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Current and Future Trends in Library and Information Science Education

GEORGE S. BOBINSKI
Issue Editor

Library Trends

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Editor
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**Introduction**

GEORGE S. BOBINSKI

The articles in this issue represent papers presented at the Library Education Centennial Symposium held at Columbia University on 27-28 June 1986. The symposium was hosted and held at the Columbia University School of Library Service and was sponsored by the Association for Library and Information Science Education (ALISE) with the financial support of the H.W. Wilson Foundation. An ALISE Library Education Centennial committee chaired by George Bobinski planned the symposium.

The purpose of the symposium was to celebrate the hundredth anniversary of the establishment of the first library school in the United States, founded by Melvil Dewey at Columbia University in January of 1887. Although the emphasis of the symposium was on current and future trends in library and information science education, many of the papers provide historical backgrounds and developments for their specific topics. There was one paper presented which is not included in this issue, “One Hundred Years of Progress: The Growth and Development of Library Education—A Historical Overview” by Edward G. Holley. This will appear in the *ALA Yearbook of Library and Information Services* 1987. It should be also noted that a companion issue of *Library Trends* (volume 34, number 3, Winter 1986) is devoted entirely to historical topics in library education.

The articles in this issue on current and future trends cover a full range of topics from accreditation, to the role of ALISE, to philosophical issues in library and information science education. The MLS, the
doctorate, and continuing education are covered. Both faculty and students are examined as is the place of library and information science education in higher education institutions. The current and future job market is reviewed. Finally, a futuristic look is taken at the next one hundred years.
Accreditation

ROBERT M. HAYES

Introduction

Context
THIS PAPER PRESENTS a summary of accreditation of library and information science programs written from the perspective of one who has participated in American Library Association (ALA) accreditation from both sides of the process—as the dean of a program being evaluated and as a member of the Committee on Accreditation (COA) of the American Library Association, the agency doing the accreditation. Before discussing accreditation, though, it must be pointed out that there are several types of educational programs not encompassed by the ALA/COA accreditation process:

—There are a number of doctoral programs offered by schools of library and information science—perhaps twenty-five. They are not covered by accreditation.
—There are innumerable library technician programs—perhaps 100 to 200—that focus on undergraduate, paraprofessional training, as well as several nonaccredited master’s-level programs.
—There are, in each U.S. state, school librarian programs, usually associated with colleges or schools of education, that prepare students for state certification as teachers and school library/media specialists. They are covered by a separate process of accreditation, one not under the purview of the ALA/COA.

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—There are many different kinds of continuing education programs, both in library schools and conducted by professional societies. These are not accredited by the ALA/COA.
—Finally, there is a wide range of educational programs that are not directly related to libraries at all—in departments of computer science, in schools of management, in communications programs. If these are accredited at all, it is by agencies other than the ALA/COA.

Each program meets specific kinds of needs beyond those covered by the ALA/COA accreditation process. Each is valuable and has an important role in the provision of manpower for this field. This paper concentrates on the history, current status, and trends in those programs encompassed by the accreditation process of ALA/COA.

**Historical Overview**

The Library Education Centennial celebrated the establishment of the School of Library Economy in 1886 at Columbia College, with the first students starting classes in January 1887. It was frankly an experiment. Its aim was to promote an organized program of apprenticeship in which practical experience would be supplemented with more systematic classroom instruction. Its success was problematic, as reflected in the subsequent transfer of the program to the New York State Library in 1889. By 1900 it had become the model for a number of similar programs, so the American Library Association at that time decided to establish its Committee on Library Training to oversee and evaluate their quality. The first standards of the Committee on Library Training were low and the range of programs examined and evaluated by them hardly reflected academic excellence. Differences in views between the library practitioners and academics thus developed over the ensuing fifteen years, so the Association of American Library Schools (AALS)—the antecedent of the Association for Library and Information Science Education (ALISE)—was established in 1915 (after a brief existence as an ALA Round Table) as an independent professional organization. The hope was that more stringent standards would be established through their efforts, though in fact the AALS did little more than identify common practices at the ten founding schools. And there the situation sat until the Carnegie Corporation commissioned the investigation of library education carried out by Charles Williamson from 1918 to 1923. His report, *Training for Library Service*, provided direction for a new ALA agency, the Board of Education for Librarianship (BEL). He presented a number of recommendations, the main thrust of
which was that library education should be university-based, oriented toward preparing professionals, and of high academic quality.

The Board of Education for Librarianship established a set of minimum standards for library schools in 1925 and 1926 that were then used by the Carnegie Corporation as the basis for endowing the Graduate Library School (GLS) at the University of Chicago and for providing financial support to a large number of other existing and newly formed schools. The GLS, in particular, had the objective of providing the new leadership needed to fulfill the aspirations of high academic quality in these programs.

In 1933, through cooperation between the ALA Board of Education for Librarianship and the AALS, a new statement of standards was created. It changed the specific, highly quantitative provisions of the 1926 minimum standards into broadened, qualitative statements. Those 1933 “Minimum Requirements for Library Schools” served as the standards for nearly twenty years, until the formulation of the ALA “Standards for Accreditation,” approved by the ALA on 15 July 1951, as a joint effort of the BEL, the AALS, and the ALA Library Education Division. In parallel, the ALA Committee on Accreditation was established to maintain those standards and to apply them in accrediting first-degree programs.

