

THE CULTURAL LEGACY OF THE ‘MODERN LIBRARY’ FOR THE FUTURE¹

Francis Miksa

School of Information, The University of Texas at Austin, Austin, Texas

E-mail miksa@ischool.utexas.edu

Abstract

The cultural legacy of the library to contemporary society is examined in order to provide a basis for discussing present changes taking place in the LIS field and in LIS education. By viewing the manifestation of the library over time as an “era-specific” societal phenomenon, the modern library, which began in the mid-19th century and is still present, will be seen as replacing an earlier era-specific library, but also as currently being challenged by the beginnings of a new library era. The modern library is next contrasted with the library it replaced, after which three significant features of the modern library now being challenged are explored and contrasted with the emerging library—how the library is viewed as a social institution; how its normative target public is conceptualized; and what is acceptable as its normative funding. Lastly, speculations are provided as to how LIS education might respond to the challenges and changes that the emerging library is bringing.

Introduction

This ALISE conference focuses on the institutional cultures in which LIS education finds itself. Most of the presentations will identify significant contemporary cultures in which LIS education finds itself—cultures resident in society at large and cultures more specific to the university environment--and some will suggest strategies for LIS education to follow in order to operate successfully within those cultures.

My contribution will differ in focusing on the cultural desiderata (some might say the cultural baggage) that our own field brings to this contemporary scene. More specifically, I will focus on our general idea of the library. In my own view, the concept we have of the library--be it a fully rationalized matter or only a set of unexamined assumptions--is enormously important in how LIS education functions because it is ultimately at the center of how we justify our existence.

What I intend to do here is to suggest a “long view” of the library which will allow a thoughtful basis for discussing present changes taking place in the LIS field and in LIS education. I will, accordingly, first propose looking at the library in society as an *era-specific* phenomenon and then discuss the library which we know, the *modern library*, in the same way, as an era-specific phenomenon, including the idea of the library that it replaced. Next, I will look at three principal aspects of the modern library which are now being challenged by present circumstances. I will,

¹ An expanded form of an address at the annual meeting of the Association for Library and Information Science Education (ALISE) in San Antonio, Texas, 17 January 1996, with revisions and corrections December 8, 2007. The formally published version of this address will be found in *Journal of Education for Library and Information Science* 37 (no. 2, Spring 1996): 100-119.

afterwards, suggest how certain factors among present circumstances provide a basis for a new library era which appears to be emerging. Finally, I will dwell on factors that LIS education must consider in order to accommodate this new expression of the library.

The Library as an *Era-Specific* Phenomenon

I use the phrase “modern library” to refer to a social organization that came into being in the last two or three decades of the nineteenth century and which is with us today. In short, I use the phrase to refer to a social phenomenon which is only a little more than a century and a quarter old rather than to the library over all historical time. It is true, of course, that library historians typically assume a continuity in the history of libraries that goes back much further than a century or so (some going back to Mesopotamian civilization). And it is also true that there are features of the library which have remained similar throughout its long history. For example, all such manifestations of what we call the library have had collections of informational objects of one kind or another, and all of them have had caretakers which from our modern perspective we prefer to call librarians. Many also have had devices which we call “catalogs,” provisions for “borrowing” or using informational objects on-site, and so on. But, the fact is that what we call the library has never been as cohesive a phenomenon as this picture suggests.

I suspect that were we able to jump back in time to any but the most recent manifestations of the library--for example, to libraries before 1850 or so--the farther back we traveled the more uncomfortable we would find ourselves in calling what we found at any one point a library. Our discomfort would arise from using the modern library as a standard for measuring libraries of the past. I do not simply mean discomfort with the infrastructure of the library, although that would be a factor. Rather, I mean discomfort in terms of “subjective” differences; for example, that such agencies would not have the “feel” of the modern library, that they would not go about their business in the same way, that they would not have the same sense of goals.

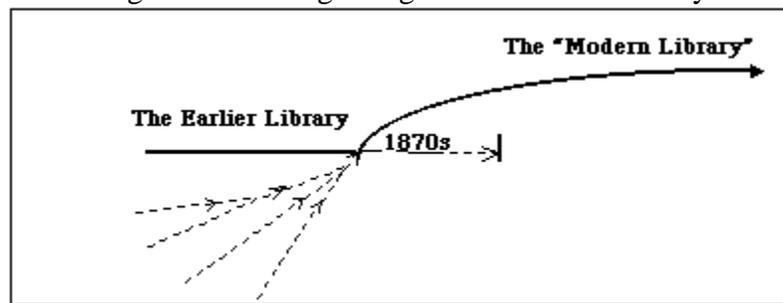
In reality, what we insist on calling the “library” has always been an expression of specific cultural and societal contexts in which it has been found. These various contexts have in turn shaped the library's internal organizational attributes and its outward societal relationships. It is for this reason that I prefer to think of the library historically as *era-specific*--that is, as a product of cultural and societal contexts and arrangements in different periods which have produced expressions of the library appropriate for the contexts in which it was found. Here, I use the term “era” not to refer to the contexts themselves, but rather to the predominant patterns of library organization and practice which have arisen in response to such outward cultural and societal contexts. In short, I use the phrase to indicate library eras themselves.

In this respect, library eras do not necessarily match their cultural and societal contexts in a one-to-one correspondence. Rather, they have tended to overlap their cultural and societal contexts so that one particular expression or era of the library tends to be carried over to a different cultural and societal context only to be changed by that new context into a different expression of the library. The new context acting on an older expression of the library produces a new library era, sometimes with only minor changes, at other times with radical changes. This appears to be what produced the modern library and it appears to be at the heart of changes the modern library is now undergoing.

The Modern Library as Era-Specific

The modern library began in a burst of extraordinary activity in period from the 1850s to the 1870s, and since then its development has been the object of multiple attempts at refinement of that basic structure. A relatively simple diagram (Figure 1) will serve to illustrate the radical nature of the change.

Figure 1: The Beginning of the Modern Library



Here, the manifestation of the “library” prior to the 1870s is represented by a horizontal line and is labeled “The Earlier Library.” The curving line which begins below that line with dashes for its roots and which proceeds up and over the horizontal line represents the modern library as we know it. So powerful was this new form and sense of the library that most earlier versions of what was called the library either went out of existence, moved well into the overall background, or changed into the new kind of library, the now normative modern library.

What Did the Modern Library Replace?

