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## **Introduction**

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## **PURPOSE OF LIBRARIES**

The central purpose of libraries is to provide a service: access to information.

The good news is that additional, different means for providing library service are becoming available in a manner unprecedented since the nineteenth century. The challenge for all concerned with libraries, is to determine how, whether, and when these new means should be used.

Libraries exist for the benefit of the mind, but they have serious practical problems coping with the acquisition, storage and handling of the documents and records with which they deal. Major constraints arise from the technology used as a means for providing service. Any change in technology that would have a significant effect on the methods available for acquisition, storage, delivery, or searching procedures could have important consequences for library service. Consequently a continuing quest for technological improvement has been and should continue to be important.

Those responsible for providing library service have been more or less conscious of the nature of the underlying problems to be solved and some of the more gifted and farsighted groped towards radical solutions based on a deep understanding of the nature of the problems. The key elements of the probable form of the electronic library of the twenty-first century were being glimpsed, albeit imperfectly, by the early 1930s by perceptive thinkers. More recently visions of the library of the future have been associated with speculation on the demise of the book, the supposed obsolescence of librarians, and other questionable rhetoric. Discussion of providing "access" to "information" is commonly incomplete or misleading. The term "information" is used with very differing meanings and is commonly used attributively to refer to books, journals, databases, and other physical objects regarded as potentially informative. Access to a potentially informative document depends on identifying, locating, and having affordable physical access to it. However, for someone to become informed, to become more knowledgeable, requires more: The reader needs to be able to understand and evaluate what is in it. If what is found is rejected or not understood, then little informing will have been achieved.

Much has been written in recent years on the possible impact of new technology on "the library of the future." This is nothing new. It could be that long term visions have a beneficial effect in stimulating debate and thought. However one may suspect that little of the rhetoric and few of the specific technological proposals have been of much direct help to those with the heavy responsibility of planning for the future of any particular library: the administrators, funders, librarians, and library users developing five or ten year plans, contemplating the high cost of a major new library building, or worrying about the relationship between the familiar technology of paper and the less familiar, unstable technology of computers. The problems of existing libraries are severe. Visions of electronic libraries seem uncertain and suspect. Even if such a vision seems good, it is not at all clear that plausible paths of development from here to there have been adequately mapped.

*Redesigning Library Services* has been written on three assumptions:

1. There has been insufficient attention to *strategic* planning, that is, the making of decisions relative to a three to ten year time frame. We seek to examine the middle ground between the large literature on possible options among the tactical and operational decisions made day-to-day and month-by-month and the sweeping visions of endless, interlinked electronic villages. The latter offer little continuity with present experience and can make those who are dependent on existing services understandably nervous. Some people are enthusiasts for electronic solutions; other want to avoid the high cost of continuing present operations.

2. A disproportionate amount of attention has been paid to new information technology. It is not really that too much attention has been given to it, but rather that not enough critical attention has been given to the characteristics of the familiar technology of paper. We adapt to what we adopt. What is familiar tends to be transparent. It may take some conscious effort to appraise critically and evaluatively what we are so accustomed to.

3. There is, in fact, considerable experience on which our strategic planning can be based, more than is generally realized.

Suppose that one were charged with making recommendations concerning the development of a library service over a three to ten year range, what sort of conclusions might one be justified in reaching? The purpose of this book is to suggest some general bases for planning or, at least, to provide a general framework for thinking about future library services. (Advice on procedural details for handling specific planning activities can be found in numerous management texts.)

The purpose being pursued in library service is the provision of access to books, journals, and other informative materials. Libraries have never had a monopoly since much of what is in demand is also available in personal collections, bookshops, from personal contacts, and, indeed, from other sorts of libraries. However, even if it is not a monopoly, it is clearly the major role and niche of library service. Now, in addition to the customary difficulties in providing library service, the radical changes in the technology available as *means* for providing service leaves the future unclear.

In such a situation we need to be prepared to retreat to first principles. Library service is a busy, service-oriented activity, with a deeply-rooted emphasis, reflected in the professional literature, on practical and technical matters, on means, rather than on ends, and tactics rather

than strategy. There is so much more written, for example, on how to build collections than on the roles that collections play. There is so much more on how to create catalogs than on how catalogs are used. Nevertheless, there is currently a healthy awareness that major changes are likely and a recognition, for example, of some convergence between library services, computing services, and telecommunications services, of probable changes in the publishing world, and that library management is, at least in part, concerned as much with the management of service as with the management of books. (See endnote 1).