For the next twenty years, COA functioned under those 1951 “Standards for Accreditation.” The standards placed emphasis on the graduate, first professional-degree programs, and that has continued to be the focus of the Committee on Accreditation. However, in 1959, the BEL and the AALS together developed standards for undergraduate training that received ALA approval as guidelines for teacher-education programs.

In 1970, the COA established a subcommittee to “consider revision of Standards for Accreditation.” Chaired by Russell E. Bidlack, dean of the School of Library Science, University of Michigan, that subcommittee produced what became the 1972 “Standards for Accreditation,” approved by the ALA in July of 1972. Those have continued since then to be the standards governing COA evaluations. They are remarkably well written and have well served the COA, the profession, and the library schools. Persons on that subcommittee who were responsible for them are:

Russell Bidlack, Chair          Page Ackerman
Susanna Alexander              Pauline Atherton
Dale B. Canelas                Richard Darling
Geoffrey Dunbar                Robert E. Lee
Margaret Monroe                Harold W. Tucker
Samuel Rothstein               Agnes L. Reagan (staff)
The proposed revision submitted by that subcommittee was approved by the ALA Council on 27 June 1972. With only minor changes the revised “Standards for Accreditation” have been the basis for accreditation decisions since then.

The Process of Accreditation

Although the process of accreditation as followed by the COA is well documented (see the selected references appended to this article), it is worthwhile summarizing it here as the context for review of the standards.

The COA Membership

The COA consists of twelve members appointed by the ALA Executive Board for two-year terms, staggered so as to assure continual turnover. Members may be reappointed for one additional consecutive term. In appointments, conscious effort is made to assure that the COA as a whole has balanced representation of the various aspects of library and information science, without directly representing any organized group. In addition, two of the twelve members, conforming to requirements of the Council on Post-Secondary Accreditation, are not librarians or information scientists or even affiliated with the field; they are appointed as representatives of the public interest.

The COA members other than the “public members” are usually equally divided between practicing professionals and educators in the field. The intent is to assure that both the needs of the profession and the realities of the educational process are recognized in accreditation. The COA is supported by an administrative secretariat consisting of the Accreditation Officer of the COA and staff of the accreditation unit. This provides both continuity in management of the accreditation process and the necessary support services.

Purposes of Accrediting

It is important to identify the purposes of accrediting as they are understood by the COA. First, the COA accredits only first professional-degree programs; thus, it does not accredit undergraduate programs, certificate programs, doctoral programs, or continuing education programs. Second, the COA accredits programs, not schools or institutions; as a result, the COA is careful in the phrasing it uses, referring to programs at all times. Third, the COA accredits programs rather than certifying individuals; thus, there is no evaluation of individual gradu-
Accreditation

states of programs made or implied by the accreditation of those programs, except to the extent that such evaluation may be considered in the evaluation of the program. As a result, the purpose of accreditation, as seen by the COA, is to assure that programs providing preparation for the first professional degree meet the objectives of the profession, of the students, and of the society, at least to the extent that those objectives are identified in the "Standards for Accreditation" and can be evaluated through an appropriate process.

The Process of Accreditation

The COA follows a well-defined series of steps in accreditation:

1. determining eligibility;
2. evaluating applications for accreditation;
3. evaluation by a visiting team;
4. action regarding accreditation; and
5. continuing accreditation and annual reporting.

While the COA and the Accreditation Officer are ready and willing to provide information and advice at any time, a program is not eligible for consideration for accreditation until it has been in operation long enough for students to have graduated from it. Furthermore, consideration by the COA is contingent upon the accreditation of the parent institution by the appropriate regional accrediting agency.

A school seeking initial accreditation or continuing accreditation of its program under the 1972 standards must file with the Accreditation Officer a letter of intent to request a site visit. This letter must be filed at least six months prior to the start of the twelve-month period during which the school requests a visit. The Accreditation Officer supplies the school with copies of the following relevant materials:

- "Standards for Accreditation, 1972"
- "Manual of Procedures for Evaluation of Visits"
- "The Self-Study: A Guide to the Process and to the Preparation of a Report for the Committee on Accreditation of the American Library Association"

The school's application consists of a self-study report, including current catalogs or brochures, accompanied by a letter from the chief executive officer of the institution requesting an evaluation visit. After receipt of the self-study, COA considers it during the subsequent Midwinter or Annual Conference meeting of the ALA, and a decision is made regarding the readiness of the school for an evaluation visit.
In the case of schools requesting initial accreditation, the decision is based on the adequacy of the self-study report as a working document and on an assessment, based on the self-study report, of the readiness of the school for a site visit. If the assessment is negative, the COA must state clearly, in a letter to the chief executive officer of the institution and to the school, the basis for the negative decision. If the assessment is inconclusive, the COA will hold the application in abeyance, stating its concerns to the institution; if the institution responds to the concerns, the COA then reevaluates its decision. If the assessment is positive, a site visit will be scheduled at a mutually agreeable time.

