for International Intellectual Cooperation (IIIC) to promote the coordination of and financial support for library activities at the national level. Together they made considerable progress in securing lower postal rates for libraries, encouraging the exchange of academic and government publications, and enacting mandatory deposit legislation. Perhaps IFLA's most conspicuous success during this period was an agreement reached in 1934 with German publishers to significantly reduce the price of periodicals in science, medicine, and technology. It also developed forms and standards for international interlibrary loan in 1935 and began publishing a number of important reference works, including an international code of periodical abbreviations and a *Vocabulary of Technical Library Terms*. During the 1930s IFLA grew gradually but steadily. By 1939 it has 42 members representing library organizations in 31 countries (45).

Library service on three continents was interrupted or seriously disrupted during the Second World War. For all practical purposes IFLA ceased to function and international library cooperation was effectively suspended. The Federation was not active again until 1947 when delegates reconvened in Oslo. In the postwar years, however, it was able to assume a much more constructive, proactive role in fostering global librarianship. This expansion of

its activities was largely the result of financial and other support offered by the United Nations. At the convention in Oslo UNESCO formally designated IFLA as its “principal means of contact” with professional library associations and thereafter provided an annual subvention and grants for specific programs and publications through its Division of Libraries, Documentation and Archives (46). This official relationship with the UN meant that not only was the Federation able to play a more effective part in promoting international cooperation, it was also more directly affected by developments in international politics. In particular, the postwar history of IFLA was colored by Cold War tensions between the East and the West and by the emergence of the developing world from colonial domination.

The library associations of Poland and Czechoslovakia had joined IFLA in 1929 and in the years following World War II all of the Eastern Bloc organizations were admitted as well. The USSR Library Council became a member in 1959, and thereafter the socialist countries were always represented by a vice-president on the Executive Board (47). By this time the tenuous wartime alliance between the United States and the Soviet Union had degenerated into a climate of mutual suspicion and recrimination. Although the Federation strove to remain apolitical and truly international, it was not always immune from the pressures of global politics. At the conference in London in 1948 President Wilhelm Munthe warned of the dangers to library cooperation posed by the ideological confrontation between the two super-powers. He asked, “shall our most urgent concern be to prepare . . . anti-atomic bomb shelters in which we can bury the intellectual treasures we have in our custody? Shall we, the torchbearers of enlightenment, end as gravediggers of science and scholarship?” (48). At subsequent conferences delegates from the West and the Soviet bloc generally worked together amicably despite the strained relations between their governments. In Sofia in 1964, for example, American and Russian librarians held a frank and amicable discussion of the merits and disadvantages of their respective national library systems. Occasionally, however, IFLA reflected the ebb and flow of Cold War tensions. The conference in 1969 was moved from Moscow to Copenhagen in protest over the Soviet invasion of Czechoslovakia in 1968, and at the conference in Chicago in 1985, at the height of Ronald Reagan’s “Evil Empire” rhetoric, Librarian of Congress Daniel J. Boorstin provoked a heated controversy with a speech criticizing official censorship in Russia. Such conflicts, infrequent as they were, recurred intermittently until the collapse of the Soviet Union in the early 1990s (49).

Another major challenge that IFLA faced during the postwar years was the need to broaden its membership and activities beyond the borders of Europe and North America. In the 1920s and 1930s it was markedly Eurocentric. Although library associations from China, India, Japan, Mexico, the Philippines, Egypt, and Palestine joined during the Federation’s formative years, they seldom had the

resources to participate fully. All of the prewar meetings were held in Europe, and the time and costs of international travel often prevented their members from attending. In 1936 offers from both China and India to host the annual conference were declined due to the financial burden it would have placed upon the European delegates (50). In the 1950s and 1960s, as library associations from the newly independent states in Africa and Asia joined IFLA, progress toward becoming a truly international organization was modest at best. In 1954, when president Pierre Bourgeois asked for a “frank statement” of his views on the matter, Indian library leader S. R. Ranganathan replied that it was clear to the “outsiders” that the “old view that ‘international’ in IFLA is exhausted by Western Europe and North America persists (51).” The situation improved in the late 1960s and the 1970s, particularly with the establishment in 1976 of the Division for Regional Activities, with regional secretariats for Africa, Asia, and Latin America. In that year library organizations from 39 developing countries were represented in IFLA. However, of the 350 total committee and board memberships only 22 were held by librarians from the developing world (52).

Many of the most ambitious projects that IFLA undertook in the post-colonial era focused on the development of public libraries. In the prewar period, when the federation was largely a European organization, there was also a pronounced, elitist bias toward academic libraries. All of the presidents and most of the other officers were employed by large research institutions and, with the exception of a public library committee that was not established until five years after the founding, public librarians rarely served on the various committees. As late as 1957, a group of public librarians protested the decision by the IFLA Council not to give the Public Libraries Section a second representative on the Executive Board and complained that “public libraries have felt for a long time . . . that IFLA always has been—and remains—generally influenced by research libraries (53).” However, about the same time that the Federation began to make efforts to include librarians from outside of Europe, it also began to devote more attention to the special needs public librarians. The theme of its annual conference in Bern in 1962 was “Cooperation Between Research and Public Libraries,” and the following year it published *Libraries in the World*, a long-term program that included a significant role for public libraries (54). Many of the new programs focused on public library development in the newly independent nations in Africa and Asia. In 1971, at the Liverpool City Libraries, IFLA held a preconference seminar on librarianship in developing countries. Sponsored by UNESCO, the seminar included extensive discussions of public library service (55).

In the postwar years IFLA also continued to promote more traditional forms of library cooperation, such as shared standards for information management. In the 1960s the Federation convened two major conferences on cataloging standards, the first, in Paris in 1961, devoted to catalog headings and

the second, in Copenhagen in 1969, focusing on standardized bibliographic description. In 1971 it established a Universal Bibliographic Control (UBC) Office and throughout the 1970s published a series of manuals for International Standard Bibliographic Descriptions (ISBDs) (56). During the same period IFLA also explored the application of emerging computer technologies to the exchange of bibliographic information. In 1965 it established a Committee on Mechanization that worked closely with both the UBC Office and FID. In 1977, in collaboration with IFLA's International MARC Steering Committee, the UBC Office published the first UNIMARC manual, an international version of the standard for machine-readable bibliographic records (57). By this time, at least in the industrialized countries, computers had revolutionized the means by which librarians manage and make available printed information.

The development of computers was the third revolution in the history of textual communication. Just as the evolution of writing and the invention of printing using moveable type determined to a large extent the ways that earlier libraries functioned, the new digital medium likewise transformed the ways in which they provided physical and intellectual access to their collections. During the 1970s and the 1980s, computers enhanced intellectual access by allowing librarians to share bibliographic records and make them accessible to a wider public through online catalogs. More recently, however, we have witnessed a further development in which computers can expand physical access by allowing readers virtual access to titles in full text on the World Wide Web. However, despite these radical changes, the two essential tasks of the librarian remain. Librarians continue to provide physical and intellectual access to textual material. The digital revolution has accelerated cooperation among libraries and enabled them to cooperate on a truly global scale, but the foundations of the profession have not changed.

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International Library Organizations

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ProLiteracy Worldwide

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INTRODUCTION

The complex of international library organizations in the first decade of the 21st century is larger than it has ever been in history, yet there have been startling changes due to economic, cultural, technological and political changes mainly toward the end of the 20th century. The International Federation of Documentation (FID), specializing in scientific and technical documentation, faltered and died after more than 100 years of service to scientific and technical documentation professionals. Its principal activity, maintenance of the Universal Decimal Classification (UDC), became the responsibility of the UDC Consortium in January 1992. (See www.udcc.org for more information.) The International Federation of Library Associations and Institutions (IFLA), on the contrary, continues to flourish. A new entrant to the international library organization scene, EBLIDA, founded in 1992, shows powerful potential due to the strength of its funding source, the European Commission.

But the real story of international library organizations parallels the enormous growth of the library field itself, reflected in the country statistics of UNESCO and the several editions of my *World Encyclopedia of Library and Information Services*, 3rd ed. (1992). That growth has been led, until recently, by the North American library community due to economic, political, and educational/professional advantages. First there have been no major military conflicts in North America since the U.S. Civil War (1861–1865) and politically

the United States, Canada, and Mexico have lived in political harmony throughout the 20th century. Second, with the exception of brief periods like the Great Depression in the 1930s, the region has enjoyed steady economic growth. Third, librarians in the United States and Canada have been educated for leadership since the 1920s when the library education standard became a postgraduate university degree. Political stability led to steady economic growth, which in turn led to larger public and private investments in library programs. Professionalization of the field continues to provide a large cadre of leaders who share a common vision of the field and who channel investments into the development of internationally prominent institutions and organizations.

In contrast, Western Europe, including the United Kingdom, has a longer history of library development. However, it has suffered through two major wars on its soil in the past century, interrupting and depressing economic growth, while formal education for careers in librarianship was not required and was not standardized in most of the countries of that region until recently. Led by the United Kingdom, France, Germany, Netherlands, and the Nordic countries, library institutions and organizations have shown considerable strength in the second half of the 20th century. Building on the strength within individual countries, the emergence of the European Union creates the prospect of a unified library community with economic support that could rival and, perhaps, exceed that of North America.

This explains, in part, why this chapter has a North American/Western European orientation and why so few international library organizations have developed outside of these two geographical areas. It is not that they do not exist; it is that they operate on such a small scale that their impact has been limited. With the exception of North America, most successful international library organizations have been government led and funded, primarily through national libraries.

The scope of this chapter includes intergovernmental organizations, international library associations, foundations and other funding agencies with principal activities in the library field, and international bibliographic organizations. "International library organizations" as defined here refers to organizations and institutions that develop and sponsor international activities in the library field, but also have international representation in their governance structure. This excludes government agencies like the U.S. Agency for International Development and the British Council. It also excludes national library associations like the Chartered Institute of Librarians and Information Professional (CILIP) and the American Library Association. Similarly, national libraries like the National Library of Australia, The National Diet Library of Japan, and the U.S. Library of Congress, which have contributed to many international library events and activities, are not included. International activities of the British Library, the Bibliotheque Nationale, the Deutsche

Bibliothek, and the National Library of Canada, carried out under the auspices of IFLA, are addressed.

It does not include publishers, booksellers, library systems companies, and other suppliers of library products and services, although many of them are arguably integral members of the international library community. While these entities are vital to the support of libraries, for the purposes of this article they are not defined as international library organizations.

INTERGOVERNMENTAL LIBRARY ORGANIZATIONS

The United Nations and its specialized agencies maintain voluntary networks of affiliated libraries such as AGLINET, the voluntary network associated with the Food and Agriculture Organization, however most do not have a significant program or a special focus on libraries. Perhaps, the best-known intergovernmental organization with a significant library program is UNESCO. Its current library program had its origins in 1976 when the UNESCO General Council authorized the establishment of the General Information Programme (PGI), which began the following year. This action ended a bureaucratic wrangle within UNESCO that came to a head in 1974. The problem stemmed from the perceived dominance of the UNISIST program for scientific and technical documentation that stimulated the demand for a comparable National Information Systems program (NATIS) to focus on the needs of libraries and archives. Under PGI libraries, documentation and archives were brought together in a more or less harmonized fashion.

The PGI library program had four principal emphases: national information policy; standards and norms; national library infrastructure; training and education. The Intergovernmental Council was created to guide the workings of the PGI, comprising 36 member state representatives elected by the General Council. PGI persisted as an independent program outside of the major sectors of UNESCO (that is, education, science, and culture), reporting to an Assistant Director General of UNESCO until 1990. At that time the PGI became part of the Information Society division of the Communications and Information Sector. Led by its Director Phillippe Queaue, this division reconceptualized UNESCO's approach to libraries in the paper "UNESCO and the Information Society For All" (1996). The PGI became Information for All (IFAP) as a result of this new direction.

The new focus recognizes the influence of information communication technologies (ICT) and attempts to harness its power to advance libraries within a communications framework. However, political and economic conditions within UNESCO have limited the funding available to support its programs. The need to seek partners to help finance its programs has led the division to sponsor more high profile activities with broad support from the member states like

“Safeguarding the Memory of the World,” a conservation and preservation program to protect and make accessible endangered institutions and collections of cultural heritage, while supporting mainly policy documents for public and school libraries. Although there are still small UNESCO grants awarded to member states to support library projects, much of the professional library work sponsored by UNESCO has been pursued jointly with IFLA and major national libraries in recent years.

The Nordic Council for Scientific Information (NORDINFO) is a prominent example of an intergovernmental library organization on the regional level. It is well known for the support it has given to library cooperation in the Nordic region. More recently it played a significant role in easing the transition to a democratic society by libraries and librarians in the Baltic States. Early efforts at library cooperation among the Nordic countries led to the establishment of the Nordic Association of Research Libraries in 1947. It is perhaps best known for having created the SCANDIA Plan, which was a cooperative acquisitions plan among Norway, Denmark, Sweden, and Finland.

In 1970 the Nordic Council established the Nordic Coordination Committee for Scientific and Technical Documentation (NORDDOK). Although theoretically library plans and projects came under its auspices, none were ever approved. In reaction, the research library community in the Nordic countries formed the Nordic Cooperative Council for Research Libraries (NFSB) and lobbied NORDDOK for the inclusion of library projects among its funded programs without success. Further complaints by NFSB led to a committee to investigate the allegations. The review committee recommended that the Nordic Council create a new organization by combining NORDDOK with NFSB to integrate activities concerned with libraries, scientific and technical documentation, and special information centers. That new organization was NORDINFO.

NORDINFO began with three areas of emphasis: policy development, education, and library technology development. Typically it uses three-year work plans to guide its operations. During one period in the 1980s NORDINFO experimented with the creation of three Centers for Excellence.

Network Information Services, Lyngby, Denmark, jointly with Lund University

Electronic Publishing, Erbo, Finland, jointly with the Technical Research Center (VIT)

Digital Handling of National Collections, Mo i Rana, Norway, jointly with the National Library of Norway

After three years NORDINFO conducted an evaluation and discontinued these operations. More recently during the 1999–2002 grant period NORDINFO brought together the scientific and technical information community with

publishers and information providers as well as librarians and policymakers to develop the Nordic Electronic Research Library.

The focus of NORDINFO's work remains centered on the five Nordic countries: Iceland, Norway, Denmark, Sweden, and Finland. It has extended its service area to include institutions in the Baltic States and western Russia. In addition NORDINFO maintains an interest in European and international developments.

The budget for 2000–2002 was \$720,000 USD. Most of its projects require matching funds, except for conferences where the NORDINFO contribution is \$5000 USD. It cosponsors about 20 conferences annually. A five member board that serves four-year terms governs NORDINFO. The combination of its funding leverage plus the strong support of the relevant communities in its member states has given NORDINFO significant influence within its region and beyond. (See www.nordinfo.helsinki.fi for more information.)

ASSOCIATIONS

National library associations make their most significant contribution to international library activities by belonging to international library organizations and by encouraging their most talented members to be active in international library organizations. Major international projects sponsored by national library associations are usually in partnership with their national libraries (The British Library, Library of Congress, National Library of Canada), with an agency of their government (British Council, U.S. AID, IDRC), or with private foundations (Open Society Institute). More commonly, national library associations host visiting foreign librarians, organize conferences and seminars, and offer information and advice through publications and online services.

The dominant international library association is the International Federation of Library Associations and Institutions (IFLA). Founded in 1927 in Edinburgh, it celebrated its 75th anniversary at its general conference in Glasgow in August 2002. Almost until its 50th anniversary conference in Brussels, IFLA was primarily a European and North American organization. Encouraged by its president, Herman Liebaers, Royal Librarian of Belgium, IFLA began to broaden its membership participation with the assistance of UNESCO in 1972. By 2002 there were over 1600 association, institution, and individual members representing over 140 countries. IFLA operates in five official languages, English, French, German, Russian, and Spanish. Eight major divisions representing types of libraries and types of activities carry out its main programs. "Round Tables" representing more specialized interests supplement the work of the division. IFLA maintains a Secretariat in The Hague, Netherlands, with about ten staff members. As of 2001 IFLA accounts

exceeded 2 million Dutch Guilders with reserves of 1.1 million. IFLA has a robust publishing program including a journal and numerous newsletters. K.G. Saur, based in Munich, issues its monographs.

IFLA is primarily a forum for its members to exchange information on developments in the library field. The programs at its general conference, the *IFLA Journal*, several newsletters, and its online listserv IFLANET accomplish this. The Council of Directors of National Libraries (CDNL) meets in conjunction with IFLA, and its members have provided support for several of the “Core Programmes” of IFLA. These programs sponsor research and disseminate information on specialized topics. Originally there were five Core Programmes of IFLA. Shifts in membership interests and scarcity of funding had reduced them to three by 2003:

Universal Bibliographic Control and International MARC (UBCIM)—established at the British Library, moved subsequently to the Deutsche Bibliothek, where it remained until March 2003. Some of its activities, including publication of the Journal *International Cataloguing and Bibliographic Control*, and support for the UNIMARC format, will be continued by the National Library of Portugal. This was the first IFLA Core Programme that developed standards for the documentation and transmission of bibliographic data making possible the storage, retrieval, and communication of bibliographic data in machine-readable formats.

Universal Availability of Publications (UAP)—established at the British Library, this office closed at the end of March 2003. IFLA headquarters will continue the popular IFLA voucher scheme that allows libraries, especially those in developing countries, to purchase opportunities to borrow materials from other libraries for 8 euros each. The vouchers are reusable, but can be redeemed from IFLA. UAP stimulated studies and encouraged the practice of interlending among libraries in different countries.

Preservation and Conservation (PAC)—established originally at the Library of Congress, United States, it moved to the Bibliotheque Nationale, Paris, in 1992. Working in conjunction with seven regional centers, PAC does research and disseminates information on the “best practices” for the preservation of library and archival materials.

Advancement of Librarianship (ALP)—based at the Uppsala University Library, Uppsala, Sweden, this office sponsors seminars and other training programs in developing countries in order to advance the profession of librarianship in those areas.

The National Library of Canada had sponsored Universal Dataflow and Telecommunications (UDT) until March of 2003. Notice has been given to IFLA that Canada will no longer sponsor this program. No new plans have been announced for the continuation of this program. Under the auspices of UDT, IFLA became a global library network connected via IFLANET. However, UDT never developed a significant program to assist libraries in member countries to develop access to information communications technologies.

IFLA became a more global association in the 1980s when it began to move its conferences outside of Europe and North America. Since 1980 (Manila) it has met in Nairobi (1984), Tokyo (1986), Sydney (1988), New Delhi (1992), Havana (1994), Istanbul (1995), Beijing (1996), Bangkok (1999), and Jerusalem (2000) and Buenos Aires (2004). The location of these conferences and the availability of the conference papers on the IFLA web site have been a major factor for stimulating the growth of the IFLA membership. Conferences that drew 500 to 1500 attendees in the 1970s and 1980s now draw well over 2000 participants annually. IFLA is the designated organization in the library field with which UNESCO cooperates in carrying out its library program.

In 2001 IFLA adopted new statutes that enlarged its governing board to make it more representative of its membership and elected its first president from the continent of Africa. It is a more costly structure at a time when funds are scarce. Renewed efforts are underway to enhance IFLA revenues that have diminished since political changes in eastern Europe reduced its membership income, and since the withdrawal of financial support for UNESCO by the United States in 1987 reduced subventions from that body. Despite these limitations, IFLA continues to be the most widely supported international library organization. (See www.ifla.org for more information.)

The International Federation for Information and Documentation (FID) rivaled IFLA for the hearts and minds of librarians and information specialists during most of the past century. However, FID lacked a substantial core constituency and it failed to capture the attention of those librarians who have a more technical orientation to the field except in parts of Latin America. Without a substantial core constituency and without major programs competitive with IFLA, FID steadily lost members in the last decades of the past century. Repeated efforts to establish cooperative relationships with FID by IFLA were spurned ending with an 11th hour offer by IFLA to try to salvage the membership programs of FID that also received no official response. Given the importance of scientific and technical documentation activities globally, a new organization is likely to emerge with a special focus on this area. Several specialized library associations continue to operate as members of or affiliates of IFLA.

The International Association of Metropolitan Libraries (INTAMEL) is a Round Table of IFLA while holding its annual conclave in the same country, but at a separate venue from the IFLA General Conference. INTAMEL was established in 1968 and represents over 100 major public library systems.

The International Association of Music Libraries (IAML), Archives and Documentation Centres, has about 2000 individual and institutional members from over 45 countries. IAML is a member of IFLA, EBLIDA, and is affiliated with UNESCO, International Association of Sound Archives (IAS), and the International Association of Music Information Centres (IAMIC).

The International Association of School Librarianship (IASL) was established in conjunction with the World Council of the Teaching Profession (WCOTP) in 1971. Currently it is a member of IFLA and works closely with the International Reading Association (IRA), the International Board for Books for Young People (IBBY), and UNESCO. (See www.iaslslo.org for more information.)

The International Association of Technological University Libraries (IATUL), founded in 1955 at Dusseldorf, represents member libraries in technological universities in about 40 countries. (See www.iatul.org for more information.)

The International Association of Agricultural Librarians and Documentalists (IAALD), established in 1951, maintains AGLINET as its principal activity, which is the network of agricultural libraries and documentation centers operating under the auspices of the Food and Agricultural Organization and UNESCO.

All of these international Associations sponsor annual conferences separate from IFLA and publish journals and newspapers while acting as spokespersons for their specialized field.

Regional Associations

A number of international library associations represent specific regions of the world. The most recent entrant to this field of international library associations is the European Bureau of Library, Information and Documentation Associations (EBLIDA). It also has the potential for becoming a major player on the global scene. Established to give its member associations a voice in the complex deliberations of the European Parliament and the European Union offices, EBLIDA represents 40 members and over 120 associate members. As the EU continues to develop, EBLIDA stands to benefit from the revenues that can be garnered from the EU for the support of library interests across Europe. An older regional association in Europe is the Ligue des Bibliothèques Europeennes de Recherche (LIBER), founded in 1971 and devoted to the interests of research libraries. In 2002 it had members from 30 countries including the United States

and Canada. Its principal activities are in the areas of access, collection development, library management, administration, and preservation.

Other regional library associations that deserve mention here include the Association of Caribbean Research, University and Institutional Libraries (ACURIL), the Commonwealth Library Association (COMLA), representing libraries and librarians in the former British Commonwealth, the Congress of Southeast Asian Librarians (CONSAL), the Standing Conference of African University Libraries, and the Standing Conference of East, Central and Southern African Librarians. Although international in scope, the principal activity of these organizations is to sponsor conferences and training programs that result frequently in publications. For many librarians they provide a focus on common problems in a given region and are an alternative to the lengthy and expensive trips to the IFLA General Conference.

FUNDING AGENCIES

Carnegie Corporation of New York is the oldest foundation in the world with a specific interest in library development. Established by Andrew Carnegie in 1911 from part of the proceeds of the sale of Carnegie Steel Company to J. P. Morgan, Carnegie personally and through the corporation donated more than \$56 million to build more than 2500 libraries in the United States and other English-speaking countries. He donated \$41 million to build 1629 public libraries in 1412 communities in the United States alone. In terms of its impact, it is arguably the most significant philanthropic effort in the history of North America.

In 1918 the corporation provided funds to support the study of library education that led to the professionalization of librarianship in North America by prescribing a postgraduate, professional course of study in the university after the receipt of an undergraduate education. The corporation gave more than \$2 million to establish an endowment for the American Library Association (ALA). It donated almost \$3.4 million to establish the first graduate library school at the University of Chicago. After World War II the corporation contributed funds to the Social Science Research Council for a sociological study called the Public Library Inquiry. Later, in 1956, the corporation financed the first Public Library Standards issued by the ALA. The corporation gave selectively to libraries and library projects until the mid-1950s.

For over 40 years following the Public Library Standards the corporation turned its back on libraries in order to focus on other educational and social issues. In 1998 a new President of the Corporation, Vartan Gregorian, former President of the New York Public Library, announced a renewed interest in libraries. Since that time a limited program of grants to public libraries in the United States and a more ambitious program to stimulate public development in Africa have been promulgated. In the year 2000, several metropolitan public

library systems received substantial grants from Carnegie. At the same time, grants were made to stimulate public library development in Kenya, Botswana, and South Africa.

Under the auspices of its international development program, the corporation funds selected projects relating to African university libraries, higher education for women, and public library development. It is required by the terms of Andrew Carnegie's will to spend at least 7% of its income in the former countries of the British Commonwealth. Currently those funds focus on sub-Saharan Africa. A board of trustees with several international members governs the corporation. The president and a staff of around 75 manage its affairs. For the year ending September 2001 the total assets of the corporation reached \$1.7 billion and revenues were over \$56 million. (See www.carnegie.org for more information.)

The Council on Library and Information Resources (CLIR), formerly the Council on Library Resources (CLR), was established by a grant from the Ford Foundation to specialize in funding proposals emanating from libraries. Later several other foundations contributed to the council's library efforts. Between its founding in 1956 and the mid-1980s, the council funded a number of seminal studies and development projects that helped shape the library world as we know it. It funded the studies that led to the creation of the *Index Medicus* of the National Library of Medicine and forerunner of a family of international databases on medicine. The council supported the work of the Barrow Laboratory on the causes of paper deterioration and the development of permanent, acid-free paper.

In 1981 the council founded jointly with the Association of American Universities (AAU) the Commission on Preservation Access intended to develop a strategy for the preservation of the great research collections in the world's libraries. The council also donated the funds to establish the initial IFLA Core Programmes on Universal Bibliographic Control (UBC) and the Universal Availability of Publications (UAP).

In the late 1980s CLR and the commission appeared to be in competition for funds to support their respective programs. As the Commission's program grew, CLR's program shrank. In 1997 the two organizations merged to form the Council on Library and Information Resources. It draws its funding from a number of other foundations, colleges and universities, and private donors. In 2002 it had assets of \$8.8 million, received revenues of \$5.8 million, and had program expenses of \$3.4 million. CLIR has an International Board of Directors and a staff of about 15.

Major activities sponsored currently by CLIR include administering the Bill and Melinda Gates Foundation Access to Learning Award, an annual award of up to \$1 million to an organization pioneering in access to information communications technologies. To date the award has been made to several public

libraries in different countries. CLIR sponsors many small grants for studies by researchers on various library problems. It continues to stimulate studies and groundbreaking library developments in the library field. (See www.clir.org for more information.)

George Soros established the Open Society Institute (OSI) in 1993 to promote the development and maintenance of open societies by investing in the establishment of democratic institutions and by promoting innovative alternatives to complex and controversial issues. Originally committed to encouraging democratic reforms in the formerly socialist countries, the OSI in New York and its offices in Budapest develop programs that are administered in over 50 countries by local Soros foundations. Local boards direct these foundations in consultation with George Soros and the OSI Boards. Funding provided by these foundations comes from OSI and other sources. They support projects selected by the local boards. Of major significance to the library world is the many librarians OSI has sponsored to further their studies, including study tours to the United States and parts of western Europe where they have come to understand more fully the role of the library in a democratic society as well as modern library practices. These international study and exchange opportunities have benefited librarians in central and eastern Europe, Russia, the Baltic states, and several countries in Africa. OSI has an ambitious agenda involving libraries, publishing, and the strengthening of universities. In 2001 OSI had assets of \$177 million, received gifts of \$220 million, and made grants totaling over \$91 million. (See www.soros.org/osi for more information.)

SERVICE ORGANIZATIONS

OCLC is a unique institution that began its life as the Ohio College Library Center in 1967. Its first director was Frederick Kilgore, who left his position as Director of Research and Development at the Yale University Libraries to start what has become a nonprofit cooperative serving more than 42,000 libraries in over 86 countries. In 2001–2002 it had assets of \$269 million with net revenues of over \$172 million. During that year it reached 48 million records in its WorldCat (OCLC Online Union Catalog; OCLC began its online-shared catalog in 1971). By 1979 it introduced an interlibrary loan service and in 1991 it launched FirstSearch, its online reference database that now has over 20,000 user libraries.

The growth and development of OCLC is even more remarkable considering that it has been financed primarily by the payments made by libraries to share its databases and fees for related services. OCLC is also a major source of research on bibliographic issues. Most recently it has been the primary contributor of research on metadata and the future of the MARC format. Its principal services include access to its WorldCat bibliographic database and

online catalog; cooperative reference and resource sharing; and digital collection management and preservation. It envisions adding links to digital objects located in the collections of museums and archives as well as full text, images, reviews, and other files.

OCLC administers its activities from its headquarters in Dublin, Ohio. It recently combined its operations in Europe, Africa, and the Middle East at its new OCLC Pica center in the Netherlands. Its Asia and Pacific Region and its Latin American and Caribbean activities continue to be serviced from Ohio. OCLC boasts an incredible record of reducing the cost of library technical service operations and has moved impressively to reduce the cost of providing access to information directly to users. A board of directors governs OCLC and a members council advises on its services and operations. Both represent an international client base. (See www.oclc.org for more information.)

CONCLUSION

The world of libraries and librarianship is increasingly global and the array of significant national and international organizations continues to grow and develop along with it. Financing international organizations that are not government sponsored will be a challenge. Yet a number of nonprofit, nongovernmental library organizations flourish. While international library organizations have focused on library development, education and training of librarians, and library operations, there is a great need for international library organizations that focus on user issues. During the past century great library collections have been established and outstanding facilities have been developed to house them and their users. Elaborate mechanisms have been created to facilitate access to known objects. However, our understanding of the needs and interests of users has not kept apace.

The next major challenge for libraries will be to develop systems and services that respond more precisely to the specific needs of users, similar to what is seen in certain commercial services. Employment of advanced mathematical concepts in searching for information has led to remarkable developments on the Internet, like Google, but little of it has been adapted for use by library and other information services. An exception to this is the test bed for scientific literature, originally sponsored by the U.S. National Science Foundation Digital Library Initiative that still operates at the Grainger Engineering Library of the University of Illinois.

More efforts like the Open Society will be needed to stimulate library development in regions of the world where there are few libraries or information services. Harnessing information communications technologies to advance libraries will continue to be a challenge, especially where few resources are

available to acquire the necessary complement of equipment, software, or training.

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3

The Role of Libraries in Rural Development

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INFORMATION IN RURAL AREAS

Information is defined by the Random House Collegiate Dictionary (1999) as “knowledge communicated or received concerning a particular fact or circumstance; as knowledge gained through study, communication, or research; and as the act or fact of informing.” How does this relate to the role of libraries in rural development? Abid (1995) identified seven types of information needs in rural areas: health, problems of daily existence, occupation, government and society, recreation and leisure, education, and religion. People in rural areas require information that helps them to identify and prepare healthy meals for their families and how to treat diseases that they encounter. Clean water, electricity, good roads, and living-wage employment are vital to daily living and productivity in their communities. To be successful, farmers require understandable information about strategic planning and how to develop, schedule, plant, and maintain their crops; how to grow and sustain their farms and farm-related businesses; and how to educate and maintain healthy families. These are basic requirements for building a foundation for effective agricultural occupations that help to sustain families and communities. Parents need to

know how to take care of their families, livestock, and farms as well as how to manage the business affairs of their homes and communities. Culture and leisure activities that include good reading materials about a host of topics in both a regional and global context help to ensure the wholeness of life for the individual and the community. Information is an essential component of the planning and development in rural areas that determines the extent to which these individuals and communities can thrive in the new technological century.

Many members of rural communities are becoming increasingly aware not only of their right to know the information, but also to understand that such information should be made easily accessible and affordable to help facilitate their empowerment to plan and manage their own affairs and development. However, extensive work remains to be done to reach a substantial portion of the population who are, as Abid (1995) has stated, “often unaware of the very existence of information and services which provide the access or that communication about these services suffers from a lack of credibility . . . ” (p. 13). In view of this, the purposes of library and information services to the clients in rural areas encompass provisions of equitable access to hard copies and/or electronic resources and activities. In addition, libraries play a central role in informing the communities about the existence of the services in conjunction with appropriate instruction designed to equip clients in the use of the resources. Such contributions by the libraries and information centers provide crucial support to members of the communities as they learn what is needed to set and attain determined goals for their development. This chapter highlights some of the initiatives undertaken through libraries and related organizations, agencies, and institutions as they assume a leadership role in rural development.

INFORMATION SERVICES INITIATIVES

Libraries and Coalition Building for Rural Development

While rural communities have many rich resources of tradition and oral communication, they often lack vital components that can contribute to rapid development resulting from access to the wealth of information made available and administered by trained staff in well-resourced libraries. Nevertheless, much has been accomplished through the establishment of networks, cooperative projects, and sharing of resources. There is much in the literature that supports the positive impact of such coalitions across professional organizations, libraries, governmental and nongovernmental groups, and community members.

The International Federation of Library Associations and Institutions (IFLA) has played a unique role in rural development throughout its enduring history since 1927. The establishment of the pre-session seminars to IFLA general conferences in the 1970s enabled librarians in the international community to work intensely on specific topics in association with members of the local and

regional communities. Through such endeavors, in-depth studies and assessments have been conducted that resulted in the development of guidelines, standards, policies, and strategic plans that have benefited the communities involved.

Literacy in Geographically and Socially Isolated Communities

The pre-session seminar on “Libraries for Literacy in Geographically Isolated Areas” (1995) is one of numerous noteworthy examples of local and international involvement. Twenty-five colleagues from the Caribbean and Latin American area participated in this seminar in Matanzas that was jointly sponsored by IFLA and UNESCO during the week prior to the 1994 IFLA General Conference and Council meeting in Havana, Cuba.

Employing examples from programs and services in their regions, librarians addressed topics related to rural development in Cuba and other parts of the Latin American and Caribbean region, the value of oral traditions and storytelling, as well as the development of services for children and new literates. Many of the librarians and other participants came from surrounding countries and regions, including Trinidad, Brazil, Peru, El Salvador, and Colombia. A sampling of the findings and outcomes from these proceedings indicated that Cuba had conducted the necessary feasibility studies and developed minilibraries to serve information needs of people in its mountainous areas, in the sugar mills, in the hamlets, in health care centers, in reeducation centers, in factories and in other isolated areas. The idea of developing minilibraries was the result of creative thinking to overcome the lack of resources needed to maintain and expand its bibliobus services (Thomas, 1995a,b). It showed that librarians in Cuba pooled their resources in order to prepare citizens throughout the country to make decisions about their own educational, economic, and social lives. Similar reports were made about other services in countries in the region.

In addition, Mohd Sharif Mohd Saad (1995) described services implemented based on oral tradition and storytelling in Malaysia to support access to information and development of their population of more than 18 million. Since the 1970s, many Malaysian stories have been recorded and published for dissemination to clients. Understanding their role in the educational, physical, and social development of children in the country, librarians developed 14 state library services with the support of volunteers. Activities used to inform the children in their communities included storytelling, films/videos, shows, arts and handicrafts, games, clubs, and storytelling competitions. While helping the children to build foundations for life skills, librarians and volunteer community leaders also helped to preserve a cherished heritage of storytelling.

UNESCO Manifesto for Public Libraries

In addition to presentation and discussions about initiatives in these regions, the editor of the proceedings from this pre-session, Barbro Thomas, presented an update on the revision of the “UNESCO Manifesto for Public Libraries.” Since its original edition in 1949, this manifesto has been a strong support document worldwide to promote understanding of public libraries, the use of public libraries as democratic agencies for education, to provide guidance for library development, to promote advocacy for the communities, and to serve as peoples universities. Further, Thomas (1995a,b) notes that IFLA and UNESCO have been collaborating on the development of these pre-sessions since its inception in the 1970s. The recent revision of the UNESCO manifesto has been translated into many languages and distributed worldwide.

Advancement of Libraries in the Third World

Of particular note within IFLA for rural development in the international community has been the work of the Core Programme, The Advancement of Librarianship in the Third World (ALP), that was launched at the 1984 Nairobi, Kenya, conference. (See ifla.org/vi/1/alp.htm.)

The mission of ALP is to further the library profession, library institutions and library and information services in the developing countries of Africa, Asia and Oceania and Latin America and the Caribbean. Within the special ALP areas, the Strategic Plans and Action Steps assist in continuing education and training; support the development of library associations; promote the establishment and development of library and information services to the general public, including the promotion of literacy; and introduce new technology into library services. ALP also functions as a catalyst within IFLA for the organization’s activities in Third World countries.

Through activities developed and carried out by these groups within ALP, librarians contribute to library developments that benefit many communities in countries seeking to provide services and resources that help to sustain their members.

Information Provision to Rural Communities in Africa

Other examples of collaboration between these leading international organizations to advance librarianship and access to information in developing areas include the 1994 seminar on “Information Provision to Rural Communities in Africa.” The seminar was held in Gaborone, Botswana, June 22–25, 1994 in

association with the University of Botswana, the Botswana National Library Services, and the Department of Non-Formal Education in Botswana. IFLA-organized conferences included "Advancement of Librarianship in the Third World," "Regional Organization for Asia and Oceania," and "Regional Services for Rural Communities in Africa." The seminar focused on operational rural information centers and encouraged participation on the part of activists interested in interactions between libraries and various segments of the community. Participants included information providers, educators/trainers, researchers, policymakers, administrators, and donors from northern, western, eastern, and southern Africa.

With funding from NORAD (Abid, 1995), librarians in Tanzania established Village Libraries for New Literates in the Lake Regions, designed to make accessible reading and visual materials. In examining the impact of these libraries, the assessment team found that mostly pamphlets were part of the adult literacy program, rather than the Tanzania Library Services Board newspapers which were used as supplemental materials for literacy classes. They concluded with a "recommendation for libraries to be a part of a national strategy to develop library services rather than simply depositories for adult education materials." (Abid, 1995, p. 14). One further example of outcomes from the seminar presented by Emmanuel N. O. Adimorah (1995) on the "State of Information Provision to Rural Communities in Anglophone West Africa." Most rural services in this region are provided by a combination of governmental agencies, public libraries, intraagency organizations, nongovernmental organizations, and international organizations. The strong emphasis in rural development on the part of the governments such as Nigeria's focuses on health materials for communities, and is an example of initiatives cosponsored in association with community-based organizations. Among the recommendations from these studies were encouragement to develop public libraries to energize efforts for literacy and skills development; the development of standardized practices of information gathering and provision; and the development of community information networks (Adimorah, 1995).

Mobile Library Services in Indochina

Proceedings of the 2001 study "Mobile Library Services in Indochina" describe and report on many unique library services in the Asia and Oceania region (Guaysuwan, 2001). Pensri Guaysuwan assembled a team of twelve international experts to study rural libraries in Indochina. Serving in her position as Regional Manager of the IFLA Regional Office for Asia and Oceania, Guaysuwan guided the planning for the study and managed the work of the team as they traveled to rural sites throughout Thailand and Laos, where the experts found evidence of much creativity in services being provided to the communities.

Laos Initiatives

The Mobile Library Car Service under the leadership of Mr. Oudomsavanh is the only service available to Laos villagers, teachers, students, and the community-at-large. The high value placed on the services provided was observable throughout the discussions and examinations of the activities. A collection of books stored in wooden containers was circulated among schools and communities in the region.

In Ban Houaxieng, a small new library building funded by a Japanese donor was the site of much innovation and development. Results of the preserved rich cultural heritage of people in the region were reflected in the warm welcoming ceremonies performed for the evaluators by teachers, administrators, community members, and students from the communities. In addition, staff from the Vientiane Caravan, made up of professional librarians from the National Library of Laos, also worked as volunteer professional theatrical performers. The procedures of employing oral tradition and storytelling to educate and to entertain were demonstrated superbly. Moreover, librarians used this opportunity to distribute printed copies of the stories to all participants in the program to encourage everyone to read them.

Higher Education Leadership for Rural Development: Thailand and Laos Initiatives

The Mahasarakham University, a division of Srinakharinwirot University in Thailand, has a double mission: to serve the academic community and the country's large rural population of more than over 980,000 spread across 13 districts who have had limited access to relevant information for the development of life skills.

Under the leadership of Sujin Butdisuwan, Director of the Mahasarakham University and its mobile library services, and in association with Department of Library Science, a number of community information services were developed that helped people to improve their daily lives, including door-to-door book box services, mobile truck service, reading campaigns, and village newspaper reading centers. The truck service, for example, provides collections of books and media as part of the university's outreach services to remote areas. To fill this mission, librarians have organized the collections creatively by content areas that accommodated both scholars and the general public.

Research and presentation by Aree Cheunwattana of Srinakharinwirot University highlighted some of these library initiatives in Thailand designed to inform members of rural communities and poor inner city families. The operation of these libraries in Thailand is often supported by individuals and organizations in the community, such as the banks that run some of the public libraries, the Railway Police Division of the Royal Thai Police that created Library Train for Homeless Children in Bangkok, and the Bangkok Metropolitan Municipal Mobile Library Service that has maintained the baan nangsue (book houses) since its launch in 2001.

It is important to note that the Thailand library services for rural and poor communities are the result of the superb leadership role that the universities are playing in training library staff as well as in the development of the library services. Members of the Department of Library Science, the Humanities Department, and others at the Central Library have been instrumental in the development of the Traveling Books for Young Readers project that was funded through UNESCO to promote books and reading as well as the portable libraries that have been in operation since 1979.

In this project, for example, librarians in the Department of Library Science responded to the country's urgent need to provide information for young people in rural communities. Suitcase-sized wooden boxes containing collections of up to 300 volumes were organized and circulated to communities and schools that did not have libraries. The success of Traveling Books for Young Readers was demonstrated by its selection for the 1989 Rising Sun Prize, presented by the International Books on Board for Young People. It continues to attract much attention from librarians seeking ideas for outreach services, and its support from varied sources including IFLA's Advancement of Library Services in the Third World has been sustained and ongoing for more than 20 years (Cheunwattana, 2002).

The colorful and varied models of fabric containers used for Traveling Books for Young Readers were designed and made by librarians and lecturers at the university. The fabric pockets are made in different sizes so that they may be folded and hand carried. This flexible design enables the pockets of books to be mounted on walls and in corridors as well as on or between trees for easy access. The pockets filled with books for children are presented to communities in conjunction with workshops led by librarians to train volunteers and teachers in the maintenance and use of the resources within the schools and rural areas (Butdisuwan, 1999).

The role played by institutions of higher learning in Thailand and the region certainly represent a workable model that can be emulated in other regions desiring to create services for rural populations. Mobile library services of the Chiang Mai University Library offer opportunities for immigrants to develop reading, writing, and speaking skills, especially for groups seeking national identity. Mobile library programs are planned and taught by members of the Department of Library and Information Science at Khon Kean University.

Libraries as Evaluators and Visionaries for Rural Development

Camel Mobile Libraries in Northern Kenya

Following the completion of 1995 feasibility study of remote regions in Kenya, Director of the Kenya National Services (KNLS) Stanley Ng'ang'a and the Board

of Trustees established the first pilot of Camel Mobile Library Services in association with members of the Garissa and Wajir communities in 1996.

The library services are based in Garissa and Wajir districts. Garissa is a semi-arid region of the relatively remote region of northeastern Kenya. Garissa district has a population of 392,510 and Wajir has a population of 319,261. The services are targeted to reach people in nomadic pastoral and administrative centers and settlements. Books in various subject areas such as cattle rearing and management, dry land farming, small scale business and enterprises, basic training manuals for adult education, and junior readers for the schools in the region are some of the resources that help fill the needs of people in the region's communities. This noble service is a traveling library that transports books and reading materials on a camel's back. This ensures good library coverage in areas with poor transport feasibility as the camel is the most suitable animal in the nomadic pastoral systems. Ruheni (2001) adds that the camel is considered a source of livelihood and in normal circumstances provides for a variety of essential needs, such as meat and milk for food, manure for fuel for fires and brickmaking, and skins for mats, shoes, and gourds. In addition to the use of camels for transportation of people, goods, and services, the urine of camels is often used as medicine in the treatment of diseases (Ng'ang'a, 2001). Transporting books with the animal so identified with the life of the community is overwhelming, and this enhances the usage of library materials.

A camel carries three big boxes which hold an average of 300 books. In addition, one of the camels carries a chair, an umbrella, and the materials used to set up the tent at some sites. A third camel carries the supplies that the librarian will need during travel to and from the sites as the caravan travels in its weekly schedule, which includes particular times to rest.

The objective of the Camel Mobile Library Service, according to Ng'ang'a (2001), is to provide information to the disadvantaged people who cannot be served by the static libraries. There is the need to assist and help eradicate poverty and illiteracy in the region, which has an illiteracy level of 85.3% as compared to the national figure of 31%. It was also observed that education is the foundation of human development. There is also a need to encourage and provide leisure reading and general knowledge. This has brought about strong motivation to stimulate public interest in books and reading habits for lifelong reading.

During the latter part of the 1990s, The Executive Committee of the IFLA Round Table on Mobile Libraries invited Stanley Ng'ang'a and Obadiah T. Moyo to present papers about unique nonmotorized mobile libraries in Kenya and Zimbabwe in its Open Session Programs during annual meetings of IFLA. Ng'ang'a and Moyo's detailed reports and videotapes focused attention on the need to study the effectiveness of such innovations in nonmotorized mobile libraries as part of a formal evaluation for further development of the services. In

addition, results of evaluations could be used as models from which librarians in other regions might gather ideas for rural library development.

Based on these needs, the Executive Committee of the IFLA Mobile Libraries Round Table (now Section) undertook the challenge of identifying particular services to be studied, the result of which was the selection of the Camel Mobile Library Service in Kenya and the Donkey Drawn Library Service in Zimbabwe. Formal assessments of community-based services were conducted in 2001 under the leadership of the Round Table's Chairperson, Thelma H. Tate, and Stanley Ng'ang'a of the Kenya National Library Services (KNLS). Participating in these assessments were professional experts from institutions of higher learning in Kenya and Zimbabwe, government and nongovernment officials, educators in the school systems, librarians from the KNLS, and local community members (Tate, 2001a,b). Among the results of the assessment of the Camel Mobile Library Services in Kenya were the following findings:

- The service was "real," functional, and ongoing at every site visited.
- It is the only source of library and information service in the community.
- It is the best mode of mobile services for the foreseeable future.
- The camel is indeed the most viable, effective, and economical mode of transportation of the people, given the nature of the terrain and climate.
- There were many demands for extension of the service to more areas.
- There was a high level of community commitment to contribute to initiatives to establish and expand the service.
- There was no disparity in access to education of boys and girls.
- In addition to the citizens, more than 300,000 refugees who have settled among the remote areas and small villages in the region are benefiting from this service.
- KNLS is collaborating with nongovernmental organizations and other stakeholders to support and expand the service.

The professional assessors of the Camel Mobile Library Service, according to Atuti (2001), felt that the efforts by KNLS are laudable and need to be supported by all the stakeholders. There is need for the enhancement of the human resources, especially in the areas of training for the herdsmen and librarians who were recruited from the communities to serve on the mobile libraries. There should be plans to mobilize the local and broader communities through fundraising to finance the project, such as the support that is currently underway through the Carnegie Corporation.

The Donkey Drawn Mobile Libraries in Zimbabwe

This initiative helps libraries and information services reach clientele in the Matebeleland region of rural areas of Zimbabwe. Directed by Obadiah T. Moyo, the Donkey Drawn Mobile Libraries were designed and developed as one of the

initiatives of the Rural Libraries and Resources Development Programme of Zimbabwe (RLRDP). The program also has a task of training rural librarians and the production of RLRDP publications.

The most striking feature of RLRDP is the development of the Donkey Drawn Mobile Libraries. The program has also introduced book boxes and bicycle deliveries that are circulated and exchanged among rural and urban clusters of users to supplement other services offered.

The report on the Donkey Drawn Library Service in Zimbabwe revealed positive results about the program that were similar to those reported from the assessment of the Camel Library Services in Kenya. In addition, the fact that the RLRDP had developed satellite and Internet connections through which several hours of education were provided to the communities was especially noteworthy (Tate, 2002a).

As was the case in Kenya, the mode of transportation for the mobile library in Zimbabwe was determined by people in the communities to be served, and their decision was based on their understanding of the local terrain the unit would have to traverse. In this program, donkeys were selected as the most easily available mode of transportation, the most viable means to navigate the road infrastructure, and the most effective method to develop library services in the area. There was a strong commitment on the part of the community members to be involved in the planning, implementation, and assessment of the project. Many members of the community made special requests to expand the service to other communities in the area and offered to provide donkeys and supply them with appropriate grazing territory, water, veterinary, and health maintenance. The fact that Director Moyo and his staff have developed technological satellite and Internet access to provide several hours of education each month demonstrated the special feature of this service. Clearly, this is one way to overcome some of the digital divide between nations that are caused by the relative availability of resources.

THE WAY FORWARD

Results of these studies and practices confirm the significant role that libraries play in providing information for rural development. While it is not exhaustive in covering all aspects of work being done by professional librarians to make information accessible to people in remote regions, this chapter highlights a few of the more innovative examples of services that have been developed in recent years.

The growing body of research about creative services offered by libraries and cooperating partners points to an increased level of awareness of the needs and rights of people in rural communities. Further, reports of successful projects that focus on the commitments that library and information specialists have made

through their libraries as leaders, policymakers, decisionmakers, advocates, and developers can motivate others to explore and implement services for clients in their communities. Emanating from an ongoing array of projects will be the documentation and data needed to design and conduct pertinent research that contributes to the advancement of libraries in rural development worldwide.

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4

Can You Say Swiss Without a Smile? Multicultural Approaches to Library Services in a Multilingual Context

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CAN YOU SAY SWISS WITHOUT A SMILE?

What kind of title is this? Is it a joke and if so, who is the joke on?

How did a small country in the middle of Europe, with no raw materials, no natural resources and no access to the sea—not even a single national language—develop into a flourishing modern state facing all the challenges of globalization in the 21st century? Switzerland never even had much arable land—over two-thirds of the country, which is barely 10% the size of the state of California, is covered with inhospitable, desolate mountains.

And so it was at the beginning of its history in 1291. A handful of rebels, oppressed by the local feudal power, were tired of having to give up the fruit of their labor and being endlessly exploited. They decided to forget old rivalries, to throw together their common lot. The result was the start of one of the oldest democracies in the world. Even then, they had no natural resources, just will power. They were a stubborn people with one dream: freedom.

Fundamentally, the Swiss have not changed much over the last 900 years: they are still stubbornly independent, determined to preserve their ideals and way of life. Politicians come and politicians go, but they are never allowed to forget that ultimately the real power in the country is the people. If the government

introduces an unpopular law, any Swiss citizen—provided he or she can gather 100,000 signatures within 100 days—can call a national referendum. A recent political initiative concerned the number of foreigners in the country. One political party wanted to cut back on the number of foreigners, limiting them to 18% of the total population. This was rejected by the people in a popular vote. Some citizens question why a neutral country like Switzerland should have an army; they proposed, as a first step, to cut back on military spending. This too was rejected by the people. Switzerland is a permanent example of direct democracy in action. Figure 1 shows a picture of traditional open air voting at the end of the 20th century.

Preamble to the Swiss Federal Constitution (1848)

In the name of God Almighty!
We, the Swiss People and Cantons,
whereas, we are mindful of our responsibility towards creation;
resolve to renew our alliance to strengthen liberty and democracy,
independence and peace in solidarity and openness towards the
world;



FIGURE 1 Traditional open air voting at the end of 20th century in the canton of Appenzell.

are determined to live our diversity in unity respecting one another;
are conscious of our common achievements and our responsibility
towards future generations;
and know that only those remain free who use their freedom, and that
the strength of a people is measured by the welfare of the weakest of
its members;
now, therefore, we adopt the following Constitution. . .

HISTORY: BETWEEN HERITAGE AND TRADITION

A brief incursion into Swiss history will show why there is such a strong tradition for the respect of other cultures.

The Road to Independence, Freedom, and Solidarity

Situated at the heart of Europe, Switzerland is the natural crossroads of European cultures and languages. Its history is closely connected to that of the surrounding countries. First, there were the Celts; then 2000 years ago the Romans settled in its fertile lakelands. The disintegration of the Roman Empire opened the doors to Germanic immigration until about 800 AD, when Charlemagne the Great brought Switzerland under his rule. When finally his kingdom split up at the end of the 9th century, the Habsburg dynasty, which originated in Switzerland, allied with the Kingdom of Germany in order to control an important passage in the Alps, the



FIGURE 2 The Gotthard Pass: link between northern and southern Europe. (Courtesy of www.foto.com.)

Gotthard Pass (Fig. 2). A handful of farmers and shepherds decided otherwise. They started their own mutual assistance pact and the official founding of Switzerland took place in 1291. The National Holiday is celebrated every year on the first of August. After a long period of feuding in the 14th century, Switzerland gradually increased in size: neighboring cantons asked to join the loose federation, in order to ensure their own independence and freedom.

Toward Neutrality

After serving as mercenaries at many European courts and spending long periods at war in the service of foreign armies, the Swiss decided to opt out of fighting other people's religious wars. They also had a few old scores of their own to settle. In the 17th century, they did finally settle down and resolved to stop all engagement in European conflicts. While their European neighbors made major moves toward the centralization of government, politics, and culture, the Swiss, stubborn as always, set off in the opposite direction; they continued not only to cope with, but even foster, an intense spirit of regional diversity. This was not out of some perverse spirit of contradiction, but rather because there was major internal dissension—between Catholics and Protestants as well as the more traditional enmity between farmers and town dwellers. After the Napoleonic Wars the French were happy to have a secure border on their eastern front: in 1815 the Congress of Vienna, which reshaped the landscape of Europe, left the Swiss to themselves, after establishing the country as a Confederation, guaranteeing its independence and permanent neutrality.

After 1815, Switzerland developed and prospered; it soon became one of the most industrialized countries in Europe, specializing in the textile and watch-making industries and building a network of railways and roads, which proved to be invaluable much later in the development of tourism. In 1848, a nation emerged which incorporated advanced republican ideas and a political philosophy, embracing solidarity and collective progress.

Today, Switzerland, which is one of Europe's smallest countries, has one of the largest armies in Europe. With compulsory military service and periodic refresher courses, it now has a huge citizen army; each citizen keeps his rifle at home and the country can be mobilized in a matter of hours.

The Spirit of Geneva, City of Peace and Humanity

Among all Swiss cities, Geneva has a special role to play, in particular with reference to the humanitarian ideal. Over the centuries, it has developed a strong tradition of giving shelter to successive waves of refugees, starting with the Huguenots in the 16th century, right up to the Kosovars in the more recent Balkan conflict.

Geneva is now a truly international city with 40% of its population coming from 184 different countries. There is a constant mix of ideas and great tolerance in the spirit of two of its former philosopher residents—Voltaire and Rousseau. Geneva has managed to forge a strong community where the cultural, professional, and private spheres easily intermingle.

Today, Geneva, a small city with only 171,000 inhabitants (400,000 for the wider Geneva area), hosts over 190 international organizations, going back to the League of Nations in 1919 up until the more recent World Trade Organization in 1995. There are 17 governmental and 150 nongovernmental organisations, as well as the permanent diplomatic missions accredited to the United Nations. Several multinationals have their European or world headquarters in Geneva and the University of Geneva specializes (among other things) in international relations: the European Institute, the Graduate Institute of Development Studies, and the Graduate Institute of International Studies.

The Red Cross was created by Henri Dunant, who received the world's first Nobel Peace Prize. Dunant was a Geneva citizen, who was a witness to the carnage and horror of the battle of Solferino, Italy, in 1858. Forty thousand wounded were abandoned on the battlefield and left there to die in the suffocating heat. Dunant gathered together a team of volunteers to relieve the "inexpressible sufferings" of war and, when he returned to Geneva, wrote about his experiences. The result was the establishment of the Red Cross.

Facing different streams of migration, Geneva has been a crossroads, a refuge, a meeting point, a place for negotiation, and the sheltering of massive ethnic and cultural diversity.

For these reasons, it is often considered a city with a lot of experience in the field of cultural diversity. A great deal of effort has been put into the development of groupings and associations. The human heritage, which characterizes Geneva as a welcoming city, has progressively shaped the multicultural character of its population. The different multicultural communities live in peaceful coexistence and shape together a real Genevese mosaic of multiculturalism.

Several events through the year bring the different cultures together:

- A reading festival involving libraries: "Fureur de Lire"
- A festival of music and diversity
- An annual book fair
- Local events organized by multicultural associations
- A cinema festival

Geneva has the largest number of libraries in the country with over 200 libraries and about 8.3 million books. The city plays a leading role in a cross-border partnership network. Not only are there traditional libraries such as public, school, research, and academic libraries, but there are the numerous

international organizations with their highly specialized libraries and international staff.

THE SWISS WAY: WHAT IS DIFFERENT?

Federalism: A Reality but Also a State of Mind

Since 1848, Switzerland has been a federal state—one of 23 in the world today, but the second oldest after the United States of America. A unique collaboration between the Library of Congress in Washington and the Swiss National Library in Bern has created an exhibition that traveled extensively in the United States, “The Sister Republics: Switzerland and the United States from 1776 to the Present.” The exhibition emphasized the historical, political, and cultural ties between the United States and Switzerland in the creation of the two states.

The Federal Constitution is the legal foundation of the Swiss Confederation. It contains the most important rules for the smooth functioning of the state and guarantees the basic rights of the people. It divides up the tasks between the confederation and the cantons and defines the responsibilities of the authorities. This federal structure has three levels of authority:

- National: the Swiss Confederation (or federal state)
- Cantonal: the cantons (26 cantons or half-cantons)
- Communal: local authorities (2903 municipalities, villages, or communes) with their own parliament or local assembly.



FIGURE 3 Switzerland lies at the heart of Europe.

Small but Multilingual

You just have to look at a map of Europe to realize that Switzerland is the country where the largest number of national languages are officially spoken (see Fig. 3). Switzerland is bordered by Germany to the north, Austria and the Principality of Liechtenstein to the east, Italy to the south, and France to the west. With such a special strategic situation, Switzerland is the meeting point of the German, French, and Italian languages.

- 63.7% German Grüezi, ich spreche Deutsch.
- 19.2% French Salut, je parle français.
- 7.6% Italian Salve, io parlo italiano.
- 0.6% Rumantsch Allegra, jau discurs rumantsch.
- 8.9% other languages

The diversity of languages in a small country like Switzerland is quite complex. There are four official languages: German, French, Italian, and Rumantsch, but English continues to make a strong bid for the role of second language and is increasingly being used as a vehicle of communication between the different linguistic communities. There are also new waves of Spanish, Portuguese, and Slav (Serbo-Croatian, Albanian), not to mention several Asian languages, in particular Chinese, Japanese, Vietnamese, and Korean. The many foreign residents in Switzerland have brought with them their own languages which, taken as a whole, now outnumber both Rumantsch and Italian.

In 1938, Rumantsch, which is a language with Latin roots spoken in some Alpine valleys, was recognized officially as the fourth national language by referendum. In 1966, again by referendum, it was given partial status as an official federal language, with guarantees for its preservation and promotion. In spite of this popular and political will, Rumantsch is now spoken by just 0.6% of the total Swiss population.

In Switzerland only three federal languages are used in official documents. Even the information to be found on everyday consumer items (bread, milk, pasta, etc.) is written in all three languages—a marketer's nightmare, but something which the population not only expects but, in a curious way, even finds reassuring.

Inside the country, at the borders where two languages meet the change is quite gradual. People living on a linguistic divide usually grow up bilingual, and since Switzerland is such a small country, it is not unusual for people to end up speaking two or three languages.

People participating in national gatherings, be they political or professional, usually express themselves in their own language. The audience may not actively speak the same language, but they are expected to be able to understand, with at least a passive knowledge of the language in question. If a

Swiss wishes to make his or her way in politics, an understanding of, if not actual fluency in, at least three languages is imperative. Fluency not just in German, but in the Swiss-German dialect is essential as well. The term German-speaking Swiss is not really correct; what they actually speak is Swiss-German (*Schweizerdeutsch*). Swiss-German is very different from the German spoken in Germany or Austria. More surprisingly perhaps, there is no written Swiss-German at all. People in Austria, Germany, and Switzerland share the same written German language, known as high German (*Hochdeutsch*)—however, the term written German (*Deutsche Schriftsprache*) is far more accurate; it is very different from Swiss-German and is almost a foreign language. That means that Swiss-German children grow up speaking a particular dialect but as soon as they go to school have to learn proper German, which is a totally new language. This enforced language learning at such an early age explains perhaps the facility the Swiss seem to have for picking up foreign languages. People in each canton have their own, very distinct dialect, which varies significantly. Again, the languages change gradually from north to south or from east to west.

With such a situation, it is easy to understand how proficiency in one or more of the national languages tends to be on the decrease in favor of English, much to the dismay of some philosophers, politicians, and people from the various educational establishments. The presence of a large number of international organizations and multinational corporations means that the English language will continue to make inroads onto the Swiss landscape to the detriment of the national languages and will increasingly be used as the vehicle of communication between Swiss from different linguistic backgrounds. But with typical Swiss pragmatism, if not actual detachment, the use of English alongside German, French, and Italian is considered not as a threat, but part of the harmonious development of their cultural diversity—a cultural diversity which is the key to Switzerland.

Cultural Diversity: Multiculturalism in Action

Some personal details might be appropriate: my own house is between east and west. My immediate neighbours on the left are American and on the right Vietnamese. My husband is Irish; my teenage daughter's four best friends were born in different parts of the world—Somalia, Colombia, Brazil, and Croatia. They all now attend the local school, are fluent in French, and have Swiss passports. As for my library staff of 28, they speak 14 different languages. The Geneva context of course is rather special where there are two foreigners for every three Swiss, whereas the national average is one foreign citizen for every four Swiss.

In daily life, cultural diversity is both familiar and concrete. The Swiss are well-traveled tourists. They have a strong work ethic; they work hard throughout

the year, but with one of the highest salaries in the world can afford to spend a good part of their budget and holidays on foreign travel. This puts them constantly in touch with different cultures in the world, at the same time bringing about an affirmation of their own identity.

The Swiss approach to cultural diversity is based on a humanist tradition founded on tolerance and respect for the individual. This means the acceptance of differences, the acceptance of other people. Globalization tends to run counter to the concept of cultural diversity, but in Switzerland—so far anyway—the country has managed to keep a certain balance between the two forces. The importance of this balance is echoed in the words of Swiss citizen Bertrand Piccard, who with Englishman Bryan Jones was the first to circumnavigate the earth in a balloon (Fig. 4). The following extract is from the *Washington Times*:



FIGURE 4 The Breitling Orbiter 3.

I have not yet understood how you can globalize the world saying it is a small village—the world is a lot of villages. We need to respect all these differences and all these traditions and religions. If you globalize artificially you are going to leave behind three-quarters of the people. For the rich of the world it is not good business because they lose three-quarters of the world as clients. [www.international-specialreports.com/europe/00/switzerland/3.html]

Libraries represent the ideal place for dealing with culturally diverse clients; they can offer social integration in the larger sense of allowing people to live together without being swallowed up in one dominant culture (be it German, Anglo-Saxon, French, etc.). Integration then becomes the way toward socialization, with respect of cultural diversity.

The ideal society embodying integration and cultural diversity does not exist. In Switzerland, as in most other countries, there are tensions over intercultural policies. It is especially difficult when a society is based on profit and economic growth at any price.

Culture is what binds together the social, political, and economic relationships in society. It is a dynamic process and permanently enriches this interaction. Until about the middle of the 20th century, access to formal culture was often associated with an elite. Large cities tended to have prominent cultural trappings in the form of opera houses, museums, and theatres. And sometimes libraries were conceived that way too—for example, the exclusive reading clubs that catered for a cultured elite. Even today, the use of these institutions is sometimes perceived as a sign that one belongs to some kind of sophisticated select few.

This old cultural order was called into question after the 1960s; the new consumer society, with its wider access to information and the media, has undoubtedly made our relationship to culture more democratic.