## **FOUNDATIONS OF LIBRARY SERVICE**

Library services have two bases:

the role of library service is to facilitate access to documents; and  
the mission of a library is to support the mission of the institution or the interests of the population served.

Interpreting these two general statements for any given situation provides the foundations for effective library service.

The first statement stimulates us to ask how "facilitate," "access," and "documents" should be interpreted and how the role of the library service is related to the roles of the book trade, computing, and other services. Hitherto the dominant interpretation has been the judicious assembling of local collections as the only effective means of providing convenient physical access to documents, augmented by bibliographic tools and advice.

The second general statement entails that the determination of what should be done is unique to each specific context.

Examining strategies for the development of library services requires that three conditions be met:

1. We need to distinguish between means and ends. The *purposes of* and *justification* for, library service should not be confused with the techniques and technologies adopted as *means* for providing service, even though our options are limited by the available techniques and technologies.

The long period of relative stability from the late nineteenth century up to the 1970s in the means for providing library service is just the kind of situation in which it becomes easy for the distinction between ends and means to become blurred. So long as there is but one principal means to an end (even with variations in details and in scale), more of the end is achieved by more of the means and the distinction between ends and means has little significance in practice. But this blurring of the distinction hinders dealing effectively with *alternative means* if and when—as now—they become available.

The advent of novel, alternative means for service increases the need to think clearly about the ends of library service. The ends may not change very much, but they are likely to need to be reinterpreted and reaffirmed at intervals in a changing world. In any case, responsible selection of means depends on prior selection of ends.

2. Alternative means do need to be explored aggressively otherwise the options will not be known. With that we need to distinguish between tactical (short-term) measures and strategic (long-term) measures.

3. Discussion both of means and of ends implies consideration not only of what is good and what is not so good, but also of different sorts of goodness.

"How good is it?" is a measure of quality or, in effect, a measure of capability with respect to serving some actual or imagined demand. This kind of goodness is appropriate for the evaluation and measurement of means, of tools and techniques for providing service, as in "a good collection" or "a good catalog". Output or performance measures are commonly of this type.

"What good does it do?" is a different kind of question, appropriate to the evaluation of ends and to the relating of means to ends. What sort of good do we most want to achieve within available resources? Planning processes which concern themselves with which performance measures to use are of this type.

Another form of goodness lies in the question "How well is it done?", which has to do with cost-effectiveness, efficiency, and effective management generally. (See endnote 2).

### **THREE TYPES OF LIBRARY**

Modern library service as we know it was largely developed in the second half of the nineteenth century, characterized by:

1. The idea of library collections being for service;
2. The notion of systematic, purposeful book selection;
3. The adoption of a series of technical innovations, such as relative shelf location (shelving books relative to each other rather than on specific shelves), improved cataloging codes, more systematic approaches to shelf arrangement and subject classification, card catalogs, and sustained efforts at standardization and cooperation; and,
4. In the twentieth century, a trend towards self-service, with open stacks and public catalogs.

Terminology has evolved, the scale of operation is much increased, and technical refinements have been made. Nevertheless examination of early issues of *College and Research Libraries*, of fifty years ago, and of the *Library Journal*, another fifty years before that, shows that many of their underlying concerns are still strikingly contemporary. The following three types of library provision, based on the technology used, provide a convenient framework for discussing future library service.

Until recently libraries' technical operations (e.g. purchasing, processing, cataloging, and circulation) and library materials (primarily texts) were both based on paper and cardboard: We call this the "Paper Library." Strictly speaking, libraries have always included materials other than paper such as clay tablets, vellum, film, and so on, but these other media make little difference for our present purposes.

Over the past two decades, libraries' technical operations have become based on computer technology while the library's materials still remain overwhelmingly on paper and paper-like media: The "Automated Library."

The prospect that library *materials*, as well as library operations, will increasingly be in electronic form indicates a further change in the means of library service: The "Electronic Library." See table 1 below.