A site visit is the means for obtaining an understanding of those aspects of a school’s program that cannot be fairly judged from documentation alone. During the site visit, the team is in the role of evaluator, not inspector, and evaluates matters that bear directly on the quality of the educational program to be accredited.

The visiting team normally consists of not less than three persons, one of them a member or former member of the COA, with one member designated as chair. Names of persons to serve on a visiting team are recommended by the COA, taking into account factors such as balance of practitioners and educators, the special fields emphasized in the school’s curriculum, the geographical area when that seems pertinent, and economy of time and expense in travel. The recommended names are submitted to the executive officer of the school to give an opportunity for comment and to avoid appointments that would be unacceptable to the school. The COA, based on the school’s comments and its own assessment, formally appoints a team.

As soon as the team has been established, the school’s self-study report and COA comments on the self-study are sent to each team member. Copies of other relevant materials (e.g., the standards, forms for team logs, prescribed format for the team report, guideline statements) are also sent to the team members at that time.

The chair of the team assigns responsibilities to each member for on-site examination of specific areas of the standards. Thus each member of the team is expected to provide an evaluation of the particular areas assigned as well as participating in discussion and evaluation of other aspects of the visit; furthermore, each member of the team is responsible for approval of all parts of the team report before it is submitted to the COA and to the school.

The site visit itself normally begins on a Sunday evening and continues until the following Thursday noon. The team meets on Monday with the school’s executive officer, confirms schedules, and
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then makes a presentation to the school as a whole during which the accreditation process is described and questions concerning it can be answered. During the visit, in accordance with the "Manual of Procedures," activities of the team include conferences with members of the faculty, informal meetings with students, visits to classes, observation of the physical facilities and resources, meetings with graduates and employers of graduates, and meetings with the major administrative officers of the institution. Records are examined relating to the program, the instruction, the admission and progress of students, and the evaluation of faculty.

The site visit concludes with the drafting of a report that will consist of three major parts: (1) a factual section, (2) an evaluative section, and (3) a set of recommendations for the improvement of the program. A final recommendation is made by the team to COA concerning accreditation action.

The final version of the factual section serves as the basis for the other sections of the team report. That is, the evaluative section must be based on the factual section; the recommendations must all be substantiated by the factual section and the related portions of the evaluative section. And of course all parts of the site visit report must be justified on the basis of the standards. Therefore, a draft of the factual section is mailed to the school within ten days of the site visit for verification and correction. The response from the school may lead to correction of the factual section, if necessary. The evaluative section and the recommendations are then completed. The final site visit report as a whole is sent to the COA, which forwards a copy of all but the final recommendation (concerning the accreditation action) to the school. The school has the opportunity to respond to it in writing or orally.

The COA is responsible for the final decision concerning accreditation. In arriving at that decision, it considers carefully the recommendations of the site visit team as well as the substance of the team's site visit report. It reviews that report thoroughly and meets with the site visit team for discussions of it, in order to assure that the evaluations and recommendations are well grounded in the standards. Based on this review and discussion, the COA makes its decision concerning accreditation, and notice of the decision is sent immediately by the Accreditation Officer to the chief executive officer of the institution and executive officer of the school. The COA then prepares its report to the school. The final COA report usually is virtually identical with that of the site visit team, though it may differ substantially. It is submitted shortly thereafter, again to the institution and the school, with the suggestion
that it be made available to the full-time members of the school’s faculty and to appropriate other administrative officers of the institution.

This entire process—including the site visit, the team’s report, and the COA report—is treated as confidential by COA and the site-visit team members. However, the school is encouraged to make known the content of the final report, to the extent that it wishes to. The COA may vote to take any one of the following actions:

1. *Accredit or continue to accredit.* In this case, the recommendations included in the final COA report to the school must be reported upon in subsequent yearly reports to the COA.

2. *Conditionally accredit.* In this case, the recommendations included in the final COA report become the conditions that must be met, within a stated period of time, in order to have conditional status removed.

3. *Not accredit or withdraw accredited status.*

The COA releases the information on an accreditation action through its publication, "Graduate Library Education Programs Accredited by the American Library Association," to the ALA Executive Board, to the library press, to appropriate organizations in the field of library education, to the Council on Postsecondary Accreditation (COPA), to the U.S. Department of Education, and to the appropriate regional accrediting associations. This information on accreditation actions is released only after expiration of the time in which an appeal of a COA decision may be made. In the case of a program entering an appeal, the accredited status of the program remains the same until the appeal is adjudicated.

When a program is granted initial accreditation, the accreditation is retroactive to the academic year preceding the one in which the evaluation visit is made. Periodic visits for reaccreditation are then scheduled every seventh year following the date of the first accreditation.

Between visits, schools with accredited or conditionally accredited programs must submit annual reports to the COA. These reports build upon the self-study report and provide means for the COA to monitor the progress of the program. In particular, the reports are required to respond to the recommendations included in the COA report on accreditation. If an annual report from a school raises concern in the COA about its accreditation status, the COA may request additional information or even an early site visit.