THE SWISS CHALLENGE IN A CHANGING WORLD

Since Switzerland had few, if any, raw materials and was highly dependent on neighboring countries for the import of raw materials, it was essential to be on good terms with the outside world in order to ensure the security of the population. Swiss neutrality developed simply through a policy of good-neighborliness and the avoidance of conflict. And within this framework arose the legendary stories of William Tell, Heidi, and the alphorn, which was reputedly played on high mountain climes as a hymn to the closing of the day. These were the myths.

The reality was that the Swiss had little allegiance to their own central government. Very few of them today know the name of their own president. (The latter remains in office for only one year and is then replaced by another federal

councillor.) Stephen P. Halbrook points out in his *Target Switzerland* that, unlike other European nations, Switzerland never gave in to Nazi Germany, mainly because of its highly decentralized system of government. The weak-willed federal government in Bern, which at one point briefly considered capitulation, simply could not order its independent-minded cantons, and more especially its citizens, to give up and surrender to the Nazis—as did the centralized governments of Belgium, Holland, France, Denmark, Yugoslavia, and Czechoslovakia. Another critical view of the role of Switzerland in the Second World War has more recently come to light (The Bergier Report, 2002), but no one disputes the fact that the Swiss are firm believers in consensus politics—such a disparate country could never hold together unless the rights of all minorities are respected, hence the phrase enshrined in the preamble to the Swiss Federal Constitution: “determined to live our diversity in unity respecting one another. . .”

Whether by accident or design, Switzerland has progressively developed a strong humanitarian tradition, which started with Henry Dunant, the founder of the Red Cross. Today, Geneva houses the High Commission for Human Rights, the High Commission for Refugees, as well as the Swiss Corps for Humanitarian Aid (for armed conflicts as well as natural catastrophes); this latter organization also organizes courses in negotiation and arbitration as well as training in the skills of mediation.

Neutrality is not some whimsical choice made by Swiss politicians, but is part of the national psyche, an integral part of the country’s national identity; it is the cornerstone which guarantees the harmonious relations and stability of the many Swiss cultures making up the country.

During the First World War Switzerland was able to add a certain moral dimension to its neutrality by developing a whole series of humanitarian actions.

Today, in order to face up to the new waves of immigration of the late 20th and early 21st centuries—and despite opposition from a small but vociferous minority—Switzerland has continued to pursue its traditional policy of integration.

Switzerland is very much a modern state. In its own way, it is a laboratory for European problems such as mass culture, public transport, technological change, urbanization, population growth, secularization, and environmental issues. Switzerland has to contend with the same fundamental problems as the rest of Europe, but it has the advantage of being able to cope on a much smaller scale. Unlike many other states, solutions are not imposed by some remote central authority; problems are widely discussed in a local context and solutions are found through consensus and, above all, region by region.

“Swissitude” is the neologism which best characterizes the national mood; it will be an essential feature of the Europe of tomorrow—respect for all minorities within a multiplicity of cultures.

SWISS LIBRARY SCENE

Multicultural and multilingual Switzerland, with its 7 million people, has almost 3000 independent municipalities and more or less as many independent public libraries. Within the library environment, it goes without saying that professionals are expected to be able to get by in at least two or three languages.

Since Switzerland has no natural resources, education and knowledge have become very important resources. The cantons are responsible for educational services (kindergarten, schools, universities) and also cultural matters. That is why education and culture may vary significantly between cantons. For example, some cantons teach children their first foreign language at the age of 9, while others start at 11. In some cantons libraries are under the Department of Culture, and in others under the Department of Education. There is no national strategy or law for Swiss libraries, apart from the well-meaning sentiments expressed in the constitution. Article 16 of the Swiss Constitution states

1. The freedom of opinion and information is guaranteed.
2. All persons have the right to form, express, and disseminate their opinions freely.
3. All persons have the right to receive information freely, to gather it from generally accessible sources, and to disseminate it.

The Building of Professional Values

The Association of Swiss Librarians was founded in 1897. It is a professional organization, which includes both individual members—those working in libraries or analogous services—and institutions (libraries, documentation centers, networks, etc.). Cooperation and solidarity have developed a lot over the years, especially through our Union Catalogue and a highly efficient interlibrary loan service.

In Switzerland, there are about 6000 libraries, most of which are public libraries (from metropolitan networks to small community libraries in communes or villages). The main universities have scientific collections. Each canton owns patrimonial collections and local archives. Privately owned corporations have their own records.

As cultural matters are managed on a cantonal level, parity of funding from one library to the other is not possible, since they all depend on their locally elected representatives. As already mentioned, there is no national policy on libraries. But the Association of Swiss Librarians is uniquely placed to view the country's libraries in a global way.

Switzerland has a long tradition with respect to the public services and especially libraries. Education is no longer the preserve of children and young adults. There is a lifelong commitment to training and further education for the

population at large. Since 90% of our funding is tax based, libraries are closely connected with literacy and popular culture. Swiss libraries belong to and are owned by the citizens.

The country is characterized by an efficient and extremely competent work force, devoted to high quality craftsmanship (witness Swiss watch-making and the highly perfected mechanical robots of the 18th century, which can still be seen at the Museum of Neuchâtel, where 200 years later they continue to function several times each month; Fig. 5).

This strong work ethic is reflected in the high standards found in libraries, which remain the expression of the political will of the local municipality, commune, or village. For a long time, the interests of the national association were ruled by the chief library directors and ordinary librarians were not very concerned by the issues of Swiss librarianship; they had other more mundane things to worry about. But with the arrival of an Advisory Council to the Association of Swiss Librarians, active committees and working groups started to work on special projects such as the publishing of a Code of Deontology (1998) and the Library Advocate's Handbook (2000). The latter was the start of a



FIGURE 5 An 18th century robot which can be programmed to write.

national lobby network, which set out to emphasize the communication and marketing of Swiss librarianship.

Librarians are now starting to shed some of their low-profile image in an attempt to reach out both locally and nationally. Their objectives are twofold: better funding and improved communication with the population at large. Christian Relly, Director of Pestalozzi-Bibliothek Zurich, made the point when welcoming attendees at the INTAMEL Conference in 1999. Swiss libraries, he said, are “poor institutions in a rich country,” but isn’t investing in libraries the cheapest, most democratic and most efficient way of bringing literacy and culture to every household throughout the country, regardless of the language or the culture, since libraries are easily accessible and in every place?

Swiss-lib is the discussion list for librarians and information specialists. It is used by over 1000 librarians with each one using their own language. It contributes to reinforcing certain core values within the profession.

Today, there is a greater awareness that librarians have an exceptional role to play in the area of information technology. Comprising people in the forefront of their field, it is the only profession able to guarantee quality in the search for relevant information in the printed and electronic jungle of the 21st century. If time is indeed money, there is nothing more efficient than a qualified “human search engine,” which is one of the exciting new roles already embraced by the profession.

The World at Our Fingertips: Local Needs in a Global Perspective

The main mission in every library is the same the world over: provide the user with appropriate information and access to relevant documents at the right time. That has always been a simple criterion for judging the quality of any library service. No library can possibly have everything available in its collection at any given time. In order to meet the needs of its users, libraries started to share access to their collections on a local level first, then nation-wide, on the basis of the Union Catalogue. This was the first serious step on the road to cooperation and in Switzerland it began early in the last century.

IFLA stepped in with international document delivery schemes. It was made easy with online catalogs and bibliographic databases on CD-ROMs or local networks. Approaches changed gradually as users were able to get access to the contents of large quantities of journals, and requests increased enormously. Libraries soon became cost conscious and realized that interlibrary lending was one of the most expensive services provided.

Today, with new technologies and access to the Internet, resource sharing has been made considerably easier. We now have consortia licensing, local and international partnerships, networks, and international cooperative agreements

for the development of global resource sharing with gravity centers; in addition we have the development of commercially oriented document delivery suppliers, which offer competitively priced fee-based services. These all help libraries to supply the end user.

In Switzerland, in order to facilitate access to libraries nationwide, librarians have created a national pass for libraries—BibliOpass. Since no central authority can legislate for librarians, the idea has to be adopted by each local authority; however, in view of the obvious benefits, the circle of libraries using BibliOpass is rapidly growing. The Swiss National Library and several other libraries are even sending books through the post on simple request.

In this age of globalization, libraries have an essential role to play in encouraging diversity and the peaceful coexistence of various cultures. They are highly democratic tools since—subsidized by public funding—they are able to offer, in large part, free access to information and underwrite literacy programs. As such, they are the touchstone for a society concerned by the fundamental values of education and culture.

A library is the focal point of the community; it provides access to digitized documents from commercial providers, electronic resources, and information from catalog networks around the globe. Libraries working together to share their knowledge and resources now constitute a whole new world of information. How-to tutorials are easily accessible, and e-learning is a new development for both librarians and users. Highly skilled reference librarians have already proved themselves masters of the latest IT skills; the global world library is at their fingertips, at the service of the local community.

PUBLIC LIBRARIES AND THE MOOD OF CHANGE

National Cooperation

Swiss public libraries were given a major overhaul in the 1970s and 1980s with the setting up of “Library Plan 2000.” Basically, more efficient use was made of available resources with special attention being paid to regional networking.

Association of Books Without Borders—Switzerland: Intercultural Libraries

Eight libraries throughout Switzerland are going global by offering interculturally oriented services, but on a local basis. In Geneva, “Books of the World” of the Genevese Red Cross is an intercultural library, with books in more than 140 languages, providing support to migrants by making it possible for them to find stimulating reading in their mother tongue and, in the long run, promoting their cultural integration into local society.

Academic Partnerships

Competition is a recent phenomenon in the world of Swiss university libraries. The Swiss University Conference plays a leading role in defining university policies, and universities are now required to raise 50% of the cost of research projects. Academic libraries have been involved in two major national cooperation projects:

1. Consortium of Swiss Academic Libraries. The Federal Government decided to bring competition into the world of research by voting for a law in 1999 which required scientific libraries to analyze their requirements in matters of electronic information. The libraries submitted a detailed report to the Swiss University Conference and requested federal funding. The result was the Consortium of Swiss Academic Libraries, which was set up in 2000 with one clear objective: the cooperative licensing of electronic information resources. This covers all Swiss universities (23 institutions) and focuses in particular on databases and electronic journals. The Consortium of Swiss Academic Libraries was launched in order to further the interests of their scientific patrons. This was the first concrete step in matters of globalization for the smaller scientific partners of the country.
2. Swiss Virtual Campus. The Swiss Virtual Campus was set up in order to promote the information society in Switzerland; it encourages higher education to take advantage of new technologies. Several libraries are now involved in the creation of a web-based interactive course for students in economics.

There are several schemes under consideration at the moment:

- Local gray literature to be made available online
- Publication of theses on the web
- Information training in cooperation with faculty
- Information courses for freshmen
- Management of scientific archives
- Preservation and conservation programs
- E-learning programs with academic credits (e.g., Swiss Virtual Campus)

Library Science Talks

This a collaborative conference program between the following three partners: the Swiss National Library, the Association of International Librarians and Information Specialists, and finally the library at CERN. It covers topical issues presented by international library specialists.

International Cooperation

Swiss libraries are involved in a large number of cooperation projects with other countries. Here are some of the more significant examples:

International Coordination for a Multilingual Subject Heading System

The global economy and the trend of international cooperation in the academic world have made researchers more dependent on international information resources. In this situation, multilingualism has become an important issue in the field of bibliographic access. Four national libraries are working together on the project (Swiss National Library, Bibliothèque Nationale de France, Deutsche Bibliothek, and the British Library).

Network of Swiss Development Documentation Centers (NEDS)

Swiss libraries and documentation centers working in the field of development cooperation were given a formal basis in 1995 with the foundation of the association called NEDS. The objectives of NEDS are the exchanging of professional and technical information, enhancement of synergies, and improvement of development cooperation documentation in Switzerland.

Scientific Cooperation Between Eastern Europe and Switzerland (SCOPES)

Commissioned by the Swiss Government, the Swiss National Science Foundation has been promoting cooperation with central and eastern European countries and newly independent states. This commitment, which is part of a wider effort to strengthen economic, scientific, and cultural ties between Switzerland and eastern Europe, is renewed on a regular basis. Swiss libraries are currently involved in a three-year cooperation program with Bulgarian partners.

International Relations of the Swiss Association of Libraries and Librarians

Following a clearly defined strategy, the association has set itself the following objectives with regard to international relations:

- International exchanges with Switzerland for professionals and trainees
- Improvement of overseas partnerships
- Increased cooperation between libraries

Contacts have so far been made for cooperative projects with Haiti, Senegal, and Ecuador. Future projects relating to the Caribbean and Tunisia are currently under discussion.

Financial subsidies are dependent on output and performance figures in terms of membership, visitors, circulation, and income. Libraries have started to be more visible with marketing plans and new open hours—even on Sundays. Their approach tends to be more user oriented and adapted to the age levels of their clients: cultural events, exhibitions, e-books, storytelling, lectures, discussions with authors, etc.

SWISS PUBLIC LIBRARIES—CASE STUDIES

Local Level: Meyrin, Suburban Commune of Geneva

Meyrin has a population of 20,000 inhabitants. Twenty-four percent are Genevese, 31% from other Swiss cantons, and 45% foreigners from 105 different countries. The library is held in great esteem by the local authorities and is regarded as playing a key role in the integration of the foreign population. As a result, it is situated in the heart of the community, in the center of the commune, next to the local theater, cinema, and all the shops. The library serves a large and quite disparate international community:

Users (by nationality)

64% Swiss

6.59% French

4.32% Italians

2.29% Portuguese

1.80% Germans

3.59% Spanish

2.28% British

15.13% others (Algerians, Argentinians, Austrians, Belgians, Peruvians, Russians, Somalians, Swedes, Thais, Turks, Americans, Vietnamese, Serbo-Croats, Congoese)

Users (by language)

58% French

39% other

9% German

7% Spanish

5% Italian

5% English

3% Portuguese

2% Arabic

Cantonal Level: Zurich, the Case of Pestalozzi-Bibliothek

Zurich, the largest city in Switzerland, has 361,000 inhabitants and over 40 libraries. It is one of the 171 political communes that make up the canton. It is

administered by the City Board (an executive body of nine members) and the City Council (legislative body of 125 members). Both bodies are elected by the citizens every four years.

The Pestalozzi-Bibliothek (PBZ) is the general public library in the city of Zurich and (with 17 branches) is present in all districts. As an important part of the population is of foreign extraction, there is an ongoing project to create a multicultural library that should increase library funding by 10% but is currently under political study, which may of course take some time.

In order to respond to the multilingual and multicultural needs of the target population, documentation and fiction are made available in the following languages: Albanian, English, Finnish, French, Italian, Portuguese, Serbian, and Spanish.

National Level: The Library for All

The Federal Office of Culture promotes literacy and supports reading through Library for All/La Bibliothèque pour Tous/Biblioteca per Tutti/Schweizerische Volksbibliothek. It encourages reading, especially at the level of young children and teenagers. The Library for All lends books and other media to school libraries as well as public libraries on very favorable terms; it also gives advice and concrete help with the setting up of new libraries. In the absence of a formal national policy vis-à-vis libraries and librarians, it plays a useful role in maintaining and developing the quality of public libraries and, to some extent, ensuring a certain impartiality of treatment throughout the country.

Academic Libraries: the Case of the University of Geneva

The University of Geneva, founded in 1559, had 13,191 students in the academic year 2000–2001. Of these students, 65% were Swiss, with foreigners making up the remaining 35%.

Situated at the crossroads of Europe, Geneva has always been an active participant in the exchange of ideas. The University of Geneva actively collaborates in the academic scene both in Switzerland and abroad in order to encourage the exchange of knowledge on a permanent basis. It leads an active policy in encouraging the mobility of students and staff and is expanding strategic alliances for the future by initiating education and research programs at the European and international level. The establishment of the Geneva International Academic Network (GIAN) has reinforced its links with numerous international organisations situated in the greater Geneva area.

One of the earliest European online union catalogs, SIBIL, was created in Lausanne in 1975. Some years later, the libraries of the University of Geneva joined SIBIL. After VTLS, they are currently engaged in VIRTUA with all the French-speaking university libraries of Switzerland.

As a result of a highly detailed study in the year 2000, the University of Geneva opted for a distinctly virtual library rather than having one unique library location. Intense collaboration is sought from the numerous faculty and departmental libraries. This is in keeping with the Swiss tradition of cooperation yet respect for local cultures.

The libraries of the University of Geneva are currently engaged in a number of collaborative projects, the most important of which are online theses with the University of Lyons (France) and electronic publications with the Swiss Consortium of Academic Libraries and Swiss Virtual Campus.

The Swiss take their libraries—and most other things for that matter—rather seriously. Little is left to chance, especially when public funds are being used. One recent example concerns the University of Geneva, which employed its own architect who was the intermediary between the end users (students, librarians, professors, assistants) and the group of architects who had been commissioned to do the building. The resulting edifice is a new landmark in Geneva's architectural landscape (Fig. 6).

CONCLUSION: THE SEARCH FOR NEW VALUES IN A GLOBALIZED WORLD

In order to avoid alienation and exclusion in this changing globalized world, it is vital to strengthen local values so that each individual can find a place to develop



FIGURE 6 University Library at UniMail Geneva.

a sense of integration and participation in society at large. This has been the history of Switzerland as it attempted—rather successfully—to protect its own minorities over the past 900 years. Today, new technologies have brought greater opportunities but greater challenges too. Librarians have to become increasingly vocal in well organized in local, national, and international advocacy programs in order to market and communicate the professional values that are at stake in today's information technology society. Librarians must become more assertive in making available to the public their unique professional skills.

In the future, it is vital that Swiss libraries and librarians:

- Adapt and become more organized, joining consortia to get the best possible deals for their users
- Campaign both inside and outside the country for better access to information as well as equal opportunity in reading
- Work toward informing the public as to the services they provide as well as strive for the material improvement of their own conditions of work
- At an association level, work locally and globally with national and international partnership programs and professional exchanges
- Participate in international cooperation programs such as SCOPES, Swiss Agency for Development and Cooperation, the Berne Declaration, and international programs such as UNESCO and AUF (Agence Universitaire de la Francophonie)
- Encourage and help individuals by their concrete participation in international cooperative programs such as The World Library Partnership
- Further their own education (promoting apprenticeships for assistants and higher studies such as postgraduate qualifications and doctorates)

Historically, the Swiss have always been slow to change. Like their timepieces, which move inexorably forward, they are always on the move but never in a hurry. They are slowly adapting to the demands of the new economy. Just as their forefathers slowly and methodically forged alliances with neighboring cantons, Swiss librarians, in their own circumspect way, are also on the move. Cooperation—both nationally and internationally—is the order of the day. Arrangements are worked out with institutions on the other side of the country or the other side of the world so that the end users can have better access to expensive databases. Information is power and in their own way Swiss librarians continue to empower people, irrespective of their language, nationality, religion, or culture.

Today, as in the past, Switzerland thrives and revels in its diversity. In today's globalized world that alone perhaps, is reason to smile.

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5

Public Libraries in Developed Countries: A Success Story from Scandinavia

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For the last few decades public libraries in Scandinavia have served as models for countries with less developed library systems. That means not only third-world countries, but also countries in the south of Europe where the development of public libraries has traditionally been slow, but recently has started to move forward rapidly.

Scandinavian librarians today are confident of their public libraries. It is a common view that the Scandinavian public library model ought to be exported and implemented in the rest of the world. An attitude that indicates a large proportion of self-righteousness, provincialism, and perhaps some lack of perspective is that library models are moving ideals that might be replaced from time to time. And that the road to excellence, even in Scandinavia, can be long and troublesome.

EARLY HISTORY

Public libraries originate from various traditions. In the Nordic countries public library development has been based on educational, religious, and social welfare movements in cooperation with favorable economic factors that permitted an

extension of the public sector. A prerequisite for the development of public libraries is that there is a certain level of literacy.

Compulsory schooling in the Nordic countries was brought in by the middle of the 19th century. In Sweden the act of elementary schooling dates back to 1842. This act also regulated the activities of the parish libraries. The vicars were responsible for the establishment of parish libraries in order to encourage reading. The collection in the parish libraries consisted of books on religion, housekeeping, and agriculture in order to provide the population with moral and practical advice. They operated in an environment where the potential customers were not expected to read at all, or at least not to use their reading skill for worldly things.

The population was fostered in the pure Evangelical-Lutheran religion according to the church law of 1686. According to the church law the clergy should "see to it that the children learnt to read so that they may with their own eyes see God's holy laws and commands."

Literacy was regarded merely as a means to achieve salvation of the soul. Each fall the minister held an examination in the tenets of the faith according to the Little Catechism of Luther.

The development of the parish libraries depended on individual enthusiasm and voluntary actors. If the enthusiast disappeared, the library stagnated. By the end of the 19th century it was evident that the parish libraries were incapable and even unwilling to cope with the challenges of a new time. As a consequence they gradually faded away and left the field open for the next generation of enthusiasts.

THE STUDY CIRCLE LIBRARIES

At the beginning of the 20th century nationwide popular movements developed rapidly and grew strongly during the first decades. These movements were often in opposition to the establishment. In many cases there was a strong left-wing element.

These nationwide movements, including the temperance movement, the nonconformist churches, the labor movements, and later the peasantry organizations, became the new actors on the library stage. They established, and for a long time they ran, a nationwide network of local libraries that played an important role in the democratic process. These so-called study circle libraries were set up in order to help the adult learner to increase his or her level of education. The study circle movement had a social mission and a social function. The objectives were to offer the underprivileged classes access to education. Knowledge was supposed to be the tool with which to improve the living conditions for the working classes.

Compared to the parish libraries the library concept was extended. The collections changed radically and now included books on politics, philosophy, as

well as quality fiction and poetry. The Worker's Educational Association (ABF) was founded in 1912. The collections in the ABF libraries contained of course Marx and Engels but also Jack London, Zola, Gorkij, Tolstoj, and Dostojevskij as well as the new radical Swedish authors. The meetings were centers for discussions on ideological and literary matters. For instance, at the meetings of the National Templar Orden, besides coffee, reading and recitals of literature and poetry were important elements.

The study circle library movement culminated in the 1930s. In the beginning of the 1950s there were still some 3000 units. But times were changing. Reforms in the local government structure and a step-by-step amalgamation undertaken between 1950 and 1974 prepared for an extension of the public sector. Local libraries became purely responsibility for local authorities. The study circle libraries were than gradually taken over by local authorities. Sometimes this caused sad feelings among the enthusiasts. But in general it was agreed that this was an evolution that was unavoidable. The administrative reforms in the 1950s paved the way for the present public library landscape, where libraries are a responsibility solely for local authorities and as a consequence financed mainly by local taxpayers.

INFLUENCE FROM THE NEW WORLD

The move toward a modern public library system had in fact started in the early years of the 20th century with the American public library idea as a model. Swedish public libraries were at the time very weak. Parish libraries were in a phase of stagnation and the study circle libraries were in their infancy. It should be kept in mind that the latter were not public in the sense that they were open for everybody. Access was only given to members.

In 1905 a young woman, Valfrid Palmgren, was employed as assistant at the Royal Library in Stockholm. She soon realized that there was a severe lack of adequate library service for ordinary people who wanted to increase their knowledge. In 1907 she had the opportunity to make a study tour to America to study the public library development. Valfrid Palmgren was enthusiastic and impressed by what she had seen and back home she published the pamphlet "Biblioteket en ljushärd" (The Library as a Lighthouse) in 1909. The same year she also published a comprehensive report from the study tour, "Bibliotek och folkuppfostran. Anteckningar från en studieresa i Amerikas förenta stater" (Libraries and Popular Education. A Report from a Study Tour in the United States of America). The report is generously illustrated with pictures from libraries visited. Most impressive is the picture of the reading room in Boston Public Library, which must have seemed completely utopian for the Swedish library world.

In the pamphlet she argued strongly that libraries should be a public service and governed by local authorities. There should be central support as well as national standards. Libraries should be a public good and not a welfare institution for the poorest. Libraries should be open for everybody on equal terms. Open shelves should facilitate browsing. Libraries should have a childrens department with adequate books for children and young people. All libraries should be operated by professional staff.

The report from the study tour and the pamphlet demonstrate enthusiastic promotion of the American public library idea, which Valfrid Palmgren strongly recommended to be implemented in Sweden.

In 1912 Valfrid Palmgren was appointed by the government to carry out a report on the Swedish library situation. Her report was adopted by Parliament in 1912. Her report formed the ground for the development of a modern public library system. However the practical results would not be visible until the 1950s. And some of her visions are still waiting to be transformed into action.

YEARS OF CONSOLIDATION

The 1950–1970s was a golden age for the public sector. Public libraries experienced a growth that they had never faced before, and that they might never experience again. Collections in public and school libraries grew from 1.5 million volumes to 24.5 million. Circulation increased by almost 70%, from 27.4 million to 46.4 million per year. Between 1950 and 1958 the annual cost increased by 236%. The only figure that moved downward was the number of library units. Some 3000 units were closed, which was mainly a result of the larger-administrative-unit philosophy. The units closed were small and poor.

Amalgamations in 1952 had reduced the number of local authorities from some 2500 to about 1000. The establishment of a county library organization that had started in the 1930s was about to be finished. A system of earmarked state support in combination with regulations for public libraries was established. This infrastructure worked in favor of the ideas of a modern public library system imported from the United States 50 years earlier.

In 1949 a government commission had been appointed to investigate the school and public library situation and to make recommendations. The commission report recommended a system of central financing of public libraries. Certain conditions fulfilled, central grants should cover 50% of the operational expences. Further it was recommended, as mentioned above, that the study circle libraries gradually should be closed. The commission also set up a policy statement with goals and objectives for public libraries. The statements in the policy document are very close to what was formulated in the UNESCO Public Library Manifesto, published in 1949. This indicates that there was an international consensus on public library ideology. Since 1949 the manifesto has

been updated twice. What was expressed in the first version is in all essentials still valid. So also are the statements made by the 1949 commission.

Evidently there was an ideological discussion going on nationally and internationally. However, rapid development had caused an urgent need to focus on library management. Swedish library leaders became aware of the necessity of cost effectiveness and management methods. Once again American library philosophy served as a model.

In 1958 a commission was set up to make a survey of the public library operation in order to evaluate techniques and methods and to investigate if the staffing was adequate. The commission referred to American library literature such as Baldwin and Marcus's *Library Costs and Budgets* from 1941, the Montclair Study, The Public Library Inquiry Reports, 1949–1952, W. Pierce's *Work Measurement in Public Libraries* from 1949, and other relevant documents.

The commission report (*Organisation och arbetsmetoder vid kommunala bibliotek*, 1960) was published in 1960. The report was an in-depth survey on methods and organization. MTM methods had been used to measure the time used for each step in for instance in the circulation procedure. With this document as a guidebook on public library management Swedish public librarians entered the 1960s. The report also served as a model for similar surveys in Denmark and in Norway.

The 1950s and the 1960s were decades of optimism and rapid development. The development that had started in the 1950s continued and even accelerated in the 1960s. The financial situation became even more favorable. The number of staff increased. New services were added, such as outreach activities and mobile libraries. Libraries started to organize cultural programs, exhibitions, and performances in the library. Teenagers were identified as an important target group. Public libraries gradually became local cultural centers and many were hit by growing pains.

The administrative reforms continued. In 1962 Parliament decided that a new amalgamation process should reduce the number of municipalities to about 270 by 1974. As a consequence the reduced number of administrative units created fewer but larger public library systems. In connection with the amalgamations local library boards were replaced by cultural boards, which of course encouraged the transformation of public libraries to local cultural centers.

In 1965 a radical change in central support for public libraries took place when earmarked grants to local authorities were replaced by general grants. As a result public libraries were deregulated and a lawless period that was to last until 1997 started. Since 1965 Swedish public libraries became more dependent on the willingness of local authorities and less on central support and regulations. Reduced central funding was largely compensated by generous local funding. From the beginning of the 1950s to the middle of the 1970s three-quarters of

the local authorities invested in new main library buildings. By the end of the 1990s almost every main library operated in new premises. Not only main libraries were built, the branch library structure was radically renewed. Small units were replaced by modern, well-equipped, and spacious branches. Many of those were combined school and public libraries. But there was a severe problem. Lack of national standards and regulations caused a widening gap between the good public libraries and the poor public libraries. Lack of national standards made it possible for local authorities to neglect their libraries. And too many did.

In the 1970s a change in attitudes took place. It was evident that reading and library visits were related to education and income. As far as reading habits were concerned there were severe inequalities between different social groups. Working class members were shown to be the weakest readers. Neither were they eager library visitors. In the beginning of the 1970s a large number of young librarians left library school. At the same time quite a lot of librarians were at the age for retirement. The young radical librarians with new ideas about the objectives for the public library dominated the debate. Libraries became more missionary. There was a strong element of social inclusion. Libraries should reach the whole population. And if people did not come to the library, it was the duty of the library to go out and find them.

BACKLASH IN THE 1990s

After decades of prosperity, library development was considered equivalent to growth. This positive trend was broken in the late 1980s and early 1990s when public finances faced a backlash, not only in Sweden but in many parts of the world. Public libraries used to economical growth for decades were now hit by reduced budgets and as a consequence cuts in services. Branches were closed, bookmobiles were not replaced, and book funds became budget regulators. Librarians were shocked. The first reaction was that this decline was only temporary, things would soon be as they used to be. So far, this has proven to be wishful thinking. Financial restrictions have become a daily routine for public institutions. But budget cuts are at present performed at a less rapid speed. Visions for the new millennium public libraries are encouraging.

The financial situation threatened the idea of free library services. And that paved the way for the Swedish Library Act. As mentioned above Swedish public libraries had an unregulated existence since 1965 when earmarked grants to local authorities were replaced by general grants and as a result public libraries were deregulated. There was however a continuous debate on the need for a library act from 1965 until 1997 when library legislation was introduced. The library act includes public libraries, university libraries, and school libraries, in other words libraries financed by public money.

In the Swedish Library Act there are two basic principles:

Every local authority must have a public library.

Public libraries must lend literature free of charge.

There are also statements about what services public libraries should offer and about the cooperation between public and university libraries.

The new library act did not cause any radical change in library services. However, the act gives a legal framework for the library service and has in that respect no doubt an important symbolic value. Including all types of libraries the law states that all libraries are part of a national and international network, which definitely supports the development toward a national comprehensive library organization.

At present there is a strong government concern for public libraries. There are two main fields for the government policy, namely, the concern for books and reading, especially for children, and the ambition to create an ICT infrastructure for the library field.

GOVERNMENT POLICY ON LITERATURE

Maintaining variety in book publication in minority language areas entails some difficulties. The development of an international media market with increasing concentration of publishing houses and increasing commercialization entails a threat to minority language areas in particular. (Swedish is spoken by about 9 million people, Danish and Norwegian about 5 million each).

The aim of the Swedish national policy for literature is to make quality literature available to everyone. This presumes a breadth and quality in publishing which satisfy varying reading interests and needs. With the aim of promoting quality and variety in book production, funding for the support of literature was introduced in 1975. The intention was to guarantee the reader a wide choice of quality literature in the national language.

A grant covers support for some 700 titles annually. According to the Swedish National Bibliography some 1300 titles are published annually, of which some 5000 titles are classified as general literature, that is, fiction and nonfiction, childrens books, etc. The selection of titles that receive support is decided by groups of independent specialists. The criterion for selection is quality and nothing else but quality. This support for literature has worked for 25 years and has no doubt been a general stimulus to the book market.

However, the system was questioned for just supporting production and not distribution of quality literature. Evidently many of the supported titles were not available in smaller and medium-sized public libraries nor in the smaller and medium-sized bookshops.

This embarrassing fact was one of the reasons for the Minister of Culture to appoint a commission to carry out a survey on the situation of literature and reading. In early 1998 a government bill was passed to Parliament. The decision was among other things to guarantee a distribution of about 700 titles with publishing support. From 1999 one copy of each supported title is distributed to the 289 public library systems. That means that each public library system, regardless of size, receives about 700 titles a year free of charge to add to the collection. That means that approximately 200,000 copies on an annual basis are distributed to the public libraries. This model is a modified version of the Norwegian literature support system introduced in the mid-1960s. In both cases the system is an important part of a national literature policy to protect small languages and to guarantee a national literary production.

The decline in book acquisition in public libraries had severely hit the childrens departments. To stop the undesirable development a special grant was introduced in 1997 for acquisition of childrens books. To benefit from this grant a public library must not cut its regular book budget. The immediate consequence of this construction seems to be that cuts in book funds have stopped. In the long run this grant might cause a vicious circle.

THE IT EVOLUTION IN LIBRARIES

There is a strong political concern for books and reading. But there is also a strong political concern for new technology as a prerequisite for democracy, for development, for education, and for access to information. Libraries are expected to be a key actor in the information and learning society.

In the Swedish Library Act one of the paragraphs decrees that “the public library shall make computerized information available to all citizens.” As a consequence the Ministry of Education presented a bill on a leased line connection for public libraries and county libraries to the Swedish University Computer Network (SUNET).

University networks for research and education have been set up in many countries. The development of the Swedish University Computer Network, began in the middle of the 1980s. Through SUNET Swedish research libraries have access to a high-speed network that has facilitated access to information resources all over the world. Swedish public libraries were, and are, dependent on local ambition. While research libraries traveled first class on 10 Mbit/s or even higher speed public libraries were offered a telephone line or were offered local networks of varying capacities. Besides, public libraries were quite often imprisoned behind firewalls, which effectively prevented access to information.

By a decision in Parliament in 1996 the university network was made available to Swedish public libraries and to national and county museums. Libraries and museums were offered a hard connection of a speed of at

least 2 Mbit/s. National funding would cover the cost for the first two years. Thereafter the users were required to be responsible for the costs for another three years. It was supposed that after 5 years high capacity networks would be standard.

The state offer was received by great enthusiasm. Librarians saw the chance to improve their services. But the offer also caused opposition from the local IT administrators/coordinators, who questioned why libraries should have a higher capacity than the rest of the local administration. The offer was actively counteracted on a local level. Politicians chose to relegate these matters to those responsible for building up the technical infrastructure. As a result, an issue which was based on a vision and required ideological support was now the responsibility of those for whom other considerations were more important. This led to decreased support for public libraries on the local level.

Nevertheless about 50% of the public library systems accepted the offer. In the meantime the awareness of the importance of high capacity connections to libraries has improved. Today nobody seems to question the need for broadband connections for public libraries. And public libraries have strengthened their position as local information centers.

Another principally important government decision was to develop a union catalog based on LIBRIS, the computer catalog for research libraries. The catalog contains holdings from about 200 libraries and counts more than 4 million titles. The LIBRIS catalog was in 1997 made available free of charge for libraries as well as for the general public. This has been a great success. A national union catalog facilitates cooperation between different library systems and above all between public libraries and research/university libraries.

A CHANGING LIBRARY LANDSCAPE

In the old days public libraries and academic libraries could operate in separate and closed circles. Library users could easily be divided into two groups: the general public and scholars. The number of universities as well as of university libraries were limited. Universities were often situated at a far distance from main parts of the population. Public libraries, on the other hand, could be found in almost every local community.

In the old days the main part of the population left the classroom after having finished the compulsory school. That could be at the age of 12 or of 13 or whatever the national educational system prescribed. Some had training for a profession, and that was the end of that. Most people never returned to the classroom. Education was something you gained in youth as a once-and-for-all event. Education once gained was supposed to last for a lifetime.

The level of education has gradually increased. In the 1930s 90% of the Swedish population received a compulsory education of six years. Ten percent

continued to secondary school. And a still smaller number continued to universities. Thirty years later in the 1960s a compulsory school of nine years was offered to all children and 25% of the young people received an education of 15 years or more. Another 30 years later, in the 1990s, 90% of the young continues to upper secondary school and 10% do not. What happened in the last decades is a veritable educational revolution.

Academic education today is highly decentralized. In addition to the academic institutions a well-developed distance education is available. This means not only that a majority of the population takes part in higher education, higher education is also available in almost every corner of the country.

As a consequence it no longer makes sense to run two library systems in close circles, as user groups are becoming more and more blurred. Public libraries are today heavily used by university students, so heavily that it sometimes causes conflicts with the general public. University libraries are in principle open for the general public, even if there is still a gap between theory and reality. The Royal Library/National Library is situated in the most attractive part of Stockholm. In bygone days it was a sanctuary for scholars; today it is occupied by undergraduate students. Sometimes conflicts arise between the traditional users and the new ones. This illustrates that library customers no longer are clearly defined groups. It also indicates that library users do not care very much for what is their "proper" library. They are inclined to use the most convenient or the library that is closest. No matter who pays the piper.

The main objective for the public library is to provide material for education, information, and recreation for the local population. The main objective for university libraries is to support students and scholars with material needed for successful studies. The present library landscape is a patchwork of different libraries with different financial resources and varying aims and objectives. In addition there is a lack of national standards and an extremely decentralized financing. 289 public library systems including in total 1200 units are financed by local authorities. There are 20 county libraries financed by regional government and the state under the supervision of the regional government. There are four lending centers and one central repository library for the public library organization. They are financed by the state but under the supervision of the host library board. There are about 80 university libraries financed within the university budget and one national library under the supervision of the Ministry of Education. There are about 60 special libraries with various financing and leadership. There are an unknown number of school libraries under local governments with a tremendous variety in standards. There are two national institutions with coordinating tasks—one for the university/academic libraries under the National Library under the Ministry of Education and an equivalent institution for public libraries at the Swedish National Council for Cultural Affairs under the Ministry of Culture. The

library sector is fragmented and a coordinated approach to current problems might be difficult to achieve.

The current library structure is not adapted to changes in the educational system nor to the impact of information technology development. It seems more and more obsolete to run two different library systems. A reorganization of the library structure will sooner or later be necessary. In the meantime closer cooperation between the library systems is encouraged.

There are already efforts. The development of a national union catalog that includes holdings from all libraries is basic for further development. That is already on the way. The union catalog also serves as a base for interlibrary loans between public and research libraries. There is still a lot to be done about licences for electronic document delivery, where licences for geographical areas could include all kinds of libraries. To achieve that publishers must be willing to change criteria for charging.

Cooperation could be further developed. There are two promising examples that might be of importance for future development. In two middle-sized towns (Härnösand and Visby) new libraries have recently been opened. Under the same roof there is the university library as well as the public library and the county library. The idea has been to combine the library resources and create a library for all. It is too early to draw conclusions and carry out evaluations, but the experience so far is on the whole good. It must however be admitted that there are complications of human and of practical nature.

SUMMING UP

Looking at resources it would be correct to state that Swedish public libraries in an international context still have a position on the top-ten list. Scandinavian librarians can still be proud of their libraries. Even if resources are not what they used to be. Some figures could serve as evidence. The total collection has been stable for the last ten years and counts about 44 million volumes. That means more than five volumes per inhabitant. The annual acquisition level is just above 1 million volumes per year. Compared to the situation in the late 1980s before libraries were hit by the economic crisis, that is a decrease of 50%. The average spending on books is 42 SEK/inhabitant (1 USD = 10 SEK). The top library spent 109 SEK/inhabitant, while the lowest spending was 13 SEK/inhabitant. That indicates that there is still an enormous gap between the good and the bad.

Circulation rates show small variations from one year to another. The total circulation for public libraries is just above 80 million per year, which means 9.1 loans per inhabitant per year. The number of visitors seems to be increasing and currently counts more than 50 million visits per year. Taken into consideration

that statistics are not complete, as not all libraries are able to present complete figures, the number of visitors are probably higher.

More than 60% of the population are library users. Almost 95% of children up to 13 are library users.

The weak spot is the school libraries. Concern for the school libraries seems never to have coincided with financial resources. If there had been the ambition it would have been possible in the 1960s and the 1970s to develop the best school libraries in the world. But there was no such ambition. School libraries have traditionally been run by teachers with very limited time set aside for library work. School leaders have in general concentrated on other priorities than the library. There has been a continuous debate on school library organization. Less concern has been paid to the aims and objectives for the school library. There is no clear definition whether the objectives should be to provide pupils with fiction reading or to focus resources in education. However, it is remarkable that a country with one of the best public libraries in the world and a well-developed university library system demonstrates a permanent neglect for its school libraries.

Even if the past decade has offered some difficulties for Swedish public libraries, there seems to be a growing confidence and even optimism. There are problems to deal with. What should be noticed is that there is a growing interest for development and improvement of library services, even without additional funding.

The most promising sign, however, is the deepening understanding and cooperation between public libraries and research libraries. And this might lead to the result that all libraries will be libraries for all.

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6

Library Services in Multinational Corporations

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As a preliminary statement, I would like to say that I am an information scientist in a global drug company. My considerations may reflect the specific organization and practices of the company. Global pharmaceutical companies, however, are at the forefront in the adoption and use of advanced technology for the search, management, and distribution of information. The experience gained in an information management center of a global pharmaceutical company has an undeniable knowledge value and illuminates the typical features of today's information management.

DISTINGUISHING FEATURES OF A GLOBAL PHARMACEUTICAL COMPANY

In recent years, new factors, such as price, have emerged in the pharmaceutical business which are critical for increasing competitive advantage. Other factors, such as research and development (R&D)-based innovation, remain of paramount importance in developing new products which have a competitive edge over those already on the market.

Industrial research and development, however, is no longer free to set its own objectives. R&D projects are now a byproduct of the advances in

understanding of the biochemical and genetic processes of life mostly achieved by discovery research in academic settings. The institutional task of R&D resides in the evaluation of all findings of biomedical interest and the selection of those that are feasible and may be turned into research programs capable of creating innovative drugs.

Since findings by basic research are generally public domain, chances for taking a competitive edge in their capture generally depend not only on knowledge and experience within each company, but also on the speed and efficiency of their acquisition, handling, and evaluation.

Research and development efforts and strategic plans at each company generally focus on a limited number of pathological conditions. It should be borne in mind, however, that each disease is generally caused by multiple mechanisms, and the choice on which of these to focus is critical to acquire a competitive advantage. As a result, the mass of information a drug global pharmaceutical company must gather to refine its strategies may be staggering, even when limited to a single therapeutic area. On top of this, we should not forget that, according to estimates, at its conclusion the Human Genome Project will have increased the number of potential targets to over 10,000 from the about 500 now available to pharmaceutical R&D; the quantity, complexity, and diversity of scientific information to find and manage will increase accordingly.

The estimated time to market for a novel pharmacological agent is presently 12 years, and companies study products that will not become drugs for a very long time. Chances are high that the market and social environment by then will be vastly different. As a consequence, programs must be flexible to fit the changes occurring over time. Drug companies can also increase their chances of success by conducting staggered parallel projects, i.e., projects pursuing the same therapeutic target of the parent project, but incorporating the changes dictated by scientific and technological progress to offset the obsolescence caused by time.

INFORMATION NEEDS IN THE PHARMACEUTICAL SECTOR

Companies generally model their development projects on targets suggested by competitive analysis. Throughout the project life, a number of critical outside factors must be closely monitored. By and large they include new technologies cutting manufacturing cost; the epidemiology of the target disease, the medical need, and population indicators. From an economic and strategic standpoint, the initiatives, successes or failures of the competition operating in the same therapeutic area, and the macroeconomic trends impacting national policies or regulations in the health sector are equally paramount.

The bulk of information a company needs to maintain or increase its competitive advantage is not only imposing, but is also extremely diversified.

So are the specialized skills required both to grasp their implications and/or impact on the company's programs in order to recommend corrective actions or outright changes in the development program themselves.

The growth in information needs in the industrial sector has triggered a parallel technological progress in the remote access to information, in the efficiency of search engines of the sources, and in the capability of companies to handle and internally circulate information. Other advances in the IT sector have paved the way to commercial initiatives that offer organized forms of highly sophisticated information services. As a result, satisfying information needs is no longer a problem of retrieval, but of strategic vision, cost of acquiring proper technology, and the internal capability to handle and circulate data.

ENVIRONMENTAL CHANGES—COMPANIES

Of all the strategies put in place in the pharmaceutical sector to expand their presence in the marketplace, the most popular has been through mergers and acquisitions. This strategy has brought about undeniable advantages, particularly in terms of cost savings and positive synergy. Integrating two or more companies is a difficult process that begins with the identification of new organizational structures and visions and incorporates the merger of individual departments. The problems two distinct information management departments must face are those faced by other business segments of the merging companies. These problems stem from differences in organizations, e.g., integrating a centralized structure with a decentralized one; serving business sectors in different locations or with different information needs (e.g., preclinical versus clinical); or clashing cultural factors such as different ways of perceiving the services being provided.

The merger of information management departments requires as a first step a critical analysis of potential strengths and weaknesses in the two organizations. Differences in organizational models also mean differences in resources, tools, skill, and mindset. Merging information management departments also entails the selection of personnel who must perform in a culturally diverse organization where environment, assignments, and objectives rapidly change.

Today these issues are increasingly recurrent and serious when compared to those faced in some past mergers, such as Ciba and Geigy, Carlo Erba and Farmitalia, Bristol Meyers and Squibb, etc. Those mergers involved companies from the same or neighboring countries with similar cultures, lifestyles, and laws. Most of the recent mergers are instead from companies based in different countries or even continents. The resulting organization has a complex structure, with R&D—the main customer segment of the information management department—performed in a multitude of centers often geographically far apart. Often these centers are highly specialized and focused on widely different objectives. For best advantage, an information management department must be

located near its users (or at least the most important ones) in order to effectively interact with them, so in the new organization information management departments should be split into as many separate groups as the R&D units.

Centralized managing structures which coordinate satellite information management departments may help best to respond to changes in corporate strategies and may avoid duplication of tools, particularly when the company can implement a unified information system globally. Fundamental for success of such organizations is the availability of advanced technologies and the company's ability to optimize their use. Cases in point are email, video- or teleconferencing, a company intranet, and digitized handling of contents, enabling remote distribution and use of information.

The information needs of a newly merged company might not differ from those of the originating companies. What does matter is to decide the role the information management department should play within the company. Roles may differ significantly depending on the company, ranging from a "passive" service on demand to some form of strategic involvement, including the improvement and sustenance of the information platform. It follows that when a merger commands these kinds of decisions, they are neither easy nor painless.

ENVIRONMENTAL CHANGES—CUSTOMERS

The most immediate result of a merger is the reorganization of the company's staff and management structure. Some employees leave the company; others must interact with new counterparts or must face totally new assignments. Units may be restructured, responsibilities may be transferred to different departments or professional profiles, and new projects may begin. This highlights a key point in the alignment of an information management department to the needs of the company; understanding who the actual users are and what their usage patterns may be. Normal day-to-day service must be ensured to the users to accommodate for changes or new turns in R&D programs, new product launches or country introductions, and in general all day-to-day activities typical of the life of a company.

The globalization process triggered by the recent large mergers also impacts users. Despite the scattered structure acquired by information management departments in the new corporate environment, a number of groups using large amounts of information may remain physically isolated. A typical example is the subsidiary companies located all over the world. These have diversified needs depending on their size and activities. The actions to be taken will largely depend on local size and needs, spanning from simple support or replacement of a local information scientist to delivery of products and services via the company's network. Special care should be paid to end user training either on paper or with digital support (such as CD-ROMs). As a side benefit, the

centralization of services to cover all company sites increases the company's leverage and affords considerable volume-based savings.

INFORMATION SOURCES

Opportunities to determine best practices as a result of a merger may be offset by additional challenges brought about by rapid advances in technology. In the area of information sources the real challenge for information scientists stems from the crisis of the traditional practices used to access information. The tremendous impact of the Internet revolution still needs to be completely grasped. Let's consider its implications in some detail:

Traditional information sources (news providers or bibliography data banks) offer Internet-based access, which has been gradually replacing direct access via modem and switched line. Particularly relevant is the replacement of the text-based interface with a graphical one. Today's interfaces offer a more intuitive and friendly command language compared to that once familiar to information scientists, although with some loss in the refinement the traditional command language based strategies afforded. Thanks to their friendly features, sources can be easily accessed by end users, even those who lack specific training in the area of information management. This however also changes the professional profile of the information scientists.

In addition to all this, full text sources are now available thanks to the possibilities offered by the Internet technology, in particular e-journals and e-reference books. Also, we can now access a multitude of sites posted by companies, institutions, governmental agencies, professional associations; all this has brought great benefits and substantially increased productivity in the field of the so-called gray information.

Current pricing models in the area of traditional data banks provide different terms compared to the traditional "pay as you go" model that was a real challenge to predicting online expenses. These new models do not always offer flat fees, but do provide for volume discounts with restrictive conditions for usage, particularly when end users are involved. On the other hand, other types of information sources, typically the e-journals, often submit offers based on more established, outdated vendor models. The information scientists should be aware of the high price variability of these resources, ranging from totally free access to request of subscription or formal contract with invoicing of the services offered.

Now joining the so-called official sites are a growing number of other sites, which we might call "amateur sites," and this thanks to their low cost of creation. Their scientific value and accuracy of information must be defined on a case-by-case basis. An issue with these sites is not so much their questionable reliability or relevance, but that they may pollute any Internet-based search. Results of any Internet search performed via simple keywords are often

inaccurate and have no relevance to the query. Some of these problems are caused by mere spelling similarities (person or company/institution names, words with different meaning in more than one language, etc.). Nowhere more than in this field is it true that information overflow lessens the value of information. Analysis of the prevailing practices in large pharmaceutical companies has shown, however, a definite, clearcut reliance on fee-based information when mission-critical decisionmaking is involved.

If the problem of information access is now being gradually solved through the establishment of structured and efficient database services, a standing problem, at least until a short while ago, was obtaining full text information. In the past this problem was handled through document delivery, a costly and time-consuming practice.

To a growing degree, the Internet now allows retrieval of full text articles. Thanks to the TCP/IP technology, each entry in a bibliographical database can include a hypertext link to the related text. Downloading, however, is seldom free and often requires an online subscription to the digital magazine. Talks are now ongoing between publishers and database vendors for online provision of individual full text articles in the absence of a formal subscription.

INFORMATION SPECIALISTS

Even the most organized of groups cannot work fully effectively without suitably skilled information professionals, who must be able to play a role without trespassing or encroaching on someone else's responsibilities and be willing to share the objectives of the department and of the whole company.

Some individuals of this type may already be present within each information management department and may form the backbone of a new structure consolidating the best of the preexisting information centers. Other information professionals, however, may be hired from the outside, especially for managerial positions, particularly when the purpose is not only to establish a single information management department from the preexisting ones, but to raise the standards of the services offered.

From a technical standpoint this quality improvement attitude must be an integral part of any information management department. As already mentioned, one of the distinguishing features of R&D activity is flexibility, i.e., the capacity to steer the program or to change objectives in response to pressures either from the company itself (e.g., negative results requiring discontinuation of projects or start of a new one or results exceeding expectations requiring project reevaluation) or from the outside (e.g., successes/failures of the competition, politics, economy, science and technology, regulations).

The information management department, far from being a passive object, is one of the key players and contributes to the establishment of the information

base supporting critical decisions by senior management. This is particularly true when changes are prompted by external factors. This requires that the information management department is fully aware of the company's main issues or problems. They must keep close contact with the most critical structures within the company, particularly R&D and strategic marketing. The evolution of the role of an information scientist is also dependent on the changes that are occurring in the information world as outlined above.

In fact, in a company environment increasingly conscious of the costs/benefits issue, a tendency is clearly on the rise: some activities seen as noncore or not perceived as "sensitive" are outsourced. Hence, a change is necessary in order for the information professionals to perceive themselves as vendors in need of promoting themselves and their services. As vendors, they understand that they must compete effectively alongside other information resources that are available to their internal constituents. This means that internal customers have to be monitored constantly and carefully to discover and analyze their needs; that newer and more suitable information products and services have to be developed; and that periodic surveys of user satisfaction must be performed. In short, the information scientists must ensure that activities are strategically and operationally aligned with the corporate business.

The availability of friendly Internet-based search systems now allow delegation of the task of investigating sources to end users. End users can properly evaluate the relevance and value of search results. A reshaping of the role of the information scientist with respect to the sources and the users is necessary. Information scientists must increasingly direct their activities to support the end users and no longer serve primarily as information brokers. An important part of this new role is the selection and certification of information sources and the training and the follow-up tutoring of the users. In short, an information professional's role must shift from intermediary to consultant. Selection and purchase of candidate information sources requires careful evaluation. Not only are contents evaluated, but also their place within the company's information product portfolio must be established. The guiding principle is to evaluate costs against benefits by assessing factors such as price, availability on the market of similar or competing products, SWOT analysis, and need-to-have versus nice-to-have evaluation. All of these considerations must be viewed with the goal of optimization of the product to be acquired.

Another responsibility of the information professional is to make the users and the company aware of the legal limitation in the use of an information source, in particular with respect to copyright issues. As a consequence, the library staff roles and responsibilities change dramatically with redesign, and some staff members may need to learn new skills. A primary consideration is to help the staff upgrade their skills to cover new positions within the organization.

SERVICES OFFERED

To meet user expectations, constant reassessment of available services and products is required, including those purchased externally, those produced by the information management department itself, and those from other corporate sectors.

It is particularly important to discontinue performing low-added-value activities (such as purchase of books or journal subscription on behalf of other departments) in favor of providing services to ensure that the information center plays a pivotal role inside the company's core business.

Information professionals should set boundaries to make sure they're not caught in an impossible role, that is, to ensure that are not perceived as trying to be everything to all internal customers and consequently successful with none.

IT PLATFORM AND TOOLS

Over the last several years the increasing diffusion of the personal computer as the primary tool for office work made available a growing amount of computing power to the user. This has been paralleled by the proliferation of the Internet among a continuously increasing number of users. At the same time most of the resident information of the company has been digitized and made available to the desktop.

The need to put order to the access and use of this impressive flow of information has led to the establishment of corporate intranets, to which each department or group belongs and contributes by creating their own pages to organize the information they originate, own, and use.

Much has been written about the opportunity for the information professional to enter this process in an advisory role. Without going to these extremes, each professional should at least create and maintain a personal web page as a tool ensuring a widespread contact with users, facilitating their access to information sources in a reasoned fashion.

The corporate portal is an evolution of the web page that incorporates many technologies and represents a further step in the rationalization of access to information resources by end users. The main differences of a portal reside in the possibility for users to create personalized pages where resources can be organized.

The most recent versions of portals feature software that allows users to create and own several personal pages which cover different areas of interests. Portals also give the option to create a number of parallel subportals manageable by user or service provider communities, which allow consolidation within different groups or departments.

Portals allow the integration of available resources through a syndicate search engine, which, subject to agreement with the vendors involved, allows crawling of the retrievable sources at several levels of refinement and subsequent searching.

CONCLUSION

The crucial asset for business success is having the right information at the right time in order to make informed business decisions. This statement, always true, is being currently challenged by environmental changes both inside the company (due to mergers) and on the outside (due to technology evolution). This challenge can be faced by companies by adopting the right organizational approach. The key is in the human factor as well as in technological and content resources. It is important that creative, resourceful information professionals provide innovative information services, including high-level analyses, easy-to-use desktop products, and everything in between. Lowering expectations or cutting corners can only result in delays, lost opportunities, and lost revenues.

Library Collaborations

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INTRODUCTION

In a sense, this entire book celebrates the collaborations of libraries working together in a single global information environment. Other chapters focus either on global library collaborations on a grand scale, such as with regard to library associations, standards, and transborder information flow, or discuss how particular types of libraries and library services function in an international perspective. However, each individual library has opportunities to foster better understanding and share its expertise and knowledge with one another through collaborative activities with a library in another part of the world. Often all it takes is the interest of one librarian to foster these new ties. In other cases, collaboration fits in quite well within the mission of the overall institution. No matter what the case, with the advent of the Internet, new services such as virtual reference, increased access to information and libraries, and the growth of organizations supporting collaborative activities make it easier than ever for libraries to partner with one another across international borders.

This chapter reviews the rationales for international collaborations, strategies for developing an effective partnership internationally, case studies, and library organizations that support these relationships. Much of this chapter is based on a report and website developed by myself as a project for the International Federation of Library Association's Science and Technology Section (1).

THE NATURE OF LIBRARY COLLABORATIVE RELATIONSHIPS

Collaborative relationships can range from simple exchange programs of materials to partnerships that involve staff exchanges, preservation and digitization programs, and access to unique resources. Collaborations between two libraries are also called twinning. UNESCO defines twinning of libraries as “the ongoing relationship between two libraries in different countries for the purpose of improving the practice of librarianship across national boundaries. The twinning relationship should have mutual but not necessarily equal benefits to both libraries” (2).

Libraries around the world share many of the same problems, with varying degrees of magnitude being the only major difference. Because of the great increase in the cost of scholarly resources, virtually no library in the world can be totally self-sufficient. Additionally, there is a growing need for trained staff to provide access to many unique resources available in libraries worldwide.

The reasons for libraries to partner with a similar library in another country might be quite apparent. But, there are also reasons for a library in a developed country to partner with a library in a developing country. Libraries in developing countries also have information resources that are unique and otherwise difficult to obtain. Collaborative arrangements can improve access to this material and make it available to the global scholarly community and thus ensure their preservation. In particular, in the areas of health, agriculture, and the environment, where progress as well as disasters have effects worldwide, access to the information collected by libraries in developing countries is essential. Another reason to become involved with libraries in developing countries is to help maintain the flow of information that may aid in the continuation of a democratic and free society (3).

Barriers still exist that prevent ready access and availability of library resources in many parts of the world. Some of these same obstacles can stand in the way of effective library partnerships. First of all standards or lack of standards can create havoc—cataloging practices, telecommunications protocols, access to the Internet and networked information, and even language can be barriers to a successful partnership relationship. But the greatest obstacles might be the lack of resources available, particularly in a library in a developing country where trained staff and adequate equipment may actually be unavailable. The other major barriers are those concerning policy. In some countries national policies might discourage data flow. On a more local level, librarians may have to convince their administrations of the importance and relevancy of libraries and information resources in another country to their institution.

When undertaking a relationship with another library, it is important that each institution’s expectations and goals are clear. Once an appropriate twinning

partner is identified and mutual benefits have been articulated, it is essential to organize institutional and financial support. The library needs to make the case that access to the partner library's resources and services will enhance their institutional mission and goals and provide access to needed information. Finally, they should develop an agreement via a contract or letter of mutual understanding that spells out specifically the responsibilities of both partners as well as defines milestones. This and other measures will provide opportunities for evaluating progress.

The agreement should specify the benefits to each institution and include background information on the participants. Goals and proposed activities within a specified time frame and budget should be clearly articulated. For twinning relationships or other collaborative partnerships to be effective, consider at least five years at a minimum possibly with a trial period of two to three years. It is usually the case that libraries will not reap the full rewards of their partnership until several years down the road after much of the groundwork and cross-training has taken place.

Building successful collaborations takes much work and a very consistent effort. It is often beneficial for a library to identify particular staff members to serve as contacts and mentors. Ongoing exchanges of staff lists, annual reports, library newsletters, and guides will help keep the momentum. But there is nothing that takes the place of face-to-face visits and staff exchanges. Coordinating visits of international librarians to other libraries and library vendors are additional ways of highlighting your partnership. Additionally, maintain records of all transactions between your libraries and keep your institutions, staff, and agencies up to date, as appropriate.

UNESCO's *Guidelines on Library Twinning* (4) is an excellent resource for any library contemplating an international collaboration. Doyle and Scarry's handbook, developed under the auspices of the International Federation of Library Associations (IFLA), provides advice on establishing and implementing a twinning arrangement, examples of library twinning programs, and a sample request form and memorandum of understanding. Also included are a listing of sister city/twinning organizations, a guide to donation programs for books and other materials, and examples of staff exchange programs (4).

EXAMPLES OF INTERNATIONAL LIBRARY COLLABORATIONS

Collaborations and twinning relationships are possible for all types of libraries. Public libraries are often involved in sister library activities that are related to a sister city program. Academic libraries often engage in collaborations for access to unique sources of information due to an interest by schools and faculty at their

institution. School libraries may benefit from twinning relationships for the cross-cultural educational and language benefits. Business and other special libraries may have economic, governmental, social, or cultural exchange incentives.

Seidman (5) describes several case studies of special libraries, giving examples of the role of international business mergers, new economic communities, and global electronic information networks. Partnerships described in her book include the KPMG and SmithKline Beecham corporations, both examples of business libraries involved in international mergers; an agricultural education project between the libraries of the University of Kentucky and Indonesian Western Universities; and a partnership between the International Management Center in Budapest and the University of Pittsburgh Graduate School of Business to support business schools in Eastern Europe.

The American Library Association's "Sister Libraries" Web page lists many examples of cooperative activities of public, school, and academic libraries. Some of the partnerships described include Tucson-Pima Public Library with the Roscommon County Library in Ireland, the Rockwell Elementary School Library in Alabama with the Greenfield Elementary School in Prince Edward Island, Canada, and the Crandell Public Library in Glens Falls, New York, with the Municipal Library in Saga City, Japan. Examples of some of the activities described include a postcard exchange of students writing about their favorite books and other pen pal programs, exhibits in the library of arts and crafts from the partner library's country, assistance in fund raising, news stories in the local media, and visits (6).

During 1995 and 1996, I investigated several library collaborations myself, which serve as examples of how library collaborations get started, the types of relationships that exist, and the benefits of these partnerships for each institution.

University of New Mexico

The IBERO American Scientific and Technology Education Consortium (ISTEC) is a program of the University of New Mexico (UNM) with universities in Latin America. It began with the electrical engineering department at UNM and the wish by the university president for the university to serve as a gateway to the Americas. The mission of ISTEC is to "foster scientific, engineering, and technology education, joint international research and development efforts among its members, and to provide a cost-effective vehicle for the application and transfer of technology."

In 1993, the University of New Mexico Centennial Science Library became involved, viewing this endeavor as part of the library's mission to support institutional global cooperation. This is often a typical route for many library twinning programs, where the library supports cooperative programs that develop within academic departments. The goals of the Centennial Library's involvement

are to modernize document delivery with Latin American libraries; to upgrade the information skills of library staff, emphasizing the role of librarians in the electronic environment; to broaden access to international electronic research databases; and to encourage joint hemispheric research on digital research libraries.

An initial base budget of \$9000 provided for site visits, Internet training, and the creation of an electronic request and delivery system. Today, this has grown to become a major digital libraries initiative with the aim of broadening the electronic availability of resources and providing continuing education of library and information workers and user education strategies in the use of electronic information. ISTECS's Library Linkages Initiative has grown to over 50 members and has trained over 6000 individuals. The program has developed databases of information about member libraries' services and collections and has established an online journal for information technology. Greater access to Latin American research will lead to greater citing of this work and increased listings in major citation databases and bring this knowledge and expertise into the mainstream. The ISTECS digital library program demonstrates that library collections and other library resources are assets that can be used to support cooperative efforts within the home university as well as the wider international research community (7).

Iowa State University

Iowa State University developed a partnership with the Ukrainian Academy of Agricultural Sciences, which started as an outgrowth of the research agreements that Iowa State's College of Agriculture had with the Ukraine. An initial visit by Nancy Eaton, Dean of the Iowa State University Library was supported by a grant from IREX (International Research and Exchange Board). The resulting Ukrainian visits to Iowa State came from a grant from Iowa State's Council on International Programs. A formal memorandum of understanding was signed by the two libraries in 1993 in which they agreed to continue and enhance their publication exchanges, collaborate in providing expertise in technology and languages, gain an understanding of the publishing industry and agricultural research initiatives in each others' countries, and develop a program of professional training and continuing education.

In April 1995, two Iowa State University librarians went to the Ukraine and presented lectures and demonstrations of agricultural literature in the United States. As part of this visit, they learned about information and bibliographic activities of Ukrainian agricultural libraries. In April 1996, two Ukrainian agriculture librarians came to Iowa State to help develop a focused materials selection plan. In a subsequent agreement, Iowa State agreed to provide key journal subscriptions and tables of contents from selected titles and to subsidize

document delivery. The Ukrainians agreed to provide copies of their publications and work with Iowa State's library to establish full Internet connections and electronic transmission of selected documents. The partnership provides for full library privileges for exchange scholars and exchange of library personnel and continuous exploration of information technologies for mutual benefit. As part of the partnership, Iowa State also provides expertise in library technology and the Ukrainians provide expertise and help with translations and an understanding of their country's agricultural research and publishing industry (8).