It will be useful to ask what this new version of the library born in the late nineteenth century replaced. Some insight into this question can be gained in remarks made by Charles A. Cutter (1901), one of the great pioneers of the modern library, in an article entitled “Library Development” which he contributed to an end-of-the-century review in 1901. Cutter compared libraries at the beginning of the nineteenth century with the library scene as the twentieth century was about to begin. He covered such standard things as the relative sizes of libraries in the two periods, what kinds of books they tended to have in their collections, and other similar matters. But, significantly, he also attempted to characterize who founded libraries, who funded them, and what kinds of clientele they tended to serve. He concluded that libraries had undergone a massive shift from being essentially private organizations to being essentially public organizations.

Now, Cutter's conclusion will probably not cause any eyebrows to rise in this audience because it is part of the catechism of the modern library. But, when one looks at his conclusion closely, a more profound insight will emerge with respect to the idea of a library.

To begin with we must understand that for Cutter the phrase public library did not refer merely to one type of library among four major types (i.e., academic, school, special, and “public”

libraries).² Rather, the term public library was his way of characterizing how libraries were now functioning in society.

The opposite of the public library for Cutter was the private library. But, here again, the private library was likewise not merely a kind of library--for example, the library of a wealthy individual--although he included such organizations in the phrase. Instead, the phrase "private library" represented any library agencies which by their very nature were closed to all but a prescribed set of users, the prescription being set by the founders of the library, usually in overtones of ownership and specific user goals.

A "public library," therefore, was one that functioned with an essential openness to the entire public. The special hallmark of this new library environment of openness was the way it was funded and organized. It was not the province of particular "owners" (even where owners were a group) who matched the library's stock of books with their own needs and desires (even where the needs and desires were for a designated group of users). Rather, it was a socially funded agency which built book collections and organized itself with society's larger needs in mind. In sum, Cutter saw in the modern library a shift from agencies with essentially constricted or closed goals based on private or controlled ownership and private funding, to agencies with essentially open goals based on public ownership, control, and funding. Libraries had shifted from being private spaces to being public spaces.³

Now, even this observation may seem pedestrian, but its pedestrian quality begins to dissipate when one identifies what problem this new kind of library, this modern library, this open social agency funded by the government, was attempting to solve. In short, what was the difficulty for which it was such a grand conception and solution?

To answer this question we must go back much further in time to the beginning of what is generally considered modern history, the period of the Renaissance, and, more specifically, to the beginning of printing.

The invention of printing in the fifteenth century represents a distinct shift in the creation, organization and delivery of information in civilization in the West. Information creation, organization, and delivery in society has always been an economic and political matter, at least since the Middle Ages, and when printing began this same reality applied. Manuscript reproduction in the late medieval period (beginning of the late 1400s) was a large industry (relative to the times) creating products not only for scholarly work but also for business purposes.⁴ Within that context, printing represented a new technology and industry which tapped into what was already by the mid-1400s an established market. The products of the industry--at first printed books and business documents, and as the decades went by, an

² A public library in the sense that we use the term today, that is, as one of the four major library types, was generally called a "town" or a "city" library before 1900.

³ The idea of "space" is used here in a metaphorical manner as a realm or locus of goals, activity, etc., rather than simply as a physical location, although physical location is obviously included in the concept. The same idea is used in Miksa and Doty (1994) in speaking of the library as an "organized space."

⁴ Almost any basic history of printing--for example, Steinberg (1974)--focuses especially on the production of books and pamphlets. But, business documents were also an especially important target, a matter notably portrayed in a graphic manner in Printing (1986).

increasing variety of other kinds of informational objects--were unique. They were relatively easy to create, and through the technology of making multiple copies they had the spectacular, even profound, effect of individualizing the use of recorded knowledge in a way not realized previously.

As spectacular and profound as printing was, however, it also brought two significant problems. Although ultimately cheaper by far than handwritten manuscripts, printed products were still too expensive for most individuals to collect in large numbers, and they were also too expensive and difficult to store, at least in anything approaching the totals available and useful for particular information needs. In sum, as excellent an invention as they were, and with value (in terms of the knowledge they contained) growing enormously throughout the Renaissance and European Enlightenment, creating a library of printed products remained outside the means of most people.

Libraries were created in response to the invention of printing, however, but they were created chiefly by collectors. Who were these collectors? Who could accumulate collections which could be employed in large and sufficient numbers? That seems obvious. They consisted of individuals and groups of individuals who could afford to do so. In actuality, the model for the library following this most wonderful innovation was the private library already described. There were no "public" libraries for people to use. One could not simply walk in off the street into one of these libraries and use it. In order to use most libraries one had to be certified by the owner or owners of what were essentially private or closed agencies.

None of this means that there were not dreams of a more open kind of library, nor attempts to create something of that sort. There were even alternatives to such agencies, for example, the encyclopedia movement, which was from this perspective an attempt to encapsulate human knowledge in "libraries writ small" in order to get knowledge to the people.⁵ Likewise, the growth of the publishing industry in the nineteenth century, aimed as it was at the common reader, can be viewed as an attempt to do the same thing.⁶ And, of course, there were many experiments in making collections available to more broadly defined but, nevertheless, specially denominated groups of people--social libraries of one form or another.

Ultimately, 400 years were to pass (1450s to 1850s) before a solution was devised which would make large numbers and varieties of printed products available to many individuals. The solution was the modern library, the library as a social organization funded by the government, especially the local government, and organized as an essentially open agency with respect to those who could use it and in terms of the nature of its collections. The shift in the idea of a library was from an essentially private space organization to a public space organization. When one thinks of the modern library in this way, it is in all respects a profound solution to a serious problem. Further, when one combines the solution with the driving force of a Melvil Dewey, for whom no such agency was viable if it did not combine with its operations a serious commitment to efficiency, then the nature of the solution is even more spectacular.

⁵ See Wiegand (1986b) and Davis (1994) for accounts of alternative kinds of libraries experimented with before 1850, usually called "social libraries." A good general discussion of the encyclopedia movement and the most significant encyclopedists can be found in Machlup (1982).