Based on the annual report, the COA takes one of three actions:
Accreditation

1. Accepts the annual report and continues the program's accredited status.
2. Defers action on the report until additional information is supplied.
3. Declines to accept the report and arranges to schedule a site visit as early as possible.

Any institution that is not granted full accreditation of its program by the COA may appeal the COA decision to the ALA Executive Board within six weeks after receipt of the full report of the COA decision. The ALA Executive Board will appoint a select committee of not fewer than five qualified persons to consider the appeal. Upon receipt of the report of the select committee, the ALA Executive Board will either affirm the decision of the COA or set aside the decision of the COA and remand the case back to the COA with appropriate instruction for further proceedings and reconsideration.

The 1972 “Standards for Accreditation”

ALA has assigned responsibility to the COA for both the development of standards and the process of accreditation, subject to review and approval by the ALA Council. The 1972 “Standards for Accreditation,” with minor changes, have guided the COA since 1972. However, the standards are under continual review by the COA at its regular and special meetings, particularly in connection with the review of reports of visiting teams and in the reviews of the annual reports from the schools with accredited programs. Furthermore, the standards are under constant scrutiny by the profession itself. At open sessions during the ALA meetings, the COA encourages the profession to comment on the standards and the process of accreditation, toward the aim of identifying necessary changes.

I am going to review the 1972 standards in some detail and, in doing so, I will make some evaluative comments reflecting my own view of them. I must emphasize that I speak only for myself and not for the COA in the evaluations.

The Context

The current (1972) “Standards for Accreditation” present criteria in six main categories:

I. Program Goals and Objectives
II. Curriculum
III. Faculty
IV. Students
ROBERT HAYES

V. Governance, Administration, and Financial Support
VI. Physical Resources and Facilities

For each category, the discussion is organized in three main sections:

1. Rationale for Standard
2. Standard
3. Sources for Evidence

All of this is preceded by an “Introduction” and a generalized discussion of the standards.

In the generalized discussion, the text states that it “emphasizes qualitative rather than quantitative considerations” and puts responsibility for interpreting the accreditation standards on the members of the team. But drawing distinctions between qualitative and quantitative standards creates a false dichotomy. Actually the accreditation process requires assemblage of both kinds of data, and it requires judgments and observations of experienced observers that draw on objective evidence. In the final analysis, standards for accreditation of MLS programs are and must be essentially qualitative.

What objective evidence, norms, or benchmarks are provided in the 1972 accreditation standards? The most important point is that the standards must be interpreted in terms of the goals and objectives as defined by the program itself. Although later sections of the standards attempt to impose some requirements upon those goals and objectives, they do so within the framework of this fundamental condition.

Thus, the 1972 standards recognize the absolute necessity of balancing the programmatic objectives, as perceived by the program and its parent institution, against the national and professional perceptions. It would be self-defeating and stultifying if the standards had been written in such a way as to impose national views upon local and institutional ones. But it would have been comparably self-defeating and debasing to the profession if clearly stated national and professional criteria were not presented.

Fortunately, the 1972 standards have maintained an effective balance between Scylla and Charybdis. I did a superficial “content analysis,” evaluating the extent to which the text of the 1972 standards emphasizes one or the other side. Without conscious fudging, the results show a remarkable degree of even-handedness. If there is any bias, it appears to be in favor of applying standards in a manner that emphasizes the institutional context and that seems to be eminently appropriate.
Accreditation

Program Goals and Objectives, Curriculum

The standards provide phrases that suggest qualitative measures for program goals, objectives, and curriculum. The problem is that it is very difficult to establish objective means for evaluating any of those aspects of the program. Certainly, none of them is quantifiable, except possibly in a most pedestrian counting of courses or units of credit devoted to "core" subjects or to specialties the schools claim they will prepare students for.

The problem, though, is that the 1972 standards present a dilemma for a school that has only very limited objectives. They require that a program's curriculum "provide for the study of the principles and procedures common to all types of libraries and library services....Specialization should be built upon a foundation of general academic and professional education....A library school offering a single specialization may satisfy...if...it provides for the study of general professional principles and procedures." Many schools appear to have interpreted this to mean that they must cover the full range of types of specialization.

The problem in applying the 1972 standards is in judging whether both the local objectives and coverage of general principles have been met. The schools vary widely in the extent to which they cover basic cataloging, reference, selection, and management. And there is by no means any consensus among educators or in the profession about how much preparation is required in those basic areas. National averages on class contact-hours devoted to each basic area are meaningless. If a school claims that it covers general principles in courses specialized to specific programmatic objectives, who is to question the validity of that assertion, and what evidence would be needed to support a negative evaluation?

Other problems arise with programs that imply very broad scope—and most do. Virtually every school of library and information science in the country attempts coverage of every specialty, every type of library, and every "information management" context. Those programs should be judged in terms of their objectives and they should demonstrate that indeed they have the resources—intellectual and physical—to meet those objectives. It is for those programs that we need objective, measurable criteria.