Seton Hall University

Seton Hall has a long history of Asian involvement, and the library's partnership with the Chinese Academy of Sciences dates back to 1983. The partnership started from a chance social meeting by a Seton Hall librarian with the deputy director of the Chinese Academy of Sciences Library, who at the time was studying at Columbia University's Library School. This meeting led to more serious discussions by the respective library directors. Seton Hall already had an extensive exchange program for teaching faculty and with the initiation of this agreement librarians were able to participate in this program as well.

As part of the agreement, Seton Hall librarians go to China to provide workshops and lectures and Chinese librarians come to Seton Hall to take up six-month internships. These internships include working with librarians, taking classes in English as a second language, and providing opportunities for external professional contacts. The major thrust for the intern is to complete a project with the assistance of a Seton Hall librarian/mentor. The cost to the library for the internships is minimal and actually benefits the library because the interns perform work that contributes to the running of the library. Participating interns in the Seton Hall program have often gone on to positions of greater responsibility and stature in China.

Over the years, several librarians have prepared reports of their experiences in China, which assists future participants. These librarians have found it useful to provide topics and abstracts of several lectures and workshops that could be given in advance of their arrival. The hosts then decide which of these topics would be of the greatest value. Seton Hall librarians have found that it greatly enhances the value of these programs if they bring along photographs and illustrations as well as canned demonstrations utilizing screen capture software.

Seton Hall, by providing an investment in training, gets help with various library projects. This partnership has also provided very good publicity for the library, which became involved with many other departmental programs on campus related to China. The program with China has given library staff at Seton Hall a great sense of accomplishment and satisfaction. This partnership has also

helped Seton Hall librarians in their work with providing assistance to a great number of international students and visiting researchers at the university.

Nottingham City Hospital

Through the British Council, Nottingham City Hospital Library partnered with the Jimma Institute of Health Sciences in Ethiopia. The funding provided helps the Jimma Institute establish a more effective and efficient library and lays the groundwork for further initiatives of cooperation. The relationship has provided the basis for requesting additional funds needed for the Jimma Institute Library for training, collections, and equipment and having the library participate in the British Council's book resale program.

Richard Marriott, the librarian at the time at Nottingham City Hospital, made a site visit to the Jimma Institute Library in 1994 and provided extensive consultation including recommending funding and training, access to Medline, and the need for library user guides and the establishment of an interlibrary loan link with Addis Ababa University. In response Genetu Melese, the Head Librarian at the Jimma Institute Library, increased training efforts for library staff and planned to visit libraries in the United Kingdom for his own professional development.

In his correspondence with me, Richard Marriott expressed the difficulty in balancing the different expectations among the library staff, the librarian, and the management of the Jimma Institute. Marriott found that by the strategic evaluation of the Jimma Institute Library, he was better able to assess the programs offered by his own library. An additional benefit was the perspective gained that no matter how understaffed the Nottingham City Hospital Library was it was preferable to what was available at the Jimma Institute. This collaboration highlights the sometimes sorry state of sci-tech and medical libraries in developing countries where many technologies such as computers, high-speed networks, email, and fax are rare.

ORGANIZATIONS SUPPORTING INTERNATIONAL LIBRARY COLLABORATIONS

Several library associations and organizations are involved in fostering international library partnerships. Some of the major initiatives are described below. This is not an exhaustive listing but does include the major groups for which global partnering of libraries is the primary focus.

IFLA and UNESCO Twinning Initiatives

The IFLA UAP (Universal Availability of Publications) Core Programme, with funding from UNESCO, sponsored a database of potential twinning partners in

the library world from 1997 to 2000. Libraries participated in the database because of interest in access to collections, technological and professional development, exchanges of materials and staff, staff training and development, and document delivery.

Most of the entries were from libraries in developing countries. Although there was great interest in the database, very few successful partnerships resulted from this effort. The usefulness of the database was sporadic because of the wide diversity of libraries, subject areas, missions, and needs. Instead, it seemed that the direct approach of personal contacts by a library seeking partnerships was the preferred route to take. Other reasons identified as problematic issues were geographical distances, an identified partner not really being suitable, and that some potential partners did not reply to requests for additional information.

The project's report concluded that some of the underlying reasons for twinning relationships could be met in other ways due to increased access to the Internet throughout the world. Library listservs and mailing lists provide for the international exchange of ideas on library practices and services, and catalog records are easily exchanged and shared. There are now well-established programs that focus only on the donation of publications and other library materials (9).

ALA Sister Libraries Program

The American Library Association, under the leadership of Sarah Long as president in 1999–2000, established a Sister Library program. The Sister Library program serves as both an information source and clearinghouse for public, school, academic, and special libraries interested in partnerships between U.S. and non-U.S. libraries. Currently the database has entries for libraries in over 25 countries around the world. Included is standard information about getting started and identifying an appropriate library partner. The Web page also provides many good ideas, most geared toward public and school libraries, to build on a community relationship or sister city program for their area that might already exist. Rotary International (www.rotary.org) and Sister Cities International (www.sister-cities.org) are good sources of information. The U.S. National Commission on Libraries and Information Science (NCLIS) in partnership with Sister Cities International has as a major initiative Sister Libraries: A White House Millennium Council Project. This program focuses on initiatives aimed at children and young adults (9).

SATELIFE and INASP

Based in the United States and the United Kingdom, SateLife sponsors library partnerships between developed and developing counties in the areas of public health, medicine, and the environment. SateLife's HealthNet network provides

access to the latest medical information, databases, email, and electronic conferencing. Several publishers such as Elsevier, Blackwell Science, Mosby, and William and Wilkins give permission to make selected content of their journals available to healthcare workers in developing countries without royalties via HealthNet.

SateLife launched two low-orbiting satellites in 1991 and 1993 that provide access to HealthNet where Internet connections would not otherwise be possible. Conferences transmitted by satellite have included the first global conference on HIV and sexually transmitted diseases and one on cardiovascular health in the developing world. SateLife is currently working with handheld computers and wireless technologies for access to medical information through experiments in East Africa (10).

With SateLife, INASP (International Network for the Availability of Scientific Publications) has developed the Health Library Partnership Database. The database was launched in 2002 and includes information on projects of one-to-one library partnerships. The database includes 19 partnerships covering a wide geographic spectrum. Each entry includes full contact information on the partner libraries, Web addresses of participants, and brief descriptions of activities, many of which include information on why and how the partnership was developed, any grant funds that were obtained, and significant results (11).

OCLC and Library of Congress

These organizations provide examples of many libraries working collaboratively focused on a particular library service. With WorldCat, OCLC provides access to cataloging records from libraries throughout the world. With QuestionPoint, the Library of Congress, in conjunction with OCLC, has organized a collaborative digital reference service.

OCLC's global strategies are in the areas of cooperative cataloging, a cooperative program for metadata creation and management to organize the world's knowledge, programs for cooperative resource sharing, and digital collection management and preservation. WorldCat, the premiere OCLC offering, is the largest database of bibliographic information in the world and represents the contributions of libraries worldwide. Regional networks throughout the world facilitate communication, training, and support. WorldCat is envisioned to also provide access to text, graphics, sound, and video and other links to digital objects available via the Internet (12).

QuestionPoint from the Library of Congress is the product offering and backbone of its global reference service. Formerly known as the Collaborative Digital Reference Service, QuestionPoint routes unanswered questions automatically to other libraries in the cooperative based on metadata about the question and profiles of library collections, subjects, and staff strengths. Another

aspect of the project is a global knowledge base of previously asked and answered reference questions. The project was originally envisioned in 1998 under the leadership of Diane Kresh, Director for Public Services at the Library of Congress, and through various pilot projects involving libraries from around the world, the QuestionPoint service was launched in June 2002 (13).

CONCLUSION

This chapter focused on twinning partner collaborations between individual libraries. There are other examples of libraries working collaboratively with a particular service such as cooperative cataloging (OCLC) or global reference (QuestionPoint). With the Internet—despite libraries working in different time zones—it is now possible for a group of engineering libraries in Australia to provide real-time reference service to students and faculty at engineering libraries in the United States and other countries and vice versa.

However, individual librarians can also make an important contribution to global library collaboration through their involvement with international committees of national associations, IFLA, international library conferences, and participation in library listservs. Individual librarians can become ambassadors of good will, cooperation, and sharing of information, even when visiting libraries abroad while on vacation. For longer involvements, international organizations such as the World Library Partnership (WLP) and the Council of the International Exchange of Scholars, which includes the Fulbright program, provide volunteer opportunities and exchanges of library staff without a formal twinning relationship.

For tracking librarians with hands-on international experience, the American Library Association's International Office has created the Global Reach interactive database. The database hopes to demonstrate the wide range of international activities of librarians and libraries in North America. If you are looking for inspiration or a mentor or want to network with fellow librarians in regard to a specific country, service, or any aspect of global librarianship, this database is certainly a good place to start (14).

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8

Preparing Library Users for Productive Global Information Use

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In the 21st century information has become a major economic commodity and citizens have to be prepared for effective and productive information use from preschool through postsecondary education. Libraries and librarians can and should play a major role in educating people for effective and efficient information use through the teaching of information skills during all levels of education. In this chapter information literacy is defined and national standards for information skills teaching are presented to ensure information literacy is achieved during K–12 levels and in higher education. These standards are defined and their application is discussed. Librarians' new role as instructors and partners in education in the United States is outlined in terms of preparing library users for productive information use. Global information literacy concerns are also described briefly in terms of academic libraries' initiatives in other countries.

INTRODUCTION

During the last decade technology has had a major impact on society not only in this country but globally. Technology has initiated major changes in most areas of society. In economics the initiation of e-commerce has strongly affected the stock market and all types of business enterprises. E-business has developed

rapidly utilizing the Web to encourage shopping online to promote all types of information endeavors. In the work environment, computers and the Web have changed how people perform work. Computer and information skills are needed practically in any work situation and many physical work environments have taken on a technological look. Most workplaces have added information technology departments to their organizational structures. The way of doing business is continuing to change. Collaboration and cooperation are important factors in helping business organizations share and utilize knowledge and experience with partners, suppliers, and customers. Organizational values are changing, reflecting more reliance on people, knowledge, and information. Businesses and organizations are creating, sharing, and using knowledge and information faster while utilizing more technology than ever before. The world economy is gravitating toward e-commerce and the workplace needs employees who are capable of working effectively in a changing electronic information environment. To become technologically efficient workers must possess a myriad of information skills, such as

- Having the ability to locate information efficiently
- Evaluating information for a specific purpose or need
- Organizing information to address problems or issues
- Applying information skillfully to solve problems
- Using information to communicate effectively
- Using information responsibly to ensure productivity in the workplace.

Communication likewise is undergoing a major transformation. The development of the Internet, email, and cellular telephone service has totally reformed how people communicate and how they obtain and exchange information. Communication now is expected to be immediate and worldwide. It is also presumed that people have requisite information and technical skills to communicate efficiently and effectively.

Transportation has been revitalized as well. More and faster airplanes and automobiles have increased the speed of travel and the expectations of travelers. Utilizing the Web for travel arrangements, and following this up with online check-ins at airports rather than people-staffed services has placed more responsibility on individuals to organize their travel and to learn new information skills while increasing the volume of travel worldwide.

Education has been affected by technology, although somewhat more slowly. The Internet and computers have begun to reform teaching and learning in a major way. The K–12 grades as well as postsecondary education have been undergoing major reviews and revisions. Most states have initiated or are in the final stages of educational reform to ensure better learning outcomes for students in elementary and secondary education. Meanwhile, higher education, the one segment of society which changed very little during the last several centuries,

is now being affected by e-learning and the emergence of e-universities as well as related distance education initiatives. University administrators are beginning to feel pressure from legislators, accrediting agencies, and other funding groups to reform and improve major components of higher education such as tenure, teaching, learning, research, student outcome measurements, and faculty development.

The effect of technology on information during the past decade has been nothing less than revolutionary. The rapid development of the Internet has made it possible to make information available instantaneously and globally. Information is being generated at an ever-increasing pace and the value of information has been increasing at a much higher rate than ever before. At the beginning of the 21st century people throughout the world are ensconced in an information and technology explosion. There are more data available than ever before and people are being overwhelmed by the enormous amount of available information. At the same time everyone expects to obtain needed information immediately and effortlessly. People need training to use the available data and information meaningfully and productively. Not only do individuals have to be literate (i.e., know how to read and write with understanding), but they have to be information literate (i.e., possess cultural, visual, computer, technology, research, and information management literacy and, ultimately, critical thinking capability).

THE HIGHER EDUCATION ENVIRONMENT

At the beginning of the 21st century enormous changes are occurring in higher education throughout the world due to new information and technological developments. These changes are affecting every segment of society and all levels of education. Faculty in higher education need to acquire new sets of technology and electronic information skills in order to effectively prepare and teach students the knowledge base in various disciplines as well as relevant information skills. New learning communities are evolving based on the necessity that learning must be continuous on all levels at all ages and must include resource-based learning. Schools and universities should teach their constituents to integrate learning opportunities into everything they do in order to be successful in the constantly changing work environment, in organizational work, and in society. Education needs to look closely at the business world where strategic advantages are based on learning and teaching organizations to take advantage of evolving technology, the Internet, the global marketplace, and the new economy.

Students will need to obtain high levels of literacy during every phase of their education. They will have to achieve excellent skills in reading, writing, mathematics, and critical thinking so they can be successful in the new

millennium. Given the complex technology environment and increasing global interactions, students will need to attain excellent communication and information skills to function productively in the workforce of the new millennium.

Higher education in many countries is undergoing major changes. Legislators, funding agencies, and consumers of higher education are demanding appropriate learning outcomes and graduates prepared to function successfully within the global economy. New models for universities are slowly beginning to emerge addressing financial needs and competition. Some models are for-profit institutions such as the University of Phoenix, based in Arizona, with a major stock portfolio on Wall Street and a somewhat competitive and controversial presence in many states of the United States. Other institutions are trying to become virtual universities, offering distance education programs using the Internet throughout the United States and the world. The virtual university model offers students educational opportunities to learn across distance and independent of time schedules, something many people desire (1).

LIBRARIES AND THE DIGITAL ENVIRONMENT

The effect of technology on libraries has been especially traumatic during the past decade. Many people have begun to consider libraries less important than in the past because they believe that the Internet is the world's library. Likewise books and other printed information are now often considered less valuable and less important than electronic information. Yet libraries are one of the most important components of the information age and they have dealt successfully with new technological advances. Libraries are becoming agile, learning-oriented information centers. Librarians must ensure that society understands the value and contributions of libraries, particularly in the areas of organizing, preserving, and providing access to information. As academic librarians prepare for a growing sophisticated technology environment they are facing many challenges as well as many opportunities.

Most academic libraries are technologically in better shape than other educational entities because during the past decade academic librarians have been on the forefront of technological developments and related changes on their campuses. They were usually one of the first campus groups to computerize their information environment through library system software, hardware, networking, Web page development, and assistance to users. They often work closely with their campus information technology department to accomplish their many technological tasks. Academic librarians have developed diverse technology skills and specialized expertise to definitely become leaders in higher education and in this new information environment. However, librarians need to become more competitive in the information environment.

Academic librarians can play a major part in the educational changes taking place in teaching, learning, and research in higher education by providing the appropriate information environment and the most efficient and effective user access. They need to provide effective and successful information services to help and guide their users in their information searching. They should provide practical and effective instruction in the use of information for teaching, learning, and research by integrating such instruction throughout the curriculum. They can build partnerships on campus for faculty development, distance education, information technology, student support, and assessment of learning outcomes. They can make the library the center for teaching, learning, and research on the campus by providing the most inviting and accessible information environment. Above all, they must ensure that all students learn appropriate information skills so that after they graduate they have achieved information fluency and can become productive members of the information society. To accomplish this, academic librarians must form partnerships with the teaching faculty in order to integrate information skills instruction throughout the undergraduate and graduate curricula.

INFORMATION LITERACY DEFINED

Information literacy should be an important component of any education curriculum. It is the key to life-long learning in work and society, improves the teaching and learning environment, and gives citizens survival skills for the 21st century (2).

In 1989 the American Library Association (ALA) Presidential Committee on Information Literacy defined information literacy as “being able to recognize when information is needed and to have the ability to locate, evaluate and use the information needed” (3).

The following components define information literacy in terms of an individual’s ability to determine the extent of the information needed; assess the needed information effectively and efficiently; evaluate information and its resources critically; incorporate selected information into one’s knowledge base and value system; use information effectively to accomplish a specific purpose; understand the economic, legal, and social issues surrounding the use of information; and access and use information ethically and legally. Information literacy can constitute both a liberal as well as technical art and though it may be challenging should become a part of any curriculum. The curriculum should have to address literacy in relationship to electronic information such as hardware, software, computers, and multimedia resources such as the different types and formats of information production and origin of information research methodology in the computer environment (4).

Information Literacy Competency Standards for Higher Education

In 2000 the Association of College and Research Libraries (ACRL) issued their document *Information Literacy Competency Standards for Higher Education* (www.ala.org/acrl/infolit.html). This document has also been endorsed by the American Association of Higher Education (AAHE) (5). ACRL is working with other professional associations to procure endorsements to integrate the need for information skills into accreditation requirements. At the same time, ACRL and ALA are preparing translations of the standards, which have at this time been translated into Spanish, Greek, and Chinese.

The document describes five standards, 22 performance indicators, and 87 outcome measurements summarized below. Using the Information Literacy Competency Standards for Higher Education prepared by the ACRL in 2000, librarians and faculty can collaborate to integrate the teaching of information skills into the undergraduate and graduate curricula. Faculty and librarians can plan teaching modules together both in the classroom and online to teach these skills. Then, using the criteria for outcome measurements provided in the ACRL document, they can measure whether or not the students have learned the appropriate information skills.

Standard I. The information-literate student determines the nature and extent of the information needed.

Performance indicator sample: The information-literate individual defines and articulates the need for information. Outcome sample: The information-literate individual explores general information sources to increase familiarity with the topic.

Standard II. The information-literate student assesses needed information effectively and efficiently.

Performance indicator sample: The information-literate individual selects the most appropriate investigative methods or information retrieval system for accessing the needed information. Outcome sample: The information-literate individual investigates benefits and applicability of various investigative methods.

Standard III. The information-literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

Performance indicator sample: The information-literate individual summarizes the main ideas to be extracted from the information gathered. Outcome sample: The information-literate individual adds the text and selects main ideas.

Standard IV. The information-literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Performance indicator sample: The information-literate individual applies new and prior information to the planning and creation of a particular product or performance. Outcome sample: The information-literate individual organizes the content in a manner that supports the purposes and format of the product or performance.

Standard V. The information-literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Performance indicator sample: The information-literate individual acknowledges the use of information sources in communicating the product or performance. Outcome sample: The information-literate individual posts permission-granted notice as needed for copyrighted material.

THE NEED FOR INFORMATION SKILLS INSTRUCTION

Information skills must be learned throughout an individual's education from kindergarten through 12th grade. Throughout the world continuous learning will be required for all citizens beginning at the time a person leaves the formal educational environment to enter the work force. To be an effective and productive worker in the new global information environment, each nation must review its life-long learning environments and make appropriate changes to ensure that all people have opportunities and prerequisites for life-long learning in the information age. One of the most important prerequisites for life-long learning is the possession of appropriate information skills.

Academic and school librarians in the United States have been concerned with teaching students appropriate library and information skills throughout the 20th century. Annual reviews of the literature related to user instruction and information literacy during the last 30 years have indicated that interest and activities in this area have been steadily increasing from 29 publications in 1973 to 300 in recent years (6). Most of the activities thus documented have been in the academic libraries (62%) and 20% have been in school libraries. Fewer instructional activities were documented in public and special libraries.

However, during the last decade of that century librarians became increasingly concerned with setting appropriate standards for teaching such skills. In 1988 the American Association of School Librarians and the Association for Education Communications and Technology published guidelines for school library media programs (7). This publication provides a vision to empower students and faculty in schools through the use of resources and services in the school media centers so that they become effective users of information.

In 1989, thanks to the ALA Presidential Committee on Information Literacy (see above), the concept of library skills education was broadened to include information literacy education and information literacy was defined as “the ability to recognize when information is needed and to be able to locate, evaluate and use the information needed” (www.ala.org/acrl/nili/ilit1st.html) (3).

Throughout the past decade it became more and more apparent that teaching students necessary information skills would only be successful if done as part of the regular higher education curriculum and in cooperation with teaching faculty representing the spectrum of all subject areas. A progress report was issued in 1998 by the Association of College and Research Libraries, which updates the final report of the American Library Association Presidential Committee on Information Literacy (www.ala.org/acrl/nili/nili.html) (8). This report documents the progress that has been made both nationally and in specific states since the first report was issued in 1989. It also gives five new recommendations:

1. Work more closely with accrediting agencies
2. Include information literacy in teacher education and performance expectations
3. Include information literacy in librarian education and performance expectations
4. Find ways to illustrate to business leaders the benefits of creating an information-literate workforce
5. Have more research and demonstration projects related to information literacy.

In 1998 the American Association of School Librarians together with the Association for Educational Communications and Technology published two works addressing information literacy for students in K–12. One publication discussed information literacy standards to be used as a conceptual framework to educate information-literate students (9). It provides a philosophy, mission, and goals for school library media programs related to information literacy. Included are nine information literacy standards (9, pp. 8–9):

The student who is information literate

- Accesses information efficiently and effectively
- Evaluates information critically and competently
- Uses information accurately and creatively

The student who is an independent learner is information literate and

- Pursues information related to personal interests
- Appreciates literature and other creative expressions of information

- Strives for excellence in information seeking and knowledge generation

The student who contributes positively to the learning community and to society is information literate and

- Recognizes the importance of information to a democratic society
- Practices ethical behavior in regard to information and information technology
- Participates effectively in groups to pursue and generate information

Another publication deals with building partnerships for learning between library media specialists and teachers based on the nine information literacy standards outlined above, which are designed to support library media specialists' efforts in learning and teaching, information access, and program administration. This book guides librarians and teachers to build collaborative partnerships to connect to the learning community in the new century and to prepare students for life-long learning. It is designed for presenting the nine standards to school library media center stakeholders, teachers, principals, parents, boards, and administrators (7).

Regarding teaching methods, students need to be involved in more resource-based learning and should assume responsibility for locating and assessing the materials upon which they should base their learning. In the United States, the American Association for Higher Education has been working with academic librarians and ACRL to establish the TLT Group, the Teaching, Learning and Technology affiliate of the American Association of Higher Education, for dialog and programming related to teaching information skills (www.tltgroup.org).

Similar efforts to address information literacy education in university settings have been addressed in Australia, China, South Africa, England, Sweden, Botswana, Mexico, and others. Resource-based learning ultimately enables students to assume responsibility for their own learning and prepares them for the information-based society. Developing students to become independent learners is quickly becoming a major goal for higher education (10).

LIBRARIANS AS INSTRUCTORS OF INFORMATION SKILLS

In the United States and in Australia some professional organizations related to education, law, and nursing and medicine are already beginning to address life-long education for their professionals and include information literacy as an important factor (11). In fact, in Australia Christine Bruce has expertly defined information literacy to comprise seven distinct areas: information technology,

information sources, information process, information control, information construction, information extension, and wisdom experience (2, p. 110).

In the United States the National Forum for Information Literacy was established in 1990 to promote literacy as a means of individual empowerment within the current information society, to support and encourage grassroots initiatives, and to bring together national leaders from education and business to address information literacy concerns and effective life-long learning. The forum is based in Washington, D.C. and includes approximately 70 educational, governmental, and nonprofit organizations (www.infolit.org).

Teaching information skills includes much preparation, including such activities as developing teaching modules for undergraduates, subject majors, and graduate and professional programs. It also involves customizing teaching to appropriate student levels and students' existing knowledge bases. To help academic librarians become excellent instructors of information skills and to create productive partnerships with teaching faculty ACRL has created the Institute for Information Literacy (www.ala.org/acrl/nili.nilih.html).

Creating a successful learning environment is also crucial for success. This includes such things as a user-friendly physical environment, diverse electronic information access, appropriate state-of-the-art technology classrooms and librarian-faculty cooperation and interaction. Additionally, librarians must ensure that students receive guidance and assistance at the time of need in a collaborative learning and problem-solving learning environment.

INTERNATIONAL EFFORTS TO DEVELOP AN INFORMATION LITERATE SOCIETY

Librarians on every continent have been working on teaching people a variety of library and information skills. This can certainly be demonstrated through a review of the literature related to this topic. As the author of such annual reviews since 1973 I can verify that these activities and related concerns have been documented (6). It can also be seen that each year since 1973 the number of publications related to user instruction and information literacy has continued to increase. During the past decade many librarians have been sharing their experiences and their expertise related to information skills instruction at national conferences as well as the annual conferences of the International Federation of Library Associations (IFLA), which meets in a different country each year. In fact, IFLA members have focused their concerns regarding the teaching of library and information skills through the establishment of a Roundtable on User Instruction, recently changed to a division of User Instruction Section. During the past five years a number of programs sponsored by the Roundtable and the University and Research Libraries Division have focused on information literacy.

Academic librarians in several African countries have been working on preparing their students for the global information environment by teaching them information skills. At the University of Botswana librarians have integrated information skills instruction throughout the curriculum. In South Africa in recent years academicians and librarians have cooperated to improve the learning process for all populations and information literacy instruction has been used as part of the preparation for life-long learning. A noteworthy project with help from the Ford Foundation and Readers Digest Foundation has helped the Western Cape librarians develop curriculum-integrated information literacy programs in academic institutions. School and public librarians have been exploring the teaching of information skills in public school settings. At the University of South Africa (UNISA) in Pretoria and at the University of Pretoria several initiatives related to information literacy have been put in place during the last decade.

Since the early 1980s the Chinese government has supported and encouraged the teaching of library and information skills in academic institutions. Several national conferences have been held. Although many Chinese universities (39%) offer user instruction, only a small percentage of the students enrolled in higher education are able to participate in this. As the network and technology environment in China grows, the need for information skills instruction is growing as well. The information skills instruction program at Tsinghua University, a highly technological university, serves as a good model for the future. China has just held the first National Conference on Information Literacy in January 2002 at Heilongjiang University in Harbin City. They translated the ACRL Information Literacy Competency Standards into Chinese and are distributing them throughout the academic Chinese library community. The conference was attended by more than 170 librarians and much interest was expressed in working with the ACRL standards to help students gain information skills.

Academic librarians in Australia and New Zealand have been actively pursuing the connection between lifelong learning and information literacy. They have held four successful national conferences on information literacy organized by the University of South Australia Library and the ALAIA (Australian Library and Information Association) Information Literacy Special Interest Group. Proceedings have been published for each of these challenging conferences (12). They have also developed strategies to advance information literacy as a profound educational issue for society. Librarians at the University of South Australia have a mandate to ensure that students achieve information literacy. At the University of Technology in Sidney students receive information skills instruction on a regular basis. At the Queensland University of Technology, the librarians teach an intensive, advanced course on information retrieval skills to graduate students. It is particularly noteworthy that Australian librarians have been especially concerned with information skills training within the workforce and the profession. The country's emphasis on life-long learning is leading to

new partnerships between faculty and librarians to transform teaching and learning.

During the past three decades academic and school librarians in Great Britain have been actively involved in developing theories and programs related to user instruction and information literacy. The polytechnic universities and schools in particular have experimented with and set up a variety of information skills instruction programs. Among the various methodologies used have been mediated instruction packages and computer-assisted instruction modules. Information skills programs have also been focused on in the open learning and adult education programs. In 1998 SCOUNL (Standing Conference of National and University Libraries) created a task force to prepare a statement on information skills for higher education. SCOUNL proposed seven sets of skills developing from a basic competence in library and information technology skills. The majority of academic librarians are engaged in some type of teaching of information skills. In March 2002 Scotland held its first National Conference on Information Technology and Information Literacy, addressing a variety of topics related to information literacy teaching and information technology concerns (www.iteu.gla.ac.uk/itilit/).

In the former German Democratic Republic user education was a major component of education. During the 1970s many German academic librarians began to open their library stacks to users and realized that user instruction would be needed. However, only in the 1990s did German librarians begin to address user instruction in a more practical and systematic manner using information literacy concepts developed in the United States, online teaching, and learner-centered techniques. A good example of current curricular-integrated information skills teaching can be found at the University of Heidelberg.

In the Netherlands information technology is part of the general secondary education curricula, and information literacy courses are often included in the high school curricula. The emphasis in education is on problem-solving skills through efficient information-handling skills. Tilburg University has held several week-long workshops for librarians and technologists addressing the topic of information technology and education, including modules on information literacy.

Academic librarians in Sweden have been involved in user education for more than 20 years, particularly in the areas of engineering, medicine, and economics. They have utilized information technology to provide more efficient instruction to beginning student so that librarians can develop advanced electronic information skills instruction for upper-level and graduate students. Librarians at Malmo University, established in 1998, are working on integrating information literacy into the curriculum to meet the many diverse information needs of their students. A first national conference on information literacy was held in 2001.

The information policy of the Canadian government among many information concerns promotes an information-literate population. During the past three decades Canadian academic librarians have been concerned with teaching students library and information skills. An annual national conference has been addressing information skills concerns for more than 25 years. Instructional librarians in academic libraries are continuing to address the challenge of integrating information skills instruction into the total curriculum. Although some progress has been made during the past five years, much more is needed compared to efforts in the United States and New Zealand.

Collaboration between librarians and faculty is a relative new trend in Mexican academic libraries, and few examples have as yet been documented. Librarians are trying to assume the role of user information educators but they face more challenges in doing this than their counterparts in the United States and in countries with more advanced economies. However, an excellent example of a user education program can be found at Juarez University. Two national conferences on user education have been held in Mexico, sponsored by the Universidad Autonoma in Juarez, Mexico.

Information regarding user instruction and information literacy from countries in South America has been difficult to find. Details are not available as yet but librarians in Argentina, Brazil, and Colombia are working on information skills initiatives.

Representatives from the National Forum on Information Literacy, UNESCO, and the National Commission on Library and Information Science (NCLIS) have been collaborating to plan a first International Conference on Information Literacy in 2002. More than 20 countries and all continents will present papers on all aspects of information literacy within all levels of education and the workforce.

EFFECTS OF TEACHING INFORMATION SKILLS

Various accrediting agencies have recognized the importance of information literacy in the curricula of colleges and universities and the important role librarians should assume in the teaching/learning environment by including appropriate criteria for outcome measurements regarding information literacy in the accreditation requirements. Most noteworthy for their work in the area of information literacy in higher education is the Commission on Higher Education, Middle States Association of College and Schools. Working with the Association of College and Research Libraries and the National Forum on Information Literacy, the commission has surveyed 830 institutions nationwide to explore the status of initiatives regarding information literacy. They found that educational institutions in the middle states are leading the nation in applying information

literacy strategies on campuses. Several of these institutions have developed formal assessment strategies for measuring information literacy outcomes (13).

The Commission on Higher Education, Middle States Association of Colleges and Schools, developed the following standard on information literacy in 1994 (14):

Each institution should foster optimal use of its learning resources through strategies designed to help students develop information literacy—the ability to locate, evaluate, and use information in order to become independent learners. It should encourage the use of a wide range of nonclassroom resources for teaching and learning. It is essential to have an active and continuing program of library orientation and instruction in accessing information, developed collaboratively and supported actively by faculty, librarians, academic deans, and other information providers.

The Commission on Higher Education became the first accrediting agency to join the National Forum on Information Literacy and promoted a broad definition of information literacy in terms of curriculum and pedagogy within an ever-expanding electronic information environment. The commission held two symposia in 1995, which resulted in the following conclusion (14, p. 16):

1. Institutions should concentrate on developing effective processes to achieve information literacy and share with other institutions the results, both good and bad, of those efforts.
2. Information literacy does not cease when the degree is achieved, but must be viewed as a life-long learning commitment.

In 1995 the Commission on Learning Resources and Instructional Technology of the California State Universities issued a report entitled “Information Competence in the CSU,” which recommends policy guidelines for the effective use of learning resources and instructional technology. Information competency is one major area identified for which recommendations are provided. Among many factors considered are cooperative ventures between the universities, community colleges, and primary and secondary schools to help all students become information literate. Also recommended was a close collaboration between faculty and librarians. The report provides a number of useful suggestions to establish an effective information competence program within California State Universities (15):

- Undertake a systematic assessment of student information competence to develop benchmarks.

- Develop model list of information competence skills for students entering the university and graduating from the university. Establish agreement with K–14 on these skills.
- Develop pilot information competence programs or courses on several campuses.
- Develop a “teaching the teachers” program so that faculty development in information competence can occur.
- Develop computer software that enables the teaching of information competence.
- Develop faculty workbooks and checklists for K–16 to assist faculty with the teaching of information competence.
- Work with the California Superintendent of Schools to ensure that information competence is on the agenda for K–12.
- Work with the community colleges and support their ongoing information competence initiative.
- Collaborate with textbook publishers to help with the integration of the concepts of information competence into textbooks.
- Pilot a distance-learning effort with information competence.

Recently, the California State Universities System established a new systemwide position for information literacy advocacy.

These examples from higher education begin to document concerns related to educating students to become effective in the information age by helping them gain information and critical thinking skills. Nationwide academic librarians are realizing the importance of training students in the use of information and that such training must become integrated into the higher education curriculum. This is the time for academic librarians to become actively involved in curriculum development on their campuses and countless examples of such endeavors can be found in the literature. This is also the time for academic librarians to work with faculty in rethinking their teaching styles from lecture mode to interactive, resource-based, and collaborative modes of instruction. In many academic institutions centers for teaching excellence are being created to help faculty rethink their teaching styles in terms of the electronic environment and student learning needs. Often these centers are rightfully located in the library providing opportunities for librarians to form partnerships with teaching faculty for curriculum development and new teaching initiatives. The environment now offers academic librarians opportunities as never before to demonstrate their expertise in information handling and user training and to become involved in the teaching/learning environment on the campuses.

Expected outcomes of teaching information skills are to help students

- Become lifelong learners and acquire critical thinking skills
- Become effective and efficient users of all types of information

- Use information responsibly
- Be effective in doing research
- Become productive members of the work force

ACHIEVING PRODUCTIVE INFORMATION USE IN THE GLOBAL ENVIRONMENT

Surveys of the literature and interaction with international colleagues indicate that concerns with preparing students for success in the information age are definitely shared worldwide among librarians and educators (16). The emergence and rapid growth of the Internet has created much interest and need on the part of students to gain access to electronic information and to become information literate. The need to find, organize, assess, and apply information to problem solving is an international concern. Given the ease and speed with which information can now be shared, it is advisable that librarians and educators should cooperate and share their expertise and experience not only locally and nationally but also internationally. To prepare both librarians and teachers for educating students in the information age the following factors should be considered:

- Information changes continually.
- Learning and teaching must be interactive and recognize diversity in learning styles.
- Teaching and training must be a process of facilitating and sharing rather than dispensing.
- Information work is becoming more and more competitive.
- Librarians and teachers must market themselves aggressively as information experts.
- Information is a commodity and must be handled like a valuable product.
- Teachers and trainers must be continuous learners.
- Effective teaching utilizes learning outcomes and behavioral goals.
- Good teaching is based on student need.
- Information skills must be integrated into the curriculum and taught incrementally.
- Teachers and librarians must work with accrediting and education agencies and curriculum planners to ensure that information skills become a required component of the curriculum.

CONCLUSION

This is but a brief summary of the changing philosophy, which will predominate in academic and research libraries of the future. The future is hard to define and

planning is difficult as well since changes are occurring rapidly. Academic and research libraries will continue to be the centers within universities if they offer up-to-date information environments and efficient access to any kind of information, address user needs, and take leadership role in terms of training the university community in efficient and effective information handling.

This is not the time for academic librarians to be timid or to wait patiently for new developments. On the contrary, it is the time for them to become aggressive and dynamic participants in the campus community's teaching, learning, and research agendas. They must share their enormous information expertise with their campus community and build productive partnerships with other campus groups. There are numerous examples in the nation where academic librarians have become leaders on their campus in a variety of ways. On some campuses librarians have become Campus Information Officer for libraries and information technology; on other campuses they have become Associate Provost for libraries and information technology, or for libraries and assessment, or for libraries and faculty development. Other models can be developed; only the lack of imagination will stop academic librarians from becoming leaders on their campus.

There are no limits for academic librarians and academic libraries as they enter the 21st century; there are rather endless opportunities. "The future looks bright for librarians who embrace their emergent roles as teachers and scholars. In many ways, technology is a vehicle for expanding the librarian's sphere of influence and collaboration with teaching and research faculty is certainly one of the key elements to the profession's future" (17).

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9

Academic Library Support for the Cyber-University of the Future: The Best of Times, the Worst of Times

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INTRODUCTION

As academic libraries globally try to keep up with the ever-increasing speed of the digital treadmill, many questions concerning library service design and the ultimate existence of academic libraries arise for them. Likewise governments have to address

- The escalating need for education and the cost of support structures which underpin it
- Society's demand for modernization and efficiency
- The assumption that the new technology provides simple answers for education in the form of distance education
- Whether the Internet can be the ultimate multifaceted panacea for academic education and continued learning.

The resulting challenge for universities and academic libraries is to ensure that they evolve to meet the needs of 21st century students and researchers or become dinosaurs. Can libraries be the catalytic force in expediting the required change in 21st century academic education? How far is South Africa from the

move toward the cyber- or virtual university to bring the sorely needed advance in education, especially to rural areas? In the South African context these are the best of times but still the worst of times when the connectivity of its people to digital networks still is low. It will therefore be essential for libraries to address changes or improvements.

SUCCESS CRITERIA FOR ACADEMIC INSTITUTIONS

Great changes occur when people see things in new ways. It takes courage to change the status quo. Great ideas do not keep office hours either. Taking a Galilean standpoint and being controversial equates to a Darwinian view of “the survival of the fittest.” This, in the writer’s view, is the heart of the dilemma in which academic tutoring and the concomitant academic library support has come to find itself. In South Africa, and probably most of the rest of Africa, introspection as well as a telescopic view of future demands are essential for supporting academic tuition and academic libraries in order to open up scenarios of change for the 21st century. Both are particularly *avant garde* in South African academic education and academic library support. A successful strategy will incorporate appropriate application of technology as well as finding customized solutions for South Africa, with its somewhat unique barriers to connectivity.

The most significant application of funding and energy for education, in the writer’s opinion, would be an investment pedagogically in education models and libraries, with information literacy as the key educational aspiration for its graduates. While society is being faced with an information overload as well as a need for continuous learning in the 21st century, information literacy is the key skill. Information literacy concerns the capacity of the individual to recognize the need for information; to identify, access, and find the needed information; and then to evaluate and apply it.

The key role of the library is to concentrate on imparting these information literacy skills to students. However, librarians have been deemed irrelevant in providing leadership and being part of this sphere of education, even though they were the first to recognize the potential of information technology, especially the Web, to extend information resources and enable students to achieve a state of information literacy. The librarian has the skill to educate the information gatherer concerning information literacy skills, rather than improving the education model, but should be part of its design from the conceptual stage to bring to the table what the library’s involvement can be to provide appropriate self-skilling. However the education model of the future should espouse independent seeking of information and not total supply of information via the tuition material.

To succeed, distance education must aggressively demonstrate to students how to think, analyze, and reach informed value judgements. There is a

fundamental need to revamp the educational system to force students to question, to challenge, and ultimately to think. According to Pelton, (2000, p. 146) “the creative and productive learning experience for the 21st century needs to be life-long, self-directed, interactive, multidisciplinary and self-paced.” We have to understand and exploit the enormous educational opportunity of the Internet and recognize the damage that mindless acceptance, copying, and application of information from the Internet can bring. It is not a panacea but only another tool with great potential and subject to dangerous abuse. It is only a part of the tool kit for the delivery of education and academic library support for academic or life-long learning.

Distance education in the context of tertiary education can be defined as the tutoring of students delivered in off-campus locations by any means, be it paper-based or electronic, in their selected academic fields. This sounds very simplistic but involves the successful integration of learning formats, instructional methodologies, timing of delivery, pacing of learning, research skills and testing, and examination calendaring. Information communication technologies have, however, created a paradigm shift in education and the learning process.

How widespread is distance education in functional terms? The World Wide Web is inundated with various references to websites concerning distance education institutions in the United States, with various arrangements for students to use libraries, assigned staff to assist them, and some form of electronic linkage with their library. All South African distance education students do not have all these positive aspects linked to their selected learning processes.

The South African Ministry of Education has developed a National Plan for Higher Education. The long awaited National Plan for Higher Education was made public by Minister Asmal on March 5, 2001. The Minister is requesting institutions and working groups to move ahead with implementation in four major areas

1. Producing sufficient graduates to meet the development needs of South Africa to achieve equity in higher education
2. Achieving diversity in higher education
3. Promoting research
4. Restructuring the higher education landscape

The effect of the Plan on higher education institutions is likely to be profound. Included in its requirements are many that must be implemented within the next couple of years, and among these are several that may appropriately be undertaken or facilitated by the regional academic consortia in South Africa.

The National Plan states as one of its four key policy goals “to build new institutional and organizational forms and new institutional identities through regional collaboration between institutions” (FOTIM, 2001). The Foundation of Tertiary Institutions of the Northern Metropolis (FOTIM) is a consortium

currently consisting of 16 universities and technikons in Gauteng, the North West, and the Northern Province of South Africa. FOTIM offers member institutions opportunities for better cooperation, articulation, and utilization of resources through a team approach among member institutions and communities in the northern metropolis of South Africa in order to meet the future educational and training needs on a regional, national, and international level through a flexible delivery system.

A single dedicated distance education institution is recommended to “address the opportunities presented by distance education for increasing access both locally and in the rest of Africa. It will also enable economies of scale and scope, thus ensuring that advantage is taken of rapid changes in information and communications technology, which in investment terms would be beyond the scope of any one institution” (FOTIM, 2001, p. 8). The Ministry agrees that private education has a role to play in complementing public provision of higher education. Private higher education institutions are however presently inadequately regulated, and where appropriate they should be required to be subject to the same requirements as public higher education institutions.

There is at present a tremendous increase in private higher education institutions which mainly take the form of small single purpose providers. They include local institutions that operate independently or in a partnership with local public or overseas public and private institutions. Private institutions that contribute to the diversification of higher education could be sources of innovation.

The reduction of duplication and overlap is a major requirement of the Plan and possibly one of the more difficult to achieve, since there are so many issues that require consideration (models, the regional picture, competition, academic autonomy, and quality to name but a few).

World-class organizations of the 21st century will wither if a cyber-literate and well-educated workforce is absent. Proprietary educational programs cannot be the solution, since global knowledge should be integrated into worldwide learning to economize global funding. Why should underdeveloped countries reinvent the distance education wheel? Would it not be beneficial for less developed countries to tap into the experience and expertise of more affluent countries? Would it not be beneficial to adapt international educational developments to cultural differences? Can Africa use international developments and incorporate cultural nuances and thereby bring the underprivileged on board the global digital treadmill? It seems as if it will be too late and too costly for underdeveloped countries not to learn from international developments. According to Pelton (2000) we need to develop a worldwide mind to cross the divides of racial bias and parochial beliefs in order to become the “global village” that Marshall McLuhan (1989) spoke of. The Internet can be an opportunity for worldwide distance education, but also a threat if the learner of the 21st century is

not aware of the pitfalls of so-called “free” information, with its sometimes non-accredited content. The Internet truly did herald a new era in the global village, but, given the rapid progress of information communication technologies, it will almost certainly not be the last development and the only delivery channel for educational and library support services.

ACADEMIC LIBRARIES AND THEIR ROLE IN ACADEMIC TUTORING AND RESEARCH

A Marketing Approach

Libraries have a tendency to decide parochially what they think the service which they offer the customer should be. A marketing philosophy needs to be adopted in the strategic planning of academic libraries, especially since there is an increase in discriminating customers with a definite idea of the quality and content of library services they prefer.

The model of the academic library will have to be questioned. The service design as an output of the service philosophy will reflect the flavor of the services that will be offered. In a networked environment services will have to be available 24 hours a day. The service design will also determine the channels through which services will be delivered. Will it become a virtual library, will it become networked, will it supply study facilities, will its resources be centralized with nodes of remote access points or decentralized? Alignment of library services, processes, and behaviors have to be appropriate to the various customer segments.

Not all customers of the library have the same requirements, and a service and marketing strategy which does not recognize this fact will result in a scattergun approach and dilute the marketing effort.

The Marketing Philosophy as Strategic Directive and the Service Offered

McDonald (1998, p. 15) defines market segmentation as “the process of splitting customers, or potential customers, within a market into different groups, or segments, within which customers have the same, or similar requirements satisfied by a distinct marketing mix.” While a “market” describes a group of customers’ needs in a way which covers the aggregation of all the alternative products or services that customers regard as being capable of being satisfied, “segments” focus on specific products or services, along with other elements of the marketing mix, that the different customer groups are looking for within a market in order to satisfy their particular requirements. A key difference therefore between a market and a segment is that a specific marketing strategy can be defined for a segment based on the continuous dialog of the library with all segments it serves, whereas for a market we can only list the alternative products or services.

Segmentation is a creative and iterative process, the purpose of which is to satisfy customer needs more closely and in so doing create a competitive advantage for the organization. It is defined by the customers' needs and requirements, not the organization's, and should be revisited periodically. The importance of segmentation to any service organization should not be underestimated; segmentation is the basic building block for an effective service philosophy and marketing planning. It should be noted that while the segmentation process is externally focused in its consideration of the market "out there," service organizations that look to meet their customers' needs effectively should also consider how the organization's own organizational structure and staff relate to the chosen target segments. The organization should be careful not to subsume the customers under one all-embracing procedure and fail to meet up to the external expectations or the level at which a customer's tertiary education or research is progressing. It is for this reason that dialog between the academic library and its customers is vital to its sustainability.

Differences Between Services for Local and Distance Customers in South Africa

Speaking from the South African point of view, services to on-campus distance education students and off-campus distance education students have nuanced differences. Most young undergraduate distance learners take the distance education route because of the lower costs involved. They are often from underprivileged backgrounds and do not have the facilities to conduct their studies at home. They therefore commute to the university campus where, through the demands highlighted by them, they have quiet, well-lit areas to sit down and study. Therefore their demands are more for physical study areas as well as prescribed books which supplement their study guides. Wonderfully too they are intrigued by the Internet and its uses and are at present mainly using it to exchange email and browse the so-called free sites.

Since the connectivity at present to the homes or rural areas of many students is low, distance education is still conducted by means of study guides, prescribed and recommended books, and tutorial letters. All of the above are mostly conducted by snail mail, or courier to the more affluent areas. It is the underprivileged and especially rural areas that need the most attention for creating learning centers and nodes of interconnectivity. This is the present situation for South Africa.

Technology linked with education is usually thought to enable economies of scale rather than more personal interactions. Technology and education usually means broadcast education, which can be for

- A democratic end, by offering the greatest good to the greatest number
- Budgetary expedience, by lowering of the unit cost of education
- Commercial considerations.

From a personal viewpoint networked interactive tutoring is the ultimate solution to South Africa's problem to reach remote areas. The library can be the hub around which the network is built. The most funding should be concentrated on establishing connectivity and storage capacity, since the library's main function is storage and dissemination of information.

THE HYBRID LIBRARY AND CONNECTIVITY—THE SOUTH AFRICAN ACADEMIC LIBRARY

The fact that the current academic library will have to remain in its hybridized state in South Africa cannot be ignored. There are two distinct market segments that the distance education institution must service at present in South Africa: first, that segment of the academic students who have connectivity to the Internet and, second, those who do not have the financial resources to be connected. The latter still rely heavily on print and postal services. The former are demanding more and more sophisticated interactive online tutoring and library service. The less affluent students who cannot afford a computer cannot be excluded from academic achievement, but progress toward full online education is essential. The South African government is keenly aware of this situation, but is also having to cope with limited resources to bring total connectivity to fruition immediately. Academic institutions and libraries must however progress toward a digitized library in order to be ready for an increase in students as connectivity accelerates. Thus the hybrid library, with both print and advanced connectivity to worldwide full-text databases and library catalogs and resources, via interlending agreements and gateways to the Internet, is still the model for the South African academic library at the beginning of the 21st century. The future will have to draw on the best of the traditional as well as the electronic worlds and be aligned with the needs of the South African student. South Africans need to be information literate to be part of the information society and to play their rightful role in the region and benefit as individuals.

As Bothma (2000) cautions, the Internet will have a significant impact on how we do business, but that "the physical world is not about to disappear. It is the virtual with the physical that requires [our] focus, but it is the integration of the physical with the virtual rather than the replacement of the physical with the virtual" (Bothma, 2000, p. 7).

DISTANCE EDUCATION IN SOUTH AFRICA: TOWARD BECOMING A CYBER-UNIVERSITY

"In terms of the scope, diversity, and reach, the University of South Africa (Unisa) has firmly secured its status as one of the world's 12 megauniversities. It envisages becoming the hub of Africa's push to build a knowledge-based

society” according to its principal and vice-chancellor, Professor Barney Pityana (Unisa, 2003). He also states that “by harnessing the power of electronic technologies and its already extensive cooperative network in Africa, the university is well placed to provide quality higher education to a growing number of African states.” The university as an open and distance learning institution prides itself for having pioneered and perfected this mode of education over 55 years, not only here in Southern Africa but throughout the world. Unisa is responsive to its environment, constantly interrogating it, identifying challenges, and seeking the best means of overcoming them.

With 65 teaching departments, 428 examination centers, and 36 bureaus, centers, and institutes, Unisa generates an enormous amount of intellectual activity. By February 22, 2003, just over 117,100 students had registered, which reflected a 15% rise in enrolments from 2002. The expectation was that thousands more postgraduate students still would register and that in the second semester many more undergraduates would embark on studies at the university (Unisa, 2003).

Most of Unisa’s students live in South Africa, but the university has more than 7500 students in the rest of Africa. Most are from the Southern African Development Community (SADC) countries, but an increasing number are from states further north, including east and west Africa.

Unisa has formed formal ties with 43 institutions in over 18 African countries (e.g., Nigeria, Sudan, and Angola) in cooperative tutoring and other agreements and opportunities. Unisa is concentrating on extending its programs further a field than the SADC states, which is where the majority of the 7500 students from elsewhere in Africa live. Extending these programs will necessitate reciprocal arrangements with other universities in terms of cross-boundary courses, curriculum mixes, and scholarship, as well as recruitment of academics from all over Africa. In this way, it hopes to become a true community of African scholarship.

Despite the effectiveness of electronic technology, particularly the Internet, in streamlining access to its offerings, Unisa acknowledges that it is out of the reach of a large portion of our current and prospective student body. To fill that gap, the university is investing heavily in upgrading computer facilities available at the learning centers and is exploring potential partnerships with other players eager to promote Internet access and usage (Unisa, 2003).

African governments are responding with enthusiasm to Unisa’s drive to establish distance education partnerships with their countries’ education ministries and universities. Areas of collaboration that Unisa is exploring include development of staff, ICT and library facilities; teacher education and intensive English teaching; enhanced laboratory, research, and publication facilities, as well as the exchange of lecturers and professors awaiting joint degrees or undertaking joint research or publication projects. There is a pressing need for tertiary education which existing institutions cannot accommodate.

While universities from the United Kingdom, Australia, and India have started offering distance learning courses, these are too expensive and not relevant to Africa. A limited number of students who can afford the cost leave their countries to seek education facilities in Europe and elsewhere.

The university is offering an increasing number of its courses online. In the past lecturers developing structured under- and postgraduate courses provided the library with a list of recommended and prescribed material. The library supplied photocopies of the material to students on request. The good relationship between lecturers and the library will be continued to support this trend. The library subscribes to a number of online full-text resources containing peer-reviewed journals, which can add further scholarly content to courses. Lecturers of new online courses may need support to identify resources from which to supply their online course material. The subject librarians are available to provide such support (Unisa, 2003). The lecturer can consult with the subject librarian, who will assist with the identification of suitable resources. Selection guidelines, when applicable, will be available in the Policy Regarding Tutorial Letter 101 (Unisa, 2003). Subject librarians will be able to facilitate advice regarding (Unisa, 2003)

- The availability of material
- The categories of material (prescribed/recommended/additional)
- The type of material (periodical articles, chapters from books, information available on the Internet)
- How much space the item(s) will take up in the database (per item or per course code)
- The copyright clearance/conditions
- The costs and payments involved.

Students can now enroll online, and much of their prescribed and recommended reading material is downloadable off the Unisa Online Catalogue (Web OPAC) on the university's web site. Many chapters from books and periodical articles have been scanned in and are available in PDF format as an Electronic Reserve Collection. Therefore a student for example in Nigeria has access to library material needed to complete assignments for the particular course. Many important web sites with tutorial information are also available via the Web OPAC.

The university has also embarked on an Electronic Theses and Dissertations Project, which allows the student to submit his or her thesis online. Unesco supports the Electronic Theses and Dissertations Project in Africa. This is a coordinated initiative undertaken by African universities and academic libraries. These theses are then also incorporated into the libraries' catalogs and will be available on an open access basis via libraries' Web OPACs.

REENGINEERING THE ACADEMIC LIBRARY'S PROCESSES TO MEET THE DEMANDS OF THE NEW CYBER-LIBRARY

The academic library, while deemed appropriate in terms of the scope of services it delivers, requires an operating model which determines the nature of its underlying processes and the structures which support them. This is provided by determining the value proposition of the library (Treacy and Wiersema, 1995). Most Libraries will not be able to design their operation around each customer's unique needs (value proposition of customer intimacy), nor will it be appropriate to design their operation around unique, pervasive and constantly renewed products (value proposition of product leadership). Most libraries will therefore find it appropriate to design around the value proposition of operational excellence. This means low cost, value for money, consistent quality of service, and acceptable services.

Libraries also have to consider how they may differentiate themselves for competitive advantage. This is achieved by determining and applying a value model to the design of the library. Stabell and Fjeldstad (1998) propose three alternative value configurations. Their theory is an extension of Michael Porter's (1985) original value chain framework and uses Thompson's (1967) typology of long-linked, intensive mediating technologies. The three value models focus on critical value activities, the distinction between primary and support activities, and the analysis of cost and value drivers when designing an organization.

Libraries are in general slowly moving from a value chain, characterized by

- Value is added as a sequential chain of related activities
- Consumers of services drive product/service design
- Suppliers provide the third party goods and services needed to run the library
- Manufacturing mentality

to a value network, characterized by

- Value is added by all members of a network
- Consumers of services may also be providers of services in the network
- Members of the network can play multiple roles (consumer, provider, partner, channel)
- Collaborative mentality.

G. Prosser (in a personal interview in 2001) cautions libraries that they ignore the power and potential risks of the value network at their peril. In order to maximize the opportunities afforded by the network, it is essential to recognize and harness the following potential benefits:

- Increased buying power of a network
- Sharing of (information) resources which can provide greater coverage of subject areas

- Greater reach afforded by channels, partners, and partner channels
- All members of the network can potentially deliver library services and therefore provide access to increased service delivery capability
- Sharing of know-how can lead to increased expertise in both service delivery and library support activities.

However, there are risks associated with the move to a network community. In particular, if members are of disparate ability, maturity, or wealth, the following risks are significant and need to be managed with care:

- Wealthy members may become net lenders of information resources. Providing a lending fee is levied, which represents a true cost of lending, this risk can be avoided
- Able members may become overburdened with requests for assistance from less able members, to the detriment of their own operational efficiency
- Parent–child relationships may develop within the network, rather than partnering relationships, which can foster ongoing dependency
- The very intellectual capital which created an able member may be given away and reused competitively
- The common processes of service delivery are not shaped among the members. As a result each instance of service delivery is different and so is the standard. The image of the most able can be reduced to that of the least able provider within the network.

The library as a support structure to the university in the value network has to consider all four aspects of the network and not concentrate on only one aspect, for instance, customers or consumers. A value network has four components, namely: suppliers, stakeholders, customers or consumers, and channels. As mentioned before it must be emphasized that in a network, the network is driven by the customer but is also partnered by the suppliers and channels in the specific industry as well as directed by its stakeholders. Therefore when developing services for a reengineered academic library, all four aspects of the industry must be incorporated in differentiating the library.

The mediating technology facilitates exchange relationships among customers distributed in space and time (Stabell and Fjeldstad, 1998, p. 427). The library itself is not the network. It provides a networking service. The critical determinant of value to any particular customer is the set, or network, of customers that are connected. The value of a networking service depends with whom it enables the customer to communicate.

Linking and value creation in the value network is therefore the facilitation of exchange between customers. Mediators—which the library or library consortium can be—act as club managers. The mediating organization admits

members that complement one another and sometimes exclude those that do not. The organization establishes monitors and terminates direct or indirect relationships among members. Supplier–customer relationships may exist, but to the mediating organization they are all customers. By acting as intermediary the bilateral interacting established between the library and its customers is used to enable multilateral interaction between all four components of the network: the customer, the supplier, the stakeholder, and the channels. A set of contracts commits the network mediator and the four role players to a mutual set of obligations.

The number of role players that enter the network affects the value of the service to the other role players. A new service has relatively low value to its first role players, and costs are highest in the introduction phase. Value is derived from service, service capacity, and service opportunity. Mediators typically charge customers separately for the linking opportunity and the actual use of linking services in terms of activities performed and capacity utilized. A subscription fee implies a commitment to servicing potential customers requests for mediation services.

Standardization of technology and processes is essential to make the operation of the mediation progress smoothly and reassure the role players of the value of the network. Standardization also aids the mediator in matching compatible role players. Similar to cellular and Internet communication and browsers, “give-away strategies” are observed to lure a larger intake of role players to the network in the roll-out phase to bring down initial costs. Often it is impossible to charge for services at a rate which covers the cost of the resources needed to operate the network.

Exchange relationships offered by a mediating service can also extend beyond their immediate role players to role players of other mediation service providers. The library network mediator can go into a mediation agreement with a cellular or Internet communication mediator as a channel of delivery of its services, thus enhancing the range of reach of services provided. Any new mediating network on the horizon will then have to be a compatible member of the club and bring enhanced solutions to the network and its members. In this way if one aspect of the network is influenced by technological innovations the whole network is changed once, not piecemeal as before, where each academic institution parochially changed its processes, technology, behaviors, and services at extensive cost to each institution

Developing Connectivity Among Global Information Resources, the Tutor, and the Student

As compared to the full body of web resources available on the Internet, actual access to free information on the Internet via the major search engines is currently

rated at only 15%. This results from the fact that only 15% of available resources have been indexed. The total number of sites on the Internet numbered approximately 7.4 million in 2000 (Hunt, 2001). Of this total 0.5% are sites developed in Africa. The total number of users of the Internet worldwide is 407.1 million, of which Internet users in Africa comprise only approximately 0.9%, or 3.11 million. It is estimated that by 2005 almost a billion people will be online—a sixth of the world's population (Bothma, 2000, p. 7).

Internet penetration in South Africa continues to rise, with half a million new Internet users in 1999, which brought the total at the time to 1.82 million users, according to a survey conducted by MediaAfrica.tv (Nua Internet surveys, 2001). The survey predicted that based on these trends, the number of Internet users in South Africa should grow to about 2.4 million by the end of this 2000.

The report "South African Internet Services Industry Survey 2000" (Nua Internet surveys, 2001) found that by the end of 1998, 560,000 South Africans accessed the Internet through dial-up modems via Internet service providers, with a predicted growth rate of 53%. ISPs retain a strong customer base.

Corporate users also increased, with 980,000 users accessing the Internet from corporate networks in 1999 compared to 700,000 in 1998. The virus threat, however, led to a cautious approach to connectivity from knowledge workers, while delays in providing adequate infrastructures by Telkom indicated corporate use would have been slow in 2000.

Academic use of the Internet has also soared in South Africa. The minimum number of academic users who actually use their accounts is 280,000. Uninet caters for about 250,000, while privately funded schools have another 30,000 active account users.

As Internet connectivity for the South African student increases and a greater demand for online education develops, the collaboration, in the writer's view, between the tutor and the library increases. This aspect has already been identified by the Online Computer Library Center (OCLC), based in Dublin, Ohio in its creation of pathfinders. Pathfinders are web pages that (OCLC, 2000)

- Consolidate links to selected electronic resources on a topic
- Usually categorize the resources and provide informative annotations
- Give users quick access to listed resources
- Integrate descriptions and locations for related resources available via the library but are not Web accessible
- Save library users' time by offering quick access to the best sources.

Using the pathfinder template you can customize the content of the pathfinder with local study material and integrate physical and digital resources. OCLC software scans the OCLC Cooperative Online Research Catalog (CORC) and identifies broken or redirected URLs. During creation of the pathfinder,

libraries can select to be notified if problems exist with a URL contained in the pathfinder record.

Tutors, information resource developer librarians, and catalogers can collaboratively provide the student with seamless access to prescribed study material as well as links to other potential sources of appropriate online and physical information sources. All this is accessible via the academic library's own online catalog, within the parameters of licensing agreements with OCLC providing the student with a gateway to study material accessible via the Internet.

Why create a pathfinder?

- To create Web-based subject bibliographies
- To organize materials for students in academic courses
- To provide easy access to a special collection of electronic (and/or other) resources for library users
- To combine links to Internet resources with information about related resources available via your library, such as online or CD-ROM databases and hard-copy reference works
- To provide a virtual place where the student can go to contact the tutor or take examinations.

Connection Within the Value Network

A portal can be defined as “a virtual gateway that leads to a range of related or focused services and information; they commonly represent one-stop information-stores. Portals are essentially online intermediaries” (Bothma, 2000, p. 53). In the advancing situation of the academic library moving into value network mechanisms must exist to link the customers, stakeholders, suppliers, and channels. Portals and vortals can serve as this mechanism. Portals can have a broad or narrow focus and can have a business-to-consumer, or business-to-business emphasis. Vortals—or vertical market portals (Bothma, 2000, p. 53)—are business-to-business marketplace hubs or cybermediaries that usually are built around a specific industry focus, in this case the academic tutoring industry.

Portals and vortals tend to facilitate all transactions among businesses within their area of focus. They aggregate buyers and sellers, reduce transaction costs, and tend to encourage a “community” feeling among their users, which means building a body of like-minded people and serving that community with what it requires. Its rewards are satisfied participants who come back for more and through their return add intrinsic value to the network. This is a world where traffic is a tradeable commodity. The power of the vortal lies in integrating community building with the ability of the portal to search and organize.

Specialty search engines, topical search engines, and vortals cater for a specialty search market. FindLaw (www.findlaw.com) is a classic example.

It focuses on cataloging resources relating to law and legal issues. Within it there is even the Lawcrawler (www.lawcrawler.findlaw.com) search engine that collects pages from legal websites.

The “vertical” term comes from the idea that these are instances where, rather than searching horizontally or broadly across a range of topics, you search vertically within only a narrow band of interest. Niche search engines are therefore developed and channels, suppliers, customers, and stakeholders can interoperate effectively.

Given the explosive growth of the Internet, e-commerce standards have to be flexible. Exchanging structured data based on HTML and XML is now dominant (Carroll, 2001).

Linking the Value Networks of the Library and Academic Tutoring

The linking of various role players in the academic tutoring value network can be depicted diagrammatically. The linkages between the various role players are also presented in Fig. 1. Given the power of the Internet, the global value networks of the library, the library industry and academic tutoring are accessible from one access point. All the elements in the networks therefore can be seamlessly linked.