Table 1. Technological Bases of Library Operations and Materials.

|                    | <b>Technical Operations</b> | <b>Library Materials</b> |
|--------------------|-----------------------------|--------------------------|
| Paper Library      | Paper                       | Paper                    |
| Automated Library  | Computer                    | Paper                    |
| Electronic Library | Computer                    | Electronic media         |

The concept of the Electronic Library is important because library *materials* will increasingly be available in machine-readable form, users will need access to them, and *access will, therefore, have to be provided*. One can speculate about the eventual balance between paper materials and electronic materials or, if one wishes, on the prospects for paperless libraries, but these issues are of little significance compared with the underlying assumption that arrangements for access to some materials in electronic form will have to be provided. Today libraries are, or are becoming, Automated Libraries, with the imminent prospect of needing to evolve, at least in part, into Electronic Libraries. Since paper documents (and other non-electronic media such as film) seem unlikely to disappear, we may expect the Automated Library and the Electronic Library to co-exist indefinitely. More specifically, we can expect, and should plan for, any real library service to be a blend: part Automated Library and part Electronic Library.

The shift to computer-based technical operations and, more especially, the advent of library materials in electronic form indicate the prospect of radical changes in the *means* of library service. Library materials in electronic form differ significantly from traditional media. In particular, unlike paper and microform, it is possible to make electronic media available so that they

- can be used from a distance,
- can be used by more than one person at a time, and
- can be used in more different ways.

The significance of these three differences is profound and will be examined in some detail.

## **LIBRARY USERS**

How are the circumstances of library users changing? Part of the answer is that some of those whom the libraries are funded to serve are themselves adopting electronic habits, making increasing use of the new information technology of computers, electronic storage, and

telecommunications in addition to the old information technology of pen, paper, and photocopier. The new electronic tools provide powerful options for working with data, text, and images. As examples, consider the reduction in labor now required for producing revised documents, for complex calculations, for image enhancement, and for the statistical analysis of large sets of data and passages of text.

Library services have to do with support for learning, both the study of what others have discovered and research to discover what is apparently not yet known. Yet the librarian's role is often very indirect. The librarian's concern, rather than being with knowledge itself, is usually with *representations* of knowledge—with texts and images. Further, much of the time, the concern is not really with the texts themselves, but with text-bearing objects: the millions of books, journals, photographs, and databases that fill our libraries' shelves. Librarians generally assist, not by giving answers directly, but by referring the inquirer to a book. Somehow we need to maintain the underlying concern with how individuals acquire knowledge. Librarians must concern themselves with how individuals use information (books, journals, etc.) and also with how they become informed and knowledgeable.

The old information technology of pen, paper, and, latterly, photocopier did not encourage much departure from library use as "read, think, write." In contrast—for some—the new information technology is transforming the use of library materials, with computer-based techniques for identifying, locating, accessing, transferring, analyzing, manipulating, comparing, and revising texts, images, and data. A wholly new dimension of the use of library services is emerging. What would do more for users, for the development of library service, and for rapport with users than providing assistance that keeps pace with these changes?

## **OUTLINE**

In the next chapter, we review some characteristics of the Paper Library, its strengths, weaknesses, and persistent attempts to remedy or compensate for the inherent limitations of the technology of paper. Then, we briefly summarize the Automated Library and our experience with it in Chapter 3.

Alongside the development of the Automated Library has been the parallel development of computer-based bibliographies. In Chapter 4, some of the significant implications of the automation of bibliographies and of libraries' technical operations are explored.

The rise of electronic documents and the nature of the Electronic Library are outlined in Chapter 5. Some of the consequences of the rise of electronic libraries for collection development are considered in Chapter 6.

The needs and changing environment of library users are considered in chapter 7 and some management considerations in chapter 8. The final chapter, chapter 9, provides a summary and some conclusions.

It seems that the relative stability of the past century is but a prologue to another period of radical change, comparable in significance to that of the late nineteenth century with its exciting renaissance of ideas and techniques. This time change is enabled less by new ideas than by a

change in the underlying technology, which is all the more reason to reassess our assumptions about future library. As operations and services become more complex and more capital-intensive, ad hoc, unsystematic decision-making can lead library services down unproductive paths.

Correcting mistakes becomes expensive and disruptive.

Creative planning needs to be central, because of the superiority of planning over merely reacting to events. We—funders, providers, and users of library services—need to reflect creatively on what we do and why. Planning offers us a chance to create the future.

*Notes on Chapter 1: Introduction.*

1. Raymond K. Neff, "Merging Libraries and Computer Centers: Manifest Destiny or Manifestly Deranged," *EDUCOM Bulletin* 20 (Winter 1985):8-12, 16.

2. On library goodness see Richard M. Orr, "Measuring the Goodness of Library Services: A General Framework for Considering Quantitative Measures," *Journal of Documentation* 29 (Sept. 1973):315-32; Michael K. Buckland, "Concepts of Library Goodness," *Canadian Library Journal* 39 (Apr. 1982):63-66.