In this respect, it is my personal belief that the quality of a program is a function of the commitment by the parent institution to an objective of excellence. If the institution does not believe excellence is important and fails to provide the resources necessary for attaining it, there is
nothing that the process of accreditation can do to alter that situation. On the other hand, if the institution strives toward excellence, the process of accreditation can do much to further that objective by challenging the program to achieve more and to aim higher.

*Faculty*

With respect to faculty, the standards are weighted on the side of professional criteria. Professional experience, advanced degrees, continuing evidence of scholarship, liaison with the field, competency in specialized areas, and effectiveness in teaching are highlighted. Local prerogatives—beyond the school setting its goals—are deemphasized.

The standards imply some quantifiable criteria such as size of faculty, amount of full-time faculty, levels of faculty work loads, student-teacher ratios, class sizes, course loads, and extent of other faculty responsibilities. The problem one faces is in knowing what are the necessary minimums for these criteria. Is a faculty an adequate size that consists of one tenured appointment, three nontenured full-time appointments, and four FTE (full-time equivalent) devoted to part-time appointments? Is sixteen class contact-hours per week too many? ALISE compiles statistics on each program and figures national averages for such quantitative evidence on faculty, but what do averages—of whatever kind—mean?

*Students*

The accreditation standards as they relate to students balance institutional objectives with national and professional ones. The standards refer to the institutional framework for policy and programs, goals of the school's program, and standards governing the parent institution. Conversely, statements have been framed regarding professional needs, legal codes, and programs and tendencies of recognized universities. Several of these criteria are objective (e.g., "Admission should be limited to holders of the bachelor's degree representing a broad academic preparation from an accredited institution....''), but nowhere in the text is there a single criterion that even implies a quantitative measure.

*Governance and Administration*

In all of the text on governance and administration, the emphasis is on the institutional context. In fact, there was not a phrase that really identifies any national or professional standard—and that is appropriate. Academic administrators would be very concerned if the accreditation process tried in any way to preempt the institutional and school
Accreditation

responsibilities and to substitute the accrediting agency's standards of administration. Of course, there are some criteria that are quantifiable (e.g., the salary structure of the faculty), but they are all considered in the context of the institution.

Resources

Statements in the standards on resources—including financial support and physical resources and facilities—use terms such as adequate, sufficient or necessary, but they do not define them, and the national averages published each year hardly provide the basis for evaluating those terms. The problem is even more complicated by the fact that adequacy of governance, financial support, and physical resources and facilities must be judged in the context of each school's objectives.

The Current Status of Accreditation

Overall, the committees on accreditation over the years that I have observed them, been affected by them, and most recently served on them, have been highly dedicated, effective, and balanced in their work. The procedures are equitable, and the 1972 standards are in general a good basis for making evaluations. Of course, despite that observation the COA also is in a most delicate position in that both the profession at large and the library schools being evaluated have questioned and in some cases criticized the COA for its action or lack of action with respect to some aspects of professional education. The issues fall under the headings of the programs and their quality, the coverage of specialties, and the trends toward both increased and decreased expectations.

The Programs and their Quality

The accredited library schools vary in their size (both of enrollment and of faculty), in the scope of program they offer, and in their academic quality. Periodically, evaluations of library schools have produced rankings of them by both subjective criteria (e.g., the view of library managers, deans, or faculty) and objective criteria (e.g., research productivity, numbers of faculty, amount of budget). The yearly statistical summary produced now by ALISE provides a picture of the major quantitative measures and demonstrates their variability.

Perhaps the most significant concern is whether those schools at the very small end have sufficient numbers of faculty to provide the "critical mass" necessary for an adequate, properly accreditable program. My own view is that critical mass is indeed important, certainly to be excellent, and perhaps even to be accredited. The problem lies in
determining what the minimum critical mass may be, and I have no answer to it.

In recent years, many library schools have seen significant and in some cases dramatic decreases in enrollment. The situation has been especially severe in sections of the country where there are large numbers of schools competing for the same students within relatively small geographical areas. Furthermore, most—if not all—library schools are among the smallest academic programs on a campus. Library schools have been especially vulnerable during times of academic retrenchment, and the past several years have seen the demise of a number of programs. Of course, the facts also are that there was what I consider to be an irrational expansion in the number of library schools, starting some fifteen to twenty years ago, in part as a result of an obviously irrational projection of a "librarian gap" (of 100,000!). So the retrenchments, while they have worked individual hardships, probably were necessary and will work to the long-term advantage.

Whatever the effects of decreasing enrollments and retrenchment, accreditation has not been used nor should it be used as the means for effecting retrenchment, though there have been occasions when I have felt that university administrators have looked to accreditation as the means for making their decisions for them. However, university administrators make the decisions on institutional priorities and resource allocation. When reduction in support results in loss of quality, loss of accreditation is the likely consequence, but it reflects institutional decisions, not accreditation decisions.

On the other hand, the scope and quality of programs is central to COA's responsibilities, and here there have been some very significant issues. The standards call for a school to be judged by its own objectives. But what happens if those objectives are set at a level consistent with resources but inconsistent with the needs perceived by the profession? Or, alternatively, what happens if the objectives are so broad that only massive resources could serve them but those resources are not available?