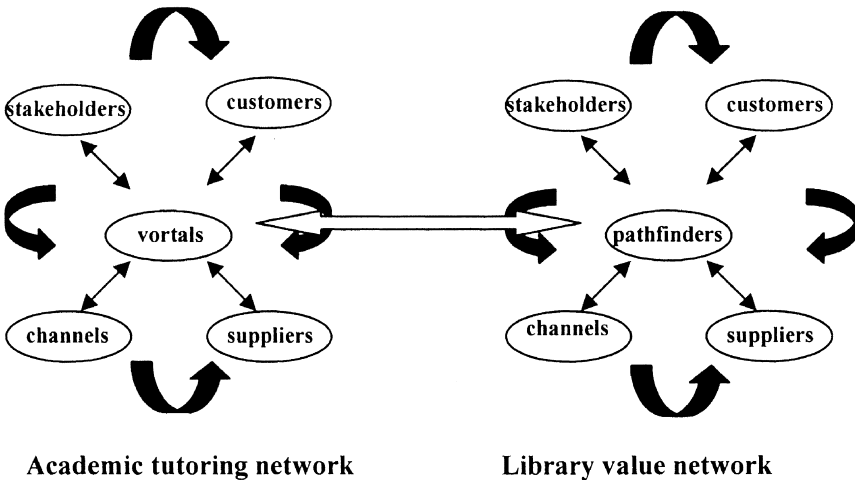


FIGURE 1. Academic tutoring and library value networks.

CONCLUDING REMARK

This, in the writer's view, is the path for academic tuition and academic libraries to follow to become global players and competitors. Around this concept of value networks the processes of the organization will have to be redesigned, and this will also change the outlook of the librarian from the service of the parochial customer to a broader horizon where library services in the form of information literacy skills will be imparted to the customer of the future networked cyber-university.

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10

Global Education Information in the Digital Environment

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Portraits of the World Wide Web and the “place” of education information within three-dimensional visualizations of the World Wide Web have been rendered by numerous organizations for the purpose of “seeing” aspects of information communication and organization. In 1998 Lucent Technologies examined ways of mapping the World Wide Web (1), one of which was by suffix. The .edu visualization, accessible through the URL noted, is diffuse, interconnected, and dense. Other visualizations demonstrate applications of visualization software to imagine or project the “shape” of information on topics, coordinating topic with time among other variables. An Atlas of Cyberspaces (2) has numerous visualizations on topics that illustrate these possibilities and should be examined by the digital resource selector (3). Topical areas most viable for economic support could be mapped in this manner, which would aid in decisions by stakeholders in education information (government, information systems, libraries) on support for tools to access education information across the world.

The case for the digital resource selector preparing comparative education digital resources is this: education information does not conform to neat sectors easily harvested and arranged into similar, globally agreed-upon categories.

Education as a field is more diverse than scholarly compilations, web catalogs, or library organization schemas. The visualization of an .edu domain collection alone does not accurately describe the presence of education sites on the World Wide Web; sites are scattered across .gov, .com, and other newer extensions of the URL. Education sites are visible in the same way that stars and the planet Earth are visible from differing vantage points: from the Earth, the Moon, another planet, or another galaxy. Smaller entities of education information may be hidden by inclusion in global sites, such as UNESCO (4), World Bank (5), Education International (6), and Government Information on the WWW (7). Large sites may obscure the information of local sites, and less technologically sophisticated sites may be less prominent to the searcher, due to the harvesting algorithms of search engines (8) so that unevenness of awareness is highly likely.

Librarians conceptualizing the “place” of a resource on the World Wide Web may also consider Baldwin & Mitchell’s speech on the concept of *place*:

The World Wide Web has changed the concept of “place” in relation to both collections and collectors. In the electronic world, it has become less important WHERE a document resides and more important to have reliable, well organized (and presented) access to it. We want to know *who* produced it, *who* identified it as valuable, and *who* selected it for our use, but that person does not have to sit at the desk next to us. We no longer need to “own” a physical manifestation of the information in our private institutional domain, but we must provide the appropriate technological and organizational infrastructure to access it reliably (9) [emphasis added by author].

Education as a field has a public quality to it not seen in other knowledge communities. Education is mandated and monitored by legislation and agencies at all levels of implementation across the world. Education programs have advocacy groups that emerge from many sectors of the public. Programs in different parts of the world are mandated differently at local, regional, and national support levels. Despite the challenges presented, the task of the education community needs attention so that information unification efforts for World Wide Web dissemination are not strictly based on technology or single person efforts (10).

Education on the World Wide Web encompasses sources not describable across geographical or intellectual boundaries. This, consequently, provides the digital resource selector with the challenge of discovering and documenting terminology used in specialized resources as well as widely accessible resources. A major initial consideration is that of world wide coverage: a daunting factor but crucial if students and faculty are to have access to materials representing efforts for comparison. An education librarian today can easily refer to diverse resources available on practice in education. Many comprehensive country-based and geographic topic area resources are on the World Wide Web now. University

online catalogs, educational publishers' web sites, and representative education syllabi now can be gathered easily. It is likely that the advice of librarians familiar with these resources would make a difference for any user asking about comparative education research or practice, because the dispersion of the information needed across disciplines and nested within other resources does make finding the relevant information difficult.

Fortunately, about a decade after Mosaic was developed and exploded onto the World Wide Web, many tools exist for the digital selector. Within one decade, the tools, initially developed as complementary materials to print sources, began to have lives of their own. Bibliographies, reviews, journal indexes and abstracts, and other tools are available, but they are not necessarily coordinated. The tasks a digital selector faces and the necessary skill sets are briefly outlined in a later section.

DIGITAL RESOURCE SELECTORS AND COMPARATIVE EDUCATION INFORMATION

A digital resource selector is a librarian who spends time traveling in cyberspace, returning with valuable cargo for the library. The job of digital resource selector (11) is one aspect of library work ensuing from the rise of globally available digital resources and the consequent need to harvest, index in understandable search terms across cultures, and develop gateways to access evaluated resources for research and practice. Skill sets needed include informed filtering of information for importance, harvesting of links for informed local need, and classification of the resources gathered in commonly understood search terms. The need to bring together resource-based materials for online use is one of the results of the renewed interest in student-directed learning seen in education departments.

A digital resource selector usually is involved in the construction of a product to meet user's needs: for example, a database of archived education information on a topic, the gathering and digitizing of text and images relevant to a topic (12), the categorization of web sites for a virtual library, development of subject guides online, and maintenance of a digital reference desk are all tasks that are part of the everyday job. An additional skill is the ability to have an evolving awareness of the importance of sites in an overall framework; this flexibility of awareness includes the revisiting of materials for inspection of developing value for a digital resource collection (13). In this chapter, comparative education information resources are the focus of a digital resource selector's attention to illustrate complexities and approaches to decisions on digital collection development. Digital education collections emanating from specific exemplary governmental, organizational, and library organization sources that have been examined with the lens of the digital resource selector's evaluative standards are presented to the reader throughout the chapter. The work

concludes with the proposition that there be a unification of these efforts for a comparative and international studies network accessible to all.

Models for Collecting Digital Resources on Comparative Education

Education is one discipline that lent itself to broadcasting information on the Web early in its history due to the growth of the World Wide Web with higher education institutions as key players. Although governmental, organizational, university, and K–12 sites are available in numbers far exceeding many other discipline sites, the *quality* of such sites is a paramount concern for any digital resource selector. Reasons for collecting digital resources often include needs such as a comparative education subject guide, a topic needing amplification in the library's digital collection, a research area needing bibliographic data, a database on lesson plans, a virtual library, and other products being prepared in libraries across the world (14).

Digital Resource Selector's Tools for Comparative Education Collections

The Place of Print Resources in the Development of Comparative Education Digital Collections

Print resources may be more thorough; their information is complementary but lacks the currency. Bibliographies in print, such as Andriot's (1999) *Uncle Sam's Guide to the K–12 Web* (15) provide detailed classifications of a nation's site, although the information may be outdated when in print. Similarly, encyclopedias on world education have detailed overviews of all countries' education systems and recommended readings, but are published only every decade (16).

Embassies often send university libraries detailed monographs of their education system, which currently include Web sites deemed important for the foreigner. An enterprising digital resource selector can explore the presented materials beyond the print version into the digital areas documented in print materials. *The World Education Encyclopedia* (17) includes relevant URLs for resources on a country's education system. More URLs are seen for less developed and smaller countries; this may be because the sites represent the most information available. The print resources mentioned, however, have in-depth articles about a country's system written by experts in the field of comparative education. Similarly, reference books in the file need examination on a regular basis. Books such as *World Education Encyclopedia: A Survey of Educational Systems Worldwide*, *The International Handbook of Curriculum Research*, *World Data on Education: A Guide to the Structure of National Education Systems*, and

Gale's Directory of World Wide Education Associations are current works that would likely be in such a reference collection.

Faculty—Librarian Liaison for Virtual Collection Development

Using a traditional faculty—librarian liaison strategically and across disciplines may be beneficial, depending upon local expertise. An initial foray would be to explore the contributions possible from the teaching faculty in both comparative education and in related departments, such as language and international studies in different disciplines such as business. Well-traveled faculty can provide the new digital resource selector in education with country or regional sites that are a sound foundation for a user-centered collection. Having a business plan is essential in this pathway; faculty are likely to respond to carefully crafted assistance requests, since the expected role is now reversed, with information being asked from the teaching faculty member.

Site Reviews, Library Catalogs, and Webliographies

Although online bibliographies (“webliographies”) and World Wide Web review sites are analogous to print review sources and are recommended as beginning points for collection development in the “book world,” they may differ in numerous ways. Archives of World Wide Web site reviews and topic search guides can be problematic. If the site changes, the reviews and bibliographies, unless updated, may not inform those who come later to a resource about any changes. Perhaps due to the relative inexpensiveness and changeability of a web site, a digital resource selector needs to depend upon qualitatively different selection tools as well as to develop strategies.

Considerations for the digital resource selector include the position of the library in the virtual environment (18), collection development policy for digital resources on the Web (19), and a disciplined approach to exploration regarding new sites, web reviews, online guides to information sources that are available (20).

Area Studies and Comparative Education Associations Sites

Similar to using an approval plan and reading the table of contents of a book prior to selection is the tour of global web sites that cover education. One real difference, however, is that the digital resource selector will be navigating through the hypertext, hypothesizing what kinds of questions can be answered by including the resource. It is rare that a book collector would read every book for a collection; however, a thorough inspection of sites prepares the digital resource selector for issues of quality (e.g., lack of plagiarism, bias understood, sources clearly attributed, updates listed) as well as content awareness (21).

Examining the web sites of librarians who have already developed country or regional studies sites provides selections to be examined and extended, such

as the *World Wide Web Resources for Latin America and the Caribbean* (22), Columbia's *African Studies* (23), links to *Education en Afrique* (24), *Forum for African Women Educationists* (25), and *Organization for Social Science Research in Eastern and Southern Africa* (26). Columbia's *Latin American Studies* (27) leads to links with *Education in Latin America* (28) and *LIBDEX*, an index to over 18,000 libraries (29). Investigating other area studies program sites may yield similar sites for a digital comparative education database. It is also worthwhile to examine the *WWW Virtual Library for Regional Studies* (www.vlib.org/Regional.html).

A profitable practice would be culling the content of the web sites of the comparative education programs. These sites with links to world wide education information, offer vetted material for the digital resource selector. This electronic connection is similar to the well-developed relationships in universities between teaching faculty and librarians, and needs to be seen as complementary to that of in-person liaison work. The University of Chicago's *Comparative Education Review* presents an ongoing bibliography with themes useful for organizing research, to be discussed in a later section. The World Council of Comparative Education Societies (Conseil Mondial des Associations d'Éducation Comparée), in existence since 1970, offers a listing of new books on comparative education as well as links to member societies that can be explored for further information. Their listing of comparative education programs is included in the list in Table 1.

Organization of Comparative Education Digital Resources

Presently, the most visible types of digital resources available on the World Wide Web relevant to practitioner education needs, together with subcategories, are listed in Table 2 (30).

A classification scheme that fits researchers' interests can be found in the *Comparative Education Review Bibliography* listing of themes (31). Other considerations important for an individual site collection include the characteristics of the resource. Decisions on the types of resources to include are based on many factors, such as

Audience. Digital resources in comparative education can be found for both researchers and teachers. The digital selector needs to make an informed decision about the amount of each type is appropriate for the user population, physical as well as virtual.

Descriptors. It is clear that a grasp of differences in cultural expression would lead to awareness differences in description. The use of a controlled vocabulary across sites is needed to connect the information that is similar in different sites. Since this is an example of a data set that is not huge, it is possible for the resources to be classified as a digital

TABLE 1. Comparative Education Sites

<i>Boston College Center for International Higher Education</i>
URL: http://bc.edu/bc_org/avp/soe/cihe/Center.html
<i>Centre for Research and International Collaboration, Hong Kong Institute of Education</i>
URL: http://www.ied.edu.hk/cric/new/index.htm
<i>Center for Slavic, Eurasian and East European Studies at the University of North Carolina</i>
URL: http://www.unc.edu/depts/slavic/funds/titlevi.html
<i>Comparative Education Research Centre, University of Hong Kong</i>
http://www.hku.hk/cerc/
<i>Deutsches Institut für Internationale Pädagogische Forschung/ German Institute for International Educational Research</i>
http://www.dipf.de/index_800.htm
<i>The European Association for International Education (EAIE)</i>
http://www.eaie.nl/
<i>Flinders University Institute of International Education</i>
http://www.edweb.flinders.edu.au/edweb/fuiie/fuiie.htm
<i>Institute of International Education</i>
http://www.iie.org/
<i>Monash Center for Research in International Education</i>
http://edu.monash.edu/centres/mcrie/
<i>Netherlands Organization for International Cooperation in Higher Education</i>
http://www.nuffic.nl/
<i>New York University Program in International Education</i>
http://www.nyu.edu/education/international/
<i>OECD Center for Educational Research and Innovation</i>
http://www1.oecd.org/cer/
<i>University of Canberra Centre for Research in International Education</i>
http://www.canberra.edu.au/uc/educ/crie/crie_home.html

Source: The World Council of Comparative Education Societies. <http://www.hku.hk/cerc/wcces.html>

collection. Efforts to organize such a collection can be seen in the IFLA digital resources collection listing (32).

Resource type. Information on the type of resource that provides information about diverse education systems is widely available, usually for free. The digital resource selector can harvest numerous sites that show a variety of approaches to educating students on a particular topic or subject (33). It is easily possible to find curricular materials that can be compared across cultures, such as the approaches to art across Europe (34).

TABLE 2. Practitioner Organization System for Comparative Education Digital Resources

<i>Geographical area</i>	<i>Education level</i>	<i>Subject (K–12)</i>
Africa	Pre-K, below 5 years	Arts
Asia	Kindergarten	Reading
Australia	Primary	Languages
Caribbean	Middle school	Mathematics
Central America	High school	Social studies
Europe	College	Science
Middle East	Graduate school	Interdisciplinary
Oceania	Adult education	Other
North America	Higher education	
South America		<i>Features</i>
Global	<i>Type of education site</i>	Discussion forum
Multicountry	Ministry of Education	Interactive component
	Commercial site	Teaching materials
<i>Topical</i>	Syllabus or course	Video downloads
Arts	SchoolNet or	Audio
Humanities	TeacherNet	E-zine
Social sciences	Subject guide	Virtual museum visit
Science	Portal, global	Photo gallery
Technology	Portal, regional	Art gallery
Medicine	Curriculum resource	Test or assessment
Multidisciplinary	Journals index or	Textbook or documents
Library instruction	database	Other
Special education	Association	
Gifted education	Other	<i>Languages</i>
Educational psychology		English and country
Education philosophy	<i>Sponsorship</i>	language
Education law statutes	Commercial	Country language only
Education history	Religious organization	English only
Statistics	Individual company	
Other	Individual person	<i>Updates</i>
	Education association	Daily
	Nonprofit	Monthly
	Government	Posted
	Publisher	Cannot be determined
	Media TV	
	Other	

Source: Ref. (30).

Language. The sites that can be collected do not need to be confined to those that are solely or partially in English; the language skills of the digital resource selector and contacts willing to translate sites are determining factors, as is the users' interest in sites in other languages.

Bias. A site will reflect the beliefs and core concepts of the person(s) in charge of developing the content. It is not surprising to find bias in any government site, which will likely promote the view of education seen as appropriate for the relevant population. (See EDgov (35), the United States Education Department web site, as well as CERN, China's education site (36) for reflected bias in education priorities.) The digital resource selector needs to decide how much description of the site is needed in an annotation, for instance, and how neutral the description should be.

Authority. Initial collating of digital resources in education may bring governmental and legal information on education by country, continent, and topic. Organizations deemed responsible for collecting statistics, monitoring the education systems of developing countries, and gathering education indicators can be deemed authoritative. The digital resource selector may have to reframe authority concepts in examining the ways teachers and students published education resources on the Web.

URL stability. Since sampling of the resources available by continent indicates that site URL stability varies significantly, the digital resource selector needs to decide whether to collect only resources with a stable URL or monitor the URL when a resource became available. This factor is particularly important for sites from countries with emerging technology.

Fee or free. The sites that can be gathered range from free to fee based. Consideration of fee-based comparative education sites depends upon the library's ability to support a subscription, for example, to the full *OECD* (37). Numerous vendors offer databases that may indeed have comparative education features. The digital resource selector needs to be aware of vendor and licensing issues involved with database subscription acquisitions (38).

Commercial site inclusion. The selector would be overwhelmed by the sheer amount of commercial education web sites. A careful culling from the many sites for those that match the constituency's interests is warranted. However, the suffix .com has different meanings in some educational contexts. China has .com services for all provinces (schoolnets), and they would be places to visit virtually.

Use of information presented. Studies on the use of education information by researchers in other countries needs to be provided to see if there are different uses. It is likely that there will be country differences related to economy and political frameworks. A timely method of inquiry into this issue would be a qualitative analysis of education web pages to examine the kinds of information by content valued by different countries and geographic areas.

Format of information presented. The type of collection and features of a comparative education collection will necessarily vary with selector and available technology resources, budget, and timelines. An enhanced digital collection, replete with search engine, well-prepared descriptions, aesthetically appealing visuals, and metadata tagged fields will be a far more labor-intensive collection than a simple vanilla.html array of links, available to most digital selectors.

Limits in Comparative Education Information on the Web

Geographical boundaries in education information availability are most apparent in the print collections of the collection as entity. Yet even this boundary is permeable, as seen by IFLA's gateway to catalogs around the world (39) and by many countries' access to national catalogs of collections. Although at the advent of the World Wide Web as we know it today concern was expressed by non-English speaking web designers that their language and cultures would be lost in the predominant English wave of web sites, it is clear that national cultures translate well to the Web in both linguistic and visual factors. English has been informally adopted as the World Wide Web official language. Today, many sites that feature education information have some if not all of the site in English.

Collections all over the world mirror local culture, including language, aesthetics, and kinds of information published (40). This reflection of the diversity of cultural Web presence is seen in the education collections. The development of the Unicode system (41) most likely contributed to the development of information availability, allowing production of many characters in symbol systems (ideographic) available for web page construction. Character sets of Chinese, Cyrillic, Japanese, Korean, and other non-single letter systems of written communication are presently available on the Web downloadable to personal computers. Culturally embedded graphics, taken from national treasures, landscapes, museums, and regional arts displays as well as inventive use of current technology have assisted in showing national differences. Examining different sites (42) provides examples of the diversity of imagery available now, and most examples are useful to the scholar or comparative education student.

The barriers involved in education information collection, however, are numerous. The majority education information in print (43) and initiatives to publish education information are unevenly available and not easily gathered. The language used in sites in education across the world is one of the major barriers to the discovery of new fields as well as to finding developed areas of information, especially if described differently in sites. Initiatives to catalog the information on the Web (44) do exist and reflect a growing attention to detail in description.

Digital education collections are multifaceted. With World Wide Web access, local schools from The Isle of Man (45) can be seen as well as global portals such as UNESCO. Deep digital structures link resources in all educational information areas across the globe, but they are also scattered across the World Wide Web. The reasons for that may well be historical (46): the early rise of the World Wide Web was in the .gov and .edu domains, which housed much education information at the time. Therefore, information of all varieties appears on almost every government site, primarily in the form of “Ministry of Education” or “Department of Education” connections.

Collections of digital education information often serve as a current awareness service in countries and geographical regions, which is an opportune use of the World Wide Web. Other factors, which include the proliferation of commercial education sites after 1995, the construction of individual sites affiliated with education institutions (47), and dissemination of education research by any of these means, exceed the boundaries of this chapter but deserve a thorough examination in a specialized forum (48).

CREATING A GLOBAL EDUCATION INFORMATION NETWORK

Initiatives to catalog the information on the Web do exist but use disparate terminology and differing resources. Educators need one approach. Practitioner information seen in the government sites, which offer education courses, syllabi, and lesson plans, learning objects, is often systematized as seen in Table 2.

Researchers need access to bibliographic information seen in databases and bibliographies online. Universities across the world with comparative education studies present the researcher with a variety of means to see concrete differences in approaches. The International Network for the Availability of Scientific Publications (INASP) (49) delivers indexes to African and Caribbean journal literature that provides the scholar with information about education topics in these areas. Korea’s education research is incorporated into the government education web site. Themes for bibliographical data from the *Comparative Education Review, Bibliography 2000* (see Table 3) would provide an organizational schema for the researcher.

TABLE 3. Researcher Organization System for Comparative Education Digital Resources

Africa	General
Asia: Central, South, and Southeast Asia	Higher education
Asia: East Asia	Indigenous education
Australia and the Pacific Basin	Intercultural, bilingual, and multicultural education
Child rights	The Mediterranean, Middle East, and Africa
Comparative education	Methodology and theory
Curriculum and instruction	Minority education
Educational planning, development, and reform	Policy analysis
Ethnicity, race, class, and sexual orientation	Primary education
Europe	Russia, Ukraine, and Belarus
Gender	Secondary education
	Special education
	Teacher education
	Technology

Source: Comparative Education Review, Bibliography 2000. <http://www.journals.uchicago.edu/CER/bibliog98.html>

The diversity of resources is needed by both scholars and practitioners. The two schemas for organizing content need integration—for a local audience by a digital selector and for a larger audience—by a team of comparative educators and digital selectors.

A global stance can and must be developed for the needs of researchers and practitioners alike by digital resource selectors for education topics. Interest in this area is sufficiently strong to generate specific databases, journal indexes, and explorations of digitizing dissertations world wide. The factor of currency is possible with web technology and important for the researcher and practitioner alike. The information available in many education sites can present practitioners in many countries with tools for development and partnership in practice. Numerous endeavors are in progress in academic libraries around the United States and around the world. The information base needs amplification by digital resource selectors in a concerted effect, rather than individually, so that terminology, resource description, and search mechanisms can be developed communally.

To actually unite the disparate resources, as seen in the sites examined, is within technological grasp (Suleman and Fox, 2001). The existence of the technology provides the building materials; however, it remains to be seen if the intricate social network needed for any endeavor to be initiated will come into existence. It is unlikely that a concerted effort among interested individuals can

be maintained or connected reliably across national borders. Support for such a venture needs to come from a multicultural organization, with the ensuing commonality of interest and partnership. Several international comparative education organizations would be well positioned to host such an endeavor, as seen in the lengthening listing of digital collections and listing of education national libraries. The energy is present in a worldwide economy in which education is seen as the great equalizer in the 21st century.

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2. An Atlas of Cyberspaces. <http://www.cybergeography.org/atlas/>
3. "Digital resource selector" in this chapter refers to the librarian who focuses on specific aspects of digital collection and the characteristics of information thus obtained. A digital resource selector needs to be well versed in the range of print resources in comparative and international education information so as to recognize digital parallels to selection tools.
4. <http://www.unesco.org>
5. <http://www.worldbank.org/>. One relevant link in this site is Kids and Schools (www.worldbank.org/html/schools/), as well as the section on Students, which contains "... tools and resources for increasing knowledge and expanding experience through access to the Bank's library network, economic research, statistics, and other resources." [site description]
6. <http://www.ei-ie.org/>. The association represents "the world's largest educators' federation representing 26 million members through its 310 member organizations." The focus on education news from all over the world provides a current perspective on issues. The links are on the topics of EI member organisations and global unions, education, human rights equality, and the European Union. The site urges visitors to add a site. This invitation may lead to surprises. The Equality section had an added site: a link to the Beijing +5 activities at the UN headquarters in New York in 2000. In English, French, and Spanish. (Publisher: Inter-American Agency for Cooperation and Development (IACD) of the Organization of American States.)
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34. Artistiques et Cultureles. <http://www.artsculture.education.fr/>. Virtual School art lesson plans by grade and topic. <http://www.eun.org/eun.org2/eun/en/vs-art/content.cfm?lang=en&ov=8898>
35. EDgov. <http://www.ed.gov/index.jhtml>
36. CERN (Chinese Educational Research Network). <http://www.edu.cn/HomePage/english/index.shtml>
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The Digital Divide

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INTRODUCTION

The “digital divide,” put simply, is the divide between those people who have access to information and communications technologies (ICTs) and those who do not: the “haves” and the “have nots,” the “information rich” and the “information poor” (bridges.org, 2002). Norris (2001) identifies a multidimensional digital divide, consisting of three distinct divides: global, social, and democratic. The global digital divide refers to an international disparity in access to the Internet between industrialized and developing countries, whereas the social digital divide is the difference between the information rich and the information poor in any individual nation. The democratic digital divide is “the difference between those who do, and do not, use the panoply of digital resources to engage, mobilise, and participate in public life” (Norris, 2001, p. 4).

The international, non-profit organization bridges.org (2002) identifies an overall trend of growing disparities both within (social digital divide) and between (global digital divide) countries. This is despite the fact that all countries are increasing their access to ICTs, because industrialized countries are increasing their access at an exponential rate and therefore, in effect, widening the divide. In addition, privileged groups obtain and utilize ICTs more effectively and, gaining advantage from ICTs, become more privileged, therefore accentuating the digital divide.

This chapter explores the issues and concerns surrounding the digital divide from the perspective of both developed and developing countries.

GLOBAL PERSPECTIVE

Initiatives

The international community has become increasingly aware of the digital divide and its implications over the last five years and put strategies into place in order to address the problem.

The “Okinawa Charter on Global Information Society” (G8 Kyushu-Okinawa Summit, 2000) was drawn up by leaders at the G8 Kyushu-Okinawa Summit in July 2000. Produced at a time when the potential implications for developing countries of ICTs and the so-called digital divide were beginning to emerge on the international agenda, the report provides a sound overview of the problems brought about by rapid developments in ICTs and the potential impact of those developments for developing countries unable to take full and immediate advantage of them.

The charter outlines a vision of an international information society. Significantly, it highlights the fact that the development of ICTs is not exclusively for the purpose of creating economic growth (although it foregrounds economic growth) (G8 Kyushu-Okinawa Summit, 2000, p. 1):

[W]e must ensure that IT serves the mutually supportive goals of creating sustainable economic growth, enhancing the public welfare, and fostering social cohesion, and work to fully realize its potential to strengthen democracy, increase transparency and accountability in governance, promote human rights, enhance cultural diversity, and to foster international peace and stability.

Information and power go hand in hand, and the charter recognizes that for ICTs to empower communities successfully, they must first have access to them: “No one should be excluded from the benefits of the global information society” (G8 Kyushu-Okinawa Summit, 2000, p. 1). The reality is that there remains a long way to go before such aspirations can be achieved. For example, according to Nielsen/NetRatings (www.nielsen-netratings.com), in 2001 only 611,000 of South Africa’s 43.6 million population were active Internet users, less than 1.5%. The equivalent percentage in the United States was over 36%.

The charter suggests that formulating and implementing solid frameworks, policies, and strategies will support the integrated promotion of ICTs in developing countries. It also recognizes that different countries have different information needs—culturally as well as economically—and that there is no

one-size-fits-all solution. Ownership and dialog are key features in developing functional ICT infrastructures in developing countries.

In order to address the issues conveyed in the “Okinawa Charter on Global Information Society,” the leaders of the G8 Summit created the Digital Opportunities Task Force (DOT Force). The Digital Opportunities Task Force (2001) report “Digital Opportunities for All: Meeting the Challenge” supports the importance of integrating ICT development into G8 and other donor development assistance policies and programs. Strategic ICT development must be put on the agenda at both a national and international level. Drawing on the experience of countries that have put in place successful ICT infrastructures, the report suggests that this is a multisectoral, multistakeholder task, with initiatives being taken by public and private sectors and by civil society organizations.

Formally sunseting with the June 2002 report, by way of conclusion the DOT Force called for the continuation of some similar form of high-level forum with sufficient influence to mobilize political leaders, industry captains, and civil society in order to promote strategic development of ICTs in developing countries. It stressed that a focal point was required that served to unite the many initiatives that were under way at global level. Such a focal point would serve to help the formation of partnerships between countries and organizations as well as facilitate the dissemination of best practices.

The work of these international organizations reflects a global concern with the importance of access to information, not only in order to diminish the digital divide and encourage social inclusivity, but also as a contribution to the preservation of cultural identity and the upholding of the democratic process (Ashcroft, 2002).

Infrastructure

For developing countries to take advantage of the applications brought about by ICTs, first an adequate technological infrastructure must exist within those countries: there can be no transmission of electronic scholarly resources without telephone lines or satellite systems to transmit information and PCs to receive information. The following discussion examines the exemplary problems surrounding ICT infrastructure in Africa.

“The African Internet: A Status Report” (Jensen, 2002) gives a detailed description of the current status of ICTs in Africa. Although the Internet is now available in every capital city in Africa, there remains a large difference in development levels between Africa and the rest of the world. Recent estimates (this report was updated July 2002) put the total number of African Internet users at 1 user for every 250–400 people, compared to a world average of 1 in 15 (in the United States and Europe the average is 1 in 2). Personal Computer access is estimated to be around 1 per 100 people, and the amount of Internet Service

Providers (ISPs) is limited (CIA, 2001). Costs remain high. The average cost for using a local dial-up Internet account for 20 hours a month is about \$60 per month (although can be as much as \$80). Although European costs are higher, so too is European per capita income; \$60 per month is more than the average African salary. Finally, the telecommunications infrastructure is yet to reach the bulk of the African population, with 50% of available lines located in capital cities that account for only 10% of the population. The sub-Saharan has around 10% of the world's population, but only 0.2% of its telephone lines. Existing telecommunications infrastructure is expensive to buy into; as Cullen (2001, p. 317) points out, "The irony of globalisation is that the smaller and less developed the nation and the lower the average national income, the higher the telecommunications charges seem to be."

This situation is exacerbated by a lack of skilled human resources. In a discussion of library facilities in sub-Saharan Africa, Chisenga (2000, p. 186) observes

Information technology and electronic networking require skilled manpower to install and manage the technology and networks. The demand for technology literate staff has gone up; unfortunately, there is a general shortage of staff to install and manage information technology in libraries in sub-Saharan Africa. Due to poor funding, libraries cannot attract computer programmers, systems analysts, or network administrators. Funds to retrain the existing staff and equip them with appropriate information skills are not made available.

Consequently, resources, where they exist, are often underutilized for want of competent staff. Furthermore, it is almost a catch-22 situation: where there is less access to ICTs, there is less opportunity to develop their skills through self-teaching. According to Steinmueller (2001), many computer-literate staff are self-taught, and consequently countries providing more extensive access to ICTs are more likely to produce capable, self-taught persons.

Further problems exist in providing power for ICTs. With regard to the application of ICTs in Uganda, Magara (2002) comments that, in addition to the limitations brought about by cost of connection and restrictions in access and bandwidth, there is the unreliable Ugandan power supply to deal with; and in rural communities there is no power supply.

The development of appropriate policies, or "eStrategies," is as significant a part of the development of an ICT infrastructure as physically acquiring the technology itself. This opinion, set out by the Okinawa Charter and DOT Force, is echoed by many other commentators (Shibanda and Muisi-Edebe, 2000; Afullo, 2000; Jimba and Atinmo, 2000; bridges.org, 2002).

Shibanda and Muisi-Edebe (2000) call for a national information strategy that allows Africa to participate in partnership with other nations in the

information age and would overcome the existing lack of sound legislation and policy guidelines. Similarly, Jimba (2000) calls for governments to prioritize and develop an information culture across a broad section of African society. The way to achieve this is to formulate information policies and back up those policies with adequate funding and high profile committees that are able to orchestrate and ensure their implementation. bridges.org (2002) also sees national governments as instrumental in creating an environment that fosters ICT use and development, and flags the lack of communication between on-the-ground efforts and the policymaking process. Ground-level programs suffer from a lack of policy frameworks within the countries in which they operate. Furthermore, policymaking decisions would benefit from awareness as to how policy affects end-users.

CULTURALLY APPROPRIATE SOLUTIONS

The development of a suitable ICT infrastructure is problematic. The technology required for the development of such an infrastructure—from hardware to software, from telecommunications devices to databases—is itself predominantly produced by Western countries. This market is controlled by giant multinational countries that, in turn, control access to the information age. Thus, African countries wishing to participate in the information age, must buy into a market that is controlled and developed by Western countries (Jimba, 1999).

Initiatives to promote the development of ICTs in developing countries have prompted concerns that such initiatives must be culturally appropriate. This is not simply an issue of bias brought about by a technology largely produced by Western countries for Western users; it is also about ownership and empowerment within communities. Indeed, the “World Development Report 2002,” which deals in part with developing efficient technologies, states in its overview that “This Report is about enhancing opportunities for poor people in markets, and empowering them” (World Bank, 2002, p. 1). The Okinawa Charter on Global Information Society (G8 Kyushu-Okinawa Summit, 2000, p. 5) recognizes the importance of ownership, that there are no one-size-fits-all solutions, and stresses the importance of encouraging “community initiatives and indigenous entrepreneurship.”

The rhetoric of these key documents is a clear indication that ICT development must be brought about in such a way as to enable communities to help themselves. If issues of ownership and empowerment are ignored, “countries risk being locked into patterns of foreign control that preclude national self-determination” (Steinmueller, 2001, p. 207).

bridges.org (2002, p. 3) points out that solutions cannot simply be transferred between different environments, but rather must be “based on an understanding of local needs and conditions.” This is significant when generating

policy directions, in that local skills and needs, as well as political issues, will dictate the efficacy and acceptance of policy reform (bridges.org, 2002, p. 7).

The issue of Western bias is not confined to inappropriate resources; it can also serve to exacerbate problems concerning local knowledge bases. In a discussion on information technology within Africa, Jimba (2000) suggests that the dominance of Westernized technology perpetuates the marginalization of African knowledge. Reliance on predominant Westernized technologies directly impacts upon the standing of local knowledge. He points out that “Knowledge is socially and culturally defined and cannot be transferred, in the same manner that technology cannot be fully transferred” (Jimba, 2000, p. 256). What is more, knowledge itself may no longer function appropriately when disconnected from its context: “Once knowledge and its attendant innovations are removed from its existing socio-cultural, political and technological context, it ceases to be relevant and may therefore be incapable of solving the problems it was meant to alleviate.” (Jimba, 2000, p. 257).

Cultural specificity can also bring about barriers to ICT development. Within cultures that are dependent on oral culture—for example, nonliterate rural communities—the use of ICTs for communication is unlikely to take precedence (Cullen, 2001, p. 315).

DEVELOPED COUNTRIES

The digital divide is not a problem that is confined to developing countries. The same issues of access and connectivity are applicable across social divides within developed countries. Again, national and cross-country strategies have been drawn up in order to address concerns.

The European Union (EU) has recently produced a number of reports designed to ensure greater coordination of policies relating to ICTs. “eEurope: An Information Society for All” (European Commission, 2000) contains explicit actions with quantifiable outcomes setting out three key objectives:

1. Bringing every citizen, home, and school, every business and administration into the digital age and online
2. Creating a digitally literate Europe, supported by entrepreneurial culture ready to finance and develop new ideas
3. Ensuring the whole process is socially inclusive, builds consumer trust, and strengthens social cohesion

Thus the goal of this initiative is to ensure that each citizen in the European Union has access to new information and communication technologies and exploits them as fully as possible to improve quality of life.

Following this document, an “Action Plan” (Council of the European Union, 2000) set targets for each of the following identified objectives: a cheaper,

faster, secure Internet; investing in people and skills; and stimulating the use of the Internet.

“Towards a Knowledge-Based Europe: The European Union and the Information Society” (European Commission, 2002b) introduces the concept of social inclusion and summarizes the accomplishments of the eEurope program to date, outlining the targets for 2002–2005:

In today’s society, Internet access has become a fundamental right for all citizens and responsible governments have a duty to provide it. . . . The new knowledge-based society must be an *inclusive* society. Here too, the Internet offers tremendous possibilities: anyone who can use a computer can participate in society at the click of a mouse.

The EU has formally adopted a new regulatory framework that aims to create a liberalized telecom market, improving the quality of service and reducing costs.

The future for eEurope is set out in “Towards a Knowledge-Based Europe,” with targets being set for 2005 by “eEurope 2005: An Information Society for All” (European Commission, 2002a). eGovernment, eHealth, eLearning, and eBusiness are priority areas, with an emphasis on accessibility and increased quality and efficiency.

Each EU country remains responsible for organizing national ICT education; the EU eLearning program coordinates national efforts to bring them in line with EU objectives. This effort aims to ensure all school-leavers are computer literate and that workers have access to life-long learning opportunities. A drive toward eGovernment is providing easier access to public services, and EU governments have, to date, made 20 basic services available online. Thus a level of ownership and empowerment lies with each EU country.

In the United States the *Falling Through the Net* series of publications (www.ntia.doc.gov/ntiahome/digitaldivide/) has addressed the national digital divide. The fourth in this series of publications, “Falling Through the Net: Toward Digital Inclusion” (NTIA, 2000), measures the extent of digital inclusion by examining households and individuals across the United States who have a PC and Internet connection. The report found that in 2000 41.5% of U.S. households had access to the Internet and 116.5 million Americans were online. In addition, the report found that groups traditionally marginalized in their use of ICTs had made significant gains. However, divides still existed between those with different levels of income and education, and across different racial and ethnic groups.

In 2002 the National Telecommunications and Information Administration (NTIA) and the Economics and Statistics Administration published “A Nation Online: How Americans are Expanding Their Use of the Internet” (NTIA, 2002). Based upon data from the U.S. Census Bureau’s Current Population Survey from September 2001, the report found that Internet use was increasing for all people,

regardless of income, education, age, race, or gender. However, there is still a sizeable percentage of the population who are unlikely to be Internet users, with nonusers including households with low family incomes, adults with low levels of education, and people from ethnic minorities.

National Approach: The United Kingdom

In the United Kingdom the Labour Government has set up the Social Exclusion Unit, with the remit of helping to “improve Government action to reduce social exclusion by producing ‘joined up solutions to joined-up problems’” (Cabinet Office, 2001). The home page of the Social Exclusion Unit’s website defines social exclusion in the following way:

Social exclusion is a shorthand term for what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime environments, bad health and family breakdown.

A solution to the problem of social exclusion is actively to promote social inclusion, and this notion of social inclusivity has recently been put high on the agenda for libraries and information workers within the UK. *Open to All? The Public Library and Social Exclusion* (Muddiman et al., 2001) examines the role of public libraries in tackling social exclusion. The report is critical of public libraries for having to date “adopted only weak, voluntary and ‘take it or leave it’ approaches to social inclusion” (p. 155), and consequences of this approach to service provision are outlined as follows (p. 156):

- A continuing under-utilization of public libraries by working-class people and other excluded social groups
- A lack of knowledge in the public library world about the needs and views of excluded “nonusers”
- The development in many public libraries of organizational, cultural, and environmental barriers which effectively exclude many disadvantaged people

Open to All? suggests that modernization is not enough for public libraries to address seriously the complexities of social exclusion. Rather, they need to become “much more proactive, interventionist and educative institutions, with a concern for social justice at their core” (p. 158). In order for information professionals to tackle issues of social exclusion, they must actively adopt policies of social inclusion that place an ongoing commitment to social inclusivity within their working culture. *Libraries for All: Social Inclusion in Public Libraries* (DCMS, 1999) observes that libraries are one of the best placed organizations within the cultural sector to bring about change in order to combat

social exclusion. The report outlines the overall aim of the Department of Culture, Media and Sport's social inclusion policy (p. 8):

To promote the involvement in culture and leisure activities of those at risk of social disadvantage or marginalisation, particularly by virtue of the area they live in; their disability or age, racial or ethnic origin. To improve the quality of people's lives by these means.

Changes can be brought about at a community level by mainstreaming social inclusion as a policy priority within all library and information services, and proactively embracing those groups within the community who are currently information poor. Two barriers may prevent this goal: infrastructure barriers, "which constrain the 'connectedness' of a given neighbourhood" and include "the flow of information and the provision of educational opportunities"; and cultural barriers, which may "constrain people's ability to address the issues which affect them" (DCMS, 1999, p. 10).

Social exclusion can be tackled at a local level, with different local communities having different requirements as dictated by a whole range of demographics. The very nature of the library trade—the provision of information—can alleviate this type of social exclusion and diminish the proportion of information poor both within the communities they represent and therefore over society as a whole:

Communications and information are the lifeblood of sustainable communities, and public services such as libraries, together with community groups, are often important conduits for information and knowledge. In disadvantaged communities, isolation and inertia may constitute formidable barriers to the flow of information, personal relationships may be weak, and creative neighbourhood's networks may function poorly. Such communities are unlikely to enjoy the vital flow of information, through which residents share their experiences and act collectively to express their needs and improve their quality of life (DCMS, 1999, p. 10).

Clearly, rapid ICT advancements bring about problems that potentially deepen the divide between the information rich and the information poor, including problems of access, awareness, training, and cultural barriers. Information professionals must incorporate policies that address, engage, and challenge social exclusion, but, as Vincent (2001, p. 93) discerns, "this work cannot just be bolted on, but has to be mainstreamed—which has implications for resource allocation."

UK Initiatives

A major initiative to promote connectivity in the UK is *The People's Network* (www.peoplesnetwork.gov.uk/), a government initiative committed to delivering the benefits of life-long learning to the entire populace. The government has pledged to connect all public libraries to the information superhighway by the end of 2002. £170 million has been committed to the project.

Another initiative in the UK is the *e-Learning Foundation* (www.e-learningfoundation.com). Launched in 2001, the foundation aims to increase ICTs in education, with the specific target of ensuring that every school pupil in the UK will have access to a portable PC by 2006. This measure is intended to alleviate the digital divide that exists between children of different educational backgrounds.

Another website (www.inclusionandlibraries.org.uk), set up jointly by the Community Development Foundation, the Society of Chief Librarians, and the Library Association's Community Services Group, provides further information about UK policy and strategies concerning the digital divide and social exclusion. The web site serves as a central pool of available information and resources, linking to the web site of the Cabinet Office's Social Exclusion Unit (www.cabinet-office.gov.uk/seu/), another useful resource for those interested in UK government policies, procedures, and initiatives around these issues.

OTHER MEANS TO BRIDGE THE DIGITAL DIVIDE

Organizations do exist that are making steps toward weakening the digital divide. For example, the Bill and Melinda Gates Foundation (www.gatesfoundation.org) was created in January of 2000 and has goals of promoting global health equity, supporting education improvements and bridging the digital divide.

The Gates Foundation is undertaking initiatives to provide access to electronic information in remote communities. One such initiative is the Canadian Partnership Program, which has to date provided \$18.2 million to libraries in the extremely remote communities in Canada that lie above the 60th parallel. A large proportion of the population in this area are aboriginal or members of First Nation bands or tribes. These grants are used to purchase and install computers and training labs in libraries, as well as to provide training for information professionals and ongoing support. The initiative continues to help residents in these low-income communities with literacy and computer skills, increased job opportunities, and access to education and health care material. In the course of implementing the program, the foundation concluded that any long-range benefits must derive from wholehearted investment from the communities themselves in order to guarantee the success and sustainability of the project (Erickson, 2002).

Another Gates Foundation initiative is taking place in Chile, where over \$9 million has been given to provide training, computers, and Internet access for all

Chilean public libraries. The Network of Public Libraries for the New Millennium project also receives support from local partners, including the Chilean government, the Chilean Association of Municipalities, and other nonprofit organizations. This program is the first effort by the foundation to provide public access to technology and digital information to low-income communities outside North America and the UK. The project commenced in February 2002.

CONCLUSION

Issues surrounding the digital divide are a concern for all librarians/information professionals. Although some concerns may differ between developing and developed countries, providing inclusive access to ICTs for all people remains a difficulty regardless of the economic standing of any particular country. Initiatives have been developed to diminish the digital divide, but many problems still exist, both locally and globally. Bridging the digital divide is an ongoing challenge for all librarians/information professionals on a global basis.

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Intellectual Freedom

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What are we librarians to do about intellectual freedom? The following pages outline ways in which our profession worldwide might think about and deal with this complex, fascinating, and uniquely difficult topic. First, the issues are identified. Then, techniques employed at the Mortenson Center for International Library Programs are presented to help librarians from different countries understand the issues and come to grips with them. Finally, I make some personal recommendations for librarians in any country who are ready to be active supporters and proponents of intellectual freedom efforts in their communities.

IDENTIFYING THE ISSUES

The concept of *intellectual freedom*, sometimes called freedom of expression, is usually presented as a basic human right, the best-known international statement being Article 19 of the Universal Declaration of Human Rights, which was promulgated by the United Nations in 1948: “Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers” (1).

This is a noble statement; and the second part in particular, dealing with information flow, appears to fit splendidly with the aims of our profession. The problem is that when we move from theory to practice, from the general to the

specific, the application of the concept of intellectual freedom to everyday life turns out to be controversial, messy, and often unpleasant in the extreme. In several countries, applying Article 19 could—and probably would—mean imprisonment or death. In other countries, it may mean being the recipient of hate mail, finding oneself in the center of a public controversy, or even losing one's job. In order to apply this noble concept to real life, we must bring it down to earth, closer to home.

First, we must ask ourselves what intellectual freedom means to us as individuals and to the librarian profession within our own countries. A global strategy has begun to emerge in the last five or six years, within the International Federation of Library Associations and Institutions (IFLA) through its Committee on Free Access to Information and Freedom of Expression (FAIFE), of which I am proud to be a founding member. A vital piece of that strategy is the FAIFE World Report, consisting of brief descriptions of the intellectual freedom situation in 46 countries (the number is increasing steadily) (2).

If we could enter any one of those 46 countries, or any of the others for which we do not yet have a report, what would we find? I have talked with scores of librarians from dozens of countries, and I suspect strongly that in only a very few countries would we find some kind of national consensus on definitions and a functioning policy regarding intellectual freedom issues. And even in those countries we would find much disagreement and contention. (This is certainly true of my own country, where the American Library Association's Office for Intellectual Freedom has been active, with broad support from the profession, for many years.) In the majority of countries, I think we would find that there has been no discussion at all in professional library circles about intellectual freedom issues.

When talking with librarians on this subject, I am always very clear about my own position: I personally accept freedom of expression and free access to information as basic human rights, and I believe that all librarians should do so. All of us, I believe, should be concerned about abuses and be involved in making things better. But I also make it clear that I recognize the complexity of the problem and that I do not believe there is a single solution, a single set of best practices, for the profession world wide. Nor do I have any illusions that improvements will come quickly or that all problems will ever be solved: I am no romantic idealist.

Above all, I always encourage discussion of these issues, so we might help one another along what is for everyone a difficult path. This discussion requires trust and professionalism. FAIFE, the IFLA committee dealing with access to information and freedom of expression, can and should play a critical role here, but informal relationships among librarians are tremendously important too. And, perhaps most important, I always stress the need for us as individual librarians to examine our own values and beliefs, so we can bring

to our workplaces and our associations well-thought-out views on how to proceed.

Each of us is a member of the community where we live and work, and as librarians I believe we have a special obligation to make our voices heard in our communities on these issues. But exactly how we do this will depend entirely on the society in which we live. As individuals and professionals, we need to explore our thoughts, determine our positions, and take appropriate actions.

These are not easy goals to meet, and most of us need help. In some countries the community of librarians is already active in this area; in others, as I have mentioned, there has been little or no discussion of these issues. Let me turn now to an institution with intellectual freedom at the core of its program, where librarians from many countries meet together and discuss these and other issues central to our profession.

INTELLECTUAL FREEDOM ACTIVITIES AT THE MORTENSON CENTER

Ten years ago the Mortenson Center for International Library Programs was established at the Library of the University of Illinois at Urbana–Champaign (www.library.uiuc.edu/mortenson). As founding director of the Center, and with the help of Susan Schnuer, our assistant director, I developed a program of continuing education for librarians from outside the United States. To date, we have hosted more than 500 librarians from 75 countries at the Center. When they are with us, we call our visitors “Mortenson Associates.”

The Center is superbly located for running a residential program. We are part of a great university with a presence in practically every imaginable discipline, conveniently located on one large campus. The University of Illinois is located in the twin cities of Champaign and Urbana, a community with a population of a little under 100,000 surrounded by corn and soybean fields. At the Mortenson Center we introduce our visiting librarians to life in the middle of America. We show them a major academic institution. They spend time at the offices of the Lincoln Trail Library System, our local library consortium that includes the giant University of Illinois along with tiny public libraries. They visit the Illinois State Library in Springfield and a variety of libraries in Chicago and St. Louis. We take them to a nearby farm, where they learn how this sector of our society lives and works and how its information needs are met (e.g., computers in the tractors help the farmers plant efficiently and computers in the grain elevator offices track world grain markets).

Intellectual freedom and access are at the core of our program because we believe that everyone working in libraries and other information centers needs to deal with these issues. Troubling and unpleasant they may be, but they are also at the heart of what we do. And what better time to think about such things than

when one is far from home, work, and obligations? We have developed some techniques at the Mortenson Center in the course of the last decade to help librarians to think about intellectual freedom and access issues. Our aim is to stimulate thinking about these issues, both broadly and narrowly, theoretically and practically. We do not provide any answers, any formulas, but we do encourage our Associates to read, to listen, to observe, to talk with each other and with us. And above all, we ask them to consider how what they are experiencing might play at home.

Let me describe for you now an intensive, three-week workshop on intellectual freedom and access that we delivered in April 2001 to a group of seven Mortenson Associates, one each from seven countries of Eastern Europe and the former Soviet Union. The workshop incorporated elements we had used before, but for the first time we had three whole weeks to focus on this one topic.

The participants represented training centers providing continuing education for librarians, and the goal of their program was to help them develop new courses or modules for delivery in their countries. Another goal, equally important, was to help them network with one another so they could use each other as resources after returning home (3).

Like most Mortenson Center programs, these three weeks were a rich brew of lectures, tours, and hands-on projects, all conducted informally and with lots of discussion. We wanted to show participants what intellectual freedom and access really mean in America: the broad historical, social, and cultural context and the place of libraries, schools, and other institutions in our society. We wanted them to understand our extremes: the things we Americans accept as given and the things we reject out of hand. And we wanted them to understand what access to information means to us, so they could understand better the challenges to access we experience. We came to know one another very well, and participants felt comfortable speaking frankly about their reactions to what were sometimes shocking experiences for them. The workshop had five components: activities on the University of Illinois campus, tours and meetings in the community, a session at the American Library Association's Office for Intellectual Freedom, my lectures and follow-up exercises, and preparation of presentations.

The University

The group toured the University of Illinois Library, noting features that aid (or hinder) access, such as good signage (or its absence), ramps and wide doorways for wheelchairs, and equipment for visually impaired users. In our superb Library and Information Science Library they were introduced to a wide range of materials on intellectual freedom that they would be able to consult as they developed their own materials for use at home.

They looked at collections in the Women and Gender Studies Library and talked with the librarian about collecting controversial and visually explicit materials for research use. They heard from our Associate University Librarian for Services about meeting the needs of a large and complex academic community. They sat in on a lively discussion among our librarians about the pros and cons of opening the book stacks to undergraduate students.

In our Rare Book and Special Collections Library they learned that we make our treasures as accessible as possible to scholars and other traditional users of such materials, but that we also bring in young users—undergraduates and even school groups—to see and touch these treasures. The group saw a demonstration of the latest technology for serving the needs of disabled members of the University community, an area in which our campus has long been a leader. On our engineering campus they visited the “Virtual Reality Cave,” an experimental laboratory where faculty members from across the disciplines can use advanced technology to present information and ideas in unique and interactive ways.

The Community

Leaving the campus, the group made field trips in our local community and nearby towns. Participants spent half a day with an architect who specializes in building and remodeling public libraries and other community facilities. He showed them a small public library in a nearby farm community and a branch of the Champaign Public Library located in a primarily African American section of the city. They talked with the librarians who work there about how the buildings work for them and their users (what works well and what could be better), and they talked with the architect about his design process, particularly his relationship with the library community as he develops a building plan. One of the libraries we visited adjoins a community center, where the group saw local police presenting a workshop to senior citizens on safety issues.

The group had several encounters with people on the front line of censorship battles in our community. At the main Champaign Public Library and Information Center, the group met with the director and senior staff and heard about “the Madonna incident”—the brouhaha a few years ago when the library bought Madonna’s controversial book entitled *Sex*. The process by which the Library Board of Trustees and the community dealt with what turned out to be an explosive issue reveals a great deal about Americans and their libraries. Our visitors were fascinated (and not a little bewildered), as they were also when they met with a deputy superintendent of the Champaign schools to learn about Internet policies. Champaign is filtering the Internet on school computers. Urbana is not; nor is the University High School, a unit of the University. The librarian of this school explained her school’s Internet use policies and described the course,

required for all students, in which she and fellow teachers deal with various aspects of computer use.

ALA Office for Intellectual Freedom

In Chicago, we spent a full day at the American Library Association's Office for Intellectual Freedom, where staff members had prepared a special program for our group. They described the American library community's approach to intellectual freedom issues and the activities of this Office, explaining in detail how the Office works with librarians around the country who need help dealing with censorship attempts. The director, Judith Krug, described her current efforts, working with other national organizations to lobby against the Children's Internet Protection Act, a law passed by the federal government that mandates Internet filtering (4).

Lectures

Back at the Mortenson Center, I delivered a series of informal, illustrated lectures on the general topic of intellectual freedom and access in its global context and on the two cases I know best, Russia/Soviet Union and the United States of America. I am a Russian specialist by training, and for more than 25 years I have concentrated my research on censorship in imperial Russia and the Soviet Union, but in the last decade, with the collapse of the Soviet Union, I have had to learn more about the state of intellectual freedom in my own country. Colleagues from the successor states and their neighbors in Eastern and Central Europe, knowing my interest in these issues, began asking for my help in adapting American experience in this area to their situations. Like most Americans, I take our freedoms for granted, and I had not realized how complex our own situation is until I began to educate myself about these matters in my own country.

I always start my lecture series for Mortenson Associates by discussing definitions. I read Article 19 aloud and ask my listeners how they feel about it. Has the concept of intellectual freedom been articulated in their countries, and if so, how is it defined? How does this concept fit into their value systems? Is intellectual freedom protected under their countries' laws? If there are such laws, are they enforced? Have their countries signed international human rights treaties?

I ask other questions: What role can, or should, one country play in relation to other countries in the area of intellectual freedom? What role should international organizations play? How much can outsiders really know and understand about another country's culture? Does it matter whether Country A knows anything about Country B? If human rights are being violated in Country B, should Country A and international organizations take action? If so, what kind of action?

I ask them what the “hot button” issues are in their communities. What kinds of unpopular and unpleasant materials would they need to collect in their libraries in order to represent minority points of view on these issues? Many of them have never before contemplated actually putting on the shelves controversial or “trashy” material, and the idea makes them uncomfortable.

I do not expect answers to these questions; indeed, I am surprised when I get them. But I like to see wrinkled brows and thoughtful looks. I like to see people scribbling in their notebooks. I even like to see signs of discomfort, of nervousness. (An Associate a few years ago polished a string of worry beads to a fine sheen during one of my lectures.)

I talk about the concept of “open society” (5) and its tenets: every individual has the right to free expression; every individual has the right to access the expression of others. Government may operate only with the informed consent of the governed; in an open society there must be opposition to censorship; individuals and groups have the right to dissent, the right to voice unpopular and even offensive opinions (often coming from small, unattractive minority groups), and the right to full access to information.

I talk about policies developed (and developing) in Europe, in the United States, and within IFLA for dealing with libraries and access issues and outlining the responsibilities of librarians. I talk a great deal about the Internet, regardless of whether all the countries represented in my audience have broad access to the Internet. If they do not now, they will soon! And I urge librarians to work in their communities, to make their voices heard on behalf of their users, to become active citizens. I tell them that I recognize that their efforts may be limited, often severely, by the political, social, and cultural climate at home. But I tell them times change, circumstances change, governments change; and they should be ready to play their role when a closed society opens. In the last dozen years we have seen numerous examples of this phenomenon, and in those countries librarians are finding their voices. Being an optimist, I assure my listeners that it will happen again, perhaps in their countries.

Then I turn to my two case studies, Russia/Soviet Union and the United States. I usually begin with imperial Russia, which had an openly acknowledged, bureaucratic system of censorship similar to those of other European countries in the 18th and 19th centuries. In this system, censors inspected all printed material, whether produced domestically or imported from abroad. The censors’ job was to protect citizens, especially “the masses,” from dangerous ideas and expressions. The existing social order and reigning royal family must not be portrayed negatively. Citizens of the Russian empire must not be described as barbarians. Pornography and blasphemy must be strictly forbidden.

The Russian censors banned some imported works absolutely; others they permitted for particular audiences seen as reliable (such as doctors, who could be allowed to see medical books with revealing illustrations of the human body); and

still others they permitted only with the excision of specific passages, ranging from a single word to a phrase, sentence, paragraph, or an entire chapter. These excised passages deal mainly with the themes enumerated above. I always show my audiences examples of pages with lines inked out by the censors or scraped off the page with razor blades (6).

After the Bolshevik revolution things changed dramatically, and I describe for my listeners the new system that emerged in the Soviet Union, which I call “omnicensorship.” Now censorship no longer existed officially and openly, while in fact everything was censored and everyone became a censor. There were parallels to the old system: Communism and the Communist Party could not be criticized or questioned; Soviet citizens were not to be portrayed as non-European barbarians; immorality and anti-Soviet blasphemy were not permitted. All works, domestic and imported, were subject to scrutiny; and as time passed and new media were invented—radio, the telephone, film, television, etc.—these were censored as well. (Postal censorship flourished under both regimes.)

Libraries, as repositories for the printed word, had a special role to play in the Soviet system. They were to be up to date, holding only approved publications. Large research libraries were an exception; they were allowed to hold unapproved, “dangerous” literature, but only in special, closed collections where trusted individuals might gain permission to consult particular works. Librarians were to be active disseminators and protectors of Communist Party ideology.

As in imperial times, some foreign works were too dangerous to be permitted to enter the country at all, and some were too dangerous for the masses but might be seen, as mentioned above, by people who could prove themselves to be reliable. And the practice of excision was continued, but now in a much more effective and invisible way, through translation: most Soviet citizens had access to most foreign publications only through Soviet-made translations, which had been rewritten to conform to Soviet norms. I show my audiences some darkly amusing examples of this phenomenon that I found in English-language reference books published in the Soviet Union in the mid-1980s: for example, definitions of “socialism” and “capitalism” in which the original text was replaced by Marxist–Leninist definitions and phrases in a textbook for the study of English that replace dangerous Western concepts (“The two blue cars belong to me”) with safe ones (“The two blue cars belong to the firm”).

In my lecture I describe how omnicensorship affected literature, art, music, science, and certainly libraries and librarians; and I comment on how difficult it is now to change the mentality that this system created and maintained in the course of more than 70 years.

Then I talk about the United States and our very different history. For us, the central concept is the First Amendment to the Constitution, stating that “Congress shall make no law . . . abridging the freedom of speech, or of the

press . . .” Our founders developed what we think of now as a blueprint for an open society: that democracy requires an informed electorate; that majority rule must carry with it the protection of minority views; that citizens of a democracy have responsibilities as well as rights.

Nonetheless, despite this firm foundation, the U.S. system is far from calm and simple. I describe to my listeners the kinds of challenges to free speech that arise constantly in a democracy, coming for the most part not from the top, from the government (although the government must be concerned about national security), but rather from the bottom, from various interest groups. These challenges come from groups formed on the basis of religion, of race and ethnicity, of gender, of various reformist movements (animal rights, antismoking, antialcohol, environmental). The aim of these groups is a familiar one: to protect citizens, especially children, from dangerous, harmful, “wrong” ideas expressed in all media.

What themes concern Americans? Sex, perhaps above all, particularly pornography and its subset, child pornography. Some religious groups are particularly upset about what they consider to be blasphemy; some worry about Satanism and the concept of evolution, which they reject. Many groups are concerned about issues of race and ethnicity. These groups are often active, organizing boycotts and demonstrations, mounting lawsuits, demanding that books be removed from public and school libraries, and sometimes academic libraries as well.

I usually end this lecture by introducing the American Library Association’s “Library Bill of Rights” and the work of the Office for Intellectual Freedom, the American Civil Liberties Union, and other organizations devoted to freedom of expression. I provide lists (growing all the time) of books and web sites on the subject of intellectual freedom and refer Associates to relevant lectures and articles (7).

Preparation of Presentations

After I completed my lectures, Susan Schnuer and I worked with the group, as we usually do, on a series of exercises designed to give them practice in applying the principles of free expression and open access to everyday library life. By this point, at the end of the first two weeks, the participants had a fairly good grounding in the subject, both theoretical and practical. They were ready for the transition from listening, reading, and observing to creating their own material.

We spent an afternoon helping them conceptualize the workshops they would present at home. During the final week of the program they worked with a University of Illinois specialist on the development of a training module and presentation techniques and had some informal help with technology, as needed. They worked as a group and individually, and at the end of the week they made

their presentations, which were very impressive. This concluded the intellectual freedom portion of their program at the Mortenson Center (8). Since the group returned home we have had short email reports from several about their first “real” presentations to colleagues in their countries. We have not had an opportunity to talk with participants in person, but it seems as though the topic was reasonably well received.

A three-week module such as the one described above is ideal, of course. This was a model that I hope we will build on, with groups from other parts of the world. But visitors who stay at the Mortenson Center for more than a day or two are exposed to some elements of the module, and the longer the stay, the more opportunities we have to insert intellectual freedom into their programs.

RECOMMENDATIONS

As director of the Mortenson Center I travel to many librarians’ meetings and conferences around the world, and I give quite a few lectures in different countries on this topic. But while I think this is important and intend to continue, I am also painfully aware of the shortcomings of lectures. To present such difficult matters in a public forum, frequently in a foreign language and thus speaking through an interpreter, most often with minimal or no time and opportunity to discuss the subject with the audience beforehand or afterward, is problematic at best.

When I describe to such an audience the situation in the United States and the kinds of issues we deal with, I closely watch my audience listening intently, fascinated and horrified, and it is clear that the picture I paint is exotic in the extreme. Often I can see their bodies stiffen, shutters come down over their eyes, and their faces grow expressionless. I know the chances are very great that I am being misunderstood, even when I am able to lecture in the language of the audience; and because aspects of this topic are so disagreeable and shocking to many, I know my recommendations must very often be rejected and put out of mind as quickly as possible. When I do have a chance to talk with colleagues after one of these lectures, they often tell me that they have never thought about these issues and that there has never been any discussion about such things in their library associations either. Furthermore, when they realize what open access really means, many have serious doubts about pursuing this path.

As I have lectured and led seminars and workshops over the last few years, I have been developing a list of recommendations for librarians in any country who are ready to be active supporters and proponents of intellectual freedom efforts in their communities. Let me conclude this chapter by presenting them. Fuller discussion of the first four recommendations can be found in a talk I gave in Vilnius, Lithuania, in January 2001, published later in the *IFLA Journal* (9).

Provide Access for Everybody to All Information

This simple little sentence is, of course, immensely difficult to make happen anywhere, and no one has managed to do it in a fully satisfactory way. It is an ideal, something toward which to strive. But there will always be some limitations, and perhaps that is as it should be—any principle taken to its extreme may be unacceptable. But the extreme is a long way from where most countries stand now, and there is plenty of room to improve access before reaching that unacceptable point. Each country needs to examine its own situation; there is no single measure applicable to all.

