in edition □□□

Editor's Note: NORTH CAROLINA LIBRARIES *presents this feature in recognition of the increase in excellent unsolicited manuscripts that merit publication, but are not necessarily related to each issue's specific theme.*

Virtual Realists:
Librarians in a Time of Transition

by *Barbara B. Moran*

Libraries could not exist without the people who work in them. Collections, buildings, and users are all important, but a library's employees are the keys to its success or failure, even in highly automated settings. Today's libraries are still highly labor-intensive organizations, with most of them devoting between 50% and 60% of their budgets to employee costs.[1]

It is our present staff who will take our libraries into the 21st century. They are today's virtual realists — coping with the demands of the present while looking ahead to the challenges of tomorrow. Soon, however, today's cadre of librarians will need to be replenished by newcomers to the profession. Librarians need to think about the problems of recruitment now to ensure that there will be talented individuals to succeed them when they retire. What kind of individuals should we be trying to attract to the profession and how can we make the profession attractive enough so they will want to enter it?

The Hybrid Library

Before we can determine the type of librarians who will be needed in the future, we need to anticipate the nature of libraries of the future. For several decades the so-called "futurists" have predicted the advent of a virtual library that would provide users with easy access to all the world's information. Since all of the materials would be digital, this paperless library would require little in the way of buildings or stacks, and users would not have to come to a physical entity, the library, to use its resources. In essence, libraries as we know

them would cease to exist because printed material would no longer be necessary.

It is far too early to offer a valediction for printed materials. In spite of all the predictions, the virtual library will not occur within the foreseeable future. Paper collections in libraries will continue to grow. At this point in time, paper resources have a number of advantages over electronic ones. They are portable, durable, and easy to read. They do not need to migrate from one technology to another to remain accessible — a book printed two hundred years ago is usually as accessible as one printed yesterday.

There is also the seldom-considered problem of preservation. Although we are all aware of the problems associated with print preservation, we have only begun to grapple with the preservation of electronic materials. Recent studies have shown that the usable life of CD-ROMs and many other types of electronic media may be much shorter than originally assumed. Finally, most readers still prefer paper resources to electronic resources. When users do take advantage of electronic resources, they usually print them out to have the material in a paper format. It seems that the paperless society has engendered the use of more paper than ever before. As Walt Crawford says in a recent column in *Online*: "Paper will persist. The physical print collections in public and academic libraries will continue to grow and be central to the missions of those libraries."[2]

This is not to say that electronic material will not continue to be an in-

creasingly important part of libraries, and perhaps sometime in the future the preponderance of material will be electronic. But at least in the foreseeable future, both paper and digitized resources will coexist in "hybrid" libraries. These libraries with their parallel print and digital systems will be more complex than traditional libraries, and in true hybrid fashion they will blend the characteristics of both traditional and virtual libraries. Today's librarians are already working in hybrid libraries, and librarians of the future will continue to work in such settings.

Similarly, it is unlikely that we will see the demise of the library as a physical place anytime soon. Especially in academic, school, and public libraries the move to a virtual library will be resisted. Libraries provide their users with much more than the materials they need to study, to do research, or to read for pleasure. Technology has certainly allowed libraries to become much less place-centric and much more user-centric, but this does not mean that we will not need a place called a library in the future. As society becomes increasingly technological, there will be a growing need for the library to serve as an oasis where users can go to get help with finding resources and using technology from "in the flesh" experts. John Naisbitt among others has stressed the need for "high touch" in a "high tech" world.[3] Most humans do not thrive in a completely depersonalized, technological environment. In the future, access to information will be readily available outside of libraries, but paradoxically, that access may be an impetus for

people to use libraries more than ever before.

Environmental Turbulence

It is also clear that librarians of the future will be working in environments that will continue to be turbulent and fast changing. In 1989, Peter Vaill wrote a book, *Managing as a Performance Art: New Ideas for a World of Chaotic Change*, that provides a compelling metaphor to describe this future. He states that managers need to be prepared to confront a period of chaotic change, or what he calls permanent "white water." Management of organizations used to be like a pleasant boat ride down a calm quiet river, but the future will be different. It will be full of rapids, whirlpools, eddies and endless white water.[4]

In theory at least, people should welcome change; psychologically, however, it has been shown that exposure to constant change takes a heavy toll on individuals. The rapid changes that have taken place in libraries for the past few decades, and the expectation that change will continue and perhaps become more pervasive, are enervating. Shooting the rapids is exciting and exhilarating, but even the most change-oriented librarian occasionally wishes to spend a little time in a placid pool. For most, that opportunity does not exist. Jobs change, systems change, patrons' needs change. That change will continue in the future.