The Coverage of Specialties

Some of the most critical aspects relate to the coverage of various specializations. Each school purports to cover all specialties, and the 1972 standards in a sense encourage that attitude. But the schools differ dramatically in the extent to which they can and do cover specialties in terms of resources and programs. The several professional societies (e.g., Medical Library Association [MLA], Special Libraries Association [SLA], American Association of Law Libraries [AALL], and American Society for Information Science [ASIS]) have long felt a need to deal
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with education for specialization as part of the accreditation process. In 1985, COA undertook a cooperative study with other professional societies (in response to ALISE's initiative) of the means by which the other professional societies could be more directly involved in the accreditation process. Results of that study are beginning to make news in the library and information science press.

In order to involve other societies in the accreditation process for which ALA has responsibility, the following must be accomplished:

1. Procedures and interorganizational arrangements must be effected that will provide the basis for participation of multiple societies. These must provide means to deal with financial responsibilities, administration, and policy determination.

2. Guidelines must be established by which the specific interests and concerns of each participating interested society will be recognized in the accreditation process.

3. The 1972 "Standards for Accreditation," which provide the current basis for the evaluation of programs, may need to be revised to reflect the interests of the participating societies beyond the extent the current guidelines may be able to satisfy.

The following professional societies were formally invited to participate in the examination of these topics:

- American Association of Law Libraries,
- American Library Association,
- American Society for Information Science,
- Association for Library and Information Science Education,
- Association of Research Libraries,
- Canadian Library Association,
- Medical Library Association, and
- Special Libraries Association.

Other relevant societies were also informed and encouraged to join, at least as observers. Each participating society nominated persons to serve as members both of a Steering Committee (responsible for coordinating the work and submitting the final report) and of a set of "working groups," each focused on specific issues: (1) organization for accreditation, (2) financing of accreditation, (3) guidelines for program goals and objectives, (4) guidelines for faculty, (5) guidelines for curriculum, and (6) guidelines for society-specific interests. The results of their work were discussed at the ALA 1986 Midwinter meeting and at the 1986 Annual Conference.
ROBERT HAYES

Trends and Future Outlook

It is impossible to separate the trends in accreditation from the far more fundamental ones in professional practice and in library education as the means of preparing professionals for practice. As I see it, the accreditation standards and processes must follow and adapt to the changes occurring in what they are accrediting, not the reverse. So my comments on trends will be phrased in terms of library education itself, and I will comment on the likely effects on accreditation of these trends.

There are two divergent sets of trends, one that seems based on increasing the levels of expectations and requirements, the other as decreasing them. Rising expectations are predicated on the view that librarianship—broadly defined to include a wide range of information-providing activities—is a demanding, important profession. Decreasing expectations are apparently predicated on the view that librarianship—even if broadly defined—is technical, even clerical in nature, requiring purely technician-level preparation.

The Trends toward Increased Expectations

Increased expectations appear to be exemplified in the group of institutions—schools of library and information science—that have established goals of academic excellence. Tentatively, I can identify eight major trends in this category.

There is a trend toward thorough and complete integration of automation into the curriculum. That means, in particular, that increasingly “information science” is not treated as separated from the basic professional curriculum but instead is integrated into the basic professional courses—e.g., in cataloging, in reference, in selection and acquisition, in management. This does not preclude the more specialized courses in the area of automation, but that will be discussed later. Integrating automation into the general curriculum reflects the fact that automation is now an integral part of library operations and services, in every type of library. (I must emphasize again that I am using the terms library and librarianship as umbrellas for a very broad range of activities and institutional contexts.) Integrating automation into the curriculum and professional practice contrasts sharply with the situation twenty or even ten years ago, when there were serious doubts that automation had a role to play in libraries. “The Great Gas Bubble Prict” was the title of one paper, and the tale of the “Emperor’s New Clothes” was frequently used as the description of automation efforts. I will not belabor this point, but dramatic changes have occurred and

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these changes were reflected in library school curricula at least as rapidly.

The 1972 standards provide little if any basis for evaluating the extent to which a program covers automation issues, or the extent to which automation issues have been integrated with basic professional preparation. The lack, though, lies not in the standards themselves but in the failure of the professional societies to explicate their picture of the needs in professional preparation. The standards already provide the means, in the phrase that refers to "major documents and policy statements of relevant professional organizations." It is those documents and policies that are needed.

Greater demands for admission is the second major trend, although it is much slower in coming and much more uncertain for a variety of social and yes, economic reasons, even in the better schools. Library schools gradually are expecting more in the undergraduate and even graduate preparation of incoming students. At UCLA, students have been required for at least ten years to have a background in statistics, in computer programming, and in a foreign language. Students at UCLA lacking one or more of those requirements have been permitted to enroll with the expectation that they will complete the prerequisites (without credit toward the MLS degree itself) within a defined time. Initially students could delay completion until even the end of the program, but we now strictly require completion of the prerequisites within the first year of the program. I suspect that we will probably retain that degree of flexibility, in the interests of attracting good students whatever their prior willingness to become "numerate" may have been. Few, if any other schools have gone as far in their admission requirements as we have, but I do see evidence of increasing willingness to require more for admission. The problems, of course, are that applicants from the traditional sources of library students—the humanities and the social sciences—have frequently avoided mathematical or even simply formal disciplines. We cannot in good conscience set barriers that preclude those students from considering our profession. However, I think we can set requirements that those students are completely capable of satisfying and that represent essential skills not only for professional work but for meeting the demands of the instructional program itself.