Present Controversial Materials Actively, Thoughtfully, and Responsibly

When I speak to groups of librarians I always urge them to buy materials for their collections that represent different points of view on important issues. Inevitably some of these materials will be controversial. I recommend strongly working with museums, archives, schools, and other organizations in the community to mount exhibits, present lectures, and find ways to build an appropriate context. Where the context exists already, it may be enough simply to place books or videos on the shelves, but in many cases some kind of proactive measures are necessary. As I point out in my *IFLA Journal* article, controversial and unpopular materials in a library's collection can offer an opportunity to help a community come to terms with painful issues. In the United States, the issue may be slavery; in Russia, the gulag; in Germany, the Third Reich. Every country, without exception, has an uncomfortable past.

Tolerate Diverse Opinions

As an individual, be willing to satisfy yourself with individual action, and resist the temptation to dictate to others. This is my recommendation to librarians as people; it is the same advice I hope everyone might follow. From time to time I must remind myself to follow this advice as well; I am afraid it does not come naturally to us humans, who tend to be judgmental. A particular book or movie or art exhibition may not be “bad” just because I happen not to like it. Throughout my childhood I heard my father, a wise man, admonish me and my sister thus: “Don’t say something is bad—just say I don’t like it.” Or, as the Latin poet and philosopher Lucretius put it, “What food is to one, is to others bitter poison.” As individuals we have the right to our taste. And we can choose not to read that book, or see that movie, or visit that exhibition, regardless of someone else’s choices.

Begin Education Early

No one is too young to understand the concepts of free expression and tolerance, and it is vital to begin teaching them to children as early as possible. I added this recommendation to my list last year, after an experience in Russia that impressed me deeply (10). I realized that some people—perhaps many—believe that these concepts are too complex for children. On the contrary, I believe strongly that children are indeed capable of understanding them and that it is imperative that they be given the opportunity to think about these issues from earliest childhood. I was pleased to learn recently that I am not alone in this belief, and that there are several books on this topic written expressly for children (11).

Develop a Network of Resources

Connect yourself and your institution to other community organizations, including governmental agencies, concerned with access to information. Recently I have found myself growing dissatisfied with the traditional ideal of the librarian as defender and protector of intellectual freedom. The traditional ideal posits a professional, usually in a public or school library but occasionally in academic libraries as well, who must use limited funds to build balanced collections, including unpopular and controversial material, and must contend with challenges from those in the library's community who are unhappy with the results. There is nothing wrong with this ideal, I hasten to say; it is a noble one, and librarians in a number of democracies have been working for years to bring their realities in line with the ideal.

What makes me uneasy is a feeling that in formulating this ideal, we have not gone far enough. We expect librarians to operate mainly within their own environments, each with the institution's governing body on the one hand and its users on the other. In the United States, the American Library Association's Office of Intellectual Freedom works tirelessly to help individual libraries with their problems, and the Office partners with other organizations committed to freedom of expression to fight the good fight, usually in the courtroom. It is wonderful to have such a powerful and effective advocate within our profession.

But I ask myself if even American librarians, with all their advantages, can do what needs to be done. Paul Sturges, a British librarian who has written extensively on this subject, argues that our contribution is limited, mainly iconic: "One of the things the library does do well is to remind people that society regards access to information as an essential feature of a just and decent society" (12). If he is right—and he does argue his point very cogently—then are we to conclude that libraries do not have a more active role to play? Are we there to serve only as a reminder?

I suggest that we look carefully at Sturges' argument and also consider some other recent writing on libraries and democracy, and particularly on civic

librarianship (13). My own strong inclination is to broaden and deepen our ideal, to urge librarians to move beyond their individual institutions, to ally themselves with other institutions at all levels concerned with access to information, and to work within these coalitions to achieve our aims. In some countries this is much easier to do than in others, of course. But librarians in all countries can at least think about these matters and take some steps, however modest, to move forward.

Work with FAIFE

The IFLA Committee on Free Access to Information and Freedom of Expression (FAIFE) is our organization, committed to promoting access to information and freedom of expression throughout libraries worldwide. At the beginning of this chapter I noted that only 46 countries are represented in the FAIFE World Report. (I am sure that by the time this volume is published, that number will be higher.) Wherever we are, we need to know what is happening in libraries in as many countries as possible (14).

Nor are libraries well represented in other compilations where we might expect them to be present. For instance, each issue of *Index on Censorship* includes a section called "Index Index" that lists countries in alphabetical order where instances of censorship-related activity have taken place since the last issue. A typical issue includes approximately 70 countries; the entire list numbers more than 140. "Index Index" incorporates information from more than 20 monitoring organizations around the world.

I examined "Index Index" in a few recent issues and found that most items dealt with freedom of expression issues (the press, electronic and print; free speech; religion); threats to journalists; the Internet; pornography; interpretations of history; and government corruption. In most issues libraries were mentioned not at all, or rarely; yet we know that in many of these countries there are problems with libraries. We need to do a better job of monitoring and reporting and making ourselves visible.

CONCLUSION

I began this chapter by asking what we librarians are to do about intellectual freedom. Some people say that full intellectual freedom is a beautiful but unattainable dream and that librarians, no matter how brave, resourceful, and creative they may be, cannot resolve these difficult issues. My response is this: I agree that no society can hope to attain full intellectual freedom; to claim that we could is to deny human nature and political, social, and cultural realities. But we must do something, and indeed we are already doing something; not enough, but a beginning. I believe that as a profession, we librarians need to put our own house in order. We must face up to our responsibilities and be active advocates

for intellectual freedom within the bounds of what is possible in our countries. At the same time we need to make alliances with individuals and groups on all levels that share our values, with legislators within our communities and countries, with other organizations internationally. Our strength will come from numbers and from coalitions; together we may accomplish some ends of which we can be proud.

ENDNOTES AND REFERENCES

1. Universal Declaration of Human Rights, approved by the United Nations on December 10, 1948.
2. For information about FAIFE and the World Report, see www.faiife.dk
3. This six-week workshop was funded by a grant from the Open Society Institute's Network Library Program. After completing the intellectual freedom module the group spent three weeks working through a second module, on management issues.
4. See www.ala.org/alaorg/oif/
5. Popper KR. *The Open Society and Its Enemies*. Vol. 1–2. Princeton, NJ: Princeton University Press, 1971.
6. Described and illustrated in MT Choldin. *A Fence Around the Empire: Russian Censorship of Western Ideas Under the Tsars*. Durham, NC: Duke University Press, 1985.
7. To access these lists from the Mortenson Center web site, press the link to *resources*. I refer Associates to the lectures and articles listed on the FAIFE web site as well as to others that come to my attention.
8. Presentation topics included a general overview of intellectual freedom issues: e.g., barriers to access, legal issues, Internet and filtering, the importance of policies; confidentiality.
9. Choldin MT. What every librarian should know about intellectual freedom: a personal view. *IFLA Journal* 2001; 27(3):152–158.
10. *Ibid.* p. 157.
11. Thanks to my colleague Barbara Jones for bringing the following books to my attention: Fisher DC, Bendick J. *A Fair World for All*. New York: McGraw-Hill, 1952; Stand Up for Your Rights: A Peace Child International Project Celebrating 50 Years of Human Rights. Chicago: World Book, 1998; Rocha R, Roth O. *The Universal Declaration of Human Rights: An Adaptation for Children*. New York: United Nations, 2000; *Our World, Our Rights: Teaching about Rights and Responsibilities in the Primary School*. New York: Amnesty International USA, 2000.
12. Sturges P. The library and freedom of information: agent or icon? *Alexandria* 13(1):14.
13. See Kranich N, ed. *Libraries and Democracy: The Cornerstones of Liberty*. Chicago: American Library Association, 2001; McCabe RB. *Civic Librarianship: Renewing the Social Mission of the Public Library*. Lanham, MD: Scarecrow Press, 2001.
14. Contact information can be found at the FAIFE web site (www.faiife.dk).

Globalization in the Lives of the Selectors of Foreign Materials and Their Collections

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Globalization is affecting both societies at large and the lives of librarians, especially selectors of foreign materials. According to one definition, *globalization* is “the accelerating process that involves the formation of complex power and communication relations worldwide between societies, cultures, institutions and individuals. One of the most important features of this process is the transformation of time and space constraints” (1). Globalization is multi-directional, meaning not only increased Western influence but also intensified influence in the other direction as the cultural products of subaltern countries find more avenues for foreign exposure. Implicit in the globalization of librarianship is the contrast to an earlier time when we worked in relative isolation and autonomy. To capture this prelapsarian state for collection development librarians, consider the now rare full-time bibliographer for foreign materials.

The bibliographer model made sense in an environment where bibliographic control of the needed publications was labor intensive and made extraordinary demands in terms of special skills and knowledge. Bibliographers had to discover publications through detailed attention to serially published national bibliographies, publisher and vendor catalogs, book reviews for current works, and specialized scholarly bibliographies and printed library catalogs for

retrospective collecting. They complemented these tools with gifts and exchanges to a greater or lesser degree, depending on their geographical focus. Like the other tools, these required the attention, knowledge, and languages of the bibliographer to be effective (2). Today's selector of foreign materials is likely to work more collaboratively within the immediate library environment, spending as much time in reference, instruction, and departmental outreach as in traditionally defined collection development (3). Enhanced online bibliographic access and email enable the selector to continue performing collection development functions while spending less time on them. Technology and new organizational options broaden the selector's horizons domestically and internationally. This chapter examines how the new environment has changed the lives of selectors of foreign materials.

AREAS OF CHANGE

Gifts and Exchanges

Gifts were in many older libraries the original source of new collections and remained the dominant one even into this century (4). Donors, and especially scholarly collectors, often assemble valuable collections of foreign books and periodicals in their specialties that can fill gaps in the holdings of even major libraries or provide them with needed second copies of circulating books. Gifts are also helpful when the collecting area is a new, previously neglected geographic or thematic focus for the library and the materials are out of print. Time spent with donors, while burdensome, may reap future benefits for community relations and fundraising. Of course, even unconditional gifts come with costs for checking against one's holdings (is your retrospective conversion complete, or must you consult the card catalog in the case of older gifts?), assessing the brittleness of publications and possible need for repair, and finally cataloging. These costs are especially significant for foreign language materials. You may need to give special attention to the cost of processing: Is there catalog copy in RLIN or OCLC? Does the work's scarcity counterbalance the poor quality or condition of the paper on which it is printed?

Exchanges are another traditional method that has been of great value for foreign acquisitions. Over two-thirds of the exchanges of academic libraries in the United States in 1977 were with foreign institutions (5). Institutions that can acquire local publications at a special discount may use exchanges to acquire materials more cheaply than they could otherwise. The publications of nonmarket countries such as those in the former Soviet bloc often had very short print runs or posed obstacles to hard currency transactions, so that firm ordering was not an option and preliminary or comprehensive selection by the exchange partner was the only good solution. Exchanges with the former Soviet bloc might supply

materials that the East European partner selected based on an interest profile (“blanket exchange”) or those selected by the Western partner from “offered lists.” Calculations of price also varied, with the title-for-title system being favored in the East and a “priced exchange” typically requiring three or four poorly produced Eastern publications for each one from the West (6).

Many question the continuing utility of gifts and exchanges. Selectors must often decide, based on limited impressions, whether a large gift collection contains enough new items to justify processing it and consequently may decline to accept it or eventually pass it on to another library if the colleague there assesses the cost/benefit relationship differently. Economic trends have undermined the popularity of exchanges with the former Soviet bloc. On the Western side, libraries are more likely to have to pay list price for their institution’s publications due to the general trend toward cost recovery in academe, thus raising the cost of exchanges, while on the Eastern side the depository system that made exchange copies cheaply available to institutes and libraries has broken down. After a period of regrouping, some Western-style vendors have emerged in Eastern Europe, thereby reducing the need for exchanges. Offered list exchanges with the region are still favored by some Western libraries, but there is a widespread view that exchanges are hard to justify today and they are seen to be beneficial primarily for the good will and institutional ties that they foster (7). The trend within ARL libraries is to reduce the staffing available for exchanges and to reevaluate their continued utility in financial terms (8).

Library exchanges may survive in part due to professional altruism. The same motive is present also in libraries’ distribution of their unneeded materials. Library book sales have been one means that is popular in local communities, but libraries may decide the time and effort do not justify the benefit.

Email lists have emerged as a valuable means of redistributing unwanted gift and exchange materials. The vendor Swets Blackwell hosts a list called *Backserv* (lists.swetsblackwell.com/mailman/listinfo/backserv) that is “devoted exclusively to the informal exchange of serial back issues and books among libraries.” Subscribers send messages with their want lists or offerings and can browse or search previous messages in the publicly accessible web logs. While *Backserv* tends to offer primarily serials and to a lesser extent books in English, lists for area studies librarians are more useful for foreign language material. For instance, librarians on *Slavlibs* for Slavic and East European studies and *German-E* for German studies commonly post lists of material available for free or the cost of postage, which is typically claimed by colleagues in very short order. It seems that only American librarians participate in this practice, however. European librarians presumably prefer to save duplicate publications for exchanges or donation within their own countries.

Finally, another altruistic use of unneeded materials is their contribution to development aid shipments. The Sabre Foundation (www.sabre.org/BOOKS.html)

facilitates “large-scale distribution of in-kind donations of new books and other educational materials” working through partner organizations in the former Soviet Union, Eastern Europe, Africa, and other areas. An example of a more regionally focused organization is the Global Literacy Project (www.glpinc.org/), which sends materials through its Books for Africa and the Caribbean project. Institutional collaboration between universities may include library assistance, including the disposition of unneeded gifts. But these gifts should not become a burden for the target country. What sorts of materials are most needed, and which are not? In the case of relationships between two institutions, a profile of desirable material can be established for use when selecting from among the unneeded gifts.

Vendors and Approval Plans

Most foreign acquisitions occur not through gifts and exchanges but through vendors. Many countries have excellent bibliographic control, and the selector could in theory go directly to the publisher. The annually printed books in print publications of Great Britain, France, Germany, and Italy are excellent, and that of Germany even complemented to a large degree, by a free Internet database available at www.buchhandel.de. Still, dealing through vendors is generally far more efficient and even preferred by the publishers. The major North American vendors’ labor-saving services are the gold standard for other vendors. For each country in Western Europe, one or two vendors tend to provide one-stop shopping through online databases of their inventories, distribution of bibliographic slips, the supply of MARC records to bibliographic utilities, and approval plans. The most important of these are Aux Amateurs des Livres and Touzot for France, Harrassowitz and Brockhaus for German, Casalini for Italy, Almqvist & Wiksell for Sweden, and Puvill Libros and Iberbook for Spain. Vendor records in OCLC enable the selector to take advantage of the search capabilities of the database to locate new materials, complete with pricing. The most advanced vendors even provide EDI interfaces with integrated library systems for electronic ordering and the direct supply of catalog records with the order. It is fortunate for our multitasking selectors that this region accounts for the bulk of foreign acquisitions in American libraries.

Other regions of the world pose greater challenges. Comprehensive books in print publications are generally not available for other countries, and unsatisfactory application of national depository legislation tends to frustrate national libraries’ efforts to assemble national bibliographies. Many countries do publish national bibliographies in serial form, and that of Hungary even has an online version at www.oszk.hu/mnbkb/index-en.html, but limited print runs make it difficult to rely on these bibliographies for purposes of selection. The books in print publication for Latin American countries (9) makes an attempt at comprehensiveness despite the lack of systematic bibliographic cooperation, but

it appears with considerable delay. The Latin American selector who wishes to avoid substantial vendor markup must rely upon a different major vendor for each Latin American country and the printed catalogs or approval plans distributed by each. Bibliographic control and distribution are even more problematic for Africa. Exchanges and vendor offerings are important, though far from ideal. Since 1985 there has existed an organized single source for English language publications of over 60 nongovernment publishers in Africa, the African Books Collective (www.africanbookscollective.com), based in the United Kingdom.

East Asian materials are typically collected by separate departments within American academic libraries, and they tend to rely on firm ordering from vendors' catalogs. South and West Asian publications in English are offered to a growing degree by North American vendors through their approval plans and firm orders. Oxford University Press in particular publishes many scholarly books over its Indian imprint. Larger research libraries often acquire materials in the indigenous languages through the Public Law 480 (PL-480) of the Library of Congress. Since 1998 participating American libraries must pay for the materials instead of receiving them for free as previously (10).

Overextended selectors are relying increasingly upon approval plans for the selection of materials from countries for which they lack sufficient time or language or subject expertise to make individual selections for firm ordering. Most approval plans are offered by vendors. A related phenomenon, though technically not an approval plan, is the buying plan. A notable example of this model is SACAP, the South Asian Cooperative Acquisitions Program, managed by the Library of Congress. Library participants have a relatively modest range of profile choices, but can use them to acquire material in English or indigenous languages that is unavailable through Western vendors. With a well-designed and conscientiously applied profile, the library receives a good selection of needed books and the selector's time is available for other duties. Several considerations are important in ensuring the effectiveness of this solution. Is the approval plan funded at a level at which a representative or comprehensive selection may be made in the profiled categories, or would it be more realistic to target only specific authors or still narrower categories? Are many libraries using the same vendors and profiles and building rather similar, rather than diverse, collections? Is the profile sufficiently clear to preclude the selector having to spend considerable time monitoring the shipments? Selection by approval plan is one of the most widespread and generally accepted forms of outsourcing in academic libraries, but it must always be viewed critically.

International Book Fairs

Gifts, exchanges, and approval plans all have their disadvantages as methods for the acquisition of foreign materials. International book fairs provide an

opportunity for the selector to make the acquaintance of unfamiliar vendors and publishers who do not make the trip to the American Library Association meeting or mail their catalogs to American libraries. Far more than in the case of visits with vendors, when you sit down at the booth of a publisher you can not only pick up a catalog or examine individual books to get an idea of what kinds of books are offered in terms of content and physical quality, but also discuss the house's publishing program and philosophy.

The largest and most important of the international book fairs is the Frankfurt Book Fair (www.frankfurt-book-fair.com/). Frankfurt am Main ceded its position in German bookselling and publishing to Leipzig during much of the early modern and modern period, but then regained it after 1948. Close to 7000 exhibitors come to the fair each October, roughly half of them German publishers as well as a wide range of publishers from most other countries of the world. Frankfurt's main function is to provide a forum for publishers to negotiate the rights for the republication of works. Thus librarians are a minority of the annual 250,000 visitors, and the sale of books at the fair is discouraged, though some buying is possible on the last day. Librarians do have a point of congregation in ICICOM (International Centre for Information and Content Management), formerly known as IBLC (International Booksellers and Librarians Centre), which has featured a miniconference on librarianship since 1999. The fair management has shown a growing willingness to accommodate their librarian visitors (11). Less than half of the length of the fair each year is for the general public, and the rest for book professionals of various kinds. Frankfurt is the best destination for selectors with a broad range of geographic responsibilities since they are sure to find significant numbers of publishers from each continent and collective booths with sections for the smaller publishers of a country (12).

Guadalajara is the site of the annual FERIA Internacional del Libro (FIL; www.fil.com.mx/). This is the largest fair for Latin American countries, with over 1258 exhibitors in November–December 2001 and even larger than Frankfurt in terms of visitors, with 386,000 in that year. As the numbers would suggest, this fair is less about negotiation among the publishers and more about welcoming readers, including librarians. The ALA has a large presence at Guadalajara, to which it has been subsidizing member travel since 1997. A special feature of the FIL, according to its web site, is the *Salón del Libro*, which was “created with the goal of facilitating for all FIL attendees the selection, acquisition, and collecting of materials in Spanish.”

The Zimbabwe International Book Fair (ZIBF; www.zibf.org/), is the largest fair in Africa, meeting each year in August. This is a much smaller fair than the others in terms of exhibitors and attendees, though due to the challenges of bibliographic control and distribution in Africa it is correspondingly more important for the selector of African materials. For the second year in 2000, the

ALA offered travel discounts for member librarians to the ZIBF. A miniconference on African publishing and an exchange of views with members of the Zimbabwe Library Association were included in the program.

Specialists in a particular country can learn much about its book culture and literary scene by attending a country-specific fair. The Leipzig Book Fair every March is less than half the size of the Frankfurt fair, but has many readings and panel discussions with authors, and the Salon du Livre, the same month in Paris, has a similar function for France. Country specialists will find the fairs of countries with less sophisticated book distribution networks especially useful. The website of the Frankfurt fair includes an international calendar of fairs with links to their sites.

The Resource Sharing Imperative

The consensus in American librarianship in favor of resource sharing is of long standing. Interlibrary loan was facilitated and steadily expanded after the publication of the 754-volume *National Union Catalog, Pre-1956 Imprints* (13) from 1968–1981 and the launching of the OCLC and RILIN bibliographic utilities in the 1970s. The increase in libraries' use of interlibrary loan and document delivery has been most dramatic in recent years (14), however, due to a combination of technological innovation and economic factors. The use of personal computers by library users came to be nearly universal—and supported by libraries—in the past decade as OCLC and RLG launched public interfaces (*WorldCat* and *Eureka*) for their bibliographic utilities and the use of the Internet and World Wide Web exploded. Patron-initiated borrowing in *WorldCat* and among multiple repositories of a library system facilitated resource sharing by reducing staff costs. We must attribute their increasing role in library services not primarily to technological innovation, but to economic causes. The price of serial and monographic publications rose faster than other unit costs, so libraries decided that borrowing was more cost effective.

At what point, however, will the reliance on other libraries' purchases mean that some materials are simply unavailable? Foreign publications, being less frequently used than domestic ones, are the ones most likely to be excluded by the above cost/benefit analysis. Foreign language approval plans can accentuate this tendency because the one or two vendors that supply each country's publications for the entire North American library market, making similar selections for their clients based on similar profiles, may supply similar materials to many libraries while excluding less-demanded material from their shipments.

The resource sharing imperative has strengthened institutional backing for library consortia. Consortial collection development has been most impressive in the area of database licensing. Commercially available databases tend, on the

other hand, to be North American in provenance and not contain foreign language material. The full text databases of Chadwyck-Healey/ProQuest constitute the most substantial exception to this rule; some of them have been leased or acquired consorcially, but their relatively specialized nature makes collaboration among conventional consortia, embracing entire institutions, less likely. Vendors outside North America are relatively unfamiliar with the American library practices, hence may design licensing agreements or access strategies with which library customers are uncomfortable. For instance, some university legal departments have raised objections to the license terms offered by the Belgian vendor Brepols. It may be necessary to depart from standard procedures in order to make foreign databases available to our users. An exciting example is the German reference database *xipolis.net*, consisting of the searchable full text of 25 reference books, which is available to members of the special-purpose German Resources Project consortium at six levels of usage, based on the number of retrieved articles. Subscribing libraries make their payments to an account at the Association of Research Libraries.

Consortial resource sharing is also growing in importance for print materials. Interlibrary loan operates on the basis of formal/informal preferred borrower/lender relationships. For members of the RLG, the *Shares* interlending consortium is extremely important for the procurement of foreign material. A recent discussion among history selectors about cooperative collection development (15) highlighted the growing importance of direct borrowing schemes among libraries sharing a distributed search interface and patron request function: OhioLINK, CIC, BorrowDirect, PALCI, and others. They are faster and less expensive than conventional interlibrary loan due to reduced staff intermediation. As their popularity and use increase, it is likely that formal cooperative collection development for conventional materials will take root, as it has to a limited extent in OhioLINK and the Research Triangle.

Central repositories and digitization represent options for resource sharing of foreign materials that appear likely to grow in importance. The principal central repository in North America, the Center for Resource Libraries, collects research materials of interest to its members, including foreign dissertations and newspapers and large microform sets. The CRL has accelerated the bibliographic access to its collections and reports a dramatic increase in lending as a result. Digitization also holds promise, though the presumption of relatively moderate use tends to inhibit libraries' investment in the digitization of foreign language materials for public access. Special purpose consortia may hold great potential for digitization as well. A noteworthy example is the Digital South Asia Library (dsal.uchicago.edu/) associated with CRL, which is principally the work of Columbia University and the University of Chicago, digitized a large collection of images, maps, reference works, bibliographies, indexes, and other books and journals.

GLOBAL COLLECTING ENVIRONMENTS

Three major models of collection development have been evolving around the world: in North America, in Europe and in other developed countries, and in lesser developed countries. While publishing and communication are spanning the globe, it remains to be seen whether functional interaction between these library worlds will become a reality.

1. North American readers of this article are familiar with a model that assigns a crucial role to the centralized bibliographic utilities OCLC and RLIN for cataloging and interlibrary loan. Costs of interlibrary loan are frequently born by participating libraries rather than passed on to end users. Cooperative collection development in print materials is de facto rather than explicitly coordinated. The economies associated with the use of bibliographic utilities in labor and resource sharing come with significant costs to institutions.
2. The second model makes increasing but much less widespread use of copy cataloging. The North American bibliographic utilities have growing membership for this reason and are beginning to be used more for cataloging, but much less for interlibrary loan. Much copy cataloging occurs through publicly accessible catalogs or regional networks in one's own country. The presumption that major research libraries will provide indexing of journals (sometimes called analytical catalogs) survives in part of the second world. Non-Roman character sets and data formats have hindered library collaboration with North America. However, RLIN support for non-Roman cataloging in MARC and a movement toward MARC in many countries are changing this (16). Some countries (17) have some form of centrally funded component of cooperative collection development in specialized areas, like the Special Collecting Areas system in Germany, while others rely to a greater degree than does North America on central repositories (18). Interlibrary loan expenses are more commonly passed on to end users, however, and constitute a proportionately smaller component of library services.
3. In other countries there is far less access to online bibliographic services. Catalogers' labor is relatively inexpensive and is used for the processing of most of the material, perhaps with the use of national bibliographies, cards, or CIP. Interlibrary loan is slow, burdensome, unreliable, and expensive. Where there is a substantial domestic publishing industry libraries can supply at least basic needs, but even this cannot be said of libraries in Africa (19). Online solutions are made difficult in the poorest countries of Africa and other regions by limitations of Internet connectivity, which has long made CD-ROMs

the preferred mode of electronic delivery (20). Development aid for African online scholarly publishing and scholarly networking seeks to address these problems (21).

It is tempting to conclude that interlibrary development is conditioned by the progressive adoption of the North American model. Indeed, there is a strong American tradition of library advocacy that can be said to have something of a missionary character; although a recent survey of this activity (22) suggests "For many, American involvement in assisting international understanding and peace through the sharing of professional ideas in librarianship has appeared to have passed its zenith." The authors go on to add that "Large-scale efforts, supported by the American government, the library professional associations, and the philanthropic and corporate foundations throughout the last half-century, have had their effect." There may be an emerging library world order, but there is also an awareness among library development advocates of the need for comparative knowledge and an attention to local cultural, social, and institutional particularities (23).

CONCLUSION: THE LIMITS OF GLOBALIZATION

Is "universal access to publications," as postulated by the IFLA program with this name, a realistic goal? Photocopy, fax, and RLIN's Ariel technology have brought it closer for articles, but books are another matter. Anna Perault (24) cites the very incomplete coverage of international publishing in North American collections to argue that resource sharing of print publications should be conceived across continents rather than just within one's own. In contrast to the inevitable incompleteness of foreign collections, individual countries usually have library systems aimed at complete bibliographic control and collecting. However, international lending of "returnables" (physical objects) is likely to remain rare for the foreseeable future.

Inequalities in economic and technological development mean that cultural influence in the process of globalization flows more strongly from the developed countries than toward them. Harold Billings (25) writes: "Only faintly brushing the academic library of 2013 will be the invasion of Third World research, scholarship, and publishing, but that world as market and provider will develop rapidly in the years following." Collection developers in the first and second world will benefit from technical and organizational innovations, but fight a rear guard action to defend traditional methods of acquisition to the cultural products of other parts of the world.

Anglo-American exposure to foreign culture is of course facilitated by the growing use of English in the media, including scholarly publishing. Translation into English may be increasing, although from a relatively low base: "According

to Index Translatorium, the UNESCO-based international bibliography of translation, literature in translation represents only about 3% of the Anglo-American book market, while in some countries statistics show that the percentage is close to 30–40%” (26). Librarians in smaller countries, while frequently advocates of Western professional models, express concern for the preservation of national culture against globalizing trends. A librarian in Hungary cites studies showing the invasion of Western best sellers into Hungarian reading habits and library use, while the Director of Moldova’s National Library, a committed reformer, insists that the library role of cultural guardian survive the process of modernization (27). What will emerging regulations of GATT, the General Agreement on Tariffs and Trade, mean in this context? Some publishers and librarians wonder if the autonomy of cultural institutions, including libraries, may be threatened under the guise of protecting measures for free trade in cultural products.

Globalization brings a new world for library collection development, with new benefits, persisting challenges, and new concerns. Exploration and expanded collaboration are not an option, but a necessity.

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Toward the Global Digital Library: Information and International Development

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INTRODUCTION

The digital library is in some ways the very embodiment of the ideal of global librarianship. The “library without walls,” the “virtual library”—however it is termed, this concept represents a vision of the library extending beyond the physical boundaries of its building and reaching out to the world at large. *Access* is the key to the digital library, the buzzword that has prompted many institutions to finance costly initiatives to convert their holdings to electronic form and make them available to the world. At a time when communications are improving globally to the extent that access at last becomes a reality to those in the developing world, the possibility of a truly global digital library is beginning to take shape. How close are we to this ideal?

WHAT IS A DIGITAL LIBRARY?

A relatively unknown phrase some 10 years ago, this is now one of the most commonly used (some would say overused) terms in librarianship.

William Saffady, in a seminal article in 1995 (1), characterized a digital library as

... a library that maintains all, or a substantial part, of its collection in computer-processible form as an alternative, supplement, or complement to the conventional printed and microfilm materials that currently dominate library collections.

This is not really sufficient to indicate what makes such holdings a *library*, as opposed to a mere set of machine-readable files. Almost any collection of images scanned by a library and mounted on the internet seems to be called a “digital library” these days. Such a collection, however, is no more a true library than a collection of random pages torn from a pile of books. The age-old skills that librarians have practised for centuries have to come into play before such a collection can be truly termed a library.

What is it that librarians do and have always done? Shirley Baker, the Dean of University Libraries at Washington University, put it succinctly in a paper on the future of libraries (2): “Librarians do four things: we select and acquire, we classify, we provide equitable access, and we preserve.” All of these are vital functions of any digital library, and traditional library skills are required to affect them.

Select and Acquire

Selection is one of the key skills of the librarian and is just as important to the digital library as its traditional counterpart. Digitization is an expensive process (usually underestimated in terms of cost), and the selection of materials for the digital library is a role for librarians which is often neglected in their construction. Collections have to be seen as a whole, and a coherent strategy needs to govern their acquisition and development before they can be considered a digital library.

Classify

One of the major failings of many digital library projects is the poor level of bibliographic description: it often seems that there is an assumption at work that the basic principles of bibliography do not apply in the digital medium. Very few of the thousands of multimedia databases on the internet apply even the most basic standards of controlled vocabulary or name authorities, and few make any attempt to relate to established standards, such as MARC, which would allow them to interact with traditional holdings. This area of traditional activity is key to a successful digital library, and no collection which does not adhere to basic bibliographic standards can honestly call itself a library.

Provide Equitable Access

A further key role of any library is to provide access to users to whom, in normal circumstances, the content of its collections would be unavailable. Putting material on the Internet is not enough by itself: how it is mounted, whom it is aimed at, how its presence is made known, and how easily it can be retrieved are important.

Preserve

Librarians have always been the traditional custodians of materials across generations. This is a role which has often been sorely neglected in the digital age, with the consequent loss, either physically or through obsolescence of software or media, of much valuable material. A digital library needs to undertake the same preservation function as its more traditional cousins, including the preservation of metadata.

It must not be assumed that the librarian's traditional skills are in themselves adequate to manage a successful digital library. The electronic environment is very different in some respects. Much of the former face-to-face interaction that made up the working life of a traditional librarian (including the "reference interview") has now been replaced by working with users at an electronic remove. The pace of change is much faster and needs to be accommodated into the planning of library operations. The digital library is also by its very nature more global in its outlook: it has to operate with an eye on the wider world; it has to collaborate with external projects; and it has to be designed from the outset as a component in a system with much wider boundaries than its own immediate environment.

It is this global facet of the digital library that presents some of its greatest challenges, but also offers its greatest potential rewards.

THE DIGITAL LIBRARY: A CURRENT STATUS REPORT

The digital library is undoubtedly the most high profile development to have occurred within the profession over the last decade. It was the Internet that acted as the catalyst for the digital library and made the potential of digitization technology to increase access realizable to a degree unimaginable before. Today what could reasonably be called digital library projects can be numbered in the thousands, if not tens of thousands. In terms of quantity, at least, the global information resource has never been richer.

Electronic Texts

Electronic text archives are one of the longest-established forms of the digital library and still represent perhaps the most valuable form of electronic resource

for the global academic community (3). Technically, they are also one of the most easily shared on a world wide scale, as their file sizes are so much smaller than their multimedia equivalents.

Some of the longest-established electronic text archives, such as the *Oxford Text Archive* (4), go back 25 years, and are growing faster than ever to cope with the rising number of texts which are “born electronically.” The material held in e-text archives, as they are often called, tends to fall into two camps: those which are essentially electronic editions of preexisting or newly written works and language corpora, which aim to collect large bodies of spoken and written material for linguistic analysis.

E-text archives were some of the pioneering projects in the development of the mark-up languages which are needed to encode texts for the electronic environment. Most e-texts are marked up in either SGML (Standard Generalized Markup Language) or its successor, XML (eXtensible Markup Language), which, as will be seen later, have enormous potential for melding individual digital library projects into a global unit.

One key application of SGML/XML, the Text Encoding Initiative (TEI) (5), had become established as the de facto medium for encoding and exchanging electronic texts and is employed by most e-text repositories worldwide. The widespread adoption of TEI has brought to the world of e-texts a degree of standardization analogous to that made possible in the world of library catalogs by the advent of the MARC standard in the 1960s.

The key benefit brought by the adoption of a common mark-up medium is the ability to interchange texts. Texts can be consolidated into interinstitutional virtual archives and searched simultaneously. The bibliographic elements which are common to all TEI-encoded documents allow e-texts to be described in a consistent manner, and so render them more readily retrievable by users. The fact that these elements within the TEI are designed to map to their corresponding fields in the MARC record means that catalogs of electronic texts can be searched simultaneously with those listing the contents of more traditional media. The adoption of a common standard such as TEI renders the electronic text inherently more global and enhances its accessibility. The lessons learned from this experience have much to teach the newer types of digital library which have since arrived on the scene.

Image Archives

For many people, the term digital library is synonymous with an image archive (6). Digital imaging technology has become cheaper and easier over the last 10 years; the costs of storage have fallen substantially, and bandwidth has increased sufficiently to make the transfer of large image files feasible over large distances. All of these factors together have precipitated the growth in these archives.

The advantages of producing digital surrogates of library materials present compelling reasons for the substantial expenditure of effort (and money) necessary for the creation of a digital library. Immediate access to these materials without the constraints of physical proximity to their places of storage is one of the most obvious. For some classes of materials, the tractability of the digital images is of great value, e.g., often damaged material can be restored virtually to allow faded or otherwise hidden texts to be revealed once more.

A final, although still somewhat controversial, feature of the digitization process is its preservation and archival function. Many still feel uneasy at entrusting a preservation role to digital media, as they do not, of course, have the proven track record of their older counterparts (such as microfilm) as a reliable long-term storage medium. However, this issue has been addressed by the profession in recent years, and much valuable work (such as the UK's CEDARS project (7)) has gone into mapping out the groundwork for a coherent preservation strategy for digital media. It is certainly becoming increasingly viable to regard digitization as an archival process.

The range of material covered by image archives is immense, ranging from rare and precious manuscripts and papyri to heavily used material on undergraduate reading lists. A glance at a few major projects reveals something of their variety and the benefits they bring to libraries and readers.

At one end of the spectrum are projects which digitize fragile materials with the aim of increasing access to their content and also preserving the originals; the latter aim they fulfill by producing high quality surrogates which satisfy the needs of most researchers and so reduce handling of the original objects. This was the rationale behind Oxford University's Early Manuscripts at Oxford University project (8), which produced high-resolution scans of fragile medieval manuscripts from a number of Oxford libraries.

Another project dealing with medieval materials is the DIAMM (Digital Image Archive of Medieval Music) archive (9). In the words of its web site, this project aims "to enhance images of fragmentary British manuscripts of medieval polyphonic music, a rich and neglected repertory that survives mainly in fragmentary and often barely legible sources," and to preserve its images for posterity. Much of the rationale behind this project was to allow the "virtual restoration" of this precious material, by using imaging software to edit images of faded or damaged material and so make long invisible texts legible again. This technique has been used to recover some formerly lost pieces of music which have since been restored to the repertoire. A description of the process of virtual restoration may be found on the project's web site.

As source materials become more modern, access rather than preservation becomes the primary rationale behind imaging projects. Much valuable material from the 18th and 19th centuries, for instance, exists in multiple copies and is by no means fragile, but it can gain enormously in use by easier means of access.

Some projects are now converting substantial runs of material from this period with this express aim; for example, the Internet Library of Early Journals (ILEJ) project (10), based at four UK universities, digitized 20-year runs of six journal titles from this period. The JSTOR (11) project has similar aims but works on a much larger scale and now includes over 120 journals, from the 17th century onward.

At the other end of the spectrum from medieval or earlier manuscripts are relatively ephemeral items which are digitized with the sole purpose of access. These may include heavily used course materials (which would form the basis of short-loan collections in the traditional library), examination papers, and publications produced by the libraries themselves (such as electronic versions of user guides). Such projects are usually focused very closely on their parent libraries' users and their needs and are rarely intended (often for licensing reasons) as resources for the worldwide community of users.

Video and Audio

Technical reasons (particularly limited bandwidth) have inevitably ensured that the growth of digital libraries of video and audio material have somewhat trailed behind those of texts and still images, but recent technical advances have made these materials more viable for remote delivery.

Many sites on the Internet do, of course, provide digitized versions of video and audio files for downloading and remote viewing, often using streaming formats such as RealVideo. Very few, however, can yet make these resources available in a quality to match even the relatively low-resolution standards of VHS video. In most cases, users of these sites are happy enough to watch material such as film trailers in a small window on their desktop, but serious academic research requires higher standards than this.

One of the first major libraries to put up a substantial volume of video material on the Internet was the Library of Congress. As part of its American Memory Project (12), it has digitized large amounts of very early film footage, much of it from the Library's collection of contact prints made from original, now lost, film stock. This is a unique resource, although viewing these clips can be hard work as they are usually presented at low resolution and cannot be viewed in windows larger than 2.5×5 cm in size.

Technology has improved much since this project began, and VHS quality full-screen material can now readily be streamed over the Internet. In the UK, the primary initiative using this technology is the Educational Media Online project (13), which is creating an extensive archive of video material for delivery to the higher and further education community.

Bandwidth is not so critical where audio files are concerned, particularly given the advent of the highly compressed MP3 format, which provides almost

CD quality sound in relatively small file sizes. Sound archives have been made available on the Internet for some time; the American Memory Project, for instance, has digitized a rich collection of historical material in RealAudio and wav formats, and other key archives are beginning to make their material available in this way. Copyright problems abound in this area, however, and only a relatively small proportion of the corpus of available sound material is out of copyright; as is the case for video, these constraints are likely to impede progress for many years to come.

THE GLOBAL LIBRARY AND THE DIGITAL LIBRARY WITHIN IT

Access is the keyword to the digital library and it is through its potential for increasing access that it can make the greatest contribution to rendering the global library a reality. The end of the necessary physical linkage between an item and those who consult it allows global access to information in a way that has never been technically possible before in human history. The implications of this for the development and dissemination of knowledge and ideas are immense.

Telecommunications have now reached such a degree of penetration that talk of the Internet as a truly global medium is no longer fanciful. Internet cafes with sufficient bandwidth to enable multimedia facilities can be found from Tehran to Zanzibar. Wireless technology enables countries without adequate land-line infrastructures to leapfrog into an environment where information technology is widely accessible (14).

Few would claim, however, that there is such a thing as a global digital library as yet, despite the readily accessible riches already up on the Internet. A global library has, by definition, to be globally accessible, and this is likely to be far from the case even when it is technologically possible.

One of the key questions here is that of the “information rich/information poor” divide and its causes. One of the major contributions by the library community to this debate is a paper by IFLA’s Social Responsibilities Discussion Group at its 1998 conference (15), which discussed in some detail the “growing gap between library rich and poor both within and between countries” and consequent differentials in terms of equality of access to library collections and facilities.

The main tenor of the arguments advanced in this paper is that much of the gap between the information rich and the information poor has institutional rather than technological roots. There are some technical problems associated with increasing information access in poorer countries and communities, including frequently interrupted electricity supplies, environmental conditions (such as dust, humidity, and heat) which are not ideal for computer equipment, and poorly developed telecommunications infrastructures. But conditions are

improving all the time, and these issues are consequently becoming much less problematic.

Institutional problems are the key factors inhibiting the global digital library, it is claimed; some major factors include limited literacy, the increasing commodification of information (which often puts it financially beyond the means of poorer communities), a paucity of locally produced content and a lack of North–South resource sharing in the library community.

The digital library obviously has great potential to alleviate these problems, given a global approach to its design and implementation. North–South collaboration is technically easier now than it has ever been before, as more libraries in the developing world overcome the initial hurdles to building up a technological infrastructure which allows them to connect to the Internet and generate their own content for it. The sharing of knowledge and expertise is now faster and easier than at any time in history, and the Internet itself has become an excellent repository of information on the methodologies of digital library development.

How can this potential be realized to allow a truly global digital library to develop? Several key issues need to be addressed, including

- Technology that does not discriminate against the developing world
- Infrastructures that allow the mounting of local content in indigenous languages
- Standards for digital content and metadata which allow the interchange and sharing of resources on a global scale
- Development of a more enlightened perspective in the minds of the decisionmakers who fund the growth of digital libraries

Technology

An essential prerequisite to a global digital library is global access to technology. As in many areas, globalization can be a mixed blessing in the area of information technology, as large corporations such as Microsoft and Oracle establish large market shares and try to establish their proprietary systems as “standards” for the world at large. Although institutions in the developing world will find it difficult to avoid expending precious foreign currency on computer hardware, there is no need for them to spend anything on software capable of producing world-class digital library facilities.

The open-source software movement, and in particular the Linux (16) operating system, has great potential to render the technological infrastructure of the digital library truly global. Linux is probably the most robust operating system available today and is ideally suited to hosting and delivering large-scale collections of digital materials. It is available free of charge in a number of incarnations, which are suitable for a range of users, from beginners to experts,

and represents an ideal server platform for digital library operations (over one-third of the world's web servers run under Linux).

A necessary concomitant of a robust, nonproprietary platform such as Linux is well-written, affordable (preferably free) software for library applications. Nongovernmental organizations (NGOs) have been active in producing free software for use in developing countries for many years. The UNESCO database package CDS/ISIS (17), is a prime example of how effective a coordinated program to develop high quality software can be in promoting developments in the South. This package has been in continuous development since the late 1960s, and is made available free of charge via a network of distributors in more than 90 countries. It has also spawned a family of related packages, including a programming language, World Wide Web interfaces, client/server applications, and versions for UNIX and Linux. Over 20,000 copies are now in use throughout the world.

More recently, the computer world has seen an explosive growth in a movement which aims specifically at the production of nonproprietary software for all types of applications. The open-source movement has seen the development of high quality software which is usually made available free of charge on the internet; a key feature of the movement is that the source code for each piece of software is also made available so that it can be developed and improved by the software community. One of the world's most widely used web servers, Apache (18), is an open-source application, as is one of the most popular database systems, MySQL (19).

An extensive range of software from the open-source movement has been designed specifically for libraries (20), and the list of library applications is growing rapidly. Among the range of packages available are Koha (21) and OpenBiblio (22), two fully functional integrated library and collection management systems, which are capable of running the automated operations of substantial libraries and replicate the functions of proprietary systems often costing tens of thousands of dollars.

In the area of digital library management, the open-source movement has produced several major applications. Greenstone (23), created by the New Zealand Digital Library Project (24), is a powerful multimedia management system which is fully multilingual and has already been adopted by a number of major projects in addition to those managed by its creators. DSpace (25), a more recent open-source project by the Massachusetts Institute of Technology (MIT) and Cambridge University, aims to provide an environment for digital repositories of the intellectual output of academic institutions. Both show the potential of the open-source movement for making substantial contributions to the digital library movement worldwide by providing free, nonproprietary software which matches the functionality of expensive systems from commercial vendors.

One current impediment to the adoption of open-source software in the developing world is that it has not yet achieved a high enough profile there to seize the imagination of librarians and their managers. Many institutions rely on second-hand, often pirated, copies of proprietary software which is often inferior to its open-source equivalents. To promote the global digital library, the world wide library community has to promote the use of open-source software in a more systematic way than has currently been achieved. The developing world has large reserves of very capable programmers and systems analysts, who are capable of making major contributions to the open-source movement once they become more fully aware of its potential.

Local Content

Impediments to the creation of local digital library content have been acknowledged for some time as a matter of concern. Until recent times, technical considerations were undoubtedly the major stumbling block; anyone who has worked at universities in the developing world will know of the problems caused by intermittent power supplies, slow telecommunications links (frequently via dial-up modems), and often rickety equipment. Nonetheless, these problems are undoubtedly lessening as technology becomes cheaper, telecommunications infrastructures improve, and local expertise increases. Any institution with a basic PC and scanner and access to an internet service provider now has the equipment necessary to establish at least a basic digital library service.

Now that technological infrastructures are beginning to develop at a faster pace, institutional constraints on the production of this content are likely to prove a more intractable factor than the technical. It is only in recent years that concerted attempts have begun to be made to address these issues.

The "Dakar Declaration on the Internet and the African Media" (26) was one of the first such attempts at defining the need for establishing an online culture in the developing world and addressing the problems associated with the creation of African content. The declaration notes some problems arising from initiatives by United Nations agencies and the international community in general, which have Eurocentric emphases and are not sufficiently sensitized to the management of the impact that the Internet can have on African society. Much of the problem, it implies, arises from the dependency of local media organizations and NGOs on overseas funding for their projects and emphasizes the need for them to take on responsibility for mounting local content, including funding its production.

Indigenous political factors may also severely inhibit the development of local digital content. No country in the world has been entirely free of some degree of concern at the freedom of information exchange afforded by the

Internet, and the consequent influx of material across national boundaries which may offend local laws or sensitivities. In societies where censorship is practised over the media in general, inhibitions are almost certain to manifest themselves when it comes to mounting material in the open and international arena of the Internet. Even in democracies, attempts have often been made to regulate Internet content in a manner more severe than would normally be tolerated in more traditional media; in the United States, for instance, the Communications Decency Act (CDA) attempted to impose severe restrictions on online content until it was struck down by a Supreme Court decision in 1997 (27).

Many of the problems associated with the development of local content tend to arise from the lack of a “critical mass” of Internet awareness and skills in much of the developing world. A concerted approach to training, from schools upward, is obviously of great value. It could take several years before Internet awareness penetrates the curriculum in some parts of the world, but much can be done before then to make the Internet a friendlier place from a local perspective. The “Dakar Declaration” makes several practical suggestions for projects which could kickstart Internet developments in Africa, including

- An electronic directory of African journalists
- A guide to Internet use
- An Africa-focussed Internet search tool
- Electronic discussion forums on African media issues
- Model Internet press centers in two poorly connected countries

A final consideration in this area is that of language. English remains by far the dominant language on the Internet. Table 1, taken from the CyberAtlas web site (28), an online source of statistics of web trends and usage, shows that over two-thirds of all websites are written in English. Susan Smith Nash, in a paper on

TABLE 1. Web Pages by Language as of July 5, 2000

Language	Number of web sites	Percentage
English	214,250,996	68.39
Japanese	18,335,739	5.85
German	18,069,744	5.77
Chinese	12,113,803	3.87
French	9,262,663	2.96
Spanish	7,573,064	2.42
Russian	5,900,956	1.88
Italian	4,883,497	1.56

Source: CyberAtlas. <http://cyberatlas.internet.com/>

the hegemony on English on the Internet (29), gives persuasive reasons for why this should be so, including the fact that it forms the basis for much of the software used in web applications and that most of the hosting entities which bind the Internet together are based in North America.

The advent of Unicode, which allows the letters and characters of virtually all the world's languages to be encoded electronically for the first time, is undoubtedly a great technical advance in facilitating the growth of non-English language material. It does little, however, to overcome what is perhaps the greatest hurdle to linguistic diversity, the "lingua franca syndrome": English is understood by such a large, and growing, proportion of the world's population (although less than Chinese and Spanish) that materials mounted in English automatically receive a far wider distribution than those in a local language which may have no more than a few million speakers. Automatic translation mechanisms on the Internet (such as Babelfish on Altavista (30)) are alleviating this slightly, although they are still too primitive and produce unacceptably unidiomatic renderings of foreign-language text. There is still a long way to go before the Internet becomes a linguistically neutral medium.

Much of the problem here is that of critical mass. The more indigenous language material goes up on the Internet, the greater the audience for it becomes and the greater is the incentive to mount more such material. This can only be resolved by more initiatives, such as the "Dakar Declaration," which address this specific problem.

Standards

The prerequisite for any library, traditional or digital, which aims to interoperate with others is the adoption of common standards which allow their respective systems to talk to each other. In the traditional library world, it is the catalog records which describe the content of collections that have been standardized ever since the introduction of the MARC record. In the world of the digital library, this standardization needs to apply not only to the catalog of a collection, but also to the items within it, as they themselves can be shared and accessed by external users as readily as the records which describe them.

In this latter area of content, the most important consideration is to use open, nonproprietary formats whenever possible. Every attempt must be made to avoid locking content into a single software package, a course of action which makes collections hostage to the future whims of a software provider.

There is no officially accepted standard for the format of objects within the digital library as such, only recommendations by major projects which reflect best practice as they view it. The American Memory Project has produced a number of useful guides and recommendations in this area: their 1998 paper, "Digital Formats for Content Reproductions" (31), although inevitably not

reflecting the most up-to-date practice, is still a very useful guide to formats for a variety of digital materials, from text to moving images and sound. Another web page at the Library of Congress, which is also a useful reference tool in this area, gives technical details of the formats used in all American Memory Projects to date (32). A more recent document that represents perhaps the most current thinking is the “Guide to Good Practice in the Digital Representation and Management of Cultural Heritage Materials” (33) produced by the National Initiative for a Networked Cultural Heritage (NINCH); this also covers key areas such as rights management in addition to digital formats and their usage.

The area of metadata, the information provided by the librarian to allow a digital resource to be found by the user and to be administered by the repository, is equally important if digital resources are to be accessible globally. The range of metadata that needs to be collected for digital collections is more complicated than that required for their traditional counterparts; in addition to *descriptive* metadata, which is used to describe the intellectual content of the item (analogous to the traditional catalog record), the digital librarian must also record *administrative* metadata (used to maintain and archive the item) and *structural* metadata (necessary to describe how the component files which make up an item relate to each other).

Just as it is important that digital content is not tied to a given software platform, it is equally imperative that the metadata used to describe it is encoded using universal, globally accessible formats. Adherence to global standards allows the interchange of information about digital collections, their easy cross-searching, and the pooling of their contents.

By general consensus, the eXtensible Markup Language (XML) is recognized as the most suitable generic format for the interchange of metadata. XML is a descendant of the Standard Generalized Markup Language (SGML), which was originally devised in the 1960s by the International Standards Organization as a universal standard for the encoding of electronic texts.

XML has one key advantage as a metadata medium: it is independent of any given software package or platform, and so is readily exchangeable across systems. For this reason, it is generally recognized as the most archivally robust format for metadata storage. It also has an important feature in the context of a digital collection that it can express structural metadata very easily; in describing an online version of a printed book, for instance, XML elegantly encodes the fact that the image for page 2 should follow the image for page 1 when the digital version is viewed (34).

XML in itself is no more than a vessel for metadata schemes; it does not in itself define any elements or fields to be used for encoding information on the digital object. To define these, a document known as a *Document Type Definition* (DTD) or an *XML schema* is compiled which lists the elements that may be used for a given XML application and their relationships to each other. These schemes

can be highly complex and as rigid or flexible as is required by the applications for which they are written. A large number of these have been compiled and published, ranging from DTDs for encoding electronic texts to complex metadata schemes.

Unfortunately, until recently, no such application has been available for encoding metadata in the digital library. Many approaches have been tried, ranging from DTDs compiled for specific projects (such as the Library of Congress' American Memory Project (35)) to employing DTDs already published for other applications (such as the TEI mentioned above or the Encoded Archival Description (EAD) (36), which was initially designed to encode archival finding aids). Neither approach is entirely satisfactory: the former makes interchangeability difficult, while the latter usually involves using component elements for purposes for which they were not designed or else forcing the metadata requirements for an application into the foreign environment of the chosen DTD. These approaches, therefore, can never be more than an inadequate stopgap until agreed standards appear; fortunately, the imperative to devise standards of this type has long been recognized, and important work has been put into devising universally applicable schemes which could meet these needs.

Any XML-based strategy for the digital library must be able to handle two key facets of its component metadata: first, it must define a *framework* within which it can be held (analogous to the MARC record in the traditional library cataloging environment) and, second, rules to define the *content* which is used to populate this framework (analogous to AACR2). Both are important, but especially so the latter facet: although different frameworks can map to each other to a limited extent and so allow some degree of interchangeability, metadata content produced to different schemes can cause enormous problems when cross-searching is attempted.

Attempts to address the first of these requirements and devise a universal framework for digital library metadata have taken shape recently in the form of the Metadata Encoding and Transmission Standard (METS) (37), an initiative of the Digital Library Federation (38), which aims to provide a single coherent structure within which all the component metadata for a digital object can be recorded. METS does not prescribe the content of this metadata, although it recommends a small number of schemes as preferred options for it. This content may either be embedded directly in the METS structure or held externally and referenced from within it; this allows maximum flexibility and easy integration with existing legacy metadata.

METS is a relatively new standard, but has already been recognized as filling a very important gap and is being adopted widely by a wide range of projects. Its speedy take-up shows that the need for standardization in this area has been recognized; its widespread adoption will undoubtedly make the global interchange of information more technically feasible.

The fact that METS recommends but does not dictate the schemes that can be used for the content of its metadata is an indication of how diverse a range of solutions have been adopted until now to the problems of metadata content and how limited has been the degree of standardization. The inadequacy of this state of affairs is obvious, and several key projects which attempt to devise “standards” for metadata content have been undertaken in recent years.

Perhaps the most widely used standard of this type is the Dublin Core (DC) initiative (39), which defines a set of 15 elements capable of describing any form of electronic object. In addition, it allows these elements to be qualified to render them more specific to meet the needs of a given project. The fact that the elements defined by the DC (such as Title, Creator, Description) are so generic ensures that metadata encoded using the scheme is readily interchangeable, but the very breadth of semantic space covered by these elements often renders them too inexact for many projects with more specific needs. The use of qualifiers alleviates this problem, but inevitably reduces the ready interoperability of any metadata system that employs them.

A more recent project, aimed specifically at the library environment, is the Library of Congress’ Metadata Object Description Schema (MODS) (40). This maps out an XML schema for bibliographic elements which is aimed at allowing the easy meshing of MODS records with standard MARC files, in addition to the incorporation of extra elements relevant to digital objects. It offers an element set which is richer than unqualified Dublin Core, but also more constrained, and hence more interchangeable, than DC in its qualified form. It offers great potential as an interchange standard which meets the disparate needs of the digital library while maintaining the interoperability that has characterized the traditional library for decades.

Developing a Global Perspective

The IFLA Social Responsibilities Discussion Group Paper discussed above points to some of the major hurdles that stand in the way of a global perspective on the part of librarians and decisionmakers. It cites a lack of sufficient emphasis on cooperation and resource sharing between the North and South, and a lack of awareness on the part of policymakers of the importance of digital information for national development. Often, particularly in the case of more censorious governments, there is a reluctance to open up societies to the free flow of information on the Internet for fear of losing control over their tightly regulated media.

A policy of awareness raising is essential to overcome some of these hurdles, which can be as high as any technical factors inhibiting global digital library developments. IFLA itself makes some very sensible recommendations, including the promotion of greater resource sharing between the North and South,

more research on the education and training needs of southern countries and campaigns to urge appropriate governmental agencies to develop policies conducive to the development of information infrastructures.

A concerted approach to addressing some of these needs came in the form of the so-called "Alexandria Declaration of Principles" (41), launched at the 7th International Conference on New Information Technology in 1994. This concentrates on practical steps to use new information technologies "for the advancement of an international well-being." The principles enumerated include empowering individuals, education and training in the use of information and the global information environment, identifying the responsibilities of information professionals, and involving national agencies and public/private sector cooperation in the building of a global information infrastructure. It also, critically, emphasizes the need for global finding aids, constructed specifically with the needs of the less Internet-literate in mind, to complement search engines currently available on the Internet.

The need for a concerted approach from the library community in this area has never been greater. It requires an overall perspective on the information environment and the needs of users globally to be able to advise and persuade policymakers of the institutional changes that need to be made. Librarians are ideally placed to fulfill this role, although many still require educating themselves as to their responsibilities in this area.

CONCLUSION

The potential for the digital library to become a truly global medium for information exchange is enormous, but the constraints on it achieving this laudable goal remain substantial. As has been seen, technology is rapidly reaching a degree of penetration throughout the world which renders global access technically possible for the first time in history; other impediments, however, are likely to prove more intractable.

The conversion of materials to digital form is a costly business and these costs are often underestimated. Institutional, particularly budgetary, constraints often dictate that the choice of materials and the means by which they are made available are decided by local concerns and the needs of local audiences. Breaking out of parochial attitudes on the part of decisionmakers is one of the key prerequisites to establishing a more global perspective.

Most digital library projects remain unitary entities, designed with the specific needs of their host organization in mind. Telecommunications technologies and the gradual acceptance of common standards for data and metadata make the creation of interinstitutional and intercontinental collections feasible for the first time. Any project which aims at more than a limited reach

should be designed from the outset with interoperability and interchangeability in mind, to allow cooperation with similar projects from the North or South.

Many institutional problems remain which require cooperation at an international level. Questions of copyright and other legal issues can prove dauntingly complex. The affordability of information is also a critical factor; a global information environment will develop more slowly than its potential allows if the developing world is expected to pay for information on the same basis as its developed counterpart. Education for information providers on the need for a global perspective is necessary here.

As Nelson Mandela has said, "Information is a basic human right and the fundamental foundation for the formation of democratic institutions" (42). It is also a fundamental prerequisite for economic and social development. Perhaps the most important cultural change is to view information as less of a commodity than as a right; this is particularly important in this world of multinational corporations which dominate the information environment as profoundly as any other arena. The horizontal, peer-to-peer architecture that underlines the Internet makes it an ideal medium for information exchange that cuts across hierarchies, corporate or otherwise. As in many other areas, changing attitudes is the key priority before progress can be made at a rate that reflects the potential of current technological developments.

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Copyright and Related Issues in a Global Economy

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The concept that an artistic, musical, or literary creation should not be tampered with or exploited for profit without the creator's permission has long been accepted. The necessity of regulating this concept through what is known as copyright legislation became apparent with the possibility of producing multiple copies of a "work," for example, when the printing press was invented. For nearly 200 years there have been debates about the role of copyright—is composition in a literary or artistic format personal property where the right of the author/creator should be perpetual or is copyright a monopoly that should be regarded as an exception to the general laws regulating trade and therefore be strictly limited?

During these debates two of the things that became clear were the necessity for specific national copyright legislation and the need for some international rules. Over the years, as legislation in the national and international arenas has been developed, there have been many discussions about the need for balance—balance between the rights of the copyright owners (be they the author/creator or publisher) and the public policy needs of society to have reasonable access to these works. In many countries that need for balance has been recognized in copyright legislation that provided limitations on the length of the period of copyright protection and with exceptions to the rights of the copyright owners in order to facilitate user access for purposes of education, research, and encouraging further creation.

It took well over 100 years to achieve much of what has generally been accepted today as a balanced approach to the copyright issue. Many of the developments relating to copyright have come about because of the need to address technological advances in printing and communication. However, the changes have mostly been incremental, which gave both the creator and user communities time to accept the necessary adjustments.

It is not the intention of this chapter to debate the various elements of legislation and technology that affect the use of copyrighted materials. Rather it highlights the areas, both nationally and internationally, the author believes have the potential to impact on the service to library communities and therefore should be of concern to all those who strive to provide access to information.

Copyright is a public policy tool for national governments to ensure that the product of artists and creators is protected from abuse and that artists and creators receive the appropriate remuneration for the public use of their work, while at the same time promoting equitable access, often through tax-supported public institutions.

During the 20th century compensation for public use was achieved in different ways depending on the medium. An early example was music when it became publicly available through sound systems, radio, etc. Collectives were then established to collect payment for the artists for this public use. Other audiovisual formats followed a similar pattern. It was slightly different for authors of printed works. Libraries have traditionally bought copyrighted works and then loaned them to users for private use and study. There is a growing trend now for national governments to establish programs such as a public lending right, which in effect reimburses authors for the use of their works through libraries. With the increased ability of users to copy materials easily and inexpensively, it also became necessary to ensure that abuses were not permitted. Copyright legislation was again used to reestablish the balance between the rights of the creators and the needs of users by clarifying what type of copying did this and what types, if any, were permissible. Exceptions were introduced into copyright legislation which permitted a limited amount of copying to be done within nonprofit institutions for the purposes of private study and research. This fair practice, or fair use, of materials provided a way for scholarship to be encouraged while also indicating that use beyond any statutory exceptions must be recompensed. The mechanism to achieve this was different types of reprography collectives that provide, to either an institution or a group of similar users, a license permitting controlled photocopying beyond the statutory limit to be done for a fee.

Another factor in providing balance in copyright legislation is the limit to the length of the term of the monopoly. Recently, however, there has been a growing trend to extend this period, thereby limiting the amount of material, which becomes part of the public domain. This has been particularly true for

materials that have a high potential for commercial return such as music and films.

This need to modify copyright legislation because of technological change sounds all too familiar to those who have been following the copyright debates of the past decade. There are four current areas of change which appear to have had a major impact on recent copyright discussions: digital technology, Internet communication, increased transborder data flow, and economic globalization.

Digital technology and Internet communication might be referred to as double-edged swords. On the one hand these technologies provide the mechanisms for text to be created, manipulated, searched, and communicated over long distances at great speeds. The other side of this sword is the potential for ignoring the fundamental rights of the author/creator—to have the work they created honored and not changed or distorted and to receive their appropriate economic return.

The Internet, with all of its speed and the potential for electronic commerce, has fostered the rapid globalization of the world's economies. While globalization is often identified as a cause of economic disparity in the world, the Internet is providing unparalleled opportunities to exchange information. This shrinking of the world of information and blurring of national borders has also highlighted the need for revisions to the present international rules relating to copyright. Unfortunately some of these changes may conflict with the goals of existing national treatment or public policy contained in existing national copyright legislation. More and more frequently there appears to be a clash between these changes and what society has come to expect, i.e., a balance between the rights of copyright holders and the needs of users of copyrighted materials. Thus, many librarians find themselves in a dilemma of abiding by existing copyright legislation, while trying to meet the growing information needs of their users.

As a result of digital technology and the electronic dissemination of information new ways of obtaining access are being developed. Society is being moved from the concept of owning a copy of some information to leasing it. Access to full text databases is being achieved through contracts or licenses. While this can be very efficient and greatly benefit a specific group of users, it is important that these new contracts and licenses recognize rights already available to users through national copyright legislation. There are two main types of licenses, negotiated and non-negotiated. A negotiated license is just that; it is a contract where the terms and conditions have been agreed to between the owner of the information and the potential user. The library community has developed several sets of guidelines to assist in the development of these licenses or contracts for service. At present, the more difficult issue is the non-negotiated contract that is part of the shrink-wrapped or click license. When software is unwrapped or opened, users have to agree to terms and conditions automatically

they did not negotiate. The final position on these non-negotiated licenses is not yet clear, but some experts would say that national copyright legislation should take precedence over a non-negotiated contract.