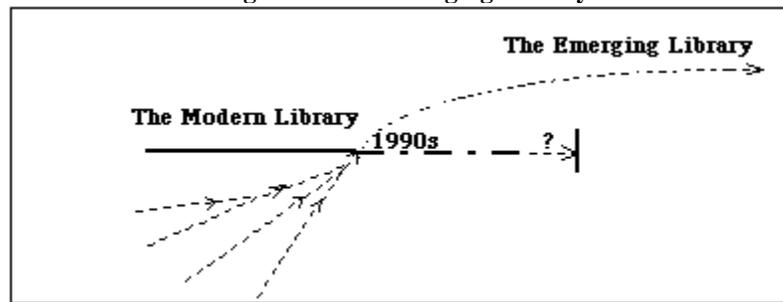
⁶ Steinberg (1974) provides an account of the spectacular growth of printing technology in the nineteenth century, and Altick (1957) is especially useful for seeing the development of markets.

The modern library viewed as a solution to a social problem has not been without its own problems. But, such problems as it has had seem like only a small price to pay for the enormous success of the solution.

The Modern Library and the Emerging Library

We have all grown up with the modern library. In fact, our experience with the modern library is so thoroughgoing that it is difficult to conceive of the library being anything but the modern library. However, changes appear to be taking place at the present time with respect to the modern library which are very much like those which brought about the modern library in the first place. These changes may be illustrated in the same way we illustrated the shift that took place in the last century, only in this case with a different set of names (see Figure 2).

Figure 2: The Emerging Library



Here, we observe that new roots have been growing which appear to give every promise of changing what is now considered the modern library in the same way that earlier libraries were forever changed by the innovations of the 1870s. In this case, new roots include the rise of new information technologies--computers, computer software, modern telecommunications, the Net, etc.--and also the rise of a growing number of sister information fields with such names as Data Processing, Management Information Systems, Information Resources Systems, Computer Science, Information Science, Artificial Intelligence, Multimedia, Informatics, and the like.

The most obvious result of the changing environment is that the modern library has been overtaken by enormous expansion of the information services fields and occupations. The expansion has been so spectacular, in fact, and so fast, especially since World War II, that the portion of the total information services "pie" occupied by the modern library is now much smaller than previously. Further, the modern library's portion of the information services pie appears to be in for even more shrinkage as the years go by.⁷

This shrinkage--or as some might say, this loss of market share--is the reason for some to question almost immediately the viability of the modern library. The implication behind this conclusion is, of course, that without the modern library there is no library. But, this conclusion is nonsensical. It would be the same as if, from the point of view of the early 1870s, one were to conclude that without the closed, limited-access, privately-funded library of the times, there

⁷ One can gain a good sense of the breadth of what is here called the information services pie in Machlup (1980), especially his Part III, "Knowledge as a Product." A good collection of summaries of academic allied information fields will be found in Machlup and Mansfield, eds. (1983).

could be no library. And we all know that did not occur. Instead, what occurred was the transformation of the idea of the library common to an earlier period into the modern library.

I suggest that what is occurring now is a similar shift. The modern library is changing, changing so dynamically, in fact, that we are witnessing a new approach to the library emerging, a new library era. If this is true, however, into what is it changing? And will the change be so thoroughgoing as to end the modern library in the same way that the modern library ended the earlier library which preceded it?

It would be difficult at best to describe something that has not fully taken place. At the same time it is instructive to attempt to identify those essential elements of the modern library which are being challenged by the new roots which are now appearing and which hold some promise to produce a new library era. In my view, there are at least three basic aspects of the modern library that our contemporary situation is challenging. These are: 1) How we view the idea of the library as a social institution; 2) How we view the target populations that the library is to serve; and 3) How we view the idea of library funding.

The Library as a Social Institution

Early in this century, the library field ideologically adopted the social organizational structure which came into existence with the modern library as not only an expedient but even a normative solution to selecting, collecting, organizing and delivering for wide social use the predominant form of information of the times--informational objects which are print-based. Beginning in the 1930s at the University of Chicago Graduate Library School, this social organization was made the basis for a research paradigm in which the social organization called the library was equated with the idea of a social institution and, as such, was viewed as the basic phenomenon of our field for investigation.⁸ The rationale for the paradigm was that the library ensured the survival of a society by having become the chief agency to make information easily accessible to the society's members. The importance of the idea of the library organization as a social institution became so powerful that it also became a basic tenet of the library field, the basis for what since that time has become one of the field's common assumptions, that the modern library in and of itself, the library as a social organization, is the field's most significant cultural legacy to society.

Now, we should be quick to remind ourselves that the modern library upon which this idea was based has functioned in a grand way for a century and a quarter. Who could have thought up any better mechanism? Further, the evolution of this approach to getting information to the people was really quite natural. Librarians essentially took the private library idea from earlier times and adapted it to a public form with an extraordinary dose of efficiency.

The chief problem with this point of view is that it does not fare well in the light of the expansion of the information services pie already noted. If the chief contribution of the modern library is the social organization it created and there are now a growing number of fields and information services which have crowded that social organization into a proportionally smaller part of the whole information services scene, then we might well conclude that despite having been a good

⁸ For a more detailed discussion of the details of the paradigm, see Miksa (1992).

thing, the social institution our field bequeathed to society will in the end have been relatively short-lived and at best only a modestly significant legacy.

The foregoing is not the only approach one might take to identifying the social institution that constitutes the modern library's chief cultural legacy to society, however. In the foregoing, the interpretation of a social institution is focused on a concrete social phenomenon. However, a social institution may also represent something more abstract, for example, a social practice or even a fundamental idea. In this respect, I submit that the chief social institution that the modern library has contributed to society and which constitutes its most enduring cultural legacy is not the social organization which it created, but rather an exceptionally profound and unique idea that in reality has resided behind the social organization--*that making available to the members of a society the widest possible array of informational objects and doing so in a value-added but efficient way with respect to the selection, organization, and delivery of those entities, and with respect to aiding in their use, is absolutely necessary for the society's survival; that in this context information accessibility is not merely a social nicety but constitutes a "right" of the members of the society.*

It would be facetious to claim, of course, that the modern library has been the sole champion of this social institution, this idea about information accessibility in society. Nevertheless, the modern library has been an exceedingly strong and significant voice--in many respects, perhaps, the strongest and most significant voice--giving shape to the idea. It has promoted the idea under many different guises--for example, in its early emphasis on reading guidance; in its long-term partnership with public education; in its critical role in the rise of the modern university; in its support and its advocacy of the social betterment goals of the country over the past seventy years and, especially, since the 1960s; and finally in its adoption of new information technologies.