The economic problem, to which I also referred, is evident. Library schools must maintain a level of enrollment and therefore cannot set such admission barriers not only for the sake of the students but for the sake of the schools' survival.
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Even if this trend develops it is unlikely to have significant effect upon the standards. Properly, setting admission and graduation prerequisites are institutional decisions, not program accreditation standards.

Greater length of programs has been a most controversial issue. Currently, only the UCLA program completely requires two full academic years, but a few others come close. Chicago requires five quarters; Washington more or less requires six; others, such as Illinois, have flirted with an extended program. However, a large number of schools—Illinois in particular—are now encouraging their students to continue beyond the one year they officially require in order to obtain some form of "certificate of specialization" as well as the MLS degree officially obtainable at the end of the first (calendar) year. Informally encouraging students to extend their programs to elect specializations may not be widespread now, but I anticipate a trend toward wider adoption of it among the prestigious schools. Even if this trend develops it is unlikely to have any effect upon accreditation. At most, it might provide a basis for evaluating the degree to which a program indeed did meet "general principles of...library education."

Greater specialization, to an extent, goes hand in hand with the trend toward increasing length of program, since specialization to any significant depth is impossible in one calendar year. However, there is another influence working as well, and it is the pressure from the specialized professional societies—the SLA, MLA, AALL, ASIS, etc.—to have a greater say in the evaluation of degree programs. Most recently this has led to efforts to expand the responsibilities for accreditation to recognize the needs of the several specializations. Principal among them have been those interested in automation and information science and who would urge the integration of those subjects into the traditional basic competencies and who would urge those subjects as specialty areas.

It is this trend, of course, that led to the cooperative examination of the means by which many interested professional societies might become involved in accreditation. While it is still too early to determine what will happen, I think it is likely that it will have substantial effect on the process of accreditation.

Broadening of application areas is directly related to the trend toward greater specialization, but there are additional pressures and opportunities working as well. Specifically, library schools are looking at the broad range of information contexts as potentials for employment of their graduates; industrial "information resource management" is a
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prime example, perhaps the most exciting one. The field of fine arts information, however, is one of special interest, given the burgeoning developments of information services and computer applications in the fine arts. More generally, the field of "museology" is seen as related to librarianship. Archives, of course, has been an area of traditional interest, though with its own problems of identity. In fact, the area of archives illustrates a major component of this trend. Specifically, in all applications areas there is need of subject expertise—e.g., in management, in fine arts, in history—to be combined with the technical tools of information handling and librarianship. At several schools this has led to "coordinated degree" programs, in which the student acquires both an MLS and another graduate degree (in a subject discipline or even, as in the case of management, in a professional field).

While in many respects this trend parallels that for specialization, its nature is substantially different. It is unlikely that this trend will have discernible effect on accreditation.

Greater subject expertise is clearly implied by the pressures for specialization and broadened application areas, but independently there are other reasons for asking students to gain greater subject competencies. Many applicants to library schools in fact will enter with advanced degrees in subject fields. In the most recent years, changes in the academic job market have led holders of master's and even doctorate degrees to look to librarianship as a profession that would permit them to maintain their academic interests. But, more importantly, the job market has created pressures for greater subject expertise. This is especially true of academic librarianship, but it applies with equal force to such areas as scientific and technical documentation. As with the trend toward broadening of applications, I think the trend toward greater subject expertise is unlikely to have effects on accreditation.

Greater emphasis on management is the most difficult to document, though not to justify. I think there is increasing recognition that the librarian is more than a professional specialist, that all kinds of information activities are part of institutional contexts, and that the professional librarian must be able to manage in all senses of the concept. This has led many of the better schools to place increasing emphasis on both general management principles and specific management techniques. I would hope that with a greater emphasis on management the professional societies would create documents and enunciate policies that would provide the basis on which the accreditation process could evaluate programs for their coverage of management.

Greater emphasis on research has been a part of library professional education since the founding of the Graduate Library School at the
University of Chicago. Today a record of "sustained productive scholarship" is one of the aspects of qualifications of faculty specified by the ALA "Standards for Accreditation." As library schools proliferated, especially during the 1960s, the numbers of faculty qualified to carry forward research did not grow commensurately, and the records of sustained productive scholarship were not consistent with the objectives. As a result, the extent to which research methods and experiences were included in library school curricula was limited, and perhaps only those schools with doctoral programs or a strong research emphasis paid attention to the needs for research knowledge as part of professional practice. Today—among at least the schools aiming at excellence—there is an increasing emphasis on research in the professional curriculum. The reasons are clear. Professional practice requires the ability to define problems, to obtain data necessary to solve those problems, to analyze those data, and to organize them into a form and mode of presentation that will assist in solving the problems. These needs arise in service to patrons and in management and related decision-making. They are especially relevant when the decisions relate to the major capital investments which are necessary with the new information technologies.