In trying to deal with this new age it is essential to think in terms of balance. Whatever presently exists in the way of copyright legislation, collectives, or programs that compensate for public use, literary and musical creators need to have the integrity of their work protected for a reasonable time frame and receive remuneration for the use of their creations. That being said, the world is full of users and new creators who need to have access to artistic and scientific creativity in an effective and equitable way. Legislation that provides both this control and access needs to focus on protecting the integrity of the work and preventing abusive commercial exploitation. In addition, it must be technologically neutral while providing flexible exceptions for private use, study, and research.

It is important for librarians to be alert to any proposed revisions or developments with respect to copyright legislation. In this digital age, the focus of revisions may center on audiovisual materials because of the commercial market. However, there is a danger that changes that are made to provide greater protection for such materials may inadvertently cause unwarranted hardship for print users. Another source of potential revisions to national copyright legislation is increasingly coming from the international arena as a result of countries acceding to international treaties. When a country accedes to an international treaty relating to copyright, there is an obligation to ensure that its own national legislation provides no less protection than that provided by the treaty. The World Intellectual Property Organization (WIPO) is the international body most closely associated with copyright. It is located in Geneva and since 1974 has been a specialized agency of the United Nations system of organizations.

As more books published in one country began to be circulated in other countries, it became increasingly difficult to protect the rights of the original copyright holders. The first major international agreement with the goal of bringing some order into the situation was the Berne Convention of 1886. The general idea of this agreement, signed in September 1887, was to provide authors and publishers whose works were registered in one signatory country the same level of copyright protection in another signatory country as authors in that country had without requiring any further formalities. This was known as "national treatment." Initially there were nine signatories to the Berne Convention. It should be noted, however, that Great Britain was a signatory not only for the United Kingdom, but also for all British colonies. Today, 179 countries are signatories.

In 1893, the small international office set up to administer the Berne Convention on copyright joined with a similar office which had been established in 1883 to administer the Paris Convention for the Protection of Industrial Property. Thus began a new organization, The United International Bureaus for

the Protection of Intellectual Property. This organization was the forerunner to WIPO, established in 1970. Perhaps the importance and complexity of intellectual property issues can be illustrated by the fact that the original nine members have grown to 179 members. The World Intellectual Property Organization, representing its member countries, administers 23 intellectual property treaties, six of which deal with copyright. The most recent major initiative of WIPO is the WIPO Copyright Treaty of December 1996 dealing with issues primarily flowing from the digital environment.

Another important copyright convention is the Universal Copyright Convention, adopted in Geneva in 1952 and revised in Paris in 1971, that is administered by UNESCO. One might ask why two international copyright treaties were necessary, when nearly all the signatories to one are also signatories to the other. Briefly it appears that the rules laid down by Berne were in some cases too difficult to meet and in other cases the national copyright law was in conflict with the Berne Convention.

A further complexity at the international level is the impact of regional agreements. The most recent agreement relating to copyright is the European Council Directive on the Harmonization of Certain Aspects of Copyright and Related Rights, adopted by the European Parliament in Strasbourg, February 2001. This Directive is a continuation of a process of harmonization of copyright law within the European Union that has been taking place over a period of 10 years. This process requires that all members of the European Union modify their national copyright legislation appropriately. In this last Directive not all the clauses are mandatory. Therefore there will be some national differences in approach. This however shows very clearly how national policy and legislation can be directly affected by external agreements.

As the world shrinks and embraces globalization and increasing international trade, it has now become necessary for the library community to be aware of the possible impacts on their services of some of these new international trade decisions. While many of us may have thought of the General Agreements on Tariffs and Trade and the resulting World Trade Organization as activities dealing with commodities, this is changing. In the introduction to the WTO and Intellectual Property on the WTO web page, the statement is made that "Ideas and knowledge are an increasingly important part of trade" (www.wto.org/english/thewto).

The WTO, with a membership of over 140 countries, oversees a variety of treaties governing trade. What makes the WTO unique is that it has a binding dispute mechanism with very strong enforcement procedures. There are two WTO treaties that could affect library services. The first is the General Agreement on Trade and Services (GATS) of 1994, which according to the recently approved IFLA position on the WTO "has the potential to open up all aspects of a national economy to foreign competition including public sector

services such as libraries...” At the commencement of the second round of GATS negotiations in 2001, thirteen countries had made a commitment to open negotiations on libraries, archives, museums and other cultural services.

The other treaty, which is perhaps more directly related to the topic of copyright, is the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) that came into effect January 1, 1995. The stated goal of TRIPS is to “narrow the gaps in the way these rights are protected around the world, and to bring them under common international rules.” TRIPS has incorporated the current level of protection under the Berne convention into the WTO system in order to create a much stronger enforcement mechanism. This means that, for the first time, nations that are judged by an independent dispute panel to be in breach of their obligations under TRIPS may face substantial trade penalties. It is also mandatory, over a period of time, for all members of the WTO to accede to the TRIPS agreement. In summary, as noted above, as part of the WTO, TRIPS now brings to the international copyright field the enforcement machinery of the WTO.

Librarians and others concerned about equality of access to information worldwide need to be aware and learn about these new agreements and be prepared to lobby those responsible for making national commitments in the area of trade in services as effectively as they now lobby those responsible for national copyright legislation.

One of the challenges in dealing with proposed legislation is ensuring that the needs of those directly affected will be taken into consideration. Local and national legislative development is somewhat easier to respond to through direct lobbying with legislators and presentation of briefs to appropriate authorities. Impacting international treaty developments is somewhat more difficult, in part because the issues under debate may cover a broad area and it may not always be clear how libraries may be affected. In Geneva there is a strong bureaucratic hierarchy to deal with; as a consequence there is the need to ensure that national representatives to a particular meeting are well briefed on the specific concerns of all those who could be affected by particular clauses in an agreement. In dealing with these two international agreements, librarians worldwide are facing particular challenges. First of all WIPO and the WTO are located in Geneva, which means high costs of attending meetings for those from the library community. There is sometimes a steep learning curve in dealing with the bureaucrat who represents a given country at these organizations. These representatives may not necessarily understand the issues of equitable access to information that is of great concern to librarians. In recent years the most prominent lobbyists in Geneva have come from well-financed multinational corporations. This does not mean that librarians cannot be successful in lobbying in the international arena. However, to be successful it means that national library associations need to be well supported and that they must prepare well for and

have strong representation at international meetings. It is also imperative that the library community cooperates internationally and in effect speaks with a forceful united voice. The success of this approach was amply demonstrated during the debates on the WIPO Copyright Treaty in 1996 and during the period before the adoption of the recent European Directive. In both cases, cooperation, preparation, and effective lobbying produced results that were highly favorable to the mission of libraries and librarians.

Dealing with issues within the WTO, particularly TRIPS, will also be a challenge. In the case of the upcoming discussions on the General Agreement on Trade and Services, the library community has started early to have a coordinated approach and is sharing research in order to develop an effective lobby. This type of cooperative action will need to become standard practice in the future.

Beyond the major issue of international activities that will affect the way in which librarians serve their communities, there are a number of other areas to be aware of in the future.

One area of interest to librarians is the possibility to greatly enhance access to information for the print impaired. There have been some exceptional accomplishments at national levels, but for the majority of countries in the world copyright restrictions remain a barrier to those unable to read print due to a disability. The thrust is to ensure that international standards and cooperation are in place in order to guarantee that those who are print disabled are able to benefit, as the rest of society has, from the increasing amount of information in electronic format. It is also important to ensure, in all discussions relating to access to information and technological innovation, that these important enhancements for the print disabled are not diminished in any way.

There are two other areas that need to be monitored. The first will be the debate over the relationship of contract law to copyright law. The outcome of this will be important because as has been noted earlier copyright law has always carried a mantle of public good with it, while contract law is primarily directed to the good of the parties involved in the contract. The second could well be the impact of new technologies. With the advent of digital technologies there is a potential for two opposing things to happen. The first is that it is far easier to exceed the limits of statutory exceptions for copying, and the second is that it is technologically possible for creators or their agents to restrict access to copyrighted material for private research and study, access which is already permitted in copyright legislation. Rights management systems which account for use of copyrighted materials could also have an impact on personal privacy.

The last issue is the digital divide. There is much discussion today about the digital divide and many commentators accept that there is not only a digital divide between the developed, emerging, and less developed countries, but the same divide also exists within most countries. There are those who have access to the latest in technology and have had ample opportunity for all the necessary

training to use that technology effectively. In countries with well structured and financed libraries much work is being done to reduce the gap between those that have and those that do not have equitable access to information. However, it is impossible to escape the growing gap between countries in the access to global information. This is caused by a lack of technological infrastructure, high telecommunication rates, the speed of change, the high cost of accessing electronic information, and possibly copyright legislation. In some countries the latter is what has often been given as a reason for piracy of copyrighted materials. It is claimed that unfavorable exchange rates and the complexity of acquiring necessary permissions impede access. It is interesting to note that the TRIPS agreement requires that all member countries of the WTO develop national copyright legislation, which means that before long there will be few countries without their own national copyright legislation. The international community led by the United Nations is now focusing considerable attention on the issue of the digital divide. Issues such as telecommunication rates, infrastructure, education and training, as well as increasing the amount of information in the public domain are high on the agenda of current meetings.

Librarians have traditionally supported the rights of creators while championing the need for fair and equitable access to information resources. It is important in this time of considerable change that the library community focus on fundamental principles. This dual mandate is supported by no less than section 27 of the Universal Declaration of Human Rights. The four sentences that comprise this section are well worth remembering and perhaps are an appropriate conclusion to this chapter:

Article 27. (1) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.

(2) Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

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International Standards for Global Information

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INTRODUCTION

In some contexts, the phrase *international standards* is used to refer only to those standards which have been endorsed by the International Organization for Standardization (ISO) which are sometimes referred to as *official* or *de jure* standards. Here the phrase is used to refer to any convention which can be called a standard and which has international acceptance. The MARC standards which underpin many of the library world's cooperative activities are not formal international standards, although the record structure on which they are based—that described in International Standard ISO 2709—is. The Dewey Decimal Classification scheme is not, nor is the Universal Decimal Classification, though by a quirk of fate it is actually a British Standard. The Anglo-American Cataloguing Rules are not nor are the International Standard Bibliographic Descriptions, though some countries have adopted them as national standards. Nevertheless these are discussed in this chapter. It is also worth noting that in the time of the Cold War library professionals in Eastern bloc countries were much more able to gain governmental permission to accept standards which emanated from ISO and UNESCO than from IFLA and were even less able to adopt standards from foreign national institutions such as the Library of Congress. Thus “official” standards and those developed by UNESCO had a certain kind of influence which in today's different political climate is waning.

Librarians like standards. Fewer librarians speak out against them compared with members of other professions. The main argument against standardization is that standards stifle innovation. This is not often voiced as a concern in the library world, though it is in the world of computing or telecommunications. This can be seen in many discussions, for example, in Espina and Markman's conference paper entitled "A Conceptual Assessment of Tradeoffs Between Technological Innovation and Technological Standards" (1) delivered at EMS 2000, in which they discuss the dichotomy between uniqueness, an inherent characteristic of technological innovation, and commonness, a central aspect of technological standards, and conclude that local and regional economies are more likely to be able to take advantage of new product innovation when new technologies are compatible. That is to say, in the technological field there is a running debate as to whether standards are a good thing, but the library world seems to take their value as read.

The standards that come to mind first and foremost are those for cataloging and classification. In the world we now call the book trade, librarians are not alone in favoring standards, as title pages of books have for generations included a certain amount of standardization and "correct spelling" has been valued for a number of centuries. We will see how the book trade and that part of it we call the library world have worked together increasingly on standards development.

Many of the standards we value now as requisites in enabling our international bibliographic computer systems were devised before the advent of computers. This means that the library world was well placed to enter the technological revolution because it already had standard building blocks. Of course one role of standards is to prevent everyone reinventing the wheel. Before computers, it was good to use a classification scheme that someone else had developed in order to save time developing one oneself. Indeed, let the experts develop one and everyone else can benefit from their expertise. Even though there was not then the interaction between libraries as there is now, with their information systems linked to each other via the Internet, using common standards was felt to have value.

The history of classification schemes and cataloging codes highlights how librarians were thinking globally a century ago. Librarians used metadata long before the word was invented. The advent of computers brought in new tools, and libraries have consistently adopted these to foster globalized systems.

Formal international standards as developed by ISO have played a valuable part here, and the places where difficulties arise are often in those areas where standards are lacking. UNESCO has attempted to fill gaps in standardization, gaps which have appeared often to be disadvantageous to less developed countries. Other UN agencies have been involved along with organizations like Canada's International Development Research Centre (IDRC) and the Development Centre of the Organization for Economic and Cooperation and

Development. More recently the European Union has become involved in sponsoring research and development and has contributed to the development of standards and promoted their use in projects across the member states.

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

By its very nature, the International Organization for Standardization is dedicated to globalization. This organization, based in the UN quarter in Geneva, does not work alone but through its national member bodies. In the United States, the national body, the American National Standards Institute (ANSI), delegates its role in the information and documentation area to NISO, the National Information Standards Organization. In most other countries the ISO member is the national standards body: AFNOR (Association Française de Normalisation) in France, BSI (British Standards Institution) in the UK, DIN (Deutsches Institut für Normung) in Germany, DS (Dansk Standard) in Denmark, ELOT (Hellenic Organization for Standardization) in Greece, to name those which have been among the most active in the area which is generally called information and documentation and covers not only libraries but also archives, museums, publishing, and the book trade.

Countries develop standards through their national bodies with the work being done by representatives of industry, professional organizations, and, in the library field, by staff of national institutions coopting technical experts as necessary. They are supported by secretariats who know the rules for making standards and usually have technical expertise themselves. Often a standard emerges which is of interest to other countries or is of interest to the proponents to make international so that the system it supports will be applicable internationally. Sometimes a standard is proposed initially as an international standard. This was the case in the year 2000 with a proposal to develop a standard for data elements for radio frequency identifiers in libraries. A transmitting device can already be placed on a piece of hardware and it can be detected even when boxed. The trade standards for the encoding and specification of the data elements are not necessarily the best for library use where each individual item is unique and requires its own identification. Library security systems could detect books in people's briefcases. Stock checking and even the detection of books misordered on the shelves could be carried out by walking between the shelves with a receiver without having to remove books to read barcodes as at present. In a library, it is important to know which individual copy is being identified, whereas in the book trade each copy has identical value. The impetus for this standard came through Dansk Standards from the technical team of a multinational company based in Denmark. Obviously, the task of developing and manufacturing the RFID would be more economical if the work applied

everywhere and not just in one country or in one sector. ISO represents all sectors, library as well as book trade, and it will be important for whatever is eventually agreed to be acceptable to both sectors.

ISO is divided into technical committees. TC 46 is the technical committee for information and documentation and covers most of the standards used in the library field. ISO works with the International Engineering Council (IEC) through a joint technical committee (JTC 1) to produce standards in the areas of office automation and information technology. This committee oversees, for example, the development of character sets, but because librarians were the first group to have special requirements they developed their own standards within the TC 46 committee. These are discussed later. Subcommittees of ISO/IEC JTC 1 include JTC 1/SC 2 Coded Character Sets, JTC 1/SC 6 Telecommunications and Information Exchange Between Systems, JTC 1/SC 23 Optical Disk Cartridges for Information Interchange, JTC 1/SC 28 Office Equipment, and JTC 1/SC 36 Learning Technology.

ISO TC 46 celebrated in 1997 its golden jubilee with the publication of a short history by George Richardson (2). In 1947 there were a number of standards already being proposed for areas which are important in our international computerized systems today which depend so much on standards. The consistent abbreviation of titles of periodicals is vital in automated information retrieval systems, though perhaps we do not abbreviate so much today because of the lesser need to conserve storage space in electronic data. Transliteration of Cyrillic characters was then standardized to prevent the need for everyone to reinvent the wheel; now it is vital to ensure in our global systems that everyone transliterating produces the same forms of names. International standards were also mooted for microform readers and for the size of catalog cards. But to indicate that TC 46 then, as now, was at the forefront of technology, it is worth noting that in 1947 standards were being proposed for sizes and quality of photocopies and microcopies. Some of these standards clearly already recognized that librarianship was global. Catalog cards could be circulated around the world. Microforms could be read by machines anywhere. As time went on other standards were added to the portfolio, and by 1971 there was a subcommittee entitled Automation in Documentation which had working groups under it on ISSN, ISBN, coding of country names, terminology and thesaurus construction. After adoption of the ISO standard ISO 2709 Format for Bibliographic Information Interchange on Magnetic Tape (3), which is one of the key building blocks of global librarianship, much work was to follow on standards for intercommunication using forms other than tape and standardization of the data content of messages to make international transactions possible in areas like interlibrary loan.

Frequent reference is made in this chapter to specific standards that have been established by ISO.

BIBLIOGRAPHIC CONTROL AND ITS CONTRIBUTION TO GLOBALIZATION

Bibliographic control is the process of the classification and cataloging of materials held in libraries and similar repositories. There are a number of different schemes available for classification by coded schemes and subject headings. There exist also thesauri used less by libraries than special information services. Libraries are free to make their own choice or even develop their own. The inclusion of the most popular classification schemes and subject headings in MARC records has facilitated their use without further editing by those using them. Though none of these systems are international standards except Universal Decimal Classification, they are all standards of a kind. The main difference is that they are each developed by a group of persons employed for the purpose rather than by committees attempting to provide a solution to a problem by seeking a consensus view from interested parties.

Library Classification

Library classification is required today mainly to organize the storage and shelving of library materials. Most libraries use the Dewey Decimal Classification (DDC) or the Universal Decimal Classification (UDC).

The DDC was developed by Melvil Dewey in 1873 while working as a student assistant in Amherst College library and was published in 1876. It is used in 135 countries.

The UDC was developed in 1895 as a French translation of the fifth edition of the Dewey Decimal Classification. It was first published in French from 1904 to 1907 and it has been published in 23 different languages. The scheme was intended originally as a classification of knowledge rather than as a scheme to be applied to books. It is universally applicable across languages and scripts since it includes only numerals and punctuation.

Both these schemes have contributed to the globalization of librarianship. Even users who does not know the working script of a library may still find their way around the shelves by means of the numeric schemes.

Subject Headings

Library of Congress Subject Headings (LCSH), devised by the Library of Congress for their own use and now used around the world, have been translated widely. The scheme is now in its 24th edition (4). During the 1970s and 1980s, the British Library developed and used PRECIS (Preserved Context Index System) (5), which was an attempt to use the power of computing to assist in the generation of subject strings and additional access points to them. The British Library used this until 1990. Then after a brief flirtation with COMPASS, a

watered-down version of PRECIS, they adopted LCSH in pursuit of globalization.

Thesauri

Thesauri have made less impact on libraries than the other systems. They tend not to be so globally applicable because they cover very specialized subject areas, though standards have been prepared to assist in their development and to prevent creators of thesauri from having to reinvent the wheel (6).

Library Cataloging

Cataloging rules as we know them are considered to have originated with Panizzi's rules, a set of 91 rules established in 1841 by Anthony Panizzi, who was Keeper of Printed Books in the British Museum (7). He was first to define what catalogers call the heading and to stress the need for uniformity and consistency in cataloging. It was he who selected the title page as the authoritative source of data. Charles C. Jewett of the Smithsonian continued this work for his library (8), and Cutter generalized the concept of cataloging codes, making his "dictionary book catalog" applicable to small and medium libraries (9). The first attempt at an international code was in 1908 when the Joint Code, known as AA (1908) (10), was established as a result of cooperation between the Library Association in Britain and the American Library Association. It seems incredible that librarians were thinking globally so early when the distance between the United States and England must have made cooperation difficult and the advantages of common practices less important by far than in these days of instant electronic communication. Various issues arose relating to the concept of corporate author (which was lacking), to name but one example, and revised ALA cataloging rules were published as a draft in 1941 and finally in 1949 (11). Over the next 10 years, communication began to improve and international conferences were becoming feasible, and, with hindsight, it now seems inevitable that the impetus that had built up for globalization in cataloging should result in an international conference.

In 1961, the International Conference on Cataloguing Principles was held in Paris. Choice of headings was the main preoccupation of this conference (12), which resulted in international agreement on the general aims and principles of author and title cataloging and the publication of *Statement of Principles*, better known as the *Paris Principles* (13). With this conference we enter the modern era, particularly as automation was to influence the globalization of cataloging a short time later. Many new national and regional cataloging codes based on these principles were developed, such as the *Anglo-American Cataloguing Rules* (AACR) published in 1967 (14). Since the *Paris Principles* had concentrated on headings, it became clear that some standardization needed to be applied to the

bibliographic description. This need for standardization of the bibliographic description also proved evident from other initiatives such as the Shared Cataloging Program in the United States as well as the increasing development of computerization in cataloging. The Shared Cataloging Program of the Library of Congress aimed to take descriptive cataloging from national cataloging agencies in countries of publication and accept it as it stood with attention paid by the Library of Congress staff only to reconciling headings. Though it was clear that if you standardized the access points, descriptions in different styles and with different content could stand together in the same catalog; nevertheless it drew attention to the differences. Computerized processing opened the door to machine manipulation of bibliographic descriptions, revealing further needs for standardization. In 1966, IFLA's Committee on Cataloguing initiated a project for an international standard for the descriptive content of catalog entries and commissioned Michael Gorman to make a comparison of practices in different national bibliographies. His report was presented to the International Meeting of Cataloguing Experts, which was held in Copenhagen in 1969. The purpose of this meeting was to revise, consolidate, and build upon the *Paris Principles* and look at the question of a standard bibliographic description. Participants agreed on the desirability of this and appointed a small working party to prepare it. They still thought primarily in terms of noncomputerized systems when they reported in October 1969 (15):

The purpose of SBD [standard bibliographic description] is to help in standardization, to help the international exchange of bibliographic data and to help in the comprehension of bibliographic records even when the record is in an unfamiliar language. The SBD is not concerned chiefly with the question of machine readable records. It is concerned with bibliographic records in manuscript, typescript or in printed form and with helping in the transfer of such records to machine-readable form, in that tagging, coding, etc., of bibliographic records is made easier by a generally accepted standard.

The first edition of *International Standard Bibliographic Description for Single-Volume and Multi-Volume Monographic Publications* (ISBD) (16) was published in 1971. The national bibliographies of France, Federal Republic of Germany, and Britain had already agreed in principle to adopt ISBD. It was quickly translated into French, Spanish, and Russian. A similar document for serials was proposed in 1971 and this was followed by official and unofficial proposals for other kinds of materials. Although they had the same intentions, their development and supervision were uncoordinated. The original was expanded as ISBD(M) and published in 1974, followed quickly by ISBD(S) for serials. The chaotic development of proposals led to the development and publication of ISBD(G): *General International Standard Bibliographic*

Description, published in 1977. Guides for Cartographic Materials [ISBD(CM)], Nonbook materials [ISBD(NBM)], and Serials [ISBD(S)] were published that year and for Antiquarian [ISBD(A)] and Printed Music [ISBD(PM)] the year after.

The main features of the ISBDs are the definition of data elements and their grouping into areas. Data should be usually taken from the document being described; the standards define the exceptions. The areas are

1. Title and statement of responsibility area
2. Edition area
3. Material (or type of publication) specific area
4. Publication, distribution, etc., area
5. Physical description area
6. Series area
7. Note area
8. Standard number (or alternative) and terms of availability area

Additionally, the standard defines prescribed punctuation before the areas and the elements; this helps those who do not understand the language to distinguish between, for example, the title and the person or institution responsible for the work. The standard also indicates which elements are mandatory and which are optional. As stated earlier, it was not one of the aims of ISBD to concern itself with machine-readable records, though authorities such as C. Sumner Spalding hoped that it would (17). After the publication of ISBD(G) there were moves to change the punctuation, but radical changes would have been necessary so none was implemented. For example, a comma is used in the edition area to separate elements. A comma may appear in the text of an edition statement, so comma will not be distinctive enough to indicate it precedes the additional edition statement. One of the examples in the revised ISBD(G) indeed illustrates this point, using a comma in the usual grammatical way rather than in the specialized way as prescribed by ISBD (18):

The nether world [GMD]: a novel / George Gissing. – Facsimile ed.
/ edited, with an introduction, by John Goode.

Another problematic area is that of parallel elements in other languages, denoted by a preceding equals sign where it is not always possible to match up parallel subtitles with parallel statements of responsibility. The punctuation used was heavily influenced by that available on typewriters for roman script and its applicability for non-Roman scripts has been questioned (19).

The ISBDs continue to be reviewed every five years with subsequent revisions. New ones have been added to those mentioned above: *International Standard Bibliographic Description for Computer Files* [ISBD(CF)] was replaced by *International Standard Bibliographic Description for Electronic*

Resources [ISBD (ER)]. ISBD(S) is under revision as *International Standard Bibliographic Description for Serials and Other Continuing Resources* [ISBD (CR)]. Overall they have made a significant contribution to the globalization of the bibliographic record, though they retain an element of Anglo-American bias, and their early adoption by AACR in turn enabled the adoption in the original or in translation of the Anglo-American rules around the world, making them the de facto international cataloging standard.

The IFLA Committee on Cataloguing was also instrumental in continuing the work that the Paris meeting had begun on headings. *Anonymous Classics: List of Uniform Headings for European Literatures* (20), *Form and Structure of Corporate Headings* (21), and *Structures of Corporate Name Headings: Final Report* are representative of a selection of the publications that have been produced by IFLA over the years.

Other Bibliographic Descriptions

One of the most notable systems of bibliographic description alongside ISBD was the International Serials Data System (ISDS), which was based on an international center set up by UNESCO for the international control of serials and the maintenance of the standard numbering system known as International Standard Serial Number (ISSN). This was set up in 1974 to allocate ISSNs and serial key titles in an attempt to tame the jungle that was serials. There had been an earlier attempt to set up a standard coding system for serials, known as the CODEN, which still survives alongside the ISSN and is maintained by the Chemical Abstracts International CODEN Service. The ISSN was quickly adopted by Ulrich, the largest directory of periodicals. The ISDS International Centre published the *ISDS Manual*, which contained rules of description and methods for encoding the data into machine-readable form. Originally the rules were at variance with those of ISBD(S), and there was a long-running controversy since national libraries which were also ISDS centers had to prepare two separate records for serials. In the 1980s this was resolved by resolving minor inconsistencies. UNESCO was instrumental in encouraging these minor changes (22). They also produced *List of Serial Title Word Abbreviations* (23), which contains the words of the titles of serials processed by the ISSN network and their abbreviations. The *List* includes 45,500 words and their abbreviations in about 50 languages. The words are abbreviated in accordance with the ISO 4 standard for which the ISSN International Centre (as the ISDS International Centre is now known) is the maintenance agency.

Rules for description were also developed by other agencies. ISBDs initially did not concern themselves with analyticals. Later, in 1988, *Guidelines for the Application of the ISBDs to the Description of Component Parts* (24) was published, though these were not regarded as a normal ISBDs. This was produced

partly in the hope of being able to contribute to the many different efforts to develop manuals which were produced by and for the secondary services abstracting and indexing agencies which also needed standards for producing their records. By then it was becoming the norm to produce records in machine-readable form, and a number of different agencies had provided data entry manuals to make available files of machine-readable records with great interagency consistency. It was becoming clear that it was not sufficient to propose a well-functioning bibliographic exchange format without detailed data element specifications amounting to rules for bibliographic description. An example of these is the *Manual for Preparing Records in Microcomputer-Based Bibliographic Information Systems* (25). This was produced by the International Development Research Centre (IDRC), a government body in Canada tasked with increasing globalization in the field of information for development. This manual was part of an effort to develop standards and practices for exchanging data between libraries of institutions working in international development under the auspices of EADI (European Association of Development and Training Institutions) and ICCDA (International Coordinating Committee for Development Associations), which were heavily supported by IDRC. The aim was to enable these institutions to exchange data without the comprehensive records required by the national libraries.

Standard Numbering Systems

We saw how many features of the ISBD were being developed at the dawn of the automation era, and another important initiative began then. These were the standard numbering systems. Around the same time, in 1965, W. H. Smith (the largest book retailer in the UK) made a plan to move to a computerized warehouse in 1967 and wanted a standard numbering system for its books. The British Publishers Association's Distribution and Methods Committee devised the Standard Book Numbering (SBN) system in 1966, and it was implemented in 1967 with the setting up, by J. Whitaker and Sons Ltd., of the Standard Book Number Agency, which later became the UK International Standard Book Number Agency.

The SBN consisted of eight numeric digits with hyphens separating the publisher element from a running number and that from a check digit (which could be X as well as a numeric digit).

At the same time, ISO TC46, the technical committee on documentation, set up a working party to investigate the possibility of adapting the British SBN for international use. A meeting was held in London in 1968 with representatives from Denmark, France, Germany, the Irish Republic, the Netherlands, Norway, the United Kingdom, and the United States along with an observer from UNESCO. Other countries contributed written suggestions and expressions of

interest. A report of the meeting was circulated to all ISO member countries. Comments on this report and subsequent proposals were considered at meetings of the working party held in Berlin and Stockholm in 1969. As a result of the thinking at all of these meetings, the International Standard Book Number (ISBN)—the SBN plus an initial digit indicating country, language group, or region, making ten numeric digits in all (the last one being a numeral or X) with three intervening hyphens to separate the elements—was approved as an ISO standard in 1970, becoming ISO 2108.

The original standard has been revised as book and booklike content appeared in new forms of media and to enable extensions to country codes, but the basic structure of the ISBN as defined in that standard has not changed and is in use today in almost 150 countries. The ISSN came a little later, using a similar check digit system but consisting of eight characters split into two equal parts with a hyphen between them.

Standard Character Sets

Libraries have special requirements for character sets compared with other businesses. ISO TC 46 Sub-committee 4, Working Group 1 looks after character set standards specifically made for bibliographic use and also registers character sets with ISO/IEC JTC 1/SC 2, which is charged with registering all character codes. The main work today is done by ISO/IEC, since bibliographic requirements are becoming less specialized as the rest of the world requires the same high standards that libraries and publishing have had for some time. With the advent of UNICODE, which has the capability to represent a much greater range of characters than the original sets which were limited to 256 characters, it became possible to represent many languages at the same time in one software package on one computer (26). This subcommittee is now ensuring that the characters in its standards are represented in the UNICODE pages. The flavor of these character sets can be deduced from the following select list:

ISO 5426-2:1996—*Extension of the Latin coded character set for bibliographic information interchange Part 2: Latin characters used in minor European languages and obsolete typography* is intended to supplement the standard character set ISO 646.

ISO 5428:1984—*Greek alphabet coded character set for bibliographic information interchange* is an alternative Greek character set for library use.

ISO 6438:1983—*African coded character set for bibliographic information interchange* provides characters which include the letters and their diacritics for many of the languages spoken in the African continent.

ISO 6630:1986—*Bibliographic control characters* consists of characters for specialized purposes required in library activities such as indicators of nonfiling characters like articles at the beginning of titles.

Armenian and Georgian, which have their own alphabets, have their own standards.

TOOLS FOR LIBRARIES TO SHARE DATA

Libraries began to use computers in the 1960s. The first software systems were built, as were other contemporary systems, with fixed-length fields, for accession number, borrower number, and date due for return. The library patron might receive a postcard informing the book was due for return with only the accession number to identify the book. The next more sophisticated development was a larger file containing author, title, publisher, date, classification number, and accession number. Each copy had an entry in the table, and a link with the earlier kind of system was used to provide a primitive catalog and circulation system. It was quickly realized that this kind of database was not satisfactory. Libraries needed to use computers to reproduce the catalog card with its multiplicity of different kinds of data. The Library of Congress had provided a printed card service from 1898. They looked at ways of automating this. In 1966 they developed the MARC (Machine-Readable Cataloguing) format for the MARC Pilot Project, which aimed to develop procedures and programs for the conversion, file maintenance, and distribution of MARC data (27). An important feature of MARC was its compatibility with the Anglo-American Cataloguing Rules and its hospitality to classification schemes. Many foreign librarians took an interest in this, most notably those from the British National Bibliography (BNB), who also provided a card service. The next phase included the development of a standard communications format specifically suited to interchanging data between many organizations across national boundaries.

The establishment of MARC and its record structure was followed by a flurry of activity not only in the world's national libraries, but also in international networks and in the not-for-profit sector. A number of organizations took the record structure and developed their own implementations for their own purposes. MARC records were primarily intended for national bibliographies. Abstracting and indexing services, in order to computerize the preparation of their publications, made variations on the MARC format, usually adding different fields appropriate to the kinds of material they cataloged. Computerization also facilitated the collection of data from diverse sources. The record structure was adopted as a U.S. standard, then a British standard, and then as an international standard, ISO 2709 (28). This standard record structure helped to make possible the use of common software across these different implementations. INSPEC was

one of the first companies to adopt a MARC-like format, then Chemical Abstracts; and around the same time the International Atomic Energy Agency of the United Nations (IAEA) set up INIS (International Nuclear Information System), and the UN Food and Agriculture Organization shared IAEA's processing systems for AGRIS (Agricultural Information System).

AGRIS is a good example of how standards helped to set up a global organization. It started out as an organization which received input in OCR (29) from diverse institutions and progressed to receiving data on tape from its regional partners such as the Commonwealth Agricultural Bureau (CAB). Then it moved to distributed data entry on CDS/ISIS, a package that owed its effectiveness to the existence of standards. This was also a package that promoted the use of standards as it enabled more organizations to create records which could then be exchanged with others to build up large databases.

So many new formats were being developed that the international scientific community saw this as a recipe for chaos. Around this time, the International Council of Scientific Unions and UNESCO were jointly developing plans for a World Scientific Information System, which was known as UNISIST (United Nations International System for Information in Science and Technology). Countries were encouraged to set up focal points in their Ministries of Science. Scientific information would be freely shared, and this could start with bibliographic references. One building block was seen in the *UNISIST Reference Manual* (RM) (30), a standard developed by the UNISIST Working Group on Bibliographic Data Interchange and supported by a short-lived maintenance agency set up in the British Library known as UNIBID (UNISIST International Centre for Machine-Readable Bibliographic Descriptions). The RM made adaptations to MARC to create a record structure not for data about books but about journal articles and then inserted into the resulting framework records for monographs and monographic collections; serials were not included since they were the responsibility of another UNISIST center, the ISDS Centre, which has already been mentioned. Incidentally, this format (or rather one based very closely on it) is still used in Latin America, where it is known as the CEPAL format. The developers of the *Reference Manual* format came mostly from the secondary services, and many of the requirements they had for their records conflicted with library cataloging codes. This was most self-evident in the kinds of material which libraries cataloged, monographs. Concern was expressed to UNESCO that though the world might be polarized into national libraries and secondary services, many organizations straddled the divide particularly in developing countries whose interests UNESCO was—and is—bound to serve. Consultants defining an automated system for a developing country's institution were often faced with a difficult choice as to whether to adopt the *UNISIST Reference Manual* format or MARC. In April 1978 the UNESCO General Information Programme (UNESCO/PGI), the department which had recently

taken over the UNISIST program, sponsored an International Symposium on Bibliographic Exchange Formats, held in Taormina, Sicily, to try to resolve this. Organized by the UNISIST International Centre for Bibliographic Descriptions (UNIBID) in cooperation with the International Council of Scientific Unions Abstracting Board (ICSU-AB), the International Federation of Library Associations and Institutions (IFLA), and the International Organization for Standardization (ISO), the Symposium was convened "to study the desirability and feasibility of establishing maximum compatibility between existing bibliographic exchange formats" (31).

The Symposium recognized in its recommendations the need for compatibility to be achieved. Following the Symposium, and as a direct result of its recommendations, the UNESCO General Information Programme formed the Ad Hoc Group on the Establishment of a Common Communication Format, which included experts able to present the views of a broad spectrum of the information community. Members of the Group worked at meetings and through correspondence to produce a common bibliographic exchange format that would be useful both to libraries and other information services. At the start of its deliberations the Group decided that the structure of the new format would conform to the international standard ISO 2709, that the core record would consist of a small number of mandatory data elements essential to bibliographic description, identified in a standard manner, and that the core record would be augmented by additional optional data elements, identified in a standard manner. (It was decided subsequently that to keep the format simple, the extension of these should be discouraged where there was an existing field which would serve, particularly in areas like notes.) It was agreed that a standard technique would be devised for accommodating bibliographic levels (analytic, monograph, multi-volume monograph, and serial), relationships, and links between bibliographic entities.

In addition it was affirmed that the Common Communication Format (CCF) should be more than merely a new format: it should be based on, and provide a bridge between, the major international exchange formats, while taking into account IFLA's International Standard Bibliographic Descriptions (ISBDs).

Early in its deliberations the Group undertook a comparison of all of the data elements in the *Reference Manual*, *UNIMARC*, *ISDS Manual*, *MEKOF-2*, *ASI-DIC/EUSIDIC/ICSU-AB/NFAIS Interchange Specifications*, and the *USSR-US Common Communication Format*. With these six standard formats as a guide, the Group identified a small number of data elements which were used by virtually all information-handling communities, including both libraries and abstracting and indexing organizations. These commonly used data elements formed the core of the CCF. A technique was developed to show relationships between bibliographic records and between elements within bibliographic records. The concept of the *record segment* was developed and refined, and a

method for designating relationships between records, segments, and fields was accepted by the group. The first edition of *CCF: The Common Communication Format* (32) was published in 1984.

Later, a new manual was published to include those data elements for recording factual information which are most often used for referral purposes. The result was the division of the CCF format documentation into two volumes: *CCF/B for Bibliographic Information* (33), and *CCF/F for Factual Information* (34). These formats have been much used in the scientific information sector but not generally in the library sector. Their use has been very widespread in India, where the scientific sector is highly automated but the humanities sectors have tended to shun computerization because of the problems of character sets in a country using many different scripts.

To return to the library sector, even there a lack of uniformity in the use of MARC led to different dialects based mostly on either Library of Congress practice or BNB practice. BNB made a few "improvements" to the original MARC format such as an increase of subfields to correspond to the different "areas" in ISBD. In the late 1970s and early 1980s, a number of national libraries adopted formats based very closely on what became known as LC MARC and UK MARC. The existence of different formats led to IFLA's sponsoring the development of a third major format, UNIMARC, in 1975, which was hospitable to international standards and the ISBDs. Many countries then adopted this as their own exchange format. Otherwise, the idea was that each country's national library would convert its own format into UNIMARC and send to each other UNIMARC records. In practice, Canada with a format very close to LC MARC (mainly differing because of multilingual requirements) and the British Library with UK MARC, also quite close to the U.S. format, continued to exchange records in their own formats leaving it to the recipient to run computer programs to convert the data. Most countries around the world had adopted either LC MARC (which later became known as US MARC when MARBI, the ALA's Machine Readable Bibliographic Information Committee, took on an advisory role for MARC) or UK MARC, though they named the formats for their own countries.

As long as records were distributed from National Libraries or large utilities (e.g., OCLC) with their large databases, the existence of numerous formats was not so much of a problem, but in the mid to late 1990s smaller institutions began to import records from many different sources into automated library systems. UK MARC users were particularly hit as UK MARC had subtle differences from US MARC. UK purchasers of library systems developed in the United States found they had a need to adapt U.S. library systems for their own uses, and this sometimes caused serious problems if it was not correctly adapted. In 1995, the British Library was persuaded to investigate harmonization of US MARC with UK MARC, and on July 20, 1995 a meeting took place

entitled *Towards a Common MARC Format*, at which it emerged that UK users would like to see three key features from UK MARC retained in the harmonized format (35): ISBD-related subfield encoding, especially of title information; software-generated punctuation; and the treatment of individual volume information.

The Network Development and MARC Standards Office of the Library of Congress was reluctant to make substantial changes to the format as their users had just been through a consolidation exercise when the different formats for the different materials (books, serials, etc.) were aligned into one format. Since UK users did not wish to lose those aspects of UK MARC, which were felt to be superior to US MARC, the UK opted out of complete harmonization. The Canadian format and US MARC were completely harmonized in 1998 (36), and renamed MARC21 in 1999. Australia adopted US MARC in early 1999 with the installation of a new library system at the National Library, at which point the Australian National Library ceased to supply records in AusMARC. In the UK, by 2000, the situation had changed. The British Library commissioned a report from BIC (37) which made suggestions for changes to the format, and consultation meetings were held. The UK community had changed its mind and no longer wanted to continue making changes to its own format but instead agreed to adopt MARC21 (38). Bearing in mind the upheaval this would cause, plans were made to phase in the provision of MARC21 records by the British Library over a number of years, and UK MARC records would continue to be provided. Why had the situation changed? Probably due to the increasing use of interconnected systems using standards for interoperability such as Z39.50. When the *Bath Profile* was published in June 2000 (following prereleases of the document), UK MARC was not a preferred format for the delivery of bibliographic records. More libraries were moving to MARC21, perhaps because they were purchasing library systems which did not support UK MARC, and suppliers of MARC records such as NetLibrary, which provided records relating to the electronic resources they supplied commercially, were making them available only in MARC21. As far as the British Library was concerned, it benefited them not to have to continue to maintain conversion programs which were inevitably imperfect for the ongoing conversion of records from the Library of Congress. Globalization of processes therefore demands globalized tools.

TOOLS FOR INTEROPERABILITY

So far we have reviewed the sharing of bibliographic records by transferring records between systems. The future lies in *interoperability* under which one system can process data from other systems in a real-time online scenario. This requires, for one thing, greater consistency between the data held in the systems,

which is why we need to look first at the developments which have taken place in authority control.

Authority Files

Globalization of bibliographic data has required international work on authority files. Authority files consist of authority records, records containing data representing a preferred or established form of heading (author, title, subject, classification mark). Normally the records contain information for the cataloger on variant forms and also on rejected forms linking to the preferred form. The aim of an authority file, even in the smallest library, is to select a preferred form for each entity and to ensure that each entity is represented by a distinctive name, adding qualifiers to distinguish where necessary. This is to satisfy the bibliographer who needs to know which books are by John Smith—1 and which by John Smith—2. Names of institutions (corporate bodies in the language of cataloging) may be qualified by place, persons by dates of birth and death. Cataloging codes define the form of names of persons and institutions and give options for these qualifications. Subject terms are usually defined in a thesaurus or scheme, and classification schemes are defined in their schedules. Qualifying terms which are required to make names unique are not easy to apply in a consistent manner. For example, in a small library's collection there are less likely to be persons with the same name with headings requiring qualification than in a large library. If cataloging codes are identical there should be fewer problems of interpretation. A significant problem for users of AACR was that from 1967 for the lifetime of the first edition two versions, a North American and a British version, coexisted. Corporate bodies for example were entered under place in the United States. Qualifying dates were applied where known to personal names in North America, but in the UK only where necessary to resolve ambiguity. When the British Library and Library of Congress produced a microfiche of records in alphabetical order of main heading in the 1970s it was clear that something needed to be done because of multiple sequences. There have been numerous initiatives over the years, but however close the cataloging rules and the principles for their interpretation there is going to be room for ambiguity. Probably the only way to achieve a common authority file is to allow one agency superiority over all others and to accept its decisions. Bibliographic records can use a unique number as a key, and the inclusion of the ISBN and indeed the CIP (cataloging in publication) record on the title page verso in the early days of the CIP initiative helped to bring global standardization to the bibliographic record. Every library can use the same bibliographic record for a book; that is, except for the authority data since here each catalog will wish to establish a unique authority. Even if an International Authority Data Number (ISADN) were established, there would still be no solution to the consistency of

names across different authority files. To return to the problems between the Library of Congress and the British Library, a Memorandum of Agreement of the Convergence of Cataloging Policy was signed in 1996. This set the scene for the establishment of a joint Anglo-American Authority File. Standards for the production of this file were agreed upon, but policies in some areas were still inconsistent, such as the preferred form for the word *department* in headings (in the United States it is “Dept.”) (39). Nevertheless, it has been agreed that authoritative forms of names are the responsibility of the country of origin, but so far few national libraries have agreed to take what other countries have presented them with, and there will always be authors who belong to more than one country. Barbara Tillett, Chief of the Cataloging Policy and Support Office of the Library of Congress, has stated that many questions about authorities still remain unsolved (40). Working at a global level has not yet been perfected when it comes to the establishment of common global authority files, even though many tools are in place to facilitate that goal.

Interoperability of Catalogs: Z39.50

It should never be forgotten that MARC was developed in the days of mainframe computers and was intended to facilitate transfer of records between systems on magnetic tapes. In practice, with the onset of Internet-based communication, the exchange medium changed, and records in the MARC format were sent between institutions in electronic form. Other requirements came to the fore. As a result, a standard was developed by NISO known as Z39.50—Information retrieval. As its abstract states:

This standard specifies a client/server based protocol for Information Retrieval. It specifies procedures and structures for a client to search a database provided by a server, retrieve database records identified by a search, scan a term list, and sort a result set. Access control, resource control, extended services, and a “help” facility are also supported. The protocol addresses communication between corresponding information retrieval applications, the client and server (which may reside on different computers).

This standard was published in 1995 (41). An important feature is that it includes “profiles” for different sectors of the information community. These specify identifiers for indexes which may be (and in the library community will be) based on MARC fields. The existence of this standard has enabled the setting up of “clumps.” These are virtual union catalogs. In the past a union catalog could be set up only by adding data relating to different libraries’ holdings to records in a catalog in one database. Today this standard enables a client to search many different servers, and the servers may be built on the software from different

suppliers. The profiles supported for use within the standard allow client and server systems to be quite precise about indexes and the means of searching them (e.g., whether right truncation is possible). Both ends, client and server, can specify between author, title, subject standard number, and other types of index using codes in the profiles. When the client has searched a number of external databases and found matches, the records are returned to the client in a number of different formats, one of which is MARC21. The client software then processes the records to sort them and displays them on the client's screen. Around the world a number of clumps have been set up to facilitate cross-catalog, cross-system searching. Those in the UK have had possibly greater problems than elsewhere because of the prevalence of two different MARC formats, UK MARC and MARC21. Even if a high level of compatibility is achieved in the indexes, the records returned to the clients for processing will be difficult to match if the records are not cataloged according to the same rules or held in the same MARC format. Records now originating in the British Library or Library of Congress are becoming closer, though not identical, thanks to initiatives mentioned above.

However, in this context there is still the problem of the MARC formats with their slight but important differences. MARC21 would enter a name as "\$aShakespeare, William"; UK MARC as "\$aShakespeare\$hWilliam". Processing does not usually get below the level of the subfield (represented by the \$a, \$h combination of characters). On the fly conversion to a common standard format as part of the client processing could be contemplated but requires the client to have up-to-date conversion algorithms. The need for a common standard has precipitated the development of the *Bath Profile*, which recognized the need for a common MARC format and required records to be returned to the client in MARC21 or UNIMARC, excluding UK MARC. This may have been one of the reasons why the UK community agreed in 2001 to adopt MARC21. You cannot have a global system without globally applicable tools to develop it. Until that takes place and UK libraries using UK MARC have converted their data, there will be a good chance of a set of returned records including duplicates, reminiscent of the early attempts to combine U.S. and UK records in a common microfiche mentioned above.

The *Bath Profile* is so named because it was conceived at a meeting held at the UK Office for Library and Information Networking (UKOLN) based in Bath, England. UKOLN is a key player in the standards field, supported initially by the erstwhile British Library Research and Development Department, which later became part of the Library and Information Commission and then Resource: The Council for Museums, Archives & Libraries. UKOLN also receives funding from the Joint Information Systems Committee (JISC) of the Higher and Further Education Funding Councils (whose terms of reference include seeking to optimize the use and convergence of information and communication technology with information itself as held in libraries) as well as by project funding from the

European Union and elsewhere, not to mention the University of Bath where it is based.

The Bath Profile: An International Z39.50 Specification for Library Applications and Resource Discovery (42) identifies those features of the Z39.50 standard that are required to support effective use of Z39.50 software for a range of library functions, such as basic searching and retrieval of bibliographic records for cataloging, interlibrary loan, reference, and acquisitions. The profile defines both a core set of basic author, title, and subject search; retrieval specifications across a variety of library databases; and a set of more complex searches. The functionality and specifications identified in the profile are intended to be incorporated into more detailed national, regional, provincial/state, and local agreements. Its use should make easier and more accurate searching and retrieving information from multiple databases. Users will only benefit from accessing databases which have implemented the profile. Librarians will not have to develop detailed search specifications or indexing rules individually, but can benefit from the expertise of the international experts who developed the profile. Customers of integrated library systems may have more leverage when dealing with vendors by asking for support for an international profile rather than a locally developed profile requiring custom development. Existing users of databases compatible with Z39.50 may find that this profile could be implemented merely by adding an index to the database (e.g., the creation of an author index to a particular specification if the current system only has name indexes). The profile also includes the support of additional character sets to accommodate international retrieval.

Interoperability of Circulation

A new standard is being developed by NISO known as NCIP (NISO Circulation Interchange Protocol). This standard will define the various transactions needed to support circulation activities among independent library systems. Circulation activities include user and item inquiry and update transactions, such as hold or reserve, check-out, renew, and check-in. The new protocol is expected to support the circulation of printed and electronic materials and will facilitate direct patron borrowing, remote patron authentication, online payment, and controlled access to electronic documents (43).

The NISO Standards Committee believes that moving to a national consensus standard will facilitate the development of open systems required when libraries are increasing their need for interoperability in circulation systems, whether it is using self-check hardware from different suppliers or satisfying interlibrary loans by giving permission to a user to access data held outside the user's own library to retrieve a particular electronic document. It is not yet known if this standard will be adopted as an international standard or as a

national standard elsewhere, but it will almost certainly achieve the status of a de facto international standard since the U.S. market for which it is intended is not isolated from the rest of the world and indeed is the largest sector of a global market.

METADATA

The Free On-Line Dictionary of Computing (44) defines metadata as:

Data about data. In data processing, meta-data is definitional data that provides information about or documentation of other data managed within an application or environment. For example, meta data would document data about data elements or attributes, (name, size, data type, etc.) and data about records or data structures (length, fields, columns, etc.) and data about data (where it is located, how it is associated, ownership, etc.). Meta data may include descriptive information about the context, quality and condition, or characteristics of the data.

Metadata was around in libraries before the term began to be used. The term originated from attempts to define the wider world than just the library world and in this context it was felt necessary to use a more neutral term than *catalog data*. Metadata is sometimes defined literally as data about data, but the term is normally understood to mean structured data about resources that can be used to help support a wide range of operations. These might include, for example, resource description and discovery (the purpose of library catalogs), the management of information resources, and their long-term preservation (45).

The library catalog is the most common set of metadata records, with its elements that describe a book or other library item: author, title, date of creation or publication, subject coverage, and the call number specifying location of the item on the shelf.

The relationship between a metadata record and the resource it describes may exist in two different ways. Metadata elements may be contained in a record separate from the item, as in the case of the library's catalog record; this is the traditional form of metadata. Alternatively, metadata may be embedded in the resource itself. Examples of embedded metadata include the cataloging in publication data printed on the verso of a book's title page or the header in a web page. Many metadata standards in use today, including the Dublin Core standard, do not prescribe either type of linkage, leaving the decision to each individual implementation. Although metadata has been around for some time, it is the second category—that which is contained in the article itself—which has captured the imagination of librarians. If you have a document in electronic form with its metadata within it, that metadata may be extracted and entered into

catalogs, thus reducing the labor-intensive activity of cataloging, both in its creation and keyboarding. In the case of web pages, which are so easy to produce and are therefore so numerous, the inclusion of metadata by their creators is the only possible way that librarians will be able to catalog the material. Anyone who has attempted to find web pages online using one of today's popular web search services has likely experienced the frustration of retrieving hundreds if not thousands of hits from all over the world with limited ability to refine or make a much more precise search. The widescale adoption of descriptive standards and practices for electronic resources will improve retrieval of relevant resources from the Internet.

Special Efforts to Control Metadata

Most of the directed efforts to develop metadata have been made under the auspices of ISO. There are probably two exceptions: Dublin Core and EDI. EDI has been adopted by ISO but began as an in-house UN initiative.

Dublin Core

The need for "standardized descriptive metadata" has been addressed by the Dublin Core proposals. The Dublin Core metadata set is especially concerned with resource discovery of document-like objects on the Internet and does not primarily apply to metadata of traditional bibliographic materials. It should be borne in mind that Dublin Core does not cover all possible requirements for metadata, but serves as a good and well-developed example. The standards for data on web pages are notoriously free and easy. Standards for indexing are also difficult to achieve anyway, particularly if the indexing is to be consistent across more than one discrete catalog; the Web is global so the task of indexing across the Web is bound to be difficult. The structure or syntax of web pages is also customarily free and easy, though there are certain constraints. Dublin Core is shorthand for the Dublin Metadata Core Element Set, which was agreed upon at the OCLC/NCSA Metadata Workshop in March 1995. It is intended for the cataloging of electronic resources and it is generally held that it should be the standard used on web pages for the catalog record, if indeed there is to be one. "The Dublin Core is the leading candidate as a lingua franca for resource discovery on the net" (46). It is worth noting that it is intended to be usable by noncatalogers (e.g., the authors of web pages) as well as by those with experience with formal resource description models (i.e., catalogers).

Here is an example of a Dublin Core record:

```
<META NAME="DC.Title" CONTENT="Presentation of UNIMARC on the Web: new fields,
including the one for electronic resources - 64th IFLA General Conference - Conference
Programme and Proceedings">
```

```

<META NAME="DC.Author" CONTENT="Holt, Brian">
<META NAME="DC.Subject" CONTENT="Bibliographic exchange formats, Permanent UNIMARC
Committee, UNIMARC">
<META NAME="DC.Description" CONTENT="This paper treats two topics, the UNIMARC
information which is held on the web and the treatment of Internet documents by
the UNIMARC bibliographic format">
<META NAME="DC.Publisher" CONTENT="International Federation of Library Associations">
<META NAME="DC.Type" CONTENT="Text">
<META NAME="DC.Format" CONTENT="text/html">
<META NAME="DC.Language" CONTENT="eng">
<META NAME="DC.Date" CONTENT="1998-06-29">
<META NAME="DC.Identifier" CONTENT="http://www.ifla.org/IV/ifla64/110-161e.htm">

```

In this record, the author's name is inverted; there is nothing in Dublin Core to indicate this is necessary. There could also have been an entry as follows:

```

<META NAME="DC.Subject" SCHEME="UDC" CONTENT="025.3">

```

Incidentally, though this example was created manually from the IFLA HTML page which it describes, it could have been automatically provided. Though UKOLN has developed a Dublin Core generator, *DC-dot* (47), it cannot make as good a job as a cataloger can.

The hope is that search engines and web crawlers will discover and use the Dublin Core metadata in their indexing, since metadata needs to be of a higher standard than other parts of the electronic resource.

Electronic Data Interchange for the Book Trade

Electronic data interchange (EDI) is the direct communication of messages necessary for electronic trading between computer systems using telecommunications networks, including the Internet. Trading messages are most usually orders and invoices, but EDI can develop a very sophisticated information exchange. The current standard in Europe is EDIFACT, which is officially *UN/EDIFACT: United Nations Rules for Electronic Data Interchange for Administration, Commerce and Transport* (48). This incorporates a number of different rules, for example, EDIFACT syntax rules (ISO 9735). EDIFACT was not developed exclusively for the book trade, but special applications of it have been developed. In North America, BISAC (the Book Industry Systems Advisory Committee) and its Canadian counterpart CBISAC pioneered the development of the BISAC fixed-length formats for book trade transaction messages. BISAC is committed to migration to a common set of EDIFACT standards though this will take some time. So currently, in the UK, libraries which wish to use EDI need to be able to produce both BISAC and EDIFACT messages. In the UK there is TRADACOMS, the UK national EDI standard, which will eventually migrate to EDIFACT. This is managed by Book Industry Communications (BIC). They were set up by the Publishers Association, the Booksellers Association, the Library Association, and the British Library, thus spanning all sectors of the book

trade. BIC has produced book sector implementations of a number of messages based on the UK Tradacoms EDI standard, which include order, acknowledgment, delivery advice, invoice, credit note, statement and price, and availability update. BIC is the secretariat for EDItEUR, the European Book Sector EDI group which is recognized by the European Union, the Western European EDIFACT Board, and the European Federations of Library, Booksellers and Publishers' Associations (EBLIDA, EBF, and FEP). EDItEUR, as BIC, does not devise its own message standards but interprets and sometimes extends existing international EDI standards for application to the book trade. EDItEUR works closely with Brussels-based EAN International, which coordinates the worldwide EAN article numbering and bar coding systems and implements the EANCOM subset of EDIFACT message standards.

ISO Initiatives

Any industry can have its standards validated by its national standards body and ultimately seek to secure ISO authentication. The book trade is part of the trade community and the development of its building block standards is by the trading community. Libraries have needed their own standards that other industries have not required.

The Taormina Symposium mentioned earlier was cosponsored by ISO and was followed by a meeting of the ISO TC 46 Working Group which looked after data elements. One of the outcomes of the main part of the Taormina meeting was a proposal to construct a data element directory collating the data elements of the main source formats. The ISO meeting decided to build on this work when it was achieved but expand it in terms of data element directories for particular library functions. The end result of this was a set of data element directories (ISO 8459) in five parts (49). These have had an influence on interlibrary loan protocol standards but have been used to align work in the other areas they cover. Another important initiative is the ISO ILL standard, its informal name. The work on this has to be seen in the context of developments at the time it was started. At that time, in 1978, the work on the ISO OSI reference model was beginning. This is an abstract description of the digital communications between application processes running in distinct systems. The model employs a hierarchical structure of seven layers. Each layer performs value-added service at the request of the adjacent higher layer and in turn requests more basic services from the adjacent lower layer. The Physical Layer, Layer 1, is the lowest of seven hierarchical layers. The major functions and services performed by the physical layer are: (1) establishment and termination of a connection to a communications medium; (2) participation in the process whereby the communication resources are effectively shared among multiple users, e.g., contention resolution and flow control; and (3) conversion between the representation of digital data in user

equipment and the corresponding signals transmitted over a communications channel. The next layers are the Data Link Layer, Network Layer, Transport Layer, Session Layer, Presentation Layer, and Application Layer. This highest layer interfaces directly to and performs common application services for the application processes; it also issues requests to the Presentation Layer. The common application services provide semantic conversion between associated application processes. Examples of common application services of general interest include the virtual terminal and computer job transfer and manipulation protocols. This reference model was not devised by librarians, but librarians were one of the early users since they were interested in sharing data. The standards being developed by ISO TC46 were for the most part standards for the Application Layer.

The ISO ILL standard was an important step in getting libraries to be able to use OSI for their processes. ILL is in fact an activity which has been conducted at the global level for many years; as British Library Document Supply statistics show, they satisfy many international requests: in the year 1999–2000, out of 4.2 million requests, almost 1.3 million were from outside the United Kingdom (51). The standard was developed with a large amount of Canadian effort and was approved in 1991. The standard consists of service definition (ISO 10160) and protocol specification (ISO 10161). The protocol permits messages relating to interlibrary loans to be exchanged between libraries using different ILL systems but which support the protocol. It defines the types of services that are available, the sequence in which these can be invoked, the information contained in each service, and the format of the protocol messages. The standard is used to support transactions in a number of interlending environments. They can range from simple library-to-library transactions to more complex transactions within a consortium or involving agencies which act as intermediaries. The British Library's Document Supply Centre was slow to adopt this standard because they already had systems in place developed before the standard was even conceived of. However, by the year 2000, partly due to pressure from users of library systems which supported the standard, they had developed the capability to support it on their own computer systems in the form of ARTISO, which was accessible to client software devised to support the ISO ILL protocol (52). Standards have made possible much more complex interlending scenarios than the British Library's partially centralized model, but the standards have also enabled the development of a common software client, and customers of the British Library will benefit from being able to use the same software to borrow from the British Library as they use for their other transactions.

IFLA's Functional Requirements for Bibliographic Records

We have seen the efforts that IFLA has put into the ISBDs and UNIMARC. Mindful that the environment within which cataloging principles and standards

operate has changed dramatically, the Standing Committee of the IFLA Section on Cataloguing agreed to prepare a study on the functional requirements for bibliographic records (53). Shared cataloging systems had been introduced, and economic pressures had forced more agencies to adopt minimal level cataloging. On the other hand, new forms of electronic publishing and benefits of technology such as the possibility of getting authors' own abstracts and material from book jackets incorporated into a cataloging record have altered the parameters of the traditional catalog record. Many times had the need for change to take these factors into account been greeted with requests for more specific information on what a bibliographic record was supposed to be for and what the end users really wanted of it. This was raised at various meetings sponsored by IFLA. The terms of reference that were subsequently developed for the study stated its purpose and scope as follows:

The purpose of this study is to delineate in clearly defined terms the functions performed by the bibliographic record with respect to various media, various applications, and various user needs. The study is to cover the full range of functions for the bibliographic record in its widest sense—i.e., a record that encompasses not only descriptive elements, but access points (name, title, subject, etc.), other “organizing” elements (classification, etc.), and annotations.

The aim of the study was to produce a framework that would provide a clear, precisely stated, and commonly shared understanding of what it is that the bibliographic record aims to provide information about, and what it is that we expect the record to achieve in terms of answering user needs.

Additionally, the terms of reference also gave a second task to the study group: to recommend a basic level of functionality and basic data requirements for records created by national bibliographic agencies.

Data elements were taken from the IFLA documents, the ISBDs and UNIMARC, and from other sources such as the AITF Categories for the Description of Works of Art as well as from experts who were consulted as drafts of the report were being prepared. The basic elements of the model developed for the study (the entities, attributes, and relationships) were derived from a logical analysis of the data that are typically reflected in bibliographic records using entity-attribute analysis techniques. Authority and subject areas were not covered in any great depth. The model defines the entities that are the focus of authority records (persons, corporate bodies, concepts, etc.) to the extent that they are present in the bibliographic record. It does not analyze the additional data that are normally recorded in an authority record, such as source of authority, nor does it analyze the relationships between and among those entities that are generally reflected in the cross-referencing mechanisms found in most catalogs.

Recommendations were made for a basic level national bibliographic record. As far as future work was concerned, the group which led the study felt the need to do similar work on subject data. Also, what had been learned from the analysis of the relationships between the entities could equally be applied to the MARC formats which have always been criticized for not representing well in their structure the links between bibliographic entities. This is in fact more true of MARC21 than of UNIMARC.

THE INTERNET AND THE WORLD WIDE WEB

Librarians were quick to use the Internet for such things as email and to replace telephone communication and the fax, which itself was not available until the early 1980s. Many areas of the profession have become globalized, not least library automation. Users of software now are very likely to have Internet connections except in some institutions in the least developed countries; software and information on how to use it is readily available on the Internet. UNESCO's efforts in standardization in the 1970s and 1980s have resulted in the use of standards in its CDS/ISIS software package. Now librarians and systems staff can ask around the world for advice on implementation. There is nothing new in this. There have been discussion lists on AACR for a decade now. But here we have an example of globalization beyond the countries that were originally included—Western Europe, North America, and parts of southeast Asia including Japan. Originally global librarianship involved transfer of information in the form of publications to the developed world, usually involving specialist acquisitions efforts for governmental publications, scientific reports, and the like. Now a librarian in India wanting to know how to implement a particular standard can get information on this almost immediately from an expert who may be in Brazil who can tailor the answer to the needs of the requester, can provide that information almost instantaneously, and can in fact conduct a two-way conversation on the Internet to facilitate this transfer of information.

The World Wide Web

The World Wide Web is the ultimate in global information access. It is supported by a raft of standards many of which have been used by librarians to establish their own interconnected systems. At the same time the WWW allows globalized publishing. Anyone with access to a server on the Internet can publish on the Web. Finding what you want is globalized chaos, which can only be resolved by decrease in recall and a much greater increase in precision. Librarians are in the forefront of attempts to increase precision by indexing data, whether it is by encouraging web page creators to provide their own cataloging or by setting up portals using standards understood universally to channel searches in the right

direction. Librarians have been at the forefront of Dublin Core, both in its definition and its promotion.