This list could be lengthened. The main thing is that the modern library has not only been a very strong and able champion of a much more abstract sense of a social institution than merely that of a concrete form of a social organization, but that the means by which this goal is accomplished is not absolutely necessary to its success. The means might well change in many, if not most, of its particulars, in fact. However, such changes ultimately matter little, because it is the idea itself which is the social institution bequeathed to society, not the social organization employed to achieve it. As long as that idea remains, the legacy is intact.

The Normative Target Public of the Modern Library

The second aspect of the modern library being challenged by the growth of new contemporary roots is the way the modern library generally views its target clientele--the "public" it aims to serve. In this respect, the normative target public of the modern library has always been a heterogeneous or amorphous group, a relatively undifferentiated mass of people.⁹

In the very broadest setting--a town or city library--this public includes both sexes, all ages, all educational backgrounds, all ethnic groups, and all or nearly all information needs. In other

⁹ Miksa (1983b), based on a longer study (Miksa 1983a) traces the way users have been delineated during the twentieth century mainly in reference to library catalogs, but with some reflections on other kinds of access mechanisms.

settings the public served is more or less constrained by considerations of a primary public in contrast to an all inclusive public. For example, academic libraries constrain their target user populations by focusing on the needs of their parent institutions, city library branches by focusing on one or more ethnic or local populations, special libraries by focusing on the members and needs of the particular organizations to which they belong. Even with such constraints, however, the target population being served is commonly heterogeneous in terms of the number and kinds of persons and needs being served. And, in fact, only after such a population has been identified can steps ordinarily be taken to shape the library's work in terms of smaller subgroups or individuals within it. However, even if such steps are taken they will always be limited when balanced against the needs of the entire target public served.

Now, there would appear to be little mystery why the modern library aimed at a heterogeneous target public. Clearly, doing so represented an economy of scale, and this constituted an important element of its success. The earlier library which the modern library replaced, an essentially private social organization, arose principally as an expression of the needs of primarily small and specifically defined user populations--in short, in relationship to relatively homogeneous rather than heterogeneous user populations. Particular books were acquired because the individuals for whom or by whom a library was begun wanted them. Access mechanisms could remain relatively static because their users had become personally familiar with them and this was all that was therefore needed for successful access.¹⁰

A “private space” approach of this kind was limiting, of course, if one’s purpose was to serve the entire populations of towns and cities, or entire populations of students and faculty in an educational institution, and in either case to meet a wide array of information needs. It would simply not have been possible to make different collections or different access mechanisms for so many smaller groups. The modern library, in solving the problem of society’s general information access needs, aimed instead at this broader goal and in so doing adopted the norm of heterogeneous populations as a necessity. It is in this respect that the early goal of the A.L.A. is especially meaningful—“The best reading for the largest number at the least cost.”

In many respects, approaching target populations in this general way was a stroke of genius. Given the vision of the movement to serve all the people (potentially, at least) and the complications and expense of collecting relatively bulky materials and making them accessible, what better solution could have been devised? Certainly, approaching the matter in this collective way, when combined with a strong reliance on efficiency, fit well into an emerging modern industrial society where collective solutions undergirded by efficiency were a growing practice. And, certainly, this approach also fit in well with twentieth century economic ideas of the library as a justified public good based on the economic idea of “jointness of consumption” (Waldhart and Bellardo 1979, 54-6).

The chief problem with this aspect of the modern library is that it sets up nearly impossible demands on bibliographic control goals, procedures, and mechanisms. It does this by creating a

¹⁰ One of the important discoveries in subject access research appears to be that success in using access mechanisms--for example, subject heading systems--is directly proportional to the familiarity of a user with such a mechanism. Applied here it means that if a small cohesive user population is served well by what by any other standards is a clunky or cranky system of any kind, there is no need to change it. It is, in effect, doing its job.

tension between actual, individual users, or relatively small, homogenous user populations, and what must of necessity be a hypothesized “general public,” a heterogeneous target public that each particular library must serve. In fact, the history of the modern library is peppered with instances of conflicts based on this tension. For example, collection building and management must of necessity begin with a hypothesized general or average or typical user who represents the heterogeneous whole, with adjustments made only in retrospect for the needs of individuals or for specially denominated subgroups. In this respect, appeals to user fees for special services, or to demand-generated acquisitions, or to the use of individualized information ombudsmen have provoked strong objections as being contrary to good library practice.¹¹

This conflict also occurs when creating access mechanisms and, especially, when creating access mechanisms which make category searching possible. The phrase, category searching, refers to any search for a potential group of informational objects based on one or more attributes or characteristics the entities have in common. The most common types of attributes used for such searches are, of course, subject or topical categories, although category searches can actually be based on any attributes held in common by different items--for example, on the names of persons as authors, genres, formats, and soon. Category searches are made possible by creating classificatory systems of one kind or another.

Any history of creating category access mechanisms over the past century or so is actually an accounting of the struggles over what and whose categories should be basic to such classificatory systems. Early on the solution seemed simple. Differentiation among users was minimal and classificationists assumed that there was one true classificatory structure of subject categories that could be determined (with enough effort) and which all users could or should learn to use. After the turn of the twentieth century, when librarians increasingly began to realize that user differences have a profound effect on such systems, efforts were made to align category access mechanisms more precisely with users needs. At first users were correlated with particular sizes or types of libraries. Then efforts shifted to identifying specialist kinds of users. More recently, modern information retrieval systems have been designed to be responsive to the questions of individuals, or at least to the questions of cohesive groups of users in common topical domains. Some of the latter efforts have yielded highly specialized informatics systems. Almost all recent efforts recognize that category access, like information seeking in general, is ultimately and intensely personal and that information access mechanisms must be based on the needs of individuals or at least on the needs of highly cohesive target user populations if they are to be effective.

This conclusion is, unfortunately, directly opposed to the target user population norm of the modern library--the relatively large, undifferentiated target population. Of course, one might attempt to serve the needs of individuals and of highly cohesive user populations along with the needs of the larger undifferentiated user population. But, doing so is very expensive and in the contest for funds, the needs of the large undifferentiated groups has almost invariably been put first. The oddity of this entire course of action is, however, that the large heterogeneous target population is necessarily a hypothetical construct, one that does not easily lend itself to reality checks.

¹¹ Objections to the latter of these was especially strong in responses to two public addresses as recorded in Miksa (1987; 1989).

The Funding of the Modern Library

The third important aspect of the modern library being challenged by the growth of new contemporary roots is the way the modern library is funded. The norm for the modern library is that it should or must be funded by the government.