Research is already integrally included in accreditation. The trend toward increasing the degree to which programs regard research is important, but it is unlikely to result in any substantial changes in accreditation.

The Trends toward Decreased Expectations

The countervailing trends are the ones that represent a diminution of the professional requirements for library work. There appear to be both good reasons and "real" ones for these trends. The good reasons reflect the view that much of library work (even when broadly defined) is essentially technical and even clerical, that automation is even replacing much of what both the professional and the technical or clerical staff do, and that what is really needed is simply competence to handle the more or less mechanical aspects. This view can be found among both librarians and those from the wider areas of application, such as information resource management in industry. In all cases, the rationale has been essentially economic. Is it worthwhile to pay for a professional to do what a technician can do?

The "real" reason, at least as far as the library schools that have taken this tack are concerned, is also economic but relates to the survival of those schools. Essentially, they have seen declining enrollments and
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have faced the problems of maintaining their programs in the face of budget cuts or even threatened cancellation of programs. They have looked to the potential market for students at the undergraduate level. This view has been supported in many respects by academic administrators who have seen the library school as the place that could train computer users for information work.

Perhaps because this context is so divergent from my own views, I am unable to identify the major trends in it to the same extent that I have for the other context. As a result I have identified only two.

Undergraduate programs have been in librarianship for many years. However, some time ago the decision was made in North America that professional library work required a foundation in an undergraduate liberal arts education, on which would then be built a "fifth-year" or graduate program. Initially it was called a bachelor's degree—the BLS—but in time the move was made universally to a master's-level degree—the MLS or a variety of other appellations. This program was the "first professional degree" as far as the process of accreditation was concerned. All programs accredited by the American Library Association lead to a master's-level degree. Furthermore, many if not most employers of professional librarians require the master's degree from an accredited program. The question currently being debated is whether that should still be the case if declining expectations overtake the profession and accreditation. The view is that the work presently done by professional librarians requires only an undergraduate preparation, without the foundation of a liberal arts education. Of course, there already are large numbers of undergraduate programs that prepare library technicians, sometimes called library technical specialists. Typically these programs are in the smaller state colleges or teachers' colleges. It is not the library technician programs with which this discussion is concerned, but rather the conversion of professional qualifications to a bachelor's level, which perhaps the current technician-level program would then be able to meet, though not necessarily so. It seems that undergraduate programs fall outside the scope of professional accreditation, so there is not any foreseeable effect upon accreditation resulting from this trend.

Information resource management is, strangely, part of the trend toward both rising and declining professional expectations. With respect to broadening application areas, information resource management is one of the areas of primary importance. But in the context of decreased expectations, interestingly enough, it has also been a significant trend, this time though at the bachelor's level. Several library schools have initiated undergraduate programs parallel to their gradu-
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ate professional librarian programs and have focused them on information resource management. Clearly the most successful example has been at the University of Pittsburgh. Those at other institutions, though, have not had the same success. Again, the rationale has been that there were substantial needs in industry for persons prepared at the undergraduate level (without a broad liberal arts foundation) to fill the manpower needs in industry for staff trained in computer-based information systems. Again, it seems to me that these kinds of programs fall outside the scope of accreditation, at least within the frame of reference of the ALA/COA.

Appendix

Bibliography of Selected Publications on Accreditation

Publications of the ALA Committee on Accreditation

"Standards for Accreditation" (1972).
"Self-Study: A Guide to the Process and to the Preparation of a Report for the Committee on Accreditation of the American Library Association" (under "Standards for Accreditation" [1972]).
"Graduate Library Education Programs Accredited by the American Library Association" (under "Standards for Accreditation" [1972—latest edition]).
"Accreditation of Programs of Education for Librarianship" (May 1983).
"Accreditation and the Curriculum" (Nov. 1975).
"Non-discrimination, Affirmative Action, and Accreditation" (July 1981).

ALA/COA Guideline Statements

"Extension/Off-campus Program Offerings" (June 1977).
"Goals and Objectives" (April 1982).
"A Library School's Program as a Unified Whole" (May 1977).
"Principles and Procedures Common to All Types of Libraries" (June 1981).
"Sustained Productive Scholarship" (June 1981).
"Single Specialization in Library Education" (June 1981).

ALA Publications

Accreditation


Miscellaneous

The Master's Degree: Basic Preparation for Professional Practice

JANE ROBBINS-CARTER
CHARLES A. SEAVEY

The Master's Degree

The Master's of Library Science (MLS) degree did not spring, full blown, from the directors of the old "Type I" library schools of the 1930s nor from the head of Harriet E. Howe (then director of the Denver library school) in 1946. It is a variation of the master's degree (M.A.) which has been part of academe since the earliest beginnings of the university system. It seems logical to set the scene by briefly examining