Librarians have built portals using standard classification schemes such as Dewey Decimal Classification (DDC) and UDC. The UK's Bulletin Board for Librarians (BUBL) (54) is a resource used by far more than librarians which classifies by DDC and uses its own system of subject terms originally based on the Library of Congress subject headings. The NISS (55) *Directory of Networked Resources* uses UDC for grouping the resources to which it points, and GERHARD (German Harvested Automated Retrieval and Directory) also uses UDC in a sophisticated way as a kind of thesaurus.

LIBRARY AUTOMATION SYSTEMS, STANDARDS, AND GLOBALIZATION

Library automation systems originally consisted of software which controlled library circulation and/or the catalog, sometimes with the addition of software to help libraries with purchasing their materials and integrating into the catalog any information from this activity such as indicating books that were on order. Currently these systems do much more, such as providing access to interlibrary loan services or to electronic resources that may be anywhere in the world. Whether extensively or minimally applied across library housekeeping functions, these systems rely very much on standards. We do not discuss here those standards that are necessary for or are used by computer systems in general. Standard Query Language (SQL) is a convention which allows an SQL-compliant database to be queried using a common language. This is applicable to any kind of database, bibliographic or not. Rather we examine those standards which are necessary for library automation to see how they have influenced the development of library automation systems and what requirements there are for more standards.

The area of library automation which is most standardized is that of the catalog record itself, which has a standardized set of descriptors as prescribed by MARC and underlying AACR which could be regarded as a data element directory. The core of the catalog then is highly standardized. Systems can import records without difficulty from other systems because of the standard record structure ISO 2709. Having imported them there may be problems since, as we have seen, MARC has dialects. OCLC records in MARC21 format may be capable of being imported into a package developed for UNIMARC, but they may not then display correctly. The software will display field 245 in a particular way, but in UNIMARC title is 200 and the subfields are different. The more subtle the difference, the more problematic the result may be. A system configured for MARC21 will not display UK MARC forenames in the personal name fields. It will probably not include the personal names in the personal name

index. Fortunately most systems have parameters in a table which can be changed by systems librarians, but some systems do not. Some UK MARC users have had to convert their data to US MARC standards to use particular packages developed in the United States.

In other areas there is much less standardization. The MARC holdings format came much later than the bibliographic formats and has not been used to the same extent. Many systems have adopted proprietary ways of dealing with records for items or serial holdings and the way they relate to their bibliographic record. Many libraries have had to migrate their data in recent years as earlier generation systems were no longer supported by their developers. Few have been able to migrate serials holdings. Many catalogs do not include detail on the holdings of back runs of serials and have lost data at previous conversions. Item data, borrower data, and the data relating to them are valuable to a library for statistical purposes and for indicating trends. There are no standards here so at migration some data are often lost. That can happen with borrower data where, as yet, there are no standards in general use, though as we have seen the development of the NCIP standard promises a future which may be different. Library automation systems are becoming global in their coverage. No longer do they include only the materials in their library but links to electronic materials on the Web using the URL. The boundaries of the catalog are blurred in the case of digitized material as even if the library owns rights to it, it will be physically elsewhere. Some material such as abstracts may be available, but the full text may not be licensed in a particular library. The policing of this by the owners of the data, including ensuring that data that have been purchased are truly available, is difficult. Authentication may be by password or by IP address. IP address is part of the Internet protocol heavily backed up by standards, and authentication by IP address is a byproduct of the way the system works. Authentication by user identifiers and passwords to protect them is something only publishers and libraries require. Publishers or the agents who mount the data on Internet computers can each have their own different authentication system, but this is a problem for the end user. Where IP does not work because a user is dialing up from outside the usual registered network, user name authentication is vital. This can be solved only by a universal system, not by standards. In the UK the academic ATHENS system (56) is a step toward this, but many data owners do not trust it. It relies heavily on an institution taking the trouble to remove user names when staff and students leave the institution and are no longer eligible.

A problem has emerged as librarians have required to add links to electronic resources to their catalogs. This problem concerns their location, or URL (Uniform/Universal Resource Locator). URLs can change, resulting in huge efforts for catalogers worldwide, efforts which have to be repeated in an identical way for all systems. A new standard is being developed for an "Open URL" (57). One of the problems with the World Wide Web is that data which are

regarded as part of it (that data accessible through the Internet and readable through an HTML browser) is very much uncontrolled. Even if you want to set up a system to help the discovery of resources, there is no guarantee that the resources will remain at the same address or URL. The Open URL standard seeks to solve this fundamental problem of data accessible through the Internet.

The Open URL is a protocol for interoperability between an information resource and a service that offers localized services in an open linking environment. The standard will incorporate a syntax for transporting identifiers and metadata describing information objects. It will also include a syntax for communicating with user-specific data which can combine it with user information taking into account, for example, permission to access and then resolve the data into actual links. The aim of the Open URL is that links should lead a user to appropriate resources. A number of information services and library system suppliers were already working on developing software to implement Open URLs even before it began to be formally developed as a NISO standard in May 2001.

Until recently there were no standards for indexes. Z39.50 has changed this and we are beginning to see extra indexes created for the sake of compatibility with Z39.50 in catalog systems which are following implementations of this standard.

Commercial systems are now beginning to take into account UNICODE (58), which was mentioned above. Of the internationally available database management systems that are used by library systems, SYBASE has adopted UNICODE. Those library systems running under SYBASE can therefore be adapted to implement UNICODE and store characters from many different scripts in one database or even in one record. Hitherto the American Library Association's character set has been implemented, but often systems, for reasons of both hardware and software, could not display all the characters represented. It might for example be possible to display the diacritic characters found in French, but not the combinations of Roman alphabet and diacritics along with Cyrillic used in eastern Europe. Tools like UNICODE when implemented in UNICODE-compatible database management systems with suitable hardware developed by a wider market than just the library market will enable any character to be displayed on the screen.

CDS/ISIS

At the technical level, intercommunication between two systems in the same city is today no different from intercommunication between two systems across the world. What makes for globalization in a particular sector is the prevalence of the technology and the adoption of standards which facilitate the transfer of data and its recognition at the receiving end. More than any other software, CDS/ISIS has

facilitated globalization by enabling the technology to be available at very low cost and the standards used to be implemented on it even in developing countries.

Originally only organizations large enough to have mainframe computers could benefit from the standardization that went into making intercommunication of library systems possible. In the 1970s, the International Labour Organization (ILO) developed software to host bibliographic databases. This was called ISIS, and not only did it support the databases and the data in a MARC-type format, it also provided the capability to output records which resembled those on catalog cards as well as other format structures. ILO appreciated that this software could be used by other institutions and offered it to UNESCO, who took it, adapted it, and called it CDS/ISIS. They distributed it to other users. IDRC with UNESCO's permission copied the idea and launched MINISIS for minicomputers, specifically the Hewlett-Packard 3000 range. Other UN agencies used these. They were underpinned by the use of standards. When microcomputers were developed, it became potentially possible for smaller organizations to jump on the bandwagon, except there was no suitable software. Many of UNESCO's member states in the developing world called on UNESCO to develop a software package for microcomputers. After a false start when UNESCO sponsored German and Austrian development of the IV + V software, the staff in UNESCO who had developed the mainframe version developed the microcomputer version in conjunction with staff of the Instituto Superiore da Pisa (59). The main standard used by this package was ISO 2709, the record structure of MARC. Many small or poor institutions around the world were now able to develop databases on CDS/ISIS. CDS/ISIS was mainly modeled on the UNISIST Reference Manual format (being a UNESCO product). Unfortunately that format did not have repeatable subfields, which thus were not implemented until 2001 in the basic CDS/ISIS package. However there were ways round this minor problem and many implementations had been made keeping fairly closely to MARC (60). Between 1985 and 2001, 20,000 registered copies of the CDS/ISIS software were distributed to institutions in both developed and developing countries through a network of some 138 officially appointed distributors around the world, 87 of which were national distributors.

CDS/ISIS is a database management system hospitable to any format which uses three-digit tags and by itself does not impose any standardization of the bibliographic record. It comes with a sample database based on UNESCO's own practices, which in turn were based on MARC. This was not intended as a standard, merely a database to illustrate the software. In consequence a number of different initiatives were made to provide model databases and enable global transfer of data. The best known was *Manual for Preparing Records in Microcomputer-Based Bibliographic Information Systems* (61). UNESCO themselves produced a number of manuals, for example, *International Information System on Cultural Development: CDS/ISIS Model Data Base*

(62). Other institutions used CDS/ISIS for preparing records for input into centralized systems and produced manuals such as the *CARIN and CARIS User Manual for CDS/ISIS Version 2.3* (63). This manual has enabled participants in FAO's Current Agricultural Information System to input their own data into the centralized database on CDS/ISIS diskettes from 1989 and more recently by transfer across the Internet.

CDS/ISIS now has two versions of the software developed for use on the Web: WWWISIS (64), a CGI (Common Gateway Interface) application for access from a web browser developed by BIREME, the Latin American and Caribbean Center on Health Sciences Information, based in Sao Paulo, Brazil; and JAVASIS (65), developed in Italy by Renato Ennea, which requires a dedicated client to access a JAVASIS server. BIREME has worked closely with UNESCO on the development of current versions of the system in a way that would not be possible in the purely commercial sector.

Library Cooperatives

Library cooperatives are the ultimate results of standardization. The best known is probably OCLC in the United States, followed by the Research Libraries Group with their RLIN system. BLCMP in the UK, Dansk Biblioteks Center in Denmark, and PICA in the Netherlands are other examples. National Libraries throughout the world are union catalog centers: Portugal, which used CDS/ISIS for distributed input, and Canada are two examples. Without ISO 2709 and MARC these would be very different. National libraries would still have been centers of their own countries' networks. Certainly, cooperatives would not have had the same infrastructure to build on if they wanted to be international. OCLC and BLCMP were built up on the records produced by their national agencies, the Library of Congress, and the British National Bibliography (later to become the British Library), respectively. OCLC has been a global institution from its early days after an abortive attempt at a merger with BLCMP. Marta and Tomaz Seljak (66) wrote about one of the smaller international cooperatives, COBISS, which began as a national cooperative in Yugoslavia and became international when Yugoslavia split up. After losing some of the libraries for political reasons which were outside Slovenia, where its center remained, many institutions have returned as the political situation has changed more recently.

These institutions began by exchanging magnetic tapes, progressed to online exchange of data (usually in ISO 2709 format using disk images of tape files), and now are using Z39.50 and investigating XML. From providing databases of records which could be accessed online or were used for producing microfiches, they have encompassed union catalogs and circulation systems and are now providing access to electronic resources for their members on a global scale.

AFTER MARC: ONIX?

Many people forecasted the death of MARC in the 1970s and 1980s. After all it was a standard developed for reproducing catalog cards via magnetic tape. Gredley and Hopkinson (67) in 1990 thought that MARC tags would be more likely to survive than the record structure. Kokabi (68) more recently wrote that the future of MARC was assured. However, the latest versions of XML standards which are being developed by the bookselling end of the book trade are moving away from MARC-type coded tagging, including natural language descriptions of the data elements in their XML tags.

The World Wide Web uses HTML, which is a simplified version of SGML. HTML does not always have sufficient capability as it is diluted. It has necessitated extensions such as XML, which is described more fully in Gartner's chapter. This may well be the core of future standardization efforts.

ONIX stands for "Online Information eXchange." It refers to a standard format based on XML that publishers can use to distribute electronic information about their books to wholesale, retail, and electronic booksellers; other publishers; and anyone else involved in the sale of books. ONIX is a standard for providing all the information relating to publicizing the book, which would include all the information that a library needs in its catalog and more. For a bookseller, the jacket cover of a book contains useful information about that book: cover design, synopsis, reviews, author biography, etc. The Internet has grown as a popular place to buy books. Online, however, there is no physical book to pick up and peruse. What has replaced it is a web page devoted to the book that can be designed to carry all the rich information of the jacket cover and more, such as audio and video files pertaining to the book. However, getting that data about each book from publishers to booksellers has been a challenge, complicated by the fact that each major industry database company has had a different format preference for receiving the data. This lack of a standard made it difficult and time consuming for publishers to format and exchange their book information. Hence ONIX. Throughout 1999, the American Association of Publishers (AAP) worked together with the major wholesalers, online retailers, and book information services to create a universal, international format in which all publishers, regardless of their size, could exchange information about books. The group unveiled ONIX 1.0 in January 2000. Much of ONIX is based on the earlier EPICS (EDItEUR Product Information Communication Standards), a much broader standard for defining products which was developed internationally by EDItEUR, drawing on the combined experience of Book Industry Study Group (BISG) in the United States and Book Industry Communication (BIC) in the United Kingdom (69).

The ONIX standard defines both a list of data fields about a book and how to send that data in an "ONIX message." ONIX specifies over 200 data elements,

each of which has a standard definition. Some of these data elements, such as ISBN, author name, and title, are mandatory; others, such as book reviews and cover image, remain optional. While most data elements consist of text (e.g., contributor biography), many are multimedia files, such as images and audio files. Exchanging these optional fields (excerpts, reviews, cover images, author photos, etc.) is particularly innovative.

An ONIX message is a set of data elements defined by XML “tags” that conform to a specific template, or set of rules, also known as the ONIX DTD (Document Type Definition). The DTD defines, among other things, how to order the data elements and how the elements are interrelated.

ONIX is the only format for the exchange of bibliographical data that uses XML. XML is text readable, meaning that humans as well as computers can recognize and read the data. Most tags, which define each book data element, consist of English words or abbreviations; for instance, an ONIX message would list the Publisher’s name as follows: “<PublisherName>Macmillan </PublisherName>.” These factors make it easier for smaller organizations to design and implement ONIX-compliant systems. There are many XML software applications being introduced which will enable this to be used by small institutions. XML can, of course, also be read by an Internet browser.

Catalog records in MARC21 fly around the world from sources such as national libraries, cooperatives and other utilities, and ISDS. They are incorporated into other institutions’ catalogs. Unless they can be effectively converted into ONIX, MARC will remain the medium of exchange. If a two-way conversion does prove possible, XML formats would prove a suitable candidate to replace MARC, with the advantage that they are comprehensible to the naked eye, unlike the MARC exchange format.

CONCLUSION

Printed and other bibliographic materials capable of easy reproduction have from the start been global rather than national or parochial, as is information. Librarians, the custodians, have been in the forefront of standards development longer than most industries to ensure that the commodities they deal in are treated in a global way. They have been pioneers in the global use of electronic data via the Internet and in the use of email to develop their use of these tools and to foster cooperation worldwide.

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Selected Bibliography of Literature on Global Librarianship 1993–2003

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INTRODUCTION

As the chapters in this book indicate, libraries around the world have been active in promoting cooperation, partnership, and exchanges across borders for decades. These activities made it possible to transcend cultural and geographical boundaries and promote a greater understanding of world cultures and a wide range of options for library resources and services.

Huq and Aman (1977) documented these global initiatives in comprehensive bibliographies, covering all aspects of international librarianship. Huq and Aman (1977) focused on developing nations during the period 1960–1975 in the first major bibliographic coverage of the topic. As the countries of the world continued to develop after 1976, libraries and information services became integral components of national planning. Public, academic, and special libraries were built and expanded to serve their citizens' needs. Thus, Huq (1995) expanded this earlier work in order to “capture the essence of world librarianship” through 1992.

This bibliography continues the efforts of Huq and Aman from 1993 to the present. It cites articles, books, dissertations, reports, and conferences that convey a panoramic view of the different ways that libraries around the world cooperate and form partnerships to enhance their resources and services. The items cited

were selected because they provide readers with an understanding of the importance, scope, and changing nature of global librarianship as an avenue of information exchange.

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BIBLIOGRAPHY

The bibliography is presented in seven main sections:

1. Articles
2. Monographs
3. Conferences and symposia
4. Theses and dissertations
5. Periodicals with emphasis on global coverage of libraries and librarianship
6. Where to find information on global librarianship
7. Organizations and agencies promoting global librarianship

ARTICLES

- Aamot, Gordon J. 1996. Business library development in Vladivostok. *Business and Finance Division Bulletin* 103(Fall):15–21.

During the development of a new undergraduate business school curriculum in Vladivostok, the University of Washington Business Administration Library and Vladivostok State University exchanged librarians in a USIA-funded project during 1994–1996. The project included librarian exchanges between Seattle and Vladivostok and acquisition of materials to support the business curriculum and faculty research. Discusses the experiences of the two librarians and their views on the benefits of partnership exchanges.

- Abernathy, William F., and Kenneth D. Gill. 1994. Christian partnership in library development: the international ministry of the Association of Christian Librarians. *Christian Librarian* 18:23–31.

Explores the history of the Association of Christian Librarians and the creation of a division for international library assistance. Outlines the state of international librarianship in developing countries and assistance given by theological libraries and evangelical institutions for building construction, training librarians, exchange programs, and providing resources for Christian libraries around the world. Among the issues that need to be addressed are funding, cultural biases, and teaching methods. Points out that Western systems can be adapted and used effectively but Christian librarianship in non-Western countries must be designed to meet the needs of their respective institutions.

Agada, John. 1998. International cooperation in library education: a survey of programs between North America and Africa. *Journal of Education for Library and Information Science* 39(1):67–75.

Surveys cooperative library education programs between North American and African communities. Presents some of the models used in these programs and the ways in which Western perspectives have shaped them. Describes the Adopt a Twin program, role of the Carnegie Corporation in African library development, student and faculty exchange programs, resource sharing, and cultural exchanges with Africans in the Diaspora. Concludes with recommendations to facilitate cooperative electronic access to electronic information for African library schools in the 21st century.

Balas, Janet I. 2000. How to visit the libraries of the world without leaving home: think globally about librarianship. *Computers in Libraries* 20(10):58–60.

Directions for visiting some of the world's largest libraries in the United States, England, Canada and France without leaving home. Balas recommends that users visit the libraries' web sites, do a search in their catalog, and learn more about the libraries from their web pages. Discusses the programs and activities of IFLA (International Federation of Library Associations) and its role as an advocate and supporter of library cooperation and interaction.

Barton, Pamela. 1994. The American Libraries Project. *The Bowker Annual* 39:94–101.

Describes the American Libraries Project sponsored by the United States Information Agency that brings professional librarians from abroad to the United States for a four week program. The participants are exposed to a wide variety of libraries and library activities to gain a better understanding of the role of American libraries and to foster institutional linkages between foreign and American libraries.

Batt, C. 1996. The libraries of the future: public libraries and the Internet. *IFLA Journal* 22(1):27–30.

Batt states that public libraries throughout the world can play a greater role in people's lives by developing networks on the Internet to provide greater community access to information. He describes some successful projects in the United States and England that

offer question and answer features, databases, subject guides, community information banks, and virtual universities.

Bender, David R. 1993. A strategy for international information politics. *Libri* 43(3):210–231.

Discusses strategies for developing international information policies that address technology, transborder data flow, privacy and data protection, intellectual property, trade and the information industry, scientific and technical information, telecommunications, standards, and education and training. Bender indicates that international information policy must be adaptable to the economic, social, and cultural differences among nations.

Bliss, Nonie Janet. 1993. The emergence of international librarianship as a field. *Libri* 43(1):39–52.

A bibliographic essay reviewing the literature of international librarianship as a framework for analysis and development in four areas: theoretical context, international practice, education, and bibliographic access.

Borgman, Christine. 1996. Will the global infrastructure be the library of the future? Central and Eastern Europe as a case example. *IFLA Journal* 22(2):122–127.

Discusses the proposals for the construction of a global information infrastructure based upon the principles of competition, private investment, regulatory frameworks, and universal open access. Analyzes opportunities and challenges in the emerging national information structures in the six post-Communist countries of Croatia, Czech Republic, Hungary, Poland, Slovakia, and Slovenia.

Bradbury, David A.G., and G.P. Cornish. 1992. Worldwide view of information: availability of publications and international interlibrary loan. *RQ* 32:185–192.

Describes the international availability of publications through international interlibrary loan arrangements and the IFLA Universal Availability of Publications program. Gives details about the program and the participation of U.S., European, and Canadian libraries. Problems, attitudes, and constraints that sometimes make the program more difficult are presented with suggestions on how libraries can improve international lending and their own national resource sharing programs.

Brazier, Helen, and Victoria Owen. 2000. Library provision for visually impaired in the UK and Canada: national services and international cooperation. *Alexandria* 12(2):71–80.

The National Library for the Blind in the United Kingdom and the Library for the Blind (at the National Institute for the Blind) in Canada serve blind and visually impaired patrons with services and technologies that make it possible for them to read. These services include reading machines, scanners, speech synthesis, magnification, braille, transcription,

etc. The two libraries are developing a partnership program to make braille and electronic materials available to all users. Main features of the program are interlending, information and reader's advisory for members, passwords for access to their OPACs, joint collection development, coordinated production of software, file formats, printing standards, digital library services, and joint development of a library management system. It is intended that the partnership will reduce duplication, maximize benefits for clients, and serve as a prototype for global library services to visually impaired people throughout the world.

Brisson, Roger. 2000. The German Resources Project: the promise of technology in fostering international collaboration. *Library Hi Tech* 18(3):234–255.

Conceptual and historical backgrounds of cooperative collection development and library practice and the many points of contact between American and German research in North America and Germany. Examines the potential for greater cooperation among North American and German libraries developed by the Association of American Universities/ Association of Research Libraries German Resources Project. Working partnerships have been established and will be expanded in telecommunications and computing, book production and distribution, cooperative collection development, bibliographic control, document delivery, interlibrary loan, librarian exchange programs, training in librarianship, and other initiatives.

Brown, Roland C.W. 1992. Dealing with computerized data in the international arena. *Collection Management* 15(3/4):399–415.

OCLC plans to pursue the international exchange of bibliographic data in computerized form to facilitate worldwide exchange of information and greater resource sharing. Some of the barriers include national policies on information flow, lack of interest, absence of standards, distance, currency fluctuations, cost and availability of telecommunications, and language differences. Briefly describes initiatives in Europe, the United States, Canada, and Sweden.

Bruner, Katherine E., and Clare Coffey. 1996. A trip to China. *Tennessee Librarian* 48(Spring):23–26.

A middle school librarian and children's librarian from Tennessee participated in a tour of Chinese libraries sponsored by the Citizens Ambassador Program of People to People International. The tour, comprising 66 participants from 38 states, Bermuda, and Canada, offered an opportunity for American children's librarians to exchange ideas and information with Chinese counterparts in schools, public libraries, and universities. Bruner and Coffey offer their observations of the National Library of China, Beijing University library school, Jiangsu Province Library, and several primary and middle school libraries.

Burnett, Anne, and Laura Martino. 2000. The adventures of two librarians in Buenos Aires, Argentina and Athens, Georgia, U.S.A. *Legal References Services Quarterly* 18(3):3–13.

As part of a USIA grant, Burnett and Martino exchanged visits for a month to work on projects related to training for legal resources available in both countries. In Buenos Aires, Burnett worked at the library of Universidad del Salvador offering training in the U.S. legal system, researching legal materials, using the Web for legal research, and creating the framework for a bilingual dispute resolution web site. In Athens, Martino worked with Burnett at the University of Georgia Law Library on the web project, she received training for researching U.S. legal materials and trained Burnett for acquisition of Argentine materials and using web resources for Argentine legal research. The article discusses ways of setting up exchanges, tips for working in a foreign country, and the costs and benefits of exchange programs.

Byrne, Alex. 2000. Promoting intellectual freedom globally through libraries: the role of IFLA. *Libri* 50(1):60–68.

IFLA established the Committee on Free Access to Information and Freedom of Expression (FAIFE) in 1977 to report on and address issues regarding intellectual freedom and libraries around the world. Discusses FAIFE's activities and IFLA's stand on the right of free and open libraries, diversity of views, and universal access to information.

Byrum, John D. Jr. 2000. The emerging global bibliographic network: the era of international standardization in the development of a cataloging policy. *Library Resources & Technical Services* 44(3):114–121.

Discusses the increasing international applications of Anglo-American Cataloging Rules 2 (AACR2) to library systems around the world. AACR2 has been widely accepted and brought into general conformance with cataloging practices in North America, the United Kingdom, Australia, and some European and Middle Eastern Countries. Individual libraries in Latin America, the Baltic states, Hungary, Czechoslovakia, and South Africa have also adopted AACR2. The article covers strengths of AACR2 and the collaborative efforts among the contributing libraries to use the rules for international bibliographic control and access.

Case, Donald Owen, and Wendy A. Miller. 1996. The Czech–Kentucky connection: helping their libraries recover from the Cold War. *Kentucky Libraries* 60(Summer):17–20.

To help modernize libraries in the Czech Republic, the University of Kentucky School of Library and Information Science sponsors study visits by Czech librarians to Kentucky and other states in the region. The visiting librarians stay in the United States for three months to learn more about cataloging and library automation. Analyzes the state of public libraries in the Czech Republic and some of the funding and staffing issues.

Case, Mary M., and Deborah L. Jakubs. 2000. Building the global collection—world class collection development: a chronicle of the AAU/ARL Global Resources Program. *Journal of Library Administration* 29(3/4):237–254.

The Global Resources Project seeks to develop collaborative programs for access to international research resources and distributed collection development in foreign languages. Programs are underway in Latin America, Japan, Germany, Africa, South Asia, and Southeast Asia. Discusses publishing trends and cost and access issues. These programs facilitate the identification, cataloging, digitization, location, and delivery of research materials. Challenges ahead involve more effective coordination, communication, and follow-up and support at the highest levels of leadership. Emphasizes the need to train area studies librarians to participate in the projects to encourage more individuals to choose a career in librarianship.

Chepesiuk, Ron. 1998. The Dag Hammarskjöld Library reaches out to the world. *American Libraries* 29(6):66–68.

A profile of the Dag Hammarskjöld Library of the United Nations, a library without walls for the international community. The Library serves 141 countries and has a staff of 112, more than 5 million books, 15,000 periodicals, and a budget over \$20 million. An active outreach program offers World Wide Web services, an optical disk system for information storage and retrieval, digital preservation of UN documents and cartographic and documentary information to UN offices, missions, governments, and organizations.

Chepesiuk, Ron. 2000. Dream in the desert: Alexandria's library rises again. *American Libraries* 31(4):70–73.

The Bibliotheca Alexandrina library project in Egypt was dedicated to rebuilding the famous ancient library at Alexandria to serve primarily African, Mediterranean, and Middle Eastern countries. The project was completed in December 1999 with contributions from around the world. UNESCO and the governments of France, Germany, Italy, Greece, Japan, Norway, Spain, Turkey, the United Kingdom, and the United States and several countries from the Arab world contributed funds, equipment, and resources to the new library. Private organizations, Friends of the Library, and private individuals also contributed to the rebuilding project. Discusses several of the library projects and services for print and digital collections. The project director stressed the importance of continuing international support.

Copeland, Sally. 1995. Library connections abroad. *CSLA Journal* 19(1):8–11.

Discussion of exchange opportunities for librarians at overseas library schools. Covers overseas opportunities, how to apply, and steps for getting involved internationally.

Cornish, G.P. 1992. Charging for interlibrary loan nationally and internationally. *Interlending and Document Supply* 20:102–107.

Charges for interlibrary loan (ILL) are determined by transaction size, politics, income situation, and moral objections. Presents arguments for and against charges for ILL in the United Kingdom, Europe, former USSR, the United States, Canada, and Australia. The gap between those libraries that can pay and those that cannot may hamper library cooperation.

Cramond, Stephen. 1999. Efforts to formalise international collaboration in scholarly information infrastructure. *Library Hi Tech* 17(3):272–282.

A historical overview of collaboration between the university sector in Australia and equivalent bodies in the United Kingdom and the United States to develop an information infrastructure and international liaisons. Covers a range of issues including library purchasing consortia, subject-based information gateways, mirroring of databases, authentication systems, and the scholarly communications crisis. Organizational issues include authentication mechanisms, mirroring of databases, intellectual property policies and practices, and support for cooperative cataloging of web resources. Cramond points out the strengths and weaknesses of this approach, but emphasizes that Australian libraries cannot act alone. Effective alliances with counterparts in North America, the UK, and Europe are essential.

Cran, Liz. 1994. Exchanging places: organizing an overseas job swap. *Australian Academic and Research Libraries* 25(3):172–175.

The author, a librarian at Charles Stuart University—Mitchell in Bathurst, New South Wales, organized an exchange with a librarian at Durham University in England. She discusses three areas that need to be considered when organizing an exchange. Cran states that you should be clear about your motivation and goals, follow institutional procedures, look for and correspond with your exchange partner, and take care of personal matters such as housing, finances, and transportation.

Cveljo, Katherine. 1996. International students in American library and information science schools. *Encyclopedia of Library and Information Science* 57(Suppl. 20):209–269.

A detailed analysis of issues concerning international students in library and information science schools in the United States. Presents a historical overview; cultural, economic, and social problems encountered by the students; the need for qualified LIS professionals to teach in less developed countries; developing programs relevant to their home countries; and the factors to be faced in running a successful recruitment program. Challenges for the future include better knowledge by all parties prior to recruitment and enrollment, encouraging students to participate in curriculum development and professional activities, integrating information on home countries into the curriculum, and provision of adequate study abroad funding by host countries.

Cveljo, Katherine. 1997. Internationalizing library and information science degree programs. II: Benefits and challenges for special librarians. *Information Outlook* 1(10):34–38.

Cveljo asserts that library and information science programs need to have an international focus in order to train librarians for an increasingly interdependent and interconnected world. The programs should involve international students in curriculum planning, include global information issues, and deal with specific international subject matter. International students would benefit by taking courses more appropriate to the needs of their home

countries and American students would benefit by gaining an international perspective with integration of foreign countries' issues into appropriate courses. Cveljo recommends setting up international partnerships and network contacts and developing exchanges with special librarians globally. Presents some of the numerous benefits gained by exchanges and partnerships and the impacts on librarianship in the new millennium.

David, Beau, and Artemis Leontis. 1999. Strengthening modern Greek collections. *College & Research Libraries News* 60(7):559–561.

Summary of a conference sponsored by the Library of Congress and the Council on Library and Information Resources regarding the state of modern Greek collections in the United States and libraries and archives in Greece. Greek participants at the conference stated that Greek and American libraries must establish formal exchanges to help build Greek collections in both countries. American participants indicated that American libraries are weak in Greek imprints and periodicals. They have additional difficulty finding reliable distributors of Greek materials and qualified catalogers. Greek collections are scattered among a dozen public and university libraries, but each has different holdings that are mainly of local interest. Participants established a modern Greek collections working group and listserv. They established task forces to work cooperatively on acquisitions, cataloging, interlibrary loan, periodicals, and holdings. Each group will analyze the problems and offer suggestions for improvement.

Dharma, N.R.A., and Jeannie Bess. 2000. West Virginia to West Africa and back: an intercontinental connection. *American Libraries* 31(7):44–46.

The Drain-Jordan Library at West Virginia State College in Institute, West Virginia and the National Library of Benin in West Africa began a three-year program of collaboration to share technology, cultural exchanges, and establishment of a selective depository of Benin government publications in the United States. Describes collection development, budget, acquisitions, training, electronic resources, and exchange visits at the two libraries. Although the original plan is for a three-year program, both institutions expect a permanent relationship to develop.

Dorman, David. 2000. A globetrotter librarian discusses her role in a changing world. *American Libraries* 31(9):48–50.

An interview with Marianna Tax Choldin, the director of the Mortenson Center for International Library Programs at University of Illinois/Urbana-Champaign. She discusses the work of the Center which has reached out to more than 450 librarians from 74 countries. Choldin offers some insights about how libraries and collections differ around the world and her experiences with librarians from other countries and cultures.

Dunoon, Peter. 1994. A down under view of a librarian's exchange to Texas. *Texas Library Journal* 70(Summer):4–5.

Dunoon, a librarian at the St. Michael's Grammar School in Melbourne, Australia, spent one year as an exchange librarian at the Oliver Wendell Holmes High School in San Antonio, Texas. He compares library collections and services in San Antonio and his home

district of Victoria. Dunoon offers recommendations for librarians who are seriously considering an exchange with overseas partners.

Egbert, M., and P. Llobrega. 1995. The British Council in Germany as information broker. *Information Services & Use* 15(2):147–152.

Egbert and Llobrega describe the British Council's role as an information broker in Berlin, Cologne, Hamburg, Leipzig, and Munich. In cooperation with the British Library, The Council makes British Library collections and expertise more readily available abroad and facilitates international library and information service development.

Elkington, Nancy E., and Dennis Massie. 1999. The changing nature of international resource sharing: risks and benefits of collaboration. *Interlending and Document Supply* 27(4):148–153.

Compares resource sharing practices and procedures in the United States and the United Kingdom from 1900–1998. Discusses reciprocal lending programs, costs, payment procedures, protocols, and standards. Describes the SHARES (Research Library Group's Interlending and Document Supply Partnership) program that includes 85 institutions in eight countries covering a network of academic, public, special, national, museum, law, and medical libraries and archives. Presents the benefits of international partnerships and some of the barriers and risks.

Erickson, Carol. 1993. Library and archival programs with Central and Eastern Europe and the former Soviet Union. *International Leads* 7(Winter):4–5.

The International Research and Exchanges Board (IREX) has been involved in research exchange programs for the countries of eastern and central Europe and the former Soviet Union for over 25 years. Projects are designed to give scholars access to the research materials of libraries in the respective countries without barriers. IREX activities include creating a Baltic information network to facilitate communication between American and Baltic libraries; sponsoring a conference of American and Far Eastern librarians to encourage access, cooperation, and exchange; evaluating the possibility of American libraries establishing relations with libraries, archives, and publishing houses in Eastern Europe; and providing cataloging training at a library school in Prague. IREX is also undertaking various initiatives to improve online communications, enrollment in library and information science programs, professional exchange programs, automation management, cataloging, and preservation among libraries in the former Soviet Union and the United States.

Evans, Gwyneth. 1998. Literacy and rural libraries: Canadian researchers in Africa draw ideas from Peru. *Logos* 9(2):80–85.

A Canadian project, CODE (Canadian Organization for Development through Education), has been fostering literacy projects in Africa since the 1980s. Focuses on CODE staff literacy projects for farm families in Cajamarca, Peru under the aegis of La Red de Bibliotecas Rurales (Network of Rural Libraries). Describes the goals of CODE, its

experiences in Africa, and how the African experience can be applied in Cajamarca. Evans outlines factors to consider in the Cajamarca project such as costs, cultural differences, gathering and distributing materials, and common goals.

Franks, Anthony R.D. 2001. International participation in the Program for Cooperative Cataloging: present status. *International Cataloguing and Bibliographic Control* 30(2):23–26.

Describes international participation in the Program for Cooperative Cataloging. The program has a membership of nearly 400 organizations and institutions in North and South America, Europe, Africa, Asia, and Australia that participate in cooperative cataloging decisions. Collaboration components include name authority, subject authority, online serials, and bibliographic control.

Franks, Anthony R.D., and Ana Cristán. 2000. International cooperation in the Program for Cooperative Cataloging: present and prospects. *Cataloging and Classification Quarterly* 30(4):37–50.

The Program for Cooperative Cataloging is an international initiative among libraries in the United States, Europe, Asia, and South Africa. It began as a project of national libraries and has now expanded to include other libraries in the respective countries. Current programs are geared to name authority and subject authority cataloging to standardize the entries and make decisions on cataloging protocol. Member libraries participate in workshops and training sessions at their institutions and each library undergoes a review before beginning independent contributions. The program is expected to expand with many libraries around the world participating.

Friend, Frederick J. 2000. Libraries of one world: librarians look across the oceans. *Collection Management* 24(3/4):281–287.

Friend analyzes some cooperative international library programs in the United Kingdom and the United States. He discusses cost, distance, copyright, and structural barriers that restrict the opportunity to develop dynamic partnerships. Friend claims that some publishers, libraries, and other information intermediaries behave as though geographical barriers to information are still in place, while others recognize the importance of the international electronic world but cannot adapt their structures to take full advantage of the new opportunities. He presents overviews of the work of three UK organizations: 1) the Joint Information Systems Committee (JISC), which looks after national information issues in networking or content; 2) Society of College, National and University Libraries (SCONUL), which promotes collaboration between academic libraries in the UK and the Republic of Ireland; and 3) Consortium of University Research Libraries (CURL), which represents large research libraries in the UK. He gives opinions regarding three American organizations—OCLC, Research Libraries Group (RLG), and Association of Research Libraries (ARL)—and the International Coalition of Library Consortia (ICOLC), a global organization based in the United States. Friend urges these to reach out to more member libraries and expand their focus for greater worldwide collaboration.

Fuller, Richard. 1996. From Mentel to Minitel. *Public Library Journal* 11(May/June):81–85.

Fuller, an area manager with Leeds City Libraries and Information Services (UK), presents his experience visiting municipal and communal libraries and *médiathèques* in the Alsace-Lorraine Region of France on a study tour with a group of librarians. He describes the architecture, collections, services, resources, and roles of the various libraries.

Gopinath, M.A. 1999. Perspectives in international librarianship: a trend analysis. *Library Science with a Slant to Documentation and Information Studies* 36(1):1–2.

An editorial outlining problems and trends to be considered in the use of information technology to promote library awareness. Lists 23 factors for discussion regarding universal access to information, promoting international cooperation, and global information infrastructures. Factors listed include impact on the profession, cultural enrichment, private sector development, education and training, use of information, raising public awareness, and encouraging international cooperation.

Gotsch, Paula. 2001. An international perspective: an interview with Ellis Beteck. *Public Libraries* 40(1):30–31.

Ellis Beteck is Collections Development Librarian for the United States Agency for International Development and a participant in the Libraries Build Sustainable Communities initiative. Beteck discusses the role of USAID library in Washington and USAID mission libraries in host countries which are used by AID staff, host country government personnel, students, Peace Corps volunteers, and others involved in the field of development. He recommends establishing grassroots library partnerships among countries to share their knowledge and skills.

Grimes, David. 2003. Turning corners: American librarians in Post-Soviet Russia. *American Libraries* 34(9):56–58.

Grimes, a librarian at the Flushing Branch of Queens Borough Public Library, describes his 80-day visit to Russia under the Information Professionals in Residence exchange program which provides training staff for the American Corners in Russia libraries initiative. American Corners establishes small American-style libraries throughout the country to inform Russians about the life and culture of the United States. American librarians visit libraries in five Russian cities to train librarians and exchange views regarding librarianship in the two countries. During his visit, Grimes covered topics involving website creation, library structures and services, bibliographic instruction, job information centers, library clerical, management, and funding structures and freedom of information issues. He was warmly received at all the sites and found the staff eager to learn about America and how it operates its libraries and information centers.

Hall, Bonlyn G. 1996. A Virginia librarian in Turkey. *Virginia Libraries* 42(4):16–17.

Hall, a music librarian at University of Richmond, spent a summer at Bilkent University in Ankara, Turkey. She served as a consultant for the library's music collection and services. She observed library services, spent hours assessing the collections, and recommended changes. Hall visited 10 libraries in four universities, one music conservatory, one secondary school, the Turkish Parliament, the National Documentation and Research Center, the Turkish National Library, and the Turkish American Association. These visits gave her a better understanding of Turkish librarianship and the financial constraints that affect collections and services.

Haravu, L. Jai. 1994. Library networking and resource sharing in the NARS and possible role of IARCs. *IAALD Quarterly Bulletin* 39(3):253–259.

National agricultural research systems (NARS) and international agricultural research centers (IARCs) in Asia, Africa, and Latin America need to build stronger networks to share agricultural information. Haravu points to inadequate funds and skills, poor access to databases and information technologies, and isolation of information workers in NARS and IARCS libraries as barriers to development of networks. He presents necessary requirements and guidelines for building the networks to achieve successful information flow and cooperation.

Hazen, Dan. 2000. Dancing with elephants: international cooperation in an interdependent (but unequal) world. *Collection Management* 24(3/4):185–213.

Examines international cooperation among libraries using Latin America as an example. Hazen indicates that the region's cultural assumptions, institutional styles, and operational underpinnings are quite different from those of North America. This has implications for the kinds of resources and types of libraries involved in cooperative efforts and how these contrasts can play out in practice. Gives examples of the impact of North/South divide on cross-regional cooperation and global and historical contexts. Offers suggestions for creating successful programs and broadening cooperation.

Hill, Greg. 1996. Dobro Poshalovat! Alaskan public librarians visit their Russian counterparts. *Public Libraries* 35(November/December):360–364.

Two directors of the largest public libraries in Alaska and a Russian speaking consultant visited regional libraries in Yakutsk, Magadan, Vladivostok, and Khabarovsk in the Russian Far East. They compared the resources and services of the libraries and the differences and similarities between Russian and American public libraries. The purpose of the visit was to explore possibilities for exchanges of publications and staff. Earlier visits resulted in retrospective conversion projects at academic libraries in the four cities.

Husem, Elizabeth. 1998. International cooperation and the European Association for Health Information and Libraries. *Health Libraries Review* 15(1):21–27.

Describes the history, goals, and cooperative activity taking place under the auspices of the European Association for Health Information and Libraries (EAHIL). EAHIL promotes professional development and the improvement of cooperation and exchanges among its members. The Association's goals include conferences and workshops in various European countries, effective communication and networking among member libraries, and the establishment of working alliances and cooperative agreements that would strengthen health and medical science libraries in Europe. The association is now making a special effort to increase involvement of libraries in the nations of Eastern and Central Europe.

Hutton, C. 1997. High altitude librarianship: the adventures of an ALA Library Fellow in Tibet. *Information Technology and Libraries* 16(March):30–33.

Hutton relates her experiences during a three-month visit as a Library Fellow sponsored by the Tibet Development Fund. She taught library science, trained library administrators, and compiled an English–Tibetan library and computer science thesaurus. Hutton compares the role of libraries in Tibet and the United States and the challenges Tibetan libraries face in budgets, staffing, and collection development.

Hytinen, Phyllis. 2000. Toward sustainable library development: The Inform the World Librarian Volunteer Program. *International Leads* 14(4):1–2.

The Inform the World (ITW) Librarian Volunteer Program places U.S. volunteer librarians in rural African libraries. Volunteers live in the communities and work with the librarians to provide assistance, training, book buying, and problem solving. The ITW program is sponsored by the World Library Partnership (WLP), a nonprofit organization that promotes literacy, learning, and access to information in developing areas of the world. Briefly describes experiences of volunteers in Zimbabwe and South Africa.

Iivonen, Mirja, and Diane H. Sonnenwald. 2000. The use of technology in international collaboration. *ASIS Proceedings (Proceedings of the 63rd ASIS Annual Meeting)* 37:78–92.

Examines two case studies regarding the use of technology for collaboration across borders for library and information science students in an international graduate course and a professional continuing education course. The first course, a master's level course called "Collaboration Across Boundaries" was taught collaboratively at the University of North Carolina at Chapel Hill and University of Oulu in Finland. The second course, called "Collaboration in Small Libraries," involved 15 librarians from Finland, Sweden, Norway, and Russia who explored collaboration across borders from different perspectives. The main focus of the studies was to measure the perceptions and use of technology in transborder collaboration. Participants used telephone, fax, desktop audio and video conferencing, shared application tools, and shared workspace tools. The studies measured sense of presence, participation, task type, productivity, and ease of use. Findings indicated a positive attitude to use of new tools for collaboration but problems with

alternative technologies, Internet infrastructure, quality of access, and cultural differences regarding use of technology can have an impact on the quality of collaboration.

Ijlon, Ariane, and Charles B. Lowry. 1998. The international perspective—the European Union experience in library co-operation. *Journal of Academic Librarianship* 24(2):151–153.

Describes library cooperation in the European Union. Gives details on the political structure of the EU, characteristics of European libraries, and the overall objectives of the library cooperation program. The complexities of budgets, political jurisdictions, funding, and character of libraries across different countries of the EU are noted as barriers to comprehensive library cooperation. Nevertheless, a series of programs have been developed to overcome these barriers with focused goals and activities that will enable EU libraries to cooperate and serve their constituents' information needs well into the 21st century.

Jakubs, Deborah L. 2000. The AAU/ARL: Global Resources Program: both macrocosm and microcosm. *Journal of Library Administration* 29(3/4):255–312.

The Global Resources Program is designed to improve access to international research resources for scholars and students through cooperative collection development. The program has six regional projects in Africa, Germany, Japan, Latin America, South Asia, and Southeast Asia. Gives details regarding the project model, funding, the impact on libraries, expanded roles for bibliographers, and benefits for scholars and students. Provides background information on the ARL Foreign Acquisitions Project to build collections on area studies and international education in North American libraries. Focuses on how the participating libraries use technology to cut program costs and provide wider access. Briefly summarizes other international library acquisition programs around the world.

Jannetta, Victoria. 1997. Trading places: library placement and exchange schemes. *The Law Librarian* 28(2):70–72.

Summary of a report to the British and Irish Association of Law Librarians (BIALL) to establish library placement and exchange schemes for BIALL members. Discusses reasons for participating in the scheme, examples of schemes in the UK, other people's experiences with exchanges or placements, and points to consider when organizing a job exchange.

Johnson, Eric. 2002. The American Corners Program in Russia: Building Successful Partnerships. *International Leads* 16(4):1–2, 8.

Johnson discusses the American Corners and Centers Project in Russia. This program establishes libraries in cities throughout Russia with English-speaking bilingual librarians and collections focusing on the United States and its way of life. The program is operated by the US Department of State and the US Embassy in Moscow to create mutual

understanding between the two countries. Johnson gives details about the origin of the program, the locations of the libraries, the sponsors, and activities.

Jones, Ray, and Colleen Seale. 1992. Three electronic networks: their potential international roles for library communication. *Collection Management* 15(3/4):425–437.

International networks facilitate transborder data flows and enable libraries, librarians, archivists, and scholars to share and exchange knowledge with colleagues around the world. Compares and describes BITNET, ALANET, and PolilNet which have connections to libraries in the United States, Europe, Canada, Asia, and South and Central America.

Kahl, S. Carolyn. 1993. A first step: the US–Mexico Interlibrary Loan Project. *Journal of Interlibrary Loan, Document Delivery, and Information Supply* 4(1):17–24.

A cooperative program of interlibrary loan among 25 U.S. libraries (members of AMIGOS) and six Mexican private colleges and universities. The program, established in 1989, emphasizes information literacy and access to resources by electronic interchange of information and electronic instruction. Discusses the procedures for transmitting and filling requests and some of the problems that arise. The program has been successful and has enabled all participants to improve interlibrary cooperation and communication.

Kaula, P.N. 1993. Impact of Ranganathan's concepts and techniques on international librarianship. *Herald of Library Science* 32(1/2):36–43.

Overview of Ranganathan's activities and the influence of his techniques and ideas on national and international librarianship.

Kent, Susan. 2000. Going global. *Library Journal* 127(18):44–47.

The Bertelsmann Foundation International Network of Public Libraries was founded in 1996 to facilitate exchanges among public libraries around the world. Kent, a librarian at Los Angeles Public Library, relates her experience visiting Singapore's National Library with colleagues from other countries. She describes the popular public library system in Singapore that includes radio frequency identification tagging for materials and patrons; the "Information Gas Station" in Helsinki, web site of technology-based resources developed at the public library system in Aarhus, Denmark; personalized email book services at Christchurch City library in New Zealand, and Bertelsmann Foundation's "bibweb" to help German public librarians learn about management issues. Kent points out that although there are only 15 participants in the projects at any one time, they learn from each other and gain new insights and share visions for future public library services.

Kern, Kristen, and Faye Powell. 2001. International librarianship, part II. *OLA Quarterly* 7(1):1–24.

A series of articles by librarians who have served in foreign exchange programs. American librarians discuss their impressions of libraries and librarianship at the Bibliotheque

Nationale and the Interuniversity Library of Oriental Languages in Paris, the Bailin Temple Library in Beijing, and National Library of the Philippines. Chinese librarians describe their experiences during a six-week visit to the Oregon State Library and 16 other libraries in Oregon. Presents overviews of the Intercultural Communication Institute in Portland and three international library organizations: International Federation of Library Associations (IFLA), ALA's International Relations Round Table, and International Association of School Libraries. See also: Powell, Faye, and Kristen Kern. 2000. International librarianship, part I. *OLA Quarterly* 6(4):1–20.

Kesselman, Martin. An outline of cooperative international partnerships for sci-tech libraries (<http://www.ifla.org/VII/s7/p1994/cooplib.htm>).

Kesselman advocates international cooperation and partnerships for science and technology libraries. He discusses the importance of “library twinning” for science and technology libraries in developed and developing countries and outlines the benefits and challenges of twinning. Practical guidelines for twinning relationships and case studies of twinning agreements are presented to illustrate the significance of library cooperation initiatives. Includes links and descriptions of web sites related to library cooperation.

Klim, Irina. 2000. The impact of American librarianship on libraries of Communist and post-Communist Russia. *Advances in Librarianship* 24:209–224.

A history of the influence of American librarianship on Russian library development following the Cold War. The influences include open access to books and information, elimination of ideological goals of libraries, and emphasis on service. Russian libraries were encouraged to take active roles in professional associations, legislation, local management, marketing, and library automation. Describes the trends and progress that American librarians brought to Russia and current efforts in collaboration.

Knuth, Rebecca. 1997. The effect on developing countries of hosting an international conference: a content analysis. *World Libraries* 8(1):4–13.

The International Association of School Libraries (IASL) rotates its conference venues and schedules and holds some conferences in developing countries. When a country serves as a conference venue it stimulates professional development and leadership skills and brings favorable attention to school library development in the host country. Knuth presents a content analysis of conference proceedings held in developing countries from 1972–1993 to determine the impact of the host country on conference themes, topics of papers, and workshops. Twenty-two volumes of proceedings were analyzed under four topic areas: school libraries, cultural aspects, educational aspects, and professional aspects. The study revealed that the periodic scheduling of conferences in developing countries promotes a dynamic interaction among libraries and librarians and counteracts tendencies toward bureaucratization and institutionalization of professional models that may not be applicable in those countries. The contributions of members from developing countries has been instrumental in expending IASLs perspective on the profession.

Krieger, Michael T. 2001. The context of an American, Catholic, academic library in modern India. *Catholic Library World* 71(3):167–175.

In 1997, The University of Dayton established an undergraduate academic program in Bangalore, India to serve a specialized student body of Indian students studying to be religious brothers in the Marianist religious order. In 1998 a librarian was sent from the University of Dayton to organize a collection and build a library. This article discusses the founding of the Deepahalli Library outside Bangalore and the steps involved in building the initial collection. Explores the historical context of academic libraries in India and the role of American and Catholic participation in Indian colleges.

Lavin, Michael R. 1996. Business libraries in Poland. *Business and Finance Division Bulletin* 101(Winter):15–20.

Lavin, a professor at the State University of New York at Buffalo, spent two weeks at the Jagiellonian University Department of Library and Information Science (Krakow) delivering a series of lectures. The two universities have an active exchange program. He visited the Krakow Academy of Economics Main Library, Jagiellonian Institute of Economics Library, Information Department Jagiellonian University and the Krakow County Library System Main Library. He gives short descriptions of these libraries and his impressions regarding collection development, reference service, library automation, and outreach.

Lepore, Vickie. 1999. Feelings of people in the whole world are the same. Russian and American teens meet through books and the Internet. *Voice of Youth Advocates* 22(5):308–309, 312.

Describes the “Book Views” program, an Internet-based library program for middle school teens in Florida and Russia to communicate about books and literature. Through the Columbia County Public Library system in Lake City, Florida, Lepore put students in touch with counterparts in Russia who read at least eight books during the program and shared their views by email.

Linsley, Laurie S. 2001. A multicultural experience: community college students create a library in a Mexican village. *College & Research Libraries News* 62(7):696–700.

A teacher and students at in the Mexican Studies Program at Seminole Community College in Sanford, Florida develop a library in the Mayan pueblo of Coba in the Yucatan Peninsula of Mexico. Linsley describes the steps and challenges in obtaining books, getting a suitable building, developing a card catalog, and interacting with the people of Mexico. Books and cash donations were contributed by San Antonio Public Library, University of Miami, Borders Books & Music, and citizens of Florida. The teacher trained a woman from the village to be the librarian, and the most fluent student translated a library manual into Spanish.

Löhner, Wolfgang. 1993. Unesco. In: *World Encyclopedia of Library and Information Services*, 3rd ed. Chicago: American Library Association, pp. 827–833.

A description of the General Information Program (PGI) of UNESCO. PGI is a worldwide program that assists member countries in establishing information infrastructures and dissemination strategies. UNESCO participates in creating uniform standards for information protocols, trains information specialists, and plays an important role as consultant and facilitator in establishing libraries, archives, and documentation centers.

Lombardo, Nancy T., Kenning Arlitsch, and Joan M. Gregory. 2000. Cyprus Medical Libraries Project: international collaboration for electronic document delivery and full-text database development. *Issues in Science & Technology Librarianship* No. 27 (<http://www.library.ucsb.edu/istl.org/00-summer/article3.html>).

With funding from the Middle East Cancer Consortium and a partnership with the Spencer S. Eccles Health Sciences Library at the University of Utah, medical libraries in Cyprus now have access to an electronic document delivery system and a full-text database of Cypriot cancer and health literature. Presents a brief history of Cyprus, description of its medical libraries, major needs, funding opportunities, digitization programs, and collaborative activities. Discusses the importance of establishing international cooperation and collaboration programs that benefit both small and large libraries and facilitate the flow of health and medical information to the public.

Long, Sarah. 2001. Library to library: global pairing for mutual benefit. *New Library World* 102(3):79–85.

The Sister Library Program of ALA develops partnerships with academic, public, and special libraries around the world. The partnerships provide opportunities for dialog, networking, and exchange of ideas that focus on understanding the culture, principles, beliefs, and needs of library services in each country. Components of the program and the insights and experiences gained in recent years are described.

Maack, Mary Niles. 2000. International dimensions of library history: leadership and scholarship, 1978–1998. *Libraries and Culture* 35(1):66–76.

A brief history of international library collaboration and the importance of international scholarship in the profession. Discusses major conferences and publications covering international themes and the role of Library History Round Table of the American Library Association in promoting international research on the history of books, reading, and libraries.

Majid, Shaheen. 2001. Bibliographic control of agricultural information resources in Muslim countries: a bibliometric analysis. *IAALD Quarterly Bulletin* 45(1&2):13–20.

The International Information System for the Agricultural Sciences and Technology (AGRIS) issued by FAO is an international database citing locally produced agricultural literature from 161 countries and 31 international organizations. This study assesses the

participation of 38 Muslim countries in ACRIS. Examines the mechanisms for identification, acquisition, and processing of the literature and problems of access and bibliographic control.

McKimmie, Tim. 1998. NAL International Activity: The European Biological Laboratory and the Complex International de Lutte Biologique Agropolis, Montpellier, France. *IAALD Quarterly Bulletin* 43(1&2):7–10.

A report of cooperation between the U.S. National Agricultural Library (NAL), the European Biological Control Laboratory (ECBL), a U.S. Department of Agriculture laboratory, and the Agropolis International Center for Biological Control (CILBA) in Montpellier, which consists of nine member organizations engaged in worldwide biological control research. NAL assisted in the creation of a CILBA documentation center, organized the collection, and provided interlibrary loans and an exchange program.

Mirsky, Phyllis Simon, R. Bruce Miller, and Karl K. Lo. 2000. From Farmington Plan to the Pacific Rim Digital Library Alliance: new strategies in developing international collections. *Collection Management* 24(3/4):241–250.

Discusses opportunities for international cooperation around the Pacific Rim region. The Pacific Rim Digital Library Alliance (PRDLA) is a cooperative venture to improve access to the scholarly collections held by its member libraries as a means of overcoming political, geographic, language, and technical obstacles that arise in conventional interlibrary loan agreements. The alliance began as a two-year project among the University of San Diego Libraries and Academia Sinica in Taiwan. Other exchanges were developed with Peking University, Hong Kong University, and the Australian National University. Today, PRDLA is a consortium of 13 academic libraries in Australia, Canada, China, Japan, Korea, Mexico, Singapore, Taiwan, and the United States that cooperate in collection development, personnel exchange, and technology. A Pacific Rim Digital Library is being developed to serve alliance students and faculty with access to multilingual databases and full text online.

Newke, Ken M.C. 1993. National libraries as institutes of international understanding among member states of the Economic Community of West African States (ECOWAS). *International Information and Library Review* 25(4):281–291.

Examines the practice of librarianship at the subregional level in 16 West African Countries that are members of ECOWAS. Proposes the establishment of a subregional library network, a network of national libraries of the member countries, and implementation of a Federation of West African Library Associations (FWALA). These actions would foster the spirit of information sharing, pooling of information resources, and mutual understanding.

Ni Raghallaigh, Deirdre. 1996. Library services in King County, Washington. *An Leabharlann* 12(4):123–128.

Describes a three-month job exchange for a librarian from the Dublin Public Library to the King County Library System in Washington State. Offers her observations and comparisons regarding funding, staffing, customer care, and reference services.

Nkereuwem, Edet E. 1996. The utilization of aid organizations in the development of information technology in developing countries. *Library Management* 17(5):25–30.

A report on the role of international aid agencies as sources of funding for information technology projects in developing countries. The organizations assist developing countries to develop and build information technology infrastructures. Describes the organizations involved in this effort and the kinds of information technologies that have been established with emphasis on Africa. The programs have also provided libraries and information centers in Africa, established databases and networks, purchased needed equipment, and improved the overall development of electronic library services.

Nye, James, and David Magier. 2000. International information exchange: new configurations for library collaboration in South Asian studies. *Collection Management* 24(3/4):215–239.

Research libraries with South Asian collections have developed regional and local collaborative efforts for preservation and enhanced access. The paper addresses the projects and their collaborative efforts, the successes, and future directions. Focuses on cooperative ventures between Library of Congress, University of Chicago Library, Columbia University, and libraries in India with Tamil and Urdu resources. Describes two new projects to broaden library cooperation across boundaries. The Global Resources Project with participating libraries in Africa, Germany, Japan, Latin America, South Asia, and Southeast Asia and the American Overseas Research Centers which helped establish a Center for South Asian Libraries to improve the exchange of scholarly information among member libraries in India, Pakistan, Bangladesh, Nepal, and Sri Lanka.

Oberg, Dianne, and James Henri, 2002. Information transfer and transformation in teacher-librarianship: synergy across the Pacific. *International Information and Library Review* 34(1):35–56.

Presents the concept of teacher-librarianship in Canada and Australia. Former classroom teachers receive specialist degrees in librarianship to develop school libraries and enhance information transfer at their schools. Discusses the history and theory of teacher librarianship in both countries and the role of the principal in information literate school communities. The collaborations have resulted in mutual exchanges, involvement in international association work, and informal agreements and commitments.

O'Connor, Brigid, and Stephen Roman. 1994. Building bridges with books: the British Council's sixty-year record. *Logos* 5(3):133–138.

Short history of the British Council's 60 years of worldwide library and book activities. The Council has a global network of over 160 libraries in 100 countries and actively assists

governments in improving and strengthening their library and information services and promoting books and reading.

O'Neill, M. 1994. British cultural exchange. *Library Association Record* 96(7):370–371.

Describes the library and information activities of the British Council with 185 libraries and resource centers around the world. The Council also provides assistance to governments and aid agencies in the development of national libraries. Addresses the question of the reputation of the Council among librarians in the UK and seeks to counter negative views of the Council. Includes brief profiles of British Council libraries in India, Sierra Leone, and Kuwait.

Peterson, Lorna, and Barbara Campbell. 1995. Using ESL students for global understanding of libraries in a graduate library science course. *Journal of Education for Library and Information Science* 36(1):57–59.

One of the challenges of the Introduction to Library and Information Studies course at SUNY-Buffalo is to give students greater exposure to comparative and international librarianship. This article reports on a project in which students from different cultures and countries enrolled in the Intensive English Language Institute participate in panels with students from the School of Information and Library Science to speak about their cultures and the perceptions of the libraries in their countries. Both groups report finding the experience enlightening and enjoyable. It offers all panelists the opportunity to dispel stereotypes and gain a greater understanding of the cultural, political, geographic, and economic situations of libraries outside North America.

Place, Emma. 2000. International collaboration on Internet subject gateways. *IFLA Journal* 26(1):52–56.

Outlines some of the initiatives among libraries in Europe to develop Internet-based subject gateways. Subject gateways provide users with selected catalogs, web sites, and hyperlinks in subject areas of interest to a wide range of users. Initiatives are underway in the United Kingdom, the Netherlands, Finland, Sweden, and Denmark. The DESIRE project, funded by the European Union, is a gateway serving Europe's national libraries. "IMesh: The International Gateway Community" is a collaborative project with 15 countries participating to build international subject gateways that serve users worldwide. Place describes the goals, structures, selection procedures, and collaborative efforts of the participating libraries.

Popa, Opritsa D., and Sandra J. Lamprecht. 1994. Romania and United States library connections. *Advances in Librarianship* 18:189–213.

International library teams visiting Romania in 1990 following the fall of the Ceausescu regime, found deteriorating collections, antiquated equipment, inadequate buildings, and a lack of educational opportunities in the national, academic, and public libraries. The article provides an overview of the state of Romanian libraries regarding collections, facilities, education, censorship, working conditions, and professional life. America responded to the

crisis with a variety of book and subscription drives initiated by libraries, societies, and universities. Libraries in Western Europe, England, Scotland, and France launched book campaigns for Romanian libraries. United States libraries initiated collaboration for “new paradigms” for Romanian libraries. They designed programs for study visits, exchanges, Fulbright assignments, technology transfer, preservation, and joint colloquia. These initiatives help put Romania back on the road to restoring its library infrastructure.

Powell, Faye, and Kristen Kern. 2000. International librarianship, part I. *OLA Quarterly* 6(4):1–20.

A series of articles by librarians who have served in foreign exchange programs. The librarians discuss their impressions and experiences in India, Ireland, Fiji, and Germany. See also: Kern, Kristen, and Faye Powell. 2001. International librarianship, part II. *OLA Quarterly* 7(1):1–24.

Powell, Ronald R. 1997. Report on Russia project—Moscow, 1996. *Journal of Education for Library and Information Science* 38(Spring):161–164.

Powell, a professor of Library and Information Science at Wayne State University (Detroit), describes his experiences as a visiting professor at the Moscow State University of Culture at Khimki, a suburb of Moscow. He toured the University and met with faculty and officials, gave lectures on collection development, budgeting, evaluation and maintenance of library materials, and intellectual freedom and censorship and visited some Moscow libraries. Powell briefly describes his observations of the Central Scientific Agricultural Library, Nikolay Public Library, and City Central Public Library.

Rader, Hannelore B. 1994. The international role of U.S. librarians. *Bowker Annual* 39:91–94.

Librarians in the United States have been active in international cooperation since 1867 and have taken active roles in cultural and library activities and exchange programs worldwide. Rader points out that the globalization of telecommunications and electronic information networks have made it possible to communicate with colleagues around the world. This has an impact on the sharing of business information, the role of the library in institutions of higher education, and development of new technologies to meet the needs of a wider range of users. The expansion of global communication enables U.S. and foreign librarians to learn from each other.

Ren, Wen-Hua. 2000. Library services to distance learners across the Pacific. *Proceedings of the National Online Meeting* 21:353–358.

In support of the Rutgers University International Executive MBA program, Rutgers Libraries have developed and provided a variety of library services to enrolled students in Singapore and China. An email survey was conducted in the 1998–1999 class in Beijing to identify student needs for library services and resources. Results revealed that students wanted electronic resources and services, electronic reference, and document delivery. In addition to collaboration with U.S. libraries, the Singapore and Chinese libraries have also

explored possible library collaboration and resource sharing. The survey revealed four areas to consider for continued collaboration: Internet communication for distance learning, library support by the academic communities, the need for a distance services coordinator, and understanding the needs of foreign users.

Rice-Lively, Mary Lynn. 2000. Borderless education at UT—Austin
GSLIS. Texas Library Journal 76(2):58–60.