From the very beginning of the modern library era, the only way that library pioneers and spokespersons could envision the library as a social organization functioning in terms of needed funding, clout, and social approval was by means of government support. The government in this approach was, at first, merely the local government with approval from state legislatures. During this century it has also come to include national and state governments.

The reasons why this approach to funding was adopted from the start are diverse. There is every indication, for example, that this approach coincided with the growth of post-Civil War social reform movement in the United States. The latter was based on a hopeful and positive attitude about the role of government in promoting and supporting social institutions which ensured the stability and viability of the state. And there is also some evidence that this approach arose in response to democratic ideals in which the citizenry as taxpayers were viewed as participating in their society's efforts to achieve a lofty goal.¹² The most obvious reason for this approach, however, seems to have been the purely practical one that the government was the only reliable source which could afford to do so. It seemed an appropriate source as well, for when the costs of the library were spread out among the taxpayers, the cost per person was relatively small.

Regardless of the specific reasons for adopting this funding approach, it not only became normative for the modern library right from the start, but has become a pervasive factor ever since. Given approximately 120,000 libraries of all kinds, today it would not be unrealistic to estimate that more than 90 percent of them, possibly even more, are supported primarily from government funds of one kind or another. Here again, we might well repeat the words said of the other two aspects of the modern library--Who could have devised anything better under the circumstances?

The chief problem with this aspect of the modern library in the present day is that libraries have become more expensive than even governments can afford, especially in the face of other competing social programs such as police protection and public education. Growing expense has occurred not simply because of enormous increases in the kinds and numbers of informational objects available and because of the expense of new forms of access, although these have been factors. Growing expense has become the case because the modern library has increasingly attempted to fulfill two conflicting goals. On the one hand it has held rigorously to following its original norm of serving heterogeneous general target populations. On the other hand it has increasingly attempted to serve the information needs of individuals or of smaller cohesive target populations. In short, as the modern library has begun to take to heart the actual social

¹² There is a lengthy literature on the social and political context of the founding of the modern library. It begins with Ditzion (1947) and Shera (1949) who offered progressive views of the matter in the late 1940s, but has been continued by others such as Harris (1973), Harris and Spiegler (1974) and Garrison (1979) who have pointed out motivations related to social control and restricted views of the role of women in society. Some further perspective on the issue may be gotten in Miksa (1982) and Wiegand (1986a).

institution it has promoted--that value-added information access to the people is necessary for a society--it has run into the limitations of the norm for doing so that is basic to its own nature as a library era.

Some will conclude, of course, that this turn of events was implicit in the modern library from the start and that its mission must necessarily be to continue what it has been doing with even greater efforts. But, I am not sanguine about this possibility. The growing shift in the United States to even greater racial, ethnic, political, and religious diversity makes it increasingly difficult to identify any hypothesized target population with respect to collections, services and access for a heterogeneous user population, a norm at the very heart of the modern library ideal. The alternative to a general target population is to serve each identified group and, to the extent possible, each individual equally and specially. But, the alternative is plainly too expensive and too disruptive to pursue. It is too expensive because of the cost of acquiring informational objects and creating access mechanisms for so many different individual needs. And it is too disruptive because at the heart of the increasing diversity of the nation is the reality that for various political, religious or philosophical reasons the information goals of some groups and individuals include the need to suppress the information goals and needs of others.

The Challenge of a New Environment

The modern library, and LIS education which is the child of the modern library, now face the challenge of a new environment, a new environment which is itself a product of new roots appearing--new information technologies, new information professions and services. To me the chief issue is not to devise strategies which the modern library and LIS education can use to preserve itself against such change, as if they were some sort of sacred cows which must continue in their original forms at all costs. Rather, it is to identify the significant aspects of the new environment which give the most promise for assisting in the creation of a new library era, for assisting in the transformation of the modern library into a new expression of the library in society.

New Information Technologies

The first significant aspect of the new environment that will assist in the transformation consists of new information technologies which are slowly creating electronic alternatives to printed information and in so doing are challenging one of the basic reasons why the modern library appeared--the impossibility that many individuals could acquire and store large numbers of printed informational objects.¹³ Information in electronic form and accessible through

¹³ I emphasize *slowly* not because of some reactionary wish to downplay the shift taking place, but rather because, regardless of the hype, many developments must yet be made to realize fully the potential of this new medium--things such as better electronic reading devices, better communication protocols and methods, much more compact storage, and social and economic arrangements which fit the new medium. In other words, all I am saying is that our society remains relatively close to the beginning of the shift to a new kind of information, and there is still 'a long row to hoe.' In the this respect the development of new information technologies is much like the development of printing, only now, instead of seeing the re-creation of handwritten information in printed form, we are witnessing the re-creation of *the book* (generically speaking) in electronic form. The earlier period required about half a century to establish the innovation, another century to create new forms of the book, especially with the use of graphics, and also to prompt and expand into new knowledge areas, and then another two centuries to develop

networking raises the distinct possibility that enormous numbers of individuals will be able to have their own libraries. In this scenario, a library will likely consist of a personal computer with some electronic (and, for a long time, some paper) documents stored locally and hundreds, perhaps even thousands of others accessible through links on the net. Think of it--a library seemingly contained in a small box. Further, given this capability to collect and store electronic information, the focus of the collection will also change because it will be possible to shape such collections and their access mechanisms precisely for the needs of the individual or the cohesive group of individuals who require them.