There have been many explanations for why the environment has become so turbulent. The trend that is most commonly cited and the one that has had and will have the most impact on libraries is that of rapid technological change. The proliferation of new technologies and their evolution into complicated and pervasive networks have changed the behavior of capital markets, the scale and functioning of multinational corporations, and increased competition within many divergent spheres. Their impact upon both the workplace and on culture in general has been significant.[5] New industries and occupations are being created while others are being rendered obsolete. At the present time, the pace of technological change is accelerating and will be one of the prime forces affecting the workplace of the 21st century. As the recently published *Workforce 2020* states:

> Technological change will bring both winners and losers among industries, companies, occupations, and individuals. Although many outcomes are bound to

come as surprises, it is safe to say that technological change will affect workplaces and the workforce in multiple and often contradictory ways.[6]

Library Staff

Technology has already had a profound influence on libraries and will continue to exert pressure for change. But librarians were early adopters of information technology, and they have already built constant technological change into what they expect to encounter. They are no longer in awe of technology, but view it as it should be viewed — as a tool to accomplish the mission of the library — to bring users and information together.

When technology was first introduced into libraries, it was predicted that the number of employees would decline. Instead, technology has done more to change the nature of jobs in the library than to decrease the number of people needed to provide effective library service. In many cases, the introduction of new technologies has increased the demands for library services and has resulted in a need to add additional staff.

Staffing patterns in libraries have been altered and complicated by the changes that technology has brought to the work environment. Most large libraries now employ a number of technology specialists — some with library degrees, some without. Largely as a result of automation, tasks that once were assigned solely to professional librarians have drifted downward, and almost all tasks performed in libraries are more complex and intellectually demanding than before. The strict demarcation that was once observed in most libraries between support staff and professional librarians has eroded, as virtually all employees of libraries have become knowledge workers.[7] As Allan Veaner has written, "Work classifications schemes have not fully caught up with this new reality; the once-easy bipolar division of staff into librarians and support personnel has become uncertain and subject to much questioning."[8]

One only needs to look at the job advertisements to see the diversity in job functions that now exists in libraries. A recent listing of position openings included the following:

- Library instruction position: familiarity with presentation software and technology relative to Web-based instruction
- Government documents librar-

ian: HTML and aspects of Web page management
- Authority control librarian; experience with SGML, HTML, and other Web standards
- Manuscript cataloger: experience with Web site management; and
- Reference librarian: technical knowledge of DOS, Windows, networked environments and the Internet.[9]

If libraries of today can be considered hybrids because of their combination of print and electronic materials, today's librarians need hybrid skills to be able to work with both print-based library functions and electronic ones. Most jobs contain elements of both. The technological skills of new graduates are in high demand. In the most recent *Library Journal* survey on job placements and salaries of new graduates, 80% of the graduates who responded indicated that employers sought technology skills for work on Internet access, electronic database searching abilities, and other computer skills.[10] At the same time, the traditional skills of librarianship, such as reference and cataloging and classification, also are required of new graduates.

The introduction of technology also has led to increased costs for libraries and the larger institutions that support them. Many libraries are now confronted with no-growth or shrinking budgets, while costs for library automation and library materials are climbing rapidly. A number of libraries have tried to reduce the size of their staffs to cut the cost of their human resources. Like private corporations, libraries have tried to become "leaner and meaner" organizations. Libraries of all types are striving to improve their productivity. Many are turning to part-time and contract workers in an attempt to achieve more flexibility and to save money. A recent survey showed that almost ten percent of 1997 MLS graduates are working in temporary positions.[11] Some libraries are employing contract workers to work on temporary assignments, or to perform such services as janitorial and grounds-keeping functions. Others have outsourced certain functions, including core functions such as cataloging, to outside agencies.