An analysis of exchange programs at the Graduate School of Library and Information Science (GSLIS) at University of Texas—Austin and the Departamento de Bibliotecología y Documentación in the Facultad de Filosofía y Letras at the Universidad de Buenos Aires (UBA) and the Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico (ITESM). These collaborative programs include development of Web-based classes, teaching, and taking courses in the host institutions. These programs encourage the exchange of curricular content, technical expertise in instructional settings, and travel between the UT community and Monterrey and Buenos Aires. Faculty members attend classes and develop course related web pages. Faculty from the three institutions have gained new understandings of the teaching strategies and challenges involved in training future librarians. For UT faculty the program is an opportunity to develop Spanish language skills and create new alliances in Mexico and South America.

Roccos, Linda Jones. 2000. Archaeological research online—finally!
Computers in Libraries 20(10):36–41.

Roccos gives a description of the Archaeological Greek Online System (ARGOS), a union catalog for the cataloging and classification of information from 14 international archaeological libraries with resources in 10 different languages. She discusses the funding, financial support, and phases of development of the ARGOS project. The participation of foreign libraries is essential to the success of ARGOS. Through cooperation and collaboration, the participating libraries established standards and resource sharing programs. The Blegen Library at the American School of Classical Studies in Athens was instrumental in the initial phases of the project and continues to be a major participant. Other participating countries include Australia, Britain, Canada, Denmark, the Netherlands, France, Germany, Italy, Finland, Norway, and Sweden.

Sager, Donald J. 2000. The Sister Libraries Program. *Public Libraries* 39(4):195–199.

The Sister Libraries Program promotes international library partnerships and cultural exchanges among the world's libraries. The program, an initiative of the National Commission on Libraries and Information Science and Sister Cities International, gives librarians around the world the opportunity to communicate and learn about each other's cultures and exchange information. Some of the successful partnerships include public and school libraries in San Diego with libraries in Mexico, the Philippines, Japan, China, and New Zealand; River Valley Middle School Library in Indiana with the Carmel School in Hong Kong; Sno-Isle Regional Library system in Washington State and the Heineken City Library in Hekinen, Japan. Other sister library projects include a pen pal program at

Webster Public Library in Webster, New York in which children and teens communicate with others in England, Canada, Australia, and Japan; Virginia Beach Library volunteer program with Miyazaki City Library in Japan, and the Bangor Library in Bangor County Down in Northern Ireland.

Sager, Donald J. 1994. Third world libraries: is there an American role? *Public Libraries* 33(4):243–247.

Sager asserts that American libraries have a role to play in supporting public library development in third world nations. He offers opinions from four librarians who have been involved in third world library development. They discuss user education, patron contact, book donations, training, literacy programs, and other initiatives. Sager concludes that American librarians should share their experience and skills to advance free public libraries in the third world.

Scott, James Calvert, Warren Eugene Babcock, and Jan Nichols. 1995. Enriching international business faculty exchanges with the library connection. *Journal of Education for Business* 71(2):107–109.

Describes an exchange relationship among business librarians from Utah State University College of Business and the Bristol Business School at University of the West of England. The relationship was established to complement faculty exchanges at the two institutions. Faculty benefitted by relying on librarians to assist in providing current information to use in their courses and research assistance for their scholarly publications. Students benefitted by gaining access to new sources and learning how to find and use information. The exchange relationships bolstered the status of librarians who were perceived as full participants in faculty instruction and research at the two institutions.

Seal, Robert A. 1996. Mexican and U.S. library relations. *Advances in Librarianship* 20:69–121.

Examines library interactions and cooperation between the United States and Mexico during a 30-year period. Includes a literature review and perspectives on current and future cooperation. Provides an overview of libraries and librarianship in Mexico and obstacles to greater cooperation within the country. This is followed by detailed descriptions of joint initiatives and cooperative ventures between the United States and Mexico in all areas of librarianship. Presents background information on U.S. involvement in Latin America and Mexico and cooperation among libraries, librarians, associations, meetings, exchange programs, acquisitions, resource sharing, education, border relations, interlibrary loans, book donations, microfilming, and other ventures. Offers some opinions on obstacles to overcome and recommendations for future cooperation.

Segbert, Monika. 1999. A new system for Leninka. *Library Association Record* 101(7):414–416.

Segbert was sent to Russia by the British Council as team leader on an 18-month project to modernize the Russian State Library. She describes the library and its collections, staff and services, and its role as the largest library in Europe and the second largest in the world.

She provides details about the modernization effort, the stages of development, and special features of the proposed new facility.

Shraiberg, Yakov L. 1997. The Russian and NIS telecommunication infrastructure and providing worldwide access to Russian scientific and technical information—Part 1 of a 3 part article. *Library Hi Tech News* 143(June):5–9.

Describes telecommunications and Internet development in the newly independent states (NIS) and Russia focusing on scientific and technical information. Covers commercial and noncommercial data transmission networks available for research, cultural, and educational purposes. Two current Internet programs are Soros Foundation Open Society Institute's Internet Centers in Russian universities and a Russian Internet Federal Project with over 100 components geared toward the establishment of a national telecommunications network for science and technology.

Shraiberg, Yakov L. 1997. The Russian and NIS telecommunication infrastructure and providing worldwide access to Russian scientific and technical information—Part 2 of a 3 part article. *Library Hi Tech News* 144(July/August):7–15, 31.

Describes the Russian computerized library network and its projects including an automated Russian Union Catalog, library network projects to facilitate interaction among libraries in Russia and the NIS, a Russian Shared Cataloging Center, and a history of the telecommunication technologies developed by the Russian National Public Library for Science and Technology for use in other Russian libraries.

Shraiberg, Yakov L. 1997. The Russian and NIS telecommunication infrastructure and providing worldwide access to Russian scientific and technical information—Part 3 of a 3 part article. *Library Hi Tech News* 145(September):8–15.

Discusses telecommunications and Internet development in the newly independent states including the initial, developing, and advanced projects. Explains telecommunications and Internet projects in the Ukraine, the Baltic states, the Middle Asian countries, and other regions. Shraiberg describes the International Library Information and Analytical Center for the transfer of scientific, technological, financial, political, juridical, and business information among 40 American and Russian libraries.

Sinitsyna, Olga V., and Thomas E. Hill. 1997. Moscow–Poughkeepsie: report on a twinning libraries experiment. *IFLA Journal* 23(3):192–196.

The Vassar College Libraries and the Library for Foreign Literature in Moscow engaged in an 18-month project to explore the possibility of a twinning relationship. Both libraries have strong holdings in humanities, art history, and children's literature. They initiated projects for cooperative acquisitions, collection development, web projects, library

orientation, exhibits, and site visits. Staff at both libraries felt that twinning fostered a cultural linkage that enriched the libraries, their collections, and their patrons.

Skrzeszewski, Stan. 2001. The challenges and opportunities of globalization. *Feliciter* 47(1):8–9.

Brief description of projects of Canadian Library Association designed to establish international information networks around the world to exchange information, share views and experience, and create new knowledge.

Smith, George V. 1995. Remembering Angkor...meeting the Khmer. *International Leads* 9:1–4.

Smith, the Deputy Director of the Alaska State Library, Archives and Museums, relates his experience during an eight-month exchange program working at the National Library of Cambodia. He briefly describes the state of the country and the condition of the National Library and its staff and collection. During the first four months, Smith concentrated on projects related to collection assessment, weeding, preservation, and depository law.

Spain, Victoria. 1996. Unlocking the window to new forms of international cooperation with Russia. *Library Hi Tech News* 137:1–9.

A conference at Hofstra University was held to discuss formation of the Russian–American Information, Library, and Analytical Center with a home office in the United States. Yakov L. Shraiberg, originator and project manager, described it as a center with a wide range of services that will deliver Russian information online to American businesses, libraries, institutions, and individuals. Russian scientific, technical, economic, political, sociological, legislative, and other types of information, which will be translated into English and customized on request. Summarizes the center’s aims, projects, products, strengths, and viability. Provides details regarding the government agencies, libraries, institutions, organizations, and businesses that support the development of the center. Presents details of Shraiberg’s credentials and his advocacy of this project. (Note: The center has been established with offices in Washington, DC and Moscow and is called International Library Information and Analytical Center (ILIAC).

Spaven, Anne, and Claire Murphy. 2000. Parlez-vous technologie? Teaching information skills in a second language. *INSPEL* 34(3/4):179–186.

Two Canadian librarians relate their experiences teaching information and library skills in English to postsecondary students in a government-funded women’s college in the United Arab Emirates. They discuss their perceptions, cultural differences regarding the role of books and learning styles, and obstacles faced. They advise librarians who go abroad to teach library skills pertinent to those cultures.

Spies, Phyllis Bova. 2001. Key barriers to international resource sharing and OCLC actions to help remove them. *Interlending and Document Supply* 29(4):169–174.

Reviews the four key challenges facing international global library resource sharing programs and OCLC initiatives to solve them. Challenge 1: To bring a greater volume of library resources to the World Wide Web. Users are searching the Internet for large unfocused volumes of information and overlooking the vast library resources around the world. OCLC plans to transform World Cat into a globally networked multimedia bibliographic database and union catalog. Challenge 2: Resources in libraries cover over 400 languages making it difficult to share resources without standardization. OCLC plans to implement the ISO unicode standards to store bibliographic records from all the world's written languages. Challenge 3: Lack of a critical mass of online cataloging and metadata for many libraries. OCLC plans to establish gateways to major international union catalogs. Challenge 4: Lack of a tradition of library cooperation in many countries. OCLC is holding programs and seminars and supports institutes on international librarianship and the benefits of cooperation and partnerships for the world's libraries. OCLC's objective is to build an infrastructure that enables users to locate and obtain materials in all formats.

Stanley, Deborah, and Jack Cooper. 1997. Swapping Loughborough for California. *Library Association Record* 99(September):488–489.

Deborah Stanley, a librarian at Loughborough University in the UK, and Jack Cooper, a librarian at the University of California, Riverside, swapped their library jobs for nine months. They decided that working at a library in another country would broaden their professional outlooks and give them further insights about their respective countries. They worked in systems, information services, library instruction, and selection at the libraries. The authors provide recommendations for setting up an exchange and describe how to get accustomed to the new location. Both found the experiences professionally rewarding and gained new ideas and viewpoints to take back to their respective libraries.

Steele, Colin. 2001. Globalization and challenges in scholarly communication. *Alexandria* 13(3):177–181.

As globalization continues to break down national barriers, global domination of multinational publishers is growing. Steele alleges that the United States dominates the global Internet arena and the global domination of multinational publishers, which has an impact on worldwide dissemination of scholarly information. He calls for international standards and global cooperation and recommends several initiatives to meet the needs of research libraries in developing countries. These include more equitable pricing and marketing standards, cooperation and better communication among librarians and information professionals, interrelationship between national and academic and research libraries, and a structured global alliance among national research libraries and organizations. Steele concludes that these global research library alliances are needed for more equitable information access in the 21st century.

Strong, Gary E. 2002. International experience at the Queens Borough Public Library. *Public Libraries* 41(1):41–43.

The Queens Borough Public Library (QBPL) system in New York City's Borough of Queens has an active and widely diverse program of international exchange and

partnerships with libraries in many countries. QBPL provides training, library tours, and on-the-job experience for librarians from People's Republic of China, France, Argentina, Denmark, Yugoslavia, Turkmenistan, the Caribbean, Croatia, Russia, Slovenia, Lithuania, the Czech Republic, and other countries. QBPL has established the Center for Public Librarianship to give library professionals around the world an opportunity learn about librarianship in North America and how to apply that model to serve communities in their home countries.

Stueart, R.D. 1997. International librarianship: an agenda for research: the Asian perspective. *IFLA Journal* 23(2):130–135.

Addresses the need for information professionals around the world to form transborder working groups for communication, research, sharing experiences, and solving common problems. Outlines the barriers to international library cooperation such as technological, physical, economic, political, sociological, educational, and legal issues. Stueart indicates that research on international librarianship should focus upon testing hypotheses or gaining new insights that can be applied to libraries in Asian cultures. He recommends topics for research that are international in scope including planning and decisionmaking, access, services, technology, networking, personnel, and preservation.

Sullivan, Peggy. 1998. On my mind: global reach is complicated only by human relations. *American Libraries* 29(6):58–59.

Sullivan reflects upon the qualities necessary to be a successful international library consultant as presented in the book *Librarianship in the Developing Countries* (1966) by Lester Asheim. Drawing upon her experiences as a consultant, she points out that a consultant has to know the context of the community and the library's mission and goals. Consultants should learn about the country and people being served and have respect for the people and their culture when offering advice.

Swab, Joseph, ed. 1997. Special issue—International activities. *ALIN Notes* 23(1–6)(January–June) (available online at <http://www.nal.usda.gov/NewAlin/1997janjun/alin.htm>).

This issue of ALIN Notes focuses on activities of the National Agricultural Library and the library of Iowa State University in cooperation, outreach, and exchange programs around the world. Countries involved in these joint programs are Ukraine, Egypt, France, Belgium, Germany, China, Latin America, Australia, Turkey, India, and South Africa. Presents descriptions and objectives of the programs, the participants, and remarks about the importance of this type of cooperation and outreach.

Taylor, Louise. 1996. Librarianship around the world and back again: in twenty points. *Public Library Journal* 11(4):104–106.

Taylor, a librarian at the Warwickshire County Library in Wales, went on a six-month exchange program at the Wellington City Library in New Zealand. She presents a 20-step guide to planning and carrying out a job exchange between a librarian working in the UK with a librarian overseas. The steps include making contacts, choosing a library, learning

about the country, making travel arrangements, negotiating with an exchange, arranging accommodations, and other pointers.

Teplitskaia, Helen. 1998. Librarians as facilitators of democracy and partners in international relations. *Libri* 48(2):102–115.

A case study of library networking between the United States and the new independent states (NIS) of the former Soviet Union. Outreach methods applicable to emerging democracies encourage greater participation by librarians in local and international cooperation. The effort was initiated by the Library of Congress and the International Relations Office of the ALA to initiate information exchanges and cooperative programs. International library cooperation programs, which have the support of business and government agencies in the United States and NIS, facilitate access to international information, critical thinking, and cross-cultural skills.

Wagstaff, John. 2000. The International Association of Music Libraries (IAML): past, present, and future. *Advances in Librarianship* 20:189–208.

A 50-year history of the International Association of Music Libraries. The organization, with members in 20 countries, focuses on international cooperation, shared collections, establishing international cataloging code, and protection of the musical heritage. The article discusses the activities of IAML; problems and challenges involved in meeting the needs of public, academic, national, recording, broadcasting; and orchestral libraries, and attracting new members.

Watson-Boone, Peter G. 2001. Innovation in international library programs: the Slovenian Music Collection at the University of Wisconsin, Milwaukee. *College and Research Libraries News* 62(11):1090–1092.

The Slovenian Music Collection at the University of Wisconsin, Milwaukee Library began with a collection donated by a Slovenian-born professor of music. The library began to develop the collection with the assistance of a local community group, the Slovenian Arts Council, and a financial bequest to enhance the collection and arrange concerts, performances, and related activities. An exchange arrangement was established with the National and University Library in Ljubljana and two branches of the Slovenian Academy of Sciences and Arts. The arrangement includes publication exchanges, professional visits by librarians, and summer visits by students to participate in concerts with Slovenian students.

Wedgworth, Robert. 1998. A global perspective on the library and information agenda. *American Libraries* 29(6):60–63.

Wedgworth reflects upon the importance of global library initiatives across borders and individuals and institutions that have shaped international library relations in 162 countries. He pinpoints challenges to be faced in the future that include educating librarians and information specialists in modern tools and techniques; economic and technological developments that affect library services; advancing the cause of libraries

and librarianship to compete with commercial and professional interests; and understanding the conflicts that arise over culturally determined library resources and services.

Wilson-Lingbloom, Evie. 2000. Building bridges with sister libraries. *Public Libraries* 39(4):198–199.

Describes a Sister Libraries Program between the Sno-Isle Regional Library System in Edmonds, Washington and Hekinan City Library in Japan. The relationship has resulted in increased communication and cooperation among city staff in both countries, international exchange of information about the libraries and their services, an exchange of folklore and urban legends among teenage students from the two countries, and recognition of the libraries and their roles in the respective cities. Briefly describes other Sister Libraries efforts between American and foreign libraries.

Winter, Eric, and Monica Egbert. 1994. Anglo-German relations in librarianship. *German Studies Library Group Newsletter* 15:1–3.

A summary of activities jointly organized by the London & Home Counties Branch of the Library Association in England, the British Council in Germany, and the Foreign Relations Department of the German Library Institute. The activities cover exchange programs, study tours, German–British conferences, European Conferences with participants from West and East European countries, joint activities of professional organizations, library twinning, placement of library school students, and courses in English for practicing librarians.

Wolf, Milton T. 2000. Collecting science materials from developing regions: universal dilemma, collaborative solutions. *IFLA Journal* 26(2):103–106.

A consequence of the worldwide proliferation of information and knowledge and the price increases of scientific, technical, and medical (STM) resources is improper storage, deterioration, and loss of valuable STM information. Wolf proposes establishment of a working group in the Council of Research Libraries to promote cooperative collection and preservation of STM material at national and international levels. The working group will promote international forums among interested science librarians worldwide and develop international cooperative agreements for access and preservation of rarely held unique science materials.

Zoe, Lucinda. 2000. Remote access: the development of information services and technology in the global South. In: Fletcher, Patricia Diamond, and John Carlo Bertot, eds. *World Libraries on the Information Highway: Preparing for the Challenges of the New Millennium*. Hershey, PA: Idea Group Publishing, pp. 263–287.

A historical overview of the introduction and expansion of international communications and information technology from the 1960s through the 1990s. Examines the significant events, political forces, and grassroots activities that influenced its development. Focuses on the initiatives of the United Nations (particularly UNESCO), intergovernmental

organizations, rural libraries and information services, and grassroots efforts. Zoe concludes that user communities should be encouraged to create information technologies that are relevant to their needs and situations.

MONOGRAPHS

Bonta, Bruce, and James G. Neal. 1992. *The Role of the American Academic Library in International Programs*. Greenwich, CT: JAI Press, 312 p. ISBN 1559383836.

A collection of eleven papers examining the participation of American academic libraries and librarians in global library initiatives. An introductory section presents the issues, background, and future agenda of American higher education and international library programs. The papers focus on four areas: international resource sharing, American academic librarians abroad, librarians and students from abroad who come to the United States, and area studies collections in academic libraries.

Borgman, Christine L. 2000. *From Gutenberg to the Global Information Infrastructure: Access to Information in the Networked World*. Cambridge, MA and London: MIT Press, 442 p. ISBN 026202473X.

This work addresses issues of access in a networked world. Introduces the concept of a global information infrastructure. Presents ideas about access to libraries, collections and information content, and how libraries are adapting to global information issues. Analyzes the design of global information systems and services and their impact upon commerce, education, communication, entertainment, and government.

Carroll, Frances Laverne, and John Frederick Harvey. 2001. *International Librarianship: Cooperation and Collaboration*. Lanham, MD and London: Scarecrow Press, 377 p. ISBN 0810839210.

A collection of 32 essays by librarians and library educators active in international librarianship. They present their experiences with library cooperation and information transfer in public, academic, and special libraries around the world in developed and developing countries. Authors describe the programs and activities involving cultural exchanges, networking, resource sharing, publishing, machine-readable cataloging (MARC), and library education, and library marketing. The essays emphasize the roles of national and international organizations, universities, library educators, and librarians in promoting international library cooperation.

Contractor, Meher, ed. 1999. *Library and Information Science in Planned Development*. New Delhi: Anmol Publications, 242 p. ISBN 8174889957.

Covers a range of viewpoints on definition, development, and design of library science and information technology in developing countries. Discusses books and libraries in West

Africa, libraries and the publishing world, role of intergovernmental organizations in library development, social context of libraries, library education and training, information policy and censorship issues, resource sharing, and networking. The concluding chapter argues that university libraries of today are obsolete and recommends a series of changes to help university libraries meet the anticipated international needs of the 21st century.

Doyle, Robert, and Patricia Scarry. 1994. *Guidelines on Library Twinning*. Paris: UNESCO, 90 p. CII-94/WS/4.

A guide to establishing cooperative arrangements with libraries in other countries. Defines twinning relationships among libraries and offers historical perspectives and benefits of twinning. Explains the steps involved in establishing and maintaining twinning relationships for school, public, research, and university libraries. Gives example of successful twinning programs with emphases in collection development, staff development, donation and exchange programs, public relations and library adoption, and electronic twinning relationships. Includes a bibliography of relevant publications and three appendices with prototypes of a twinning partner request form, memorandum of agreement, and list of sister city twinning organizations.

Feather, John, ed. 1997. *Transforming Libraries and Educating Librarians. Essays in Memory of Peter Havard-Williams*. London: Taylor Graham, 155 p. ISBN 0947568727.

Havard-Williams was a library educator and consultant who promoted international librarianship and library education. The book contains 10 essays in his memory on libraries and librarianship in Africa in general and particularly in Malawi, Ethiopia, Korea, Pakistan, Algeria, and other countries. These scholarly essays focus on the sociological, economic, and political aspects of library developments and the formulation of policies and programs to enhance the development of international librarianship.

Fletcher, Patricia Diamond. 2000. *World Libraries on the Information Superhighway: Preparing for the Challenges of the New Millennium*. Hershey, PA and London: Idea Group, 131 p. ISBN 0585344566.

Contains 17 essays addressing worldwide access to the Internet and the critical role of libraries in facilitating access. Covers policy, publishing, connectivity, design and development, support, networks, technology, trends, and global cooperation and outreach. Describes successful examples from the United States, Canada, South Korea, Malaysia, Australia, the United Kingdom, and Estonia.

Garson, G. David. 2000. *Social Dimensions of Information Technology: Issues for the New Millennium*. Hershey, PA. Idea Group Publishing, 365 p. ISBN 1878289861.

Twenty essays present a broadbased approach to the phenomena of information technology and the social, political, educational, personal, and international dimensions that have an impact on information access. The essays present a variety of perspectives on electronic information and the human and technical issues that determine its role in our

lives for the next century. Describes inequalities in information access between the industrialized and nonindustrialized countries; how to improve and sustain worldwide information access; the past, present, and future of information flow in African countries; the need for international information policies to improve access; and the efforts to establish Internet-based networks for collaboration in the social sciences.

McCook, Kathleen de la Pena, Barbara J. Ford, and Kate Lippincott, eds. 1998. *Libraries: Global Reach, Local Touch*. Chicago: American Library Association, 261 p. ISBN 0838907385.

Perspectives on the power of information technologies to enhance global librarianship while maintaining the unique characteristics of local libraries. Discusses the role of the Internet in connecting communities around the world with information resources. Developments in Canada, El Salvador, Estonia, Guam, Malaysia, Mexico, Namibia, Poland, Russia, Singapore, South Africa, Turkey, the United States, and other countries are cited.

Kaula, P. N., K. Kumar, V. Ventakappiah, and S. R. Gupta, eds. 1996. *International and Comparative Librarianship and Information Systems*, Vols. 1 and 2. New Delhi: B.R. Publishing. ISBN Vol. 1. 8170188709; Vol. 2 8170188725.

Volume 1 contains 44 papers tracing the life of Dr. Shiyali Ramamrita Ranganathan. The papers deal with his diverse roles as librarian, thinker, nationalist, and writer and his significant contributions to India and international librarianship with specific reference to Denmark, Spain, and Russia. Volume 2 contains 48 papers dealing with library education, classification, documentation, bibliometrics, resource sharing, and cooperation in Pakistan, Ethiopia, Nigeria, Bangladesh, Ghana, Cuba, China, Spain, and Norway.

Pilling, Stella, and Stephanie Kenna, eds. 2002. *Co-operation in Action: Collaborative Initiatives in the World of Information*. London: Facet, 191 p. ISBN 1856044246.

Collaboration among libraries within countries and across borders has made it possible for libraries to improve their resource base and expand services. The essays in this book examine cooperation and collaboration in the United Kingdom and worldwide in libraries, museums, and archives with emphasis on electronic resources. Authors present views on the British perspective, the resource base, regional cooperation, cooperation in academia, cooperation in preservation, joint funding to facilitate cooperation, and the growing importance of international cooperation. Includes a glossary and list of additional information resources on the Web.

Reed-Scott, Jutta. 1999. *Scholarship, Research Libraries, and Global Publishing*. Washington, DC: Association of Research Libraries, 169 p. ISBN 0789007541.

Results of a four-year study that examined the globalization of scholarship, the expansion in worldwide publishing and difficulties faced by North American libraries in attempting to build adequate area studies collections of foreign materials in the wake of diminishing budgets. Describes attempts at resource sharing, cooperative acquisitions, and the problems with costs, copyright, and networking. The authors offer solutions such as sharing the work and cost of acquisitions and the use of electronic networks to make the resources available to a wide audience. Digital information transfer and communications technologies are recommended as the best approach to keeping the collections of foreign materials current. (Also published as issue of *Journal of Library Administration* 27(3/4), 1999.)

Seidman, Ruth K. 1993. *Building Global Partnerships for Library Cooperation*. Washington, DC: Special Libraries Association, 79 p. ISBN 0871114097.

Presents six case studies of international cooperative projects among special libraries in business and academia. Case studies cover job exchanges, international visits, and development of international library and information networks involving the United States, Canada, Great Britain, France, the Netherlands, Indonesia, Hungary, Czechoslovakia, and Nicaragua. Academic disciplines include business, agriculture, computer science, and linguistics. The business libraries focused on accounting and pharmaceuticals. The studies describe how the cooperative project was developed, features of the projects, the experience of participants, and obstacles that arose and how they were overcome.

CONFERENCES AND SYMPOSIA

Currie, Debra, ed. 1997. The information frontier: linking people and resources in a changing world. USAIN/IAALD Joint Conference. *Quarterly Bulletin of the International Association of Agricultural Information Specialists* 42(3/4):1–305.

Proceedings of a joint conference of United States Agricultural Information Network (USAIN) and the International Association of Agricultural Information Specialists (IAALD) on international access to agricultural information and library resources. Twenty-nine papers address libraries and information centers, information tools and web sites, extension and distance education, training users and librarians, and planning for change. The major focus is the formation of partnerships, international cooperation, and resource sharing of information among all who serve the world agriculture community.

Helal, Ahmed, and Joachim W. Weiss, eds. 1997. *Towards a worldwide library: a ten year forecast*. 19th International Essen Symposium, September 23–26, 1966. Universitätsbibliothek Essen, 335 p. ISBN 3922602223.

Contains 25 papers on the internationalization and globalization of information services in the 21st century. Authors present a wide range of views on the impact of computers and information technologies on the distribution of information access across geographic and organizational borders. They stress the urgent need for worldwide networks for sharing information among libraries and information centers.

International Association of Technological University Libraries. 2002. *Partnerships, consortia & 21st century library service*. Kansas City, MO: Published for IATUL by the Linda Hall Library of Science, Engineering & Technology (available only on computer disk and online at <http://www.iatul.org/conference/cvol12.html>).

This is the 23rd annual IATUL conference, which focused upon partnerships and consortia for the new century. Over 50 sessions were presented on topics covering library development in respective countries and a wide range of partnership and collaborative relationships in academic technological libraries in the United States, Africa, Europe, Scandinavia, Latin America, and the Middle East. Provides full text, PowerPoint presentations, abstracts, posters, and keynote addresses.

International Conference on New Missions of Academic Libraries in the 21st Century. 1998. *New missions of academic libraries in the 21st century: an international conference*. (ICONOMAL '98). Beijing, China, October 25–28, 1998. Beijing: Peking University Press, 696 p.

Papers from a three-day conference of librarians, library directors, and scholars from China and 17 other countries. Contains 140 papers on six themes: mission and purpose of academic libraries in the 21st century, library management and organization, services and resource sharing, managing electronic information, libraries and distance learning, and professional development and continuing education for librarians. Proceedings also available online at http://www.library.brandeis.edu/beijing_conference.

Powell, Antoinette Paris, ed. 1996. Communicating agricultural information in remote places. Proceedings of the IX World Congress of the International Association of Agricultural Information Specialists. Part I. *Quarterly Bulletin of the International Association of Agricultural Information Specialists* 41(1):1–116.

Nineteen papers deal with a wide array of topics and methods of delivering agricultural information to remote users around the world. Papers cover five categories: sustainable information systems, information delivery in Latin America, disseminating information to extension workers and farmers, specialized networks, and communication methods and rural development.

Powell, Antoinette Paris, ed. 1996. Proceedings of the IX World Congress of the International Association of Agricultural Information Specialists.

Part II. *Quarterly Bulletin of the International Association of Agricultural Information Specialists* 41(2):127–236.

Twenty papers dealing with technological applications for dissemination of agricultural information to remote users around the world. The papers discuss technological innovations, information and cultural remoteness, Australian experiences with electronic networks, using the Internet for information delivery, taking information to remote locations, and information technology applications for development projects. Describes cooperative ventures in specific countries and cross border initiatives among several countries.

Special Libraries Association. 2000. *Global 2000—The Information Age: Challenges and Opportunities. A Worldwide Conference on Special Librarianship*. Washington, DC: Special Libraries Association, 290 p. ISBN 0871115182.

Over 20 papers from librarians and information practitioners in 16 countries supporting and encouraging global interaction and networking among libraries. The Conference held in Brighton, England in October 2000, addressed common problems, information technology, networking and collaboration, open learning, resource sharing, and future trends.

Crimea Conferences

International Conference on Libraries and Associations in the Transient World: New Technologies and New Forms of Cooperation. These annual conferences, known as Crimea Conferences, focus on extending and strengthening cooperation among libraries in Russia, the Ukraine, and other republics from the former Soviet Union with the foreign library community. It is the main forum for interaction, networking, and communication between and among librarians and information professionals throughout Eastern Europe. Abstracts and text of papers and workshops are published in Russian, English, and Ukrainian by Gos. publchnaia nauchno-tekhnicheskaia biblioteka (GPNTB) Rossii.

Papers and workshops at the conferences address: Worldwide Information Infrastructure and Interlibrary Cooperation; Development and Preservation of Library Collections; Cooperation of Libraries, Publishers, and Book Market; Online Technologies, CD-ROM, Electronic Publications, and Internet in Libraries; Electronic (Digital) Libraries; Automated Library Systems and Technologies; Information Support of Education; Corporate Library Information Systems; Information and Linguistic Support of Library Information Systems; Library Staff, Profession and Education; Development of Library Collections in National Languages; Libraries, Municipal Information and Regional Studies; Library and Information Services for the Disadvantaged; Libraries and Museums and Cultural Environments; Bibliography and Library Science; and Ethics and Security of Electronic Information.

10th International Conference—Crimea 2003. Library and information availability in the modern world: digital resources of science, culture and education. Sudak, Autonomous Republic of Crimea, Ukraine, June 7–15, 2003 (conference information available at <http://www.gpntb.ru/win/inter-events/crimea2003/eng/confer.htm>).

9th International Conference—Crimea 2002. Libraries and associations in the transient world: electronic resources and the social role of libraries in the future. June 8–16, 2002 (conference program available at <http://www.gpntb.ru/win/inter-events/crimea2002/eng/prog/index.html>).

8th International Conference—Crimea 2001. Libraries and associations in the transient world: new technologies and new forms of cooperation (proceedings available online at <http://www.gpntb.ru/win/inter-events/crimea2001/eng/index.cfm>).

7th International Conference—Crimea 2000. Libraries and associations in the transient world: new technologies and new forms of cooperation: conference proceedings, vols. 1 and 2. 2000. Moscow: GPNTB Rossii.

6th International Conference—Crimea '99. Libraries and associations in the transient world: new technologies and new forms of cooperation, vols. 1 and 2. 1999. Moscow: GPNTB Rossii.

5th International Conference—Crimea '98. Libraries and associations in the transient world new technologies and new forms of cooperation, vols. 1 and 2. 1998. Moscow: GPNTB Rossii.

4th International Conference—Crimea '97. Libraries and associations in the transient world: new technologies and new forms of cooperation: conference proceedings, vols. 1 and 2. 1997. Moscow: GPNTB Rossii. Primarily in Russian, some English.

3rd International Conference—Crimea '96. Libraries and associations in the transient world: new technologies and new forms of cooperation: conference proceedings, vols. 1 and 2. 1996. Moscow: GPNTB Rossii.

2nd International Conference—Crimea '95. Libraries and associations in the transient world: new technologies and new forms of cooperation: conference program, vols. 1 and 2. 1995. Moscow: GPNTB Rossii.

1st International Conference—Crimea '94. 1994. Libraries and associations in the transient world: new technologies and new forms of cooperation: conference proceedings. 1994. Moscow: GPNTB Rossii. 206 p.

Libraries Without Walls Conferences

Brophy, Peter, Shelagh Fisher, and Zoë Clarke, eds. 2002. *Libraries without walls 4: the delivery of library services to distant users.* London: Library Association, 320 p. ISBN 185604436X.

Twenty-three papers from the UK, Sweden, Denmark, Finland, Netherlands, Greece, and the United States on the theme of distributed resources for distributed learning. Papers cover virtual library and learning environments, online enquiry services, national and cross-border initiatives, user behavior, staff training, public libraries, content development, and technology issues.

Clarke, Zoë, Peter Brophy, and Shelagh Fisher, eds. 1999. *Libraries without walls 3: the delivery of library services to distant users*. London: Library Association, 289 p. ISBN 1856043770.

This conference focused on meeting the needs of learners at remote sites through outreach programs at public, university, and college libraries. Twenty-three papers were presented by authors from the United Kingdom, Australia, Denmark, Canada, Spain, and the Netherlands. Themes addressed at the conference covered lifelong learning, integrated library services, equality of access, delivering library services to home and workplace, and international, regional, and cross-sectoral collaboration and cooperation.

Brophy, Peter, Shelagh Fisher, and Zoë Clarke, eds. 1998. *Libraries without walls 2: the delivery of library services to distant users*. London: Library Association Publishing, 177 p. ISBN 1856043010.

Fourteen papers by librarians from the United Kingdom, Belgium, the United States, and Australia address visions and realities of distance learning, libraries as knowledge keepers, institutional support for remote library services, and distance education projects. Services to overseas students offered by the University of Kentucky and a partnership project involving 17 European university libraries to develop a union catalog were presented as successful distance learning partnership initiatives.

Irving, Ann, and Geoff Butters, eds. 1995. *Libraries without walls 1: the delivery of library services to distant users*. Preston, UK: Center for Research in Library Information Management (CERLIM), 94 p. ISBN 0906694922.

A conference devoted to investigating ways to provide access to library services in higher education to remote communities throughout Europe. The project was a joint effort of the University of Central Lancashire (United Kingdom), Dublin City University (IRL), and University of the Aegean (Greece). Librarians from the United Kingdom, the Netherlands, Belgium, and France presented papers addressing issues of library staff training, user needs, user education, library cooperation, document delivery, public library support, and cost considerations.

FORO Conferences

The FORO conferences were established among librarians in the United States and Mexico who were seeking a forum for collaboration and cooperation on transborder library issues. The first conference was held in 1991. Later it was

expanded to include librarians from Canada, who brought additional transborder issues to the forum. Librarians from academic, public, school, and special libraries attend and offer their perspectives on transborder library concerns.

Following is a list of FORO conferences with places and dates. The proceedings of five conferences (I, II, IV, V, VI) of two conferences (V and VI) have been published as ERIC documents. Some of the others have retained web sites with information themes, attendees, papers, and workshops.

FORO 2003—Transborder Library Forum/XIII FORO Transfronterizo de Bibliotecas. Freedom beyond borders: international networking in action. College Station, TX: Texas A&M University Libraries March 28–30, 2003 (<http://lib-oldweb.tamu.edu/foro/>).

FORO XII—Transborder Library Forum/XII FORO Transfronterizo de Bibliotecas. Laredo, TX, March 13–16, 2002. Not held; cancelled due to low registration.

FORO XI—Transborder Library Forum/XI FORO Transfronterizo de Bibliotecas. World information: knowledge without boundaries. Hermosillo, Sonora, Mexico, March 15–17, 2001 (http://victoria.ciad.mx/biblioteca/eventos/foro_xi.htm).

FORO X—Transborder Library Forum/X. FORO Transfronterizo de Bibliotecas. Beyond our borders: interconnections. Albuquerque, NM, March 23–25, 2000 (<http://www.unm.edu/~foro/english.html>).

FORO IX Transborder Library Forum/IX FORO Transfronterizo de Bibliotecas. Facing a new millennium of information. Mexicali, Mexico, March 4–6, 1999. Not published.

FORO VIII—Transborder Library Forum/VIII FORO Transfronterizo de Bibliotecas. Riverside, CA, March 5–7, 1998. Not published.

FORO VII—Trinational Library Forum VII/FORO Trinacional de Bibliotecas/VII Forum Trinacional des Bibliothèques. Building information bridges. Ciudad Juarez, Mexico, February 20–22, 1997. Not published.

FORO VI—Trinational Library Forum/VI FORO Trinacional de Bibliotecas/VI Forum Trinacional des Bibliothèques. *Coming Full Circle/Completando el Circulo, Proceedings. The 6th Transborder Library Forum*. Tucson, AZ, February 15–17, 1996. ERIC document ED415861, 322 p.

FORO V—Trinational Library Forum/V FORO Trinacional de Bibliotecas/V Forum Trinacional des Bibliothèques. *Proceedings of the 5th Trinational Library Forum*. Mexico City, Mexico, February 24–26, 1995, 162 p. ERIC document ED 392460.

FORO IV—Trinational Library Forum/IV FORO Trinacional de Bibliotecas/IV Forum Trinacional des Bibliothèques. *Trinational Library Forum [Proceedings] = Memorias del Foro Trinacional de Bibliotecas = [Actes de*

Forum Trinational Des Bibliothèques. Monterrey, Nuevo Leon, Mexico, February 24–26, 1994. ERIC document ED461385.

FORO III—Transborder Library Forum/III FORO Binacional de Bibliotecas. El Paso, TX, February 26–27, 1993. Not published.

FORO II—Transborder Library Forum/II FORO Binacional de Bibliotecas. *Transborder Library Forum [Proceedings] = Memorias del Foro Binacional de Bibliotecas*. Hermosillo, Sonora, Mexico, March 20–21, 1992. ERIC document ED461384.

FORO I—Transborder Library Forum/I FORO Binacional de Bibliotecas. *Transborder Library Forum Proceedings = Memorias del Foro Binacional de Bibliotecas*. Nogales, AZ. February 1–2, 1991. ERIC document ED461383.

THESES AND DISSERTATIONS

Knuth, Rebecca. 1995. *Convergence and global ethics: the International Association of School Librarianship and the worldwide promotion of school libraries*. PhD dissertation, Indiana University. 519 p.

A case study of the International Association of School Librarianship (IASL), whose mission is the worldwide promotion of school-based libraries. The study examined four areas of IASL's role: fulfillment of its mission, meaning to its members, its function as an international association, and its role in the international spread of school librarianship. Findings indicate that the IASL integrates traditional professional aspects of school librarianship with an international orientation. The organization's challenges are membership, visibility, and goal attainment. It has served the profession well as a clearinghouse and information center.

Chang, Durk Hyun. 2000. *Knowledge, culture, and identity: American influence on the development of library and information science in South Korea since 1945*. PhD dissertation, University of Texas at Austin. 235 p.

Following World War II, there was a major push in South Korea to modernize education, including education for librarianship. The knowledge of American librarianship transferred to South Korea during this period had a significant influence on the development of library and information science in South Korea. This study attempts to identify the transfer process of Western knowledge as viewed through the historical development of librarianship in South Korea and to conceptualize the cultural implications of the historical contexts by placing them within a framework of relevant contemporary cultural theories. The study consisted of three phases: first, an extensive review of relevant theory to explain the phenomena of transnational knowledge transfer; second, the history of the establishment of librarianship in South Korea based on primary sources and secondary research; third, an analysis of current discursive content of LIS research in South Korea on the basis of the theoretical application of the critical discourse analysis.

PERIODICALS WITH EMPHASIS ON GLOBAL COVERAGE OF LIBRARIES AND LIBRARIANSHIP

Against the Grain: Linking Publishers, Vendors and Librarians. Charleston, SC: Katina Strauch. Bimonthly. ISSN 1043-2094 (<http://www.against-the-grain.com/>).

Profiles, interviews, reports, and news items on international issues, people, places, and activities that make an impact on publishing, bookselling, and libraries.

ASLIB Proceedings: New Information Perspectives. London: ASLIB. Bimonthly. ISSN 0001-253X (<http://www.emeraldinsight.com>).

ASLIB is a corporate membership organization with over 2000 members in some 70 countries that develops products and services for managing information in a changing world. *ASLIB Proceedings* is devoted to reporting of current research, issues, and debates in the information industry. Provides research articles and commentary designed to meet the needs of corporate and academic librarians.

Focus on International Library and Information Work (formerly *Focus on International and Comparative Librarianship* 1967–2001). London: Chartered Institute of Library and Information Professionals (CILIP); and International Library and Information Group (ILIG). Triannual. ISSN 0305-8468 (<http://www.cilip.org.uk/groups/ilig/focus.html>).

Current articles on developments and trends in library and information systems and services around the world with particular emphasis on developing countries. Includes news items, reports, and book reviews.

Government Information Quarterly: An International Journal of Resources, Services, Policies, and Practices. Stamford, CT: JAI Press. Quarterly. ISSN 0740-624X (<http://www.elsevier.com/locate/issn/0740624X>).

A refereed journal covering all aspects of national and international government information. Presents research findings, analyses, and current developments regarding information resources at all levels of government. Some issues focus on a theme.

IATUL News. Gothenburg, Sweden: International Association of Technological University Libraries. Quarterly. ISSN 1560-8573 (online only at <http://www.iatul.org/whatsnew/>).

An online newsletter for managers and staff of technological university libraries around the world. Includes forums on electronic and print resources, dissertations, catalogs, digital learning, web searching, and other issues.

IATUL Proceedings. Gothenburg, Sweden: International Association of Technological University Libraries. Annual. ISSN 0966-4769 (<http://www.iatul.org/conference/proceedings/>).

Abstracts and full text of papers presented at the annual IATUL Conferences which provide a forum for discussion of issues facing libraries at technological universities.

IFLA Journal: Official Journal of the International Federation of Library Associations and Institutions. München: Verlag Dokumentation. Quarterly. ISSN 0340-0352 (<http://www.ifla.org/V/iflaj/index.htm>).

IFLA Journal promotes and supports the aims and core values of IFLA as the global voice of the library and information community. It includes news of the activities of the organization and its chapters as well as original articles and features, reviews, opportunities, fellowship announcements, award announcements, personal news, obituaries, and letters to the editor.

INASP Newsletter. Oxford, UK: International Network for the Availability of Scientific Publications. Triannual. ISSN: 1028-0790 (online only at <http://www.inasp.info/newslet>).

Articles, news events, and reports about international trends and developments in scientific publishing. Covers a wide scope of topics such as access, formats, costs, sharing, new resources, and availability of science information.

The Indexer: Journal of the Society of Indexers. London: The Society. Biannual. ISSN: 0019-4131 (<http://www.socind.demon.co.uk/Indexer/Indexer.htm>).

An international forum on indexing, the quality of indexes, and the indexing profession. Includes articles, reviews, conference and awards reports, and news items.

Information Development. Thousand Oaks, CA: Sage Publications Quarterly. ISSN 0266-6669 (<http://www.sage.com/journal.aspx?pid=9962>).

Coverage of current developments in the provision, management, and use of information throughout the world with particular emphasis on the systems, services, skills, and needs of the developing countries.

Information Outlook: The Monthly Magazine of the Special Libraries Association (formerly *Special Libraries* 1910–1996). Washington, DC: Special Libraries Association. Monthly. ISSN 1091-0808 (<http://www.sla.org/content/involved/shareknowledge/writingforio.cfm>).

Timely coverage of global information and management issues, professional standards, trends and news, and impacts on special libraries and the library profession in over 70 countries.

Information Processing & Management: An International Journal. Oxford and New York: Pergamon. Bimonthly. ISSN 0306 4573 (<http://www.elsevier.com/locate/issn/03064573>).

A scholarly journal providing an international forum on information and computer sciences covering research, analyses, evaluations, and trends. Covers three major areas of emphasis: information retrieval, organization of information, and management of information resources.

The Information Society: An International Journal. London: Taylor & Francis. Five issues per year. ISSN 0197-2243 (<http://www.tandf.co.uk/journals/tf/01972243.html>).

An international forum on the impact, policies, system concepts, and methodologies in information technologies and changes in society and culture. Includes scholarly articles, position papers, debates, short communications, and book reviews.

Information Today. Medford, NJ: Learned Information. Eight issues per year. ISSN 8755 6286 (<http://www.infotoday.com/default.shtml>).

The newspaper for users and producers of electronic information services. Contains topical articles and news on developments in electronic information systems and services and long-term trends in the information industry worldwide.

INSPEL: International Journal of Special Libraries. Berlin: Universitätsbibliothek der Technischen Universität Berlin. Quarterly. ISSN 0019-0217 (<http://www.ifla.org/VII/d2/inspel/about.htm>).

Official organ of the IFLA Division of Special Libraries. Focuses on services and collection in all types of special libraries worldwide including art, biological and medical sciences, geography and maps, government, science and technology, and social science libraries.

Interlending and Document Supply: The Journal of the British Library Lending Division. Boston Spa, UK: The Division. Quarterly. ISSN 0264-1615 (<http://www.emeraldinsight.com>).

Covers activities relating to traditional and advanced approaches to document acquisition, storage, supply, duplication, evaluation, and provision of information in libraries within and between countries.

International Cataloguing and Bibliographic Control: Quarterly Bulletin of the IFLA UBCIM Programme (Universal Bibliographic Control and International MARC Core Activity). London: The Program. Quarterly. ISSN 1011-8829 (<http://www.ifla.org/VI/3/admin/icbc.htm>).

An international forum for the exchange of views and research results on cataloguing and bibliography. Presents conference papers, reports, and articles on issues relevant to

cataloging and bibliography including citation accuracy, authority files, formats, language, etc.

Journal of Documentation. London: ASLIB. Bimonthly. ISSN 0022-0418 (<http://www.emeraldinsight.com>).

Covers applied and practical research relating to the recording, organization, management, retrieval, dissemination, and use of information. Topics include information formats, organization, retrieval, archives, dissemination and service patterns.

International Information and Library Review. New York: Elsevier. Quarterly. ISSN 1057-2317 (<http://www.elsevier.com/locate/issn/1057-2317>).

A scholarly journal noted for its broad range of articles on research, documentation, and information issues. Particular emphasis is given to uses, impact, and legislative and regulatory implications of information dissemination.

International Leads. Chicago: American Library Association and International Relations. Round Table (IRRT). Quarterly. ISSN 0892-4546 (http://www.ala.org/Content/NavigationMenu/Our_Association/Round_Tables/IRRT/International_Leads/International_Leads.htm).

Contains news, brief articles, and reviews about international librarianship and the activities of the International Relations Round Table.

Journal of Government Information: An International Review of Policy, Issues, and Resources. New York: Elsevier. Bimonthly. ISSN 1352-0237 (<http://www.elsevier.com/locate/issn/13520237>).

Publishes original scholarship, studies, and evaluations related to the production, distribution, availability, selection, processing, and use of government information at all levels.

Knowledge Organization: International Journal Devoted to Concept Theory, Classification, Indexing and Knowledge Representation. Wuerzburg, Germany: Ergon Verlag. Quarterly. ISSN 0943-7444 (<http://is.gseis.ucla.edu/orgs/isko/pubs.html#KO>).

Official journal of the International Society for Knowledge Organization offering a forum on the theory and practices regarding classification of information.

Libraries & Culture: A Journal of Library History. Austin, TX: University of Texas. Quarterly. ISSN 0894 8631 (<http://www.utexas.edu/utpress/journals/jlc/html>).

Explores the cultural and social history of recorded knowledge and its creation, organization, preservation, and utilization over time. Includes notes, essays, and book reviews.

Library Collections, Acquisitions and Technical Services. New York: Elsevier. Quarterly. ISSN 1464-9055 (<http://www.elsevier.com/locate/inca/293>).

A venue for library collection management and technical services librarians and vendors and publishers worldwide to communicate about the broad, practical, and theoretical issues that pertain to their work.

Library Review. Bradford, UK: Emerald. Nine issues per year. ISSN 0024-2535 (<http://www.emeraldinsight.com>).

Technical and scholarly articles on current and future developments on the international library scene. Covers human resources, economics and budgets, new technology, library services, user needs, and the library's role in the community.

Library Times International: World News Digest of Library and Information Science. Conway, PA: Future World Publishing. Quarterly. ISSN 0743-4839.

This newsletter, edited by the Director of the Library at West Virginia State College, Institute, WV, covers international news and updates, editorials, articles, new publications, book reviews, conferences, and events for librarians, library educators, and information scientists on all continents. A good source for keeping up to date on new developments in the information world.

Libri: International Journal of Libraries and Information Services. Munich: Saur. Quarterly. ISSN 0024-2667 (<http://www.librijournal.org/>).

Original articles on all aspects of library and information sciences. Examines the functions of libraries and the role of information systems and services from cultural, organizational, national and international perspectives.

Logos: The Journal of the World Book Community. London: Whurr. Quarterly. ISSN 0957-9656 (http://www.whurr.co.uk/PJBW/IntroCentre_Fr.html).

A forum of communication among book professionals worldwide. Contains articles, book reviews, news, opinions, and developments regarding all aspects of the book trade from over 55 countries. Topics covered include history of books, online and printed books, textbooks, reading, translations, libraries, bookselling, third world publishing, etc.

New Review of Academic Librarianship. London: Routledge. Annual. ISSN 1361-4533 (<http://www.tandf.co.uk/journals/titles/13614533.asp>).

Covers a wide range of issues of concern to academic libraries. Contains significant articles on library systems, electronic resources, library systems, role of the librarian, collection management, marketing, user studies, and other issues concerning academic libraries around the world.

New Review of Children's Literature and Librarianship. London: Routledge. Annual. ISSN 1361-4541 (<http://www.tandf.co.uk/journals/titles/13614541.asp>).

Serves as an international forum for the exchange of ideas regarding literature and libraries for children and youngsters. Includes articles and case studies about library services, assessments, trends, technology, book and media selection, and education.

New Review of Information and Library Research. London: Routledge. Annual. ISSN 1361-455X (<http://www.tandf.co.uk/journals/titles/1361455x.asp>).

A journal for information professionals around the world who need to stay aware of current international research and development in information and knowledge management and the relevant technologies that enhance the quality and service of the information sector.

New Review of Information Networking. London: Routledge. Annual. ISSN (print) 1361-4576 (<http://www.tandf.co.uk/journals/titles/13614576.asp>).

Covers trends, development, roles, and impact of networking within countries and across borders including teaching, learning, and using information; cost issues; standards; and information policy.

New Review of Information Behaviour Research. London: Routledge. Annual. ISSN 1471-6313 (<http://www.tandf.co.uk/journals/titles/14716313.asp>).

Reviews of research into human information behavior and the influence of information technology, multimedia environments, and networked information. Articles in this journal examine the way humans seek, find, use, and interpret information.

New Review of Libraries and Lifelong Learning. London: Routledge. Annual. ISSN 1468-9944 (<http://www.tandf.co.uk/journals/titles/14689944.asp>).

This journal focuses on the learning paradigms, initiatives, and practical applications of life-long learning principles worldwide. Reports on innovative approaches to providing the various information skills and learning environments that foster continuous learning.

Performance Measurement and Metrics: The International Journal for Library and Information Services. Colchester, UK: ASLIB: Triannual. ISSN 1467-8047 (<http://www.emeraldinsight.com>).

Covers both qualitative and quantitative performance measurement in library and information science. Contains authoritative articles, opinion pieces, updates of activities, and book reviews on technology, usage patterns, electronic resources, outcome assessment, economic issues, performance, and library services.

Quarterly Bulletin of the International Association of Agricultural Information Specialists. Wageningen: The Association. ISSN 1019-9926 (<http://www.iaald.org/>).

Timely articles, news, and communication regarding agricultural information systems and services around the world.

School Libraries Worldwide. Seattle, WA: International Association of School Librarianship. Biannual. ISSN 1023-9391 (<http://www.iasl-slo.org/slw.html>).

Current research and scholarship on all aspects of school librarianship worldwide. Some issues include a theme section on a particular topic. Covers reading, information literacy, library development, user needs, technology, evaluation, etc.

WHERE TO FIND INFORMATION ON GLOBAL LIBRARIANSHIP

Information Research Watch International March 2000 to date. (Incorporates *CRLIS: Current Research in Library & Information Science* 1983–1999.) West Sussex, UK: Bowker. Bimonthly. ISSN 1470-1391 (<http://www.bowker.com/bowkerweb/catalog2001/prod00062.htm>).

Abstracts of new, ongoing and completed research in information and library science and related fields from around the world supplied by the researchers. Also includes a news section and a column on research methods. Covers archives, document delivery, libraries and librarianship, information and knowledge management, reading and literacy, technical services, user studies, etc.

Library and Information Science Abstracts. New Providence, NJ: Bowker 1969 to date. Monthly. ISSN 0024-2179 (<http://www.bowker.com/bowkerweb/catalog2001/prod00065.htm>).

Cites over 600 periodicals from more than 68 countries in 20 languages covering librarianship, information science, online retrieval, new information technologies including U.S. state library journals and new titles in information technology and its application to information work in such fields as medicine, law, chemistry. Subjects are

updated regularly to reflect new patterns in society, together with changing requirements in the library and information science field.

Library Literature and Information Science 1999 to date (formerly: *Library Literature* 1932–1998). Bronx, NY: H.W. Wilson. Bimonthly. ISSN 1528-0659 (<http://www.hwwilson.com/databases/liblit.htm>).

Cites articles, books, reviews, periodicals, and audiovisuals in library and information science from 297 periodicals, monographs, conference proceedings, pamphlets, and library school theses. Topics covered include automation, cataloging, censorship, circulation procedures, copyright, electronic resources, government publications, indexing, library and information science education, preservation, publishing, rare books, web sites, etc.

ORGANIZATIONS AND AGENCIES PROMOTING GLOBAL LIBRARIANSHIP

American Centers and Corners in Russia (<http://www.amcorners.ru/>).

This program, under the auspices of the US Department of State and the US Embassy in Moscow, establishes small, American-style libraries in 25 cities throughout Russia to increase mutual understanding between the two countries. The program provides books, CD-ROMs, videos, internet access, programs, and professional bilingual librarians. The libraries are open to the public and contain collections covering the history and culture of the United States. The libraries host visiting librarians and organize exhibits, conferences, and speakers.

American Councils for International Education (ACTR-ACCELS) (<http://www.actr.org/>).

The American Councils is a not-for-profit education, training, and consulting organization, specializing in the countries of eastern Europe, Russia, and Eurasia. American Councils programs include academic exchange, professional training, study abroad, institution building, research, materials development, technical assistance, and consulting. Many of the Council's programs offer fellowships and training opportunities for librarians.

American Library Association/International Relations Office (ALA/IRO) (<http://www.ala.org/work/international/>).

The International Relations Office promotes international librarianship and enhances the role of ALA in international library activities. These activities include book fairs, conferences, library exchanges, recruiting, and communication with libraries and librarians around the world. The IRO is a partner in the Guadalajara Book Fair, Sister Libraries Initiative, and the Global Reach database.

American Library Association/International Relations Round Table (ALA/IRRT) (<http://www.ala.org/irrt/>).

The International Relations Round Table of the American Library Association develops the interests of librarians in international library relations and serves as a channel of communication between the International Relations Committee and the members of the American Library Association.

British Council—Information Exchange (<http://www.britishcouncil.org/infoexch/index.htm>).

The British Council is the UK's international organization for educational opportunities and cultural relations with worldwide representation. Among its most popular activities is a network of 229 libraries and information centers in 109 countries. The libraries answer over 2 million enquiries per year from over 350,000 members. The Information Exchange promotes global publishing, library partnerships, internships, conferences, and learning centers designed to help the people of the world improve their lives through education and knowledge transfer.

Chartered Institute of Library and Information Professionals (CILIP) (<http://www.cilip.org.uk/>).

The CILIP is a new professional body formed following the unification of the Institute of Information Scientists and The Library Association in the United Kingdom. Its members work in business and industry, higher education, schools, local and central government departments and agencies, the health service, the voluntary sector, and national public libraries throughout the UK and in more than 100 countries overseas developing professional standards and supporting universal access to information.

Council for the International Exchange of Scholars (CIES) (<http://www.cies.org>).

The CIES is a private organization founded in 1947 to assist the U.S. government in administering the Fulbright Scholar Program. It sends about 800 U.S. academics and professionals abroad each year to 130 countries and brings foreign academics and professionals to the United States. The Council maintains ties with American universities and colleges, major scholarly organizations, and a network of binational Fulbright Commissions in 51 countries and 90 U.S. diplomatic posts around the world. Librarians and information specialists serve in exchange programs in numerous countries, assisting in development of library and information systems and services.

European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC) (<http://www.euraslic.org>).

EURASLIC is a regional group linking European aquatic sciences libraries and information centers. It is a forum for the exchange of information and ideas relevant to aquatic sciences information resources and services in Europe. EURASLIC builds links with other national, regional, and international aquatic science libraries and information networks to improve the flow, exchange, and dissemination of aquatic and marine science information.

Information Bridges International Inc. (IBI) (<http://www.ibi-opl.com>).

IBI facilitates the free exchange of information and ideas among library personnel in libraries around the world. It focuses on librarians who work alone as information specialists in their organizations.

International Association of Agricultural Information Specialists (IAALD) (<http://www.iaald.org>).

This organization is dedicated to professional development and communication among members of the agricultural information community worldwide. IAALD members promote access to agriculture-related information resources and professional development collaboration and information exchange.

International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC) (<http://www.iamslc.org/>).

An association of individuals and organizations interested in exchange and exploration of ideas and issues regarding aquatic and marine science information. Its main purpose is to is to collect, organize, describe, preserve, and make available for research and reference use the archival materials of the Organization and regional groups which have historical, legal, fiscal, and/or administrative value.

International Association of Libraries and Museums of the Performing Arts/Société Internationale des Bibliothèques et des Musées des Arts du Spectacle (SIBMAS) (<http://www.theatrelibrary.org/sibmas/sibmas.html>).

A forum for colleagues from all over the world promoting practical and theoretical research in the documentation of the performing arts. SIBMAS holds biennial international congresses and produces *The World Directory on Theatre Museums and Libraries*; the *International Bibliography of Theatre* (IBT), published by the Theatre Research Data Centre at Brooklyn College of the City University of New York, and *The World Encyclopedia of Contemporary Theatre*.

International Association of Law Libraries (IALL) (<http://www.iall.org/>).

An organization of librarians, libraries, and other persons and institutions in over 50 countries concerned with the acquisition and use of legal information emanating from sources other than their own jurisdictions. The organization's activities facilitate the acquisition, processing, and utilization of foreign and international legal resources. IALL represents academic law libraries, corporate libraries, national and parliamentary libraries, and administrative agency libraries.

International Association of Music Information Centres (IAMIC) (www.iamic.net).

A worldwide network of 43 members in 38 countries promoting new music. Each Music Information Centre is responsible for documenting and promoting the music of its own country or region as well as cooperating internationally with other centers and international organizations on issues of common concern. The Centres offer sheet music and sound archives, biographical and research material, and publications and recordings, and all serve as a focus of musical activity.

International Association of Music Libraries, Archives, and Documentation Centers (IAML) (<http://www.cilea.it/music/iaml/iaml-home.htm>).

IAML promotes international cooperation and supports the interests of about 2000 individual and institutional members in some 45 countries throughout the world and national branches in 22 countries, five professional branches, four subject commissions, and various working groups, and is responsible for several large-scale documentation projects. IAML draws most of its membership from Europe and North America, Australia, New Zealand, and Japan. The membership comprises major music collections, music and audio-visual librarians, music archivists and documentation specialists, musicologists, music publishers, and dealers.

International Association of School Librarianship (IASL) (<http://www.iasl-slo.org/>).

IASL provides support, guidance, and advice for the development of school library programs and the school library profession worldwide. Membership includes school librarians, teachers, librarians, library advisers, consultants, educational administrators, and others who are responsible for library and information services in schools. The membership also includes professors, instructors, and students in universities and colleges where there are programs for school librarians.

International Association of Technological University Libraries (IATUL) (<http://www.iatul.org/>).

An international forum for librarians in technological universities throughout the world. It is a voluntary, international, nongovernmental organization of a group of libraries represented by their library directors or senior managers, who have responsibility for information services and resources management.

International Federation of Library Associations and Institutions (IFLA) (<http://www.ifla.org/>).

An independent, international, nongovernmental organization representing library and information services and their users in 143 countries around the world. IFLA promotes high standards of library and information services, encourages widespread understanding of the value of good library and information services, and represents the interests of members and their institutions throughout the world.

International Library and Information Group (ILIG) (<http://www.cilip.org.uk/groups/ilig/introduction.html>).

Represents CILIP members both in the UK and abroad who have a strong interest in international work. ILIG brings members of the profession together to pursue good international relations within the profession, enhance library cooperation, and promote information sharing and formulate policy that fosters development of library and information services.

International Network for the Availability of Scientific Publications (INASP) (<http://www.inasp.org.uk/>).

INASP is a cooperative network dedicated to enhancing the flow of information within and between countries, especially those with less developed systems of publication and dissemination. Activities include promoting access to and dissemination of scientific and scholarly information and supporting initiatives that increase local and in country publication and general access to quality scientific and scholarly literature.

Mortenson Center for International Library Programs (<http://www.library.uiuc.edu/mortenson/>).

The Mortenson Center located at the University of Illinois at Urbana-Champaign offers an opportunity for librarians and those engaged in library-related activities to come to the University of Illinois, usually for extended stays of four months to a year, to observe and learn first hand the workings of a major U.S. academic library and to share their experiences. Over 500 librarians from 76 countries have already taken advantage of the Mortenson Center's programs. Through its Partnership Program, the Center has initiated cooperative programs in Russia, Georgia, Central America, Haiti, and South Africa. Each year the Mortenson Center sponsors a distinguished lecture by a major international speaker on a topic related to international understanding and intellectual freedom.

Open World Leadership Program—Library Managers Project (<http://openworld.aed.org/Libraries%20Announcement.htm>).

The Open World Leadership Program brings small delegations of emerging leaders from Eurasia to the United States to see American-style democracy in action, and to help foster understanding between the two nations. The Library Managers Project is a part of the Open World Leadership Program, sponsored by the Open World Leadership Center at the Library of Congress. Participating library managers are nominated by the Russian Federation Ministry of Culture, the Russian Library Association, the Open Society Institute, and American Centers and Corners in Russia. Librarians attend cultural orientation sessions and spend seven days involved in the professional and cultural activities in a host community. In 2003, 160 librarians participated in the programs. Before traveling to their host communities, all librarians attended a two-day cultural orientation at the Library of Congress in Washington, DC. Then they spent five to seven days in a host community taking part in professional and cultural activities in public, university, and special libraries and attending library-related conferences when possible.

SatELife—HealthNet (www.healthnet.org).

SatelLife works with ministries of health, medical schools, medical libraries, and other health facilities to build locally owned and managed HealthNet networks. Each HealthNet has evolved according to local needs. SatelLife's objectives include disseminating up-to-date, relevant information; deploying multiple technologies and building health care workers' skills to utilize technologies effectively, creating local, regional, and global communities that share information and support each other. These efforts span the globe, with over 20,000 individuals in 120 countries sharing knowledge and building healthier communities.

Special Libraries Association (SLA) (<http://www.sla.org>).

The Special Libraries Association (SLA) is the international association representing the interests of thousands of information professionals in 60 countries. The Association offers a variety of programs and services designed to help its members serve their customers more effectively and succeed in an increasingly challenging environment of information management and technology.

UNESCO WebWorld—Communication and Information Sector
(http://portal.unesco.org/ci/ev.php?URL_ID=1657&URL_DO=DO_-TOPIC&URL_SECTION=201&reload=1029156779).

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