Only a little reflection will show that this new kind of library is not only a denial of the modern library's public space and general target population orientation. It actually represents something of a return to the library era that preceded the modern library when a library generally represented the private space of an individual or of a small group. Frankly, this reversion makes eminent sense to me for, ultimately, is not an excellent library one which is as personal in its selections and access mechanisms as the personal nature of the information seeking that prompted it? In this respect, it seems appropriate to paraphrase S. R. Ranganathan's second and third laws of library science. Instead of, "Every reader his book," and "Every book its reader," new technology appears to be making possible, "Every reader his library," and "Every library its reader."¹⁴

Now, I must hasten to add to this picture that the mere existence of electronic technology will not by itself accomplish the shift to private space libraries. If that were the only ingredient required, one could rightly object to this scenario by emphasizing that the cost of electronic information, at least at the present time, makes collecting it by individuals just as prohibitive as collecting print products ever was. I would agree with this observation, but would add that I suspect the present costs are due primarily to present patterns of dissemination being tied to a publishing structure inherited from print culture. In the latter, a relatively small number of publishers are gateways for disseminating information to millions of clients who desire it. What will also be necessary for the new situation will be a social dissemination structure that replaces the present publishing structure with one which recognizes the new situation for what it is--an enfranchisement for all persons who participate in the networked society to become publishers. This phenomenon appears to be what is happening as we see an exponential increase in computers which are not merely clients but also servers. Servers are, in effect, publishers because they make information available, and when they make it available over the net they do not essentially function differently than a publisher of paper information products. We may mourn the loss of the control inherent in print culture publishing, but I suspect we will be able to do little about it and may each have to make our separate peace with the nature of information in a society in which everyone with a computer will have the opportunity to create, to sell, to give away information. In that context, there will be ample opportunity to collect enormous, dynamic libraries of

markets and additional technology to bring printed products into a preeminent position in society. At the present time, it has taken nearly four decades to establish the innovation and we are presently into the new form of the product stage especially in the form of interactive multimedia and networking, and who knows how long the period of market shakedown will take.

¹⁴ Ranganathan originally published his five laws in 1931. But, they appear in the front matter of many of his books after 1950, for example, in his *Prolegomena* . . . 1967.

information by anyone who cares to do so and at a cost which is as reasonable as buying any other widely disseminated product.

New Approaches to Funding

A second significant way that new growing roots hold significant promise for an emerging library different from the modern library has to do with funding. The modern library has been funded by government primarily as a practical matter, as an economy of scale. However, if the necessity to preserve the social organization called the modern library is removed because the emerging library is becoming once again the realm of private rather than public space, what then remains for the government to fund? Can government funding be justified for what can no longer be justified as a public good based on a doctrine of jointness of consumption?

There is more to the issue than this, of course. Most complaints that I have heard about the possible loss of the modern library as a public space revolve around two issues. First, it will make information access purely an expression of the commercial sector with information being no less commercial than any other product--with a corresponding loss of "free" access to information. Second, if information accessibility does become primarily a commercial sector activity, a class of information deprived or "have-nots" will arise.

To the first of these two complaints, I can only say that the idea that published information is not commercial is a very romantic notion that has little reality in fact. Nevertheless, people in the library field often become upset today when they see the extent to which the development of new information technologies are driven by a profit motive and, increasingly, as information policy is debated, the extent to which the development of such technologies has become a political matter.

But, what is so new about this? When printing began, it represented both an economic and political innovation, economic because a profit motive was basic to it, political because its viability as an economic reality depended on an interplay with those who made political decisions. And for all of the period since the invention of printing, the creation and delivery of information has always been a matter of economics and markets, and it has always been a political matter. The only thing different over time has been where the charging mechanism has been plugged in and where control mechanisms have been exercised.

Government funding of information creation and delivery has been a successful solution to a problem for the past 125 years. But one should not thereby conclude that it is the only method of distributing information equitably and conveniently in society. If information creation and delivery were cheap enough, and the controlling political mechanism worked out, there is no reason why government has to be the prime mediator of the process. This is especially the case in a society which is imbued with the very social institution that the modern library helped to establish--that information accessibility is a necessity and a right to the members of a society.

As to the complaint that this scenario appears to insure that some people will be forever among the information dispossessed, I would say that here there is some merit. However, one must be careful about what this actually means. Some people are information poor because they do not know how to be information rich. They are, as our own field would say, information illiterate

and their information illiteracy is the case despite the presence of public space libraries and despite formal education they have had. The solution to their information poverty is not first of all simply or even to make large collections of informational objects available. It is for them to learn the value of information in their lives. Only after that, if they remain destitute of any connection to information products in the coming age, would I foresee some agency for connecting them to the net. Even then, however, I do not see that this will necessarily require a full-blown social organization called the modern library.

One may reasonably conclude that these two aspects of the contemporary situation constitute something of the handwriting on the wall for the modern library as society's grand social mechanism for storing and delivering information to its citizens. This may not happen immediately, but in my view it has a high probability of happening. The model of the modern library of the past century and a quarter will not hold, in other words, because the technology, economics and politics of the matter will find a different route to the same end. And what appears to have caused the rise of new information service fields is just this change going on--the creation of new paths (which together might be conceived to be "the" new path) to achieving that extraordinary social institution that the modern library has been so instrumental in establishing in the first place, that if a society is to endure, its citizens must absolutely have access to enormous amounts of information of all kinds and for all uses.

LIS Education and the Emerging Library

If we assume that the changes described here are taking place--that is, the rediscovery of the library as a private space phenomenon and the corresponding decline of the public space social agency called the modern library with its attendant government funding--what then will become of LIS education? More specifically, what role might LIS education play in this transformed idea of the library? Two general preliminary points seem relevant to this question.

First, the fact the modern library is changing into something else does not imply that there will be no phenomenon in society called the library as some have suggested. It means only that the expression of what the library is, the nature of the library era, will change. If libraries persist, therefore, then it seems likely that LIS education will persist, though it too must change to accommodate the emerging library.

Second, despite any shift from a public space phenomenon to a private space phenomenon, the necessity for and the core idea of a library will remain. This is the case because of the nature of the "bibliographic universe" to which a library is related.

The bibliographic universe consists of all informational objects produced by humankind over all ages--the total of all texts, graphics, sound recordings, and the like, of all manuscripts, books, microforms, drawings, music, maps, electronic sources, etc., produced since humankind began representing its knowledge in some storable form for future use. This accumulated body of objects is enormous when its totality is considered. Much of it has been lost or is considered trivial. Some of it disappears and then reappears. A considerable amount of it never comes into general circulation although the most important segment of it for the purposes of information retrieval has come to general use by means of societal "publishing" or other accessibility

arrangements. Overall, its most important attributes, besides the enormity of its numbers, forms, and genre, are that it has been produced randomly (i.e., chaotically) over time, and that it has no inherent order as a body of entities except in relatively small segments of the whole.

A library is a sense-making and value-adding process applied to the bibliographic universe, an effort to bring some sort of useful control (i.e., bibliographic control) to a segment of the whole. At its core it constitutes a thoughtfully selected collection from among all possible informational objects placed in a rationally organized space for a designated target user population.