Charles Handy has suggested that the organizations of the future will be "shamrock" organizations, made up of three different groups of workers, "groups with different expectations, managed differently, paid differently, organized differently."[12] The first leaf of

the shamrock is composed of the core workers, the permanent employees, who are essential to the organization. This core group is becoming smaller in all types of organizations. Work is increasingly being done by workers in the two other "leaves": the contract workers and the part-time and temporary workers. Although these other groups of workers have always existed, what is different today is the relative size of the three groups.

Libraries, like other types of organizations, are therefore increasingly relying on a smaller core group with a greater use of part-time workers and of outsourcing. They are employing increasing numbers of support staff to perform diverse duties. The old patterns of staffing are disappearing, but the patterns of the future are not yet clear.

Organizational Structure

There has been a widespread belief that the introduction of new technologies and the move to the hybrid library would inevitably lead to radical changes in the organizational structures of libraries. Over the past decade, institutions of all types have experimented with new organizational structures. The old conventions about organizational stability have been challenged and discarded. In an attempt to become more cost-effective, organizations have cut the size of their workforce by downsizing. Hierarchies have been flattened by shrinking the number of middle managers. The new model of organization being touted by management experts is flexible, adaptable to change, has relatively few levels of formal hierarchy and loose boundaries among functions and units.[13]

Although there are yet few signs of radical reorganization of libraries, many librarians are considering reorganization and trying to devise structures that will allow them to reach their goals most successfully. Most are considering ways to flatten the structure and make the organization more flexible and responsive. In many libraries, work teams are being set up as a way to decrease hierarchy and increase productivity. These changes are being considered while the library is "getting on with essential daily tasks." Any reorganization is complicated because "current services must be maintained while the infrastructure is being built to support the information needs of the 21st century."[14]

Librarians of the Future

If we look ahead to these dimly realized libraries of the future, what kind of people will be working in them? What skills and educational preparation will be needed? And how can libraries compete with other information industries to attract these types of individuals? Let us first consider what kind of individuals we want to attract to the profession. Many of the characteristics of today's librarians will still be needed in the future. But where change will be a constant, it is obvious that we need to attract ever-more adaptable and flexible individuals to the profession. Libraries will need individuals who are able to cope with a high degree of ambiguity and who welcome change. We must attract risk-takers to a profession that has not been known for having many of them. We need to seek new practitioners who are adaptable and able to deal with uncertainty. At the same time, they need to have many of the traditional talents; they need to be intelligent, well educated, and committed to service. Librarianship will continue to change so rapidly that both new graduates and experienced librarians will need to be life-long learners. Providing support for continuing education for intermediate and late-career staff will be one of the most challenging issues facing library administrators in the next century.[15]

The role of the librarian will expand and become more and more one of "teaching users the knowledge and skills necessary to locate and integrate a variety of information resources, assisting the design of local campus databases, and contributing to the design and management of national networked information systems."[16] Computer specialists, librarians, and faculty will need to forge and strengthen partnerships to permit the best use of the emerging technologies. Librarians will be part of research teams; therefore they will need to be able to work well in diverse groups.

As more library material becomes digitized, the need for instruction likely will increase. At the present, the sophistication of the new electronic resources available to library users far surpasses those users' abilities to utilize these tools as effectively or efficiently as possible. Users will require a great deal of advice and teaching about how to make use of the new technology and about how to make judgments regarding the relevance of materials to their purposes. As more and more institutions are networked and students and employees have access to individual computer workstations both at work and at home, many of the resources of the library will be available to users through these workstations. Librarians, more than ever before, will have to develop skills in working with long-distance users. Physical location will no longer restrict the services of librarians.

Competencies Needed

As more material becomes available in electronic format, there will be greater demands on librarians because the less visible the medium, the greater the need for the intermediary.[17] Although some users will access information directly, librarians will continue to serve as mediators between many users and the information they need. Librarians of the future will be knowledge navigators, proficient with electronic resources, keeping abreast of new information technologies as they emerge. They will play an important role in teaching information "navigation" skills to users. One author recently provided a list of tasks of future librarians including "multimedia research and evaluation; defining remote access privileges; indexing images and graphical displays of information; providing online help and interactive digital research support; offering remote and digital instructional support; selecting user machine interfaces; and choosing, cataloging, and storing digital publication."[18] There will be many other tasks that we cannot yet envision because of our imperfect knowledge of future developments, but it is safe to say that technological competencies will continue to be extremely important for all librarians.