Some have suggested that with the appearance of electronic informational objects on the Net, the entire population of such electronic objects constitutes a library. But, this is clearly a mistake. The totality of electronic objects merely constitutes an extension of the bibliographic universe, an extension that promises only to increase the size of the whole by orders of magnitude. As such, it also constitutes an extension of the naturally random, perhaps even chaotic, lack of order in the bibliographic universe. Neither the entire bibliographic universe nor even some particular kind of informational object within it ever becomes totally organized and accessible as in a single library.

This axiom is the case not simply because of the complexity of the bibliographic universe, nor because it is always expanding through new productions and the discovery of or placing into circulation previously devised objects, though these reasons are important. Rather, the bibliographic universe never becomes entirely organized as a single library because a library, as a rationally selected and organized space, has its accessibility constructed on the basis of targeted user populations and no such targeted user population has need of or can use with any facility *all* possible entities nor even all potentially relevant entities. Thus, to organize all of them in a single rational space would be counterproductive to the functioning of the whole access mechanism.

In sum, neither the bibliographic universe as a whole nor some segment of it such as all the electronic sources available through the net, is or can be a library. A library is always a specially selected and organized subset of the whole aimed at a target user population. Thus, libraries are as necessary in an electronic environment such as the net as they have ever been in a print environment.¹⁵

The emerging library will differ from the modern library of the past, of course. It will be in electronic form and resident in individual communication devices. It will be tailored to an individual or to the needs of small cohesive groups of individuals. And it will continue to need such basic functions as selection, acquisition, organization, and access mechanisms and services, just as it always has, although now fitted to the needs of the individual or small group for whom such a library has been created.

The library field has gained enormous experience in creating such mechanisms and in delivering services related to them, and LIS education has been the chief agent for training professionals to do this. It matters little what names are given to these tasks or to the persons performing them. Education for them will remain.

¹⁵ Miksa and Doty (1994) provide a useful discussion of basic features of a library imported into an electronic realm.

Unfortunately, as a child of the modern library, current LIS education embodies the modern library almost completely in how it presents the idea of the library, in its curricular content, and in its research. It does not focus on how to create and maintain private space libraries with respect to the basic functions already mentioned. Rather, it focuses on teaching such functions in terms of the heterogeneous target user populations characteristic of the modern library and on how to operate the bureaucratic social organization called the modern library, including how to justify it to funding agencies, with librarianship being an adjunct of this kind of organizational life. If, however, LIS education wishes to meet the needs of the emerging library, it must accommodate the idea of the emerging library.

One way to envision what this implies is to indulge in a picture of the librarian that LIS education will likely be educating in the coming library era. In the new library era, it seems likely that a librarian will function primarily as an enabler, as a person who can help others create their own personal space libraries, or families make their own family-space library systems with individual modes for family members, or businesses any one or more necessary personalized information systems. To accomplish this in terms of today's available technologies, persons are required who are able to help individuals set up something akin to their own home pages (i.e., their own access mechanism), who know enough about the net and its resources to advise them about where appropriate servers exist with the kinds of information they would like in their own libraries, who can advise on the best costs for sources of information, and on how such library systems might best be operated to get out of them what is needed, and so on.

In addition, these "enablers" must be able to create aliases and other filtering agents sophisticated enough for that individual or family or group or business. One can envision this because the information industry simply will not be able to make off-the-shelf applications that will encompass all of the library-making skills needed for an individual's needs. At best, it will provide only shell devices that, in the hands of a skillful manipulator, will be adaptable for making an individually tailored library.

Finally, given the potential for every client also to become a server, enablers must be able to help the owners of libraries to become publishers, those who provide information for others as well as acquire it from others. This by itself will require skills in information entity creation and also to varying degrees in all of the various financial issues that accompany information marketing and selling.

In this picture, the ability to create personal space libraries of the kind described will be greatly spread about in society, just as writing spread about in society beyond the sole province of the scribal profession. But, writing has been with us for a long time now, and society still needs people not only to teach writing but also in many cases to write for us. In a similar manner, even though such library creating skills will spread throughout society, so also will specially educated and skilled people who can create such libraries not only be needed but will become very important.

Some may be doubtful of the latter prognosis, but an anecdote at this point will illustrate the point. A lobbyist friend's main business is working with state legislators with respect to impending legislation. The last thing in the world she wants to do is expend a lot of time making

her computer work the way she needs it to work--in her words, to become an expert on mapping and driving on the information superhighway. Her computer is her right hand. She word processes with it, she accesses her organization's LAN with it, she accesses materials over the Net from the state legislature and also from national databases with it. She would access a lot more if she could, but she has little enough time to learn all that is necessary to do so, and little enough patience besides because she also expends a great deal of time disseminating information to a variety of clients. Being, therefore, so taken up with these activities, she has little enough time to create mechanisms which would facilitate her work. In short, as she has often said, "All I want is to be able to come into my office and turn on my computer and have it work right. I do not want to be its engineer."

Her situation would be a primary opportunity for the organization to which she belongs to have an information access enabler of the kind described above--someone who knew enough about political sources of information, net access to them, the needs of this person's job, and how to interface all such factors in her computer, so as to efficiently set up a system just for her use, or for the use of her and other lobbyists in her organization, or for her and other lobbyists in the legislative area in which she works. What else would one call this enabler except a librarian? This same situation can be extrapolated a thousand times over as the future unfolds for other environments, for home environments, for work environments, for pleasure environments--all of which will need libraries.

Who will pay for such services? One can imagine much of it being fee-based, but in no different a manner than we pay someone to hook up our cable TV or we pay people to make sure our furnaces work. Perhaps there will also be a social component to it--for example, a city with a department of information consultants whose job it is to do just this, in the same way a city has departments of police and fire protection, and offices for this and that. Who can say for sure? Or, in a different scenario, perhaps there will arise giant information companies who supply such services.

It seems obvious that if even something of what I have just described takes place, if, in fact, a new form of library emerges with these characteristics, then LIS education will have to accommodate the change insignificant ways. It strikes me that some of the implications are plain to see. For one thing, LIS education will have to accommodate in its teaching and research a model of the library that is not simply a social agency with large heterogeneous clienteles but rather, like the emerging library, will incorporate significant elements of the library as a personal (i.e., limited and highly controlled) function of individual or small group needs. This will involve altogether new concepts oriented around the selection, acquisition, and organization of information and provision for services for specific end-users--for example, end-user selection, end-user catalogs, and end-user classification--rather than in terms of large conglomerations of users. Finally, LIS education will likewise involve a highly entrepreneurial approach to the provision of library services, especially if the emerging library becomes significantly less dependent on public funding.

Given the range of skills needed, there is every reason to question whether LIS education will be able independently to accomplish all that is needed to accommodate the emerging library. Fortunately, the very tenor of many of the developments that have been taking place in newer

information service areas such as computer science, management information systems, information resources management, informatics specialties, and the like, have already focused on some of the skills needed. In that respect, some kind of amalgamation involving LIS education with elements of such other areas might well be merited. The result might not ultimately be called LIS education, but that would seem to represent only a small loss, given the fact that the work would remain that of librarianship no matter what its name, and the motivation behind it would remain that which the modern library has so effectively put forth as its chief cultural legacy--that information access to the citizens of any society is both a right and a necessity if that society seeks to survive and advance.

Summary

This discussion began by pointing out that the library appears to exist in terms of library eras and that the modern library era began when an earlier "private space" form of the library shifted to an essentially public space organization. Further, it was asserted that the modern library now appears to be facing a similar kind of change in which new roots are challenging the three most basic aspects of the modern library--its view that its chief cultural legacy lies in the social organization it created, its adoption of heterogeneous normative target populations as a basis for its work, and its dependence on government funding. Finally, it has been suggested here that a new library era is upon us in which information in electronic form is enabling the recovery of a private space library ideal and is creating a social situation in which government funding may not well be normative.

I contend in conclusion that LIS education must view itself in the light of this impending change of library eras when evaluating its cultural contexts.

References

- Altick, Richard D. 1957. *The English Common Reader*. (Chicago: University of Chicago Press).
- Cutter, Charles A. 1901. "Library Development." In *The Nineteenth Century: A Review of Progress during the Past One Hundred Years in the Chief Departments of Human Activity*. (New York: Putnam, 1901), pp. 155-70. Reprinted in *Charles A. Cutter: Library Systematizer*, ed. by F. L. Miksa. Heritage of Librarianship series, no. 3. (Littleton, Colo.: Libraries Unlimited, 1977), pp. 140-46.
- Davis, Donald G. 1994. Social Libraries." *Encyclopedia of Library History*. (New York: Garland).
- Ditzion, Sidney. 1947. *Arsenals of a Democratic Culture: A Social History of the American Public Library Movement in New England and the Middle States from 1850 to 1900*. (Chicago: American Library Association).
- Garrison, Dee. 1979. *Apostles of Culture: The Public Librarian and American Society, 1876-1920*. (New York: Free Press).

- Harris, Michael H. 1973. "The Purpose of the American Public Library: A Revisionist Interpretation." *Library Journal* 98: 2509-2514.
- Harris, Michael H., and Spiegler, Gerard. 1974. "Everett, Ticknor and the Common Man: The Fear of Societal Instability as the Motivation for the Founding of the Boston Public Library." *Libri* 24: 249-75.
- Machlup, Fritz. 1980. *Knowledge: Its Creation, Distribution, and Economic Significance. Vol. I. Knowledge and Knowledge Production.* (Princeton, N.J.: Princeton University Press).
- Machlup, Fritz. 1982. "The Circle of Learning." *Knowledge: Its Creation, Distribution, and Economic Significance: Vol. II. The Branches of Learning.* (Princeton, N.J.: Princeton University Press), pp. 47-59.
- Machlup, Fritz and Mansfield, Una, eds. 1983. *The Study of Information: Interdisciplinary Messages.* (New York: Wiley).
- Miksa, Francis. 1982. "The Interpretation of American Library History." In *Public Librarianship, a Reader.* Ed. by J Robbins-Carter. (Littleton, Colo.: Libraries Unlimited), pp. 73-90.
- Miksa, Francis. 1983a. *The Subject in the Dictionary Catalog from Cutter to the Present.* (Chicago: American Library Association).
- Miksa, Francis. 1983b. "User Categories and User Convenience in Subject Cataloging." *Reference Librarian* 9 (Fall/Winter): 113-32.
- Miksa, Francis. 1987. *Research Patterns and Research Libraries.* (Dublin, Ohio: OCLC).
- Miksa, Francis. 1989. "The Future of Reference II: A Paradigm of Academic Library Organization," *College and Research Library News* 50 (October): 780-90.
- Miksa, Francis. 1992. "Library and Information Science: Two Paradigms." In *Conceptions of Library and Information Science: Historical, Empirical and Theoretical Perspectives.* Ed. by P. Vakkari and B. Cronin. Proceedings of the International Conference held for the Celebration of the 20th Anniversary of the Department of Information Studies, University of Tampere, Finland, 26-28 August 1991. (London: Taylor Graham), pp. 229-52.
- Miksa, Francis and Doty, Philip. 1994. "Intellectual realities and the Digital Library." In *Proceedings of Digital Libraries '94: The First Annual Conference on the Theory and Practice of Digital Libraries, June 19-21, 1994, College Station, Texas, USA.* Ed. by J. L. Schnase . . . [et al.]. (College Station, Texas: Hypermedia Research Laboratory, Department of Computer Science, Texas A & M University), pp. 1-5.

Printing Transforms Knowledge. 1986. Co-produced by BBC-TV and RKO Pictures. Producer, John Lynch. The Day the Universe Changed [series] James Burke, host. (Los Angeles: Churchill Films).

Ranganathan, S. R. 1931. *Five Laws of Library Science* (Madras: Madras Library Association).

Ranganathan, S. R. 1967. *Prolegomena to Library Classification* 3rd ed. (Bangalore: Sarada Ranganathan Endowment for Library Science, 1967).

Shera, Jesse. 1949. *Foundations of the Public Library: The Origins of the Public Library Movement in New England, 1629-1855*. (Chicago: University of Chicago Press).

Steinberg, S. H. 1974. *Five Hundred Years of Printing*. 3rd ed., revised by James Moran. (Middlesex, Eng.: Penguin Books).

Waldhart, Thomas J. and Bellardo, Trudi. 1979. "User Fees in Publicly Funded Libraries." *Advances in Librarianship* 9: 31-6154-6 for a discussion of the phrase "jointness of consumption."

Wiegand, Wayne A. 1986a. *The Politics of an Emerging Profession: The American Library Association, 1876-1917*. (New York: Greenwood).

Wiegand, Wayne A. 1986b. "United States." *ALA World Encyclopedia of Library and Information Services*. 2nd ed. (Chicago: American Library Association).