Many individuals and groups have compiled lists of competencies needed by future librarians. One of the most recent lists is the Special Libraries Association's guidelines on the competencies needed by special librarians in the twenty-first century.[19] These guidelines divided the competencies into professional and personal categories. According to these guidelines the competencies of a special librarian should be:

- Has expert knowledge of the content of information resources
- Has subject knowledge appropriate to the business of the organization or of the client
- Develops and manages convenient, assessible, and cost-effective information services that are aligned with the strategic directions of the organization
- Provides excellent instruction and support for library users
- Assesses information needs and designs and markets value-added

information services and products
- Uses appropriate information technology to acquire, organize and disseminate information
- Uses appropriate business and management approaches to communicate the implications of information service to senior management
- Develops specialized information products for use inside or outside the organization
- Evaluates the outcome of information use and conducts research related to the solution of information management problems
- Continually improves information services in response to changing needs
- Is an effective member of the senior management team and a consultant to the organization on information issues.

In addition to the professional competencies listed above, a special librarian should also demonstrate the following personal competencies:

- A commitment to service excellence
- Seeks out challenges and sees new opportunities
- Sees the big picture
- Looks for partnerships and alliances
- Creates an environment of mutual respect and trust
- Has effective communication skills
- Works well with others in a team
- Provides leadership
- Plans, prioritizes and focuses on what is critical
- Is committed to life-long learning and personal career planning
- Has personal business skills and creates new opportunities
- Recognizes the value of professional networking and solidarity
- Is flexible and positive in a time of continuing change

Although there would probably be some disagreement about some of the individual competencies demanded by this list, it is likely that most of us would agree that these competencies would be welcomed by libraries of today and tomorrow.

If these are the competencies we will need, what type of education will be required for the librarians of tomorrow? Few individuals now graduating possess all of them. Education for librarianship does not permit easy acquisition of all these skills. Library

schools as they are presently constituted are too small to have faculty with expertise in all of these areas, and the programs are too short to enable students to acquire knowledge in all of them. In addition, many of the personal characteristics such as a capacity for risk taking, flexibility, and the ability to thrive in unstructured and ambiguous situations are difficult to teach.

If we want future librarians to possess competencies similar to the ones listed above, LIS education must be reshaped. It will become more interdisciplinary. Students will still need to learn about the acquisition, storage, retrieval, and dissemination of information from individuals, similar to present day LIS faculty, who have specific expertise in these areas. But, in addition, students will need to gain knowledge from economists, cognitive psychologists, and experts in fields such as communication and instructional technology. The acquisition of desired competencies also may result in an increase in the number of hours needed to prepare a librarian. It is almost impossible to acquire more than the minimum skills needed for librarianship in the 36 hours (or twelve courses) that comprise the typical MLS program.

Obviously, it is hard to speculate about educational requirements for the future. Specific competencies may be required that we can not yet anticipate. We do know, however, that we need to attract bright individuals with problem solving skills and an ability to flourish amidst ambiguity and who possess the skills of organizing, managing, and retrieving information.

Recruitment

Enrollments in LIS schools are high, but many graduates seek jobs as information managers in private industry instead of working in traditional libraries. Already there are shortages in certain areas of librarianship, especially in children's and young adult services. There will be a large number of retirements in libraries in the next decade, and we want to be sure that we have replacements ready. We need to be thinking about the problems of recruitment *now* to ensure a future supply of talented librarians. And we should be aware that the type of individuals we might most wish to attract to libraries will have many other opportunities available in the expanding information industry. According to the Bureau of Labor Statistics, the fastest growing segment of new jobs over the next decade

will be information-related, in areas such a computer software development and networking. If we want to insure "the best and the brightest" for the libraries of tomorrow, we will need to compete.

This competition suggests that higher salaries will be needed. Although money is not the only motivation to pursue a career, it can be a powerful influence. Even now, graduates from the LIS programs are finding jobs in private industry as information managers with beginning salaries ten to twenty thousand dollars more than beginning librarians are being paid. Although libraries offer many non-monetary inducements to new professionals, they will need to raise salaries to compete successfully.

Conclusion

The libraries of the future will present a challenging environment in which to work. As these institutions become restructured, the responsibilities and duties required of the librarians also will be restructured. Librarianship as a profession will continue to exist, despite competition from other sectors. Librarians will have a vital role to play in the future, but we cannot be complacent and expect others to see the importance of what librarians do. We all need to work to define our role and to explain our contributions. Often, we have been too modest about our profession. Murray Martin summarizes the challenge before us:

> How we librarians deal with this metamorphosis of our world will be determined by how we characterize our professional status — if we boldly claim our status as molders of the information world, we can expect to attain a dignified status. If we are content to simply provide what others ask of us, we will continue to occupy a minor role in an information world certain to become the basis for all intellectual economic and social activity.[20]

In a world where people are inundated and often confused by the sheer quantity of information available, there is a desperate need for the types of skills in information organization, management, and retrieval that librarians can provide. Society more than ever will need librarians who can sift and sort through information and not only locate information but put it in context by comparing the worth of various items, authenticating and validating

them.[21] We need be confident and recognize our strengths and let others know what we are able to do so that we can be assured that there will be both libraries and talented and well-prepared librarians to help meet the information needs of tomorrow's society.

References

[1] U.S. Department of Education, Office of Educational Research and Improvement, National Center for Educational Statistics, *Public Libraries in the United States: 1994* (Washington, DC: 1997) 67; U. S. Department of Education, Office of Educational Research and Improvement, National Center for Educational Statistics, *Academic Libraries: 1992* (Washington, DC: 1994), 6.

[2] Walt Crawford, "Paper Persists, Why Physical Library Collections Still Matter." *Online* 22 (January 1998), 1. (Can also be seen at <http://www.online inc.com/onlinemag/OL1998/crawford1.html>

[3] John Naisbitt, *Megatrends: Ten New Directions Transforming Our Lives* (New York: Warner Book, 1982), 39.

[4] Peter Vaill, *Managing as a Performance Art: New Ideas for a World of Chaotic Change* (San Francisco: Jossey-Bass, 1989).

[5] David Bollier, *Work and Future Society: Where are the Economy and Technology Taking Us?* (Washington, DC: The Aspen Institute, 1998), 1.

[6] Richard W. Judy and Carol D'Amico, *Workforce 2020: Work and Workers in the 21st Century* (Indianapolis, Indiana: Hudson Institure, 1997), 12.

[7] Allen B. Veaner, "Paradigm Lost, Paradigm Regained? A Persistent Personnel Issue in Academic Librarianship, II," *College and Research Libraries* 55 (September 1994), 390.

[8] *Ibid.*

[9] Anne Woodsworth, "New Library Competencies," *Library Journal* 122 (May 15, 1997), 46.

[10] Vicki L. Gregory and Kathleen De la Pena McCook, "Breaking the $30K Barrier," *Library Journal*, 123 (October 15, 1998), 36.

[11] *Ibid.*, 32.

[12] Charles Handy, *The Age of Unreason* (Cambridge, MA: Harvard Business School Books, 1989), 90.

[13] Rosabeth Moss Kanter, Barry A. Stein, and Todd D. Jick, *The Challenge of Organizational Change: How Companies Experience It and Leaders Guide It* (New York: Free Press, 1992), 3.

[14] Joanne D. Eustis and Donald J. Kenney, *Library Reorganization and Restructuring*, SPEC Kit 215 (Washington, DC, Association of Research Libraries, 1996), 2.

[15] Gwen Arthur, "The Greying of Librarianship: Implications for Academic Library Managers," *Journal of Academic Librarianship* 24 (July, 1998): 324.

[16] Sheila D. Creth, "Information Technology: Building a Framework for Change," *Library Issues, Briefings for Faculty and Administrators* 12 (July 1992): 2.

[17] Allen B. Veaner, "1985 to 1995: The Next Decade in Academic Librarianship, Part I," *College and Research Libraries* 46 (May 1985).

[18] Woodsworth 46.

[19] Special Libraries Association, *Competencies for Special Librarians of the 21st Century* (Washington, DC: SLA, 1996). (Can also be seen at <http://www.sla.org/professional/competency.html>

[20] Murray Martin, "Who Are We?" *Technicalities* 18 (March 1998): 5.

[21] Richard A. Danner, "Redefining a Profession," *Law Library Journal* 90 (Summer 1998): 345.

Barbara Moran is Professor, School of Information and Library Science, University of North Carolina at Chapel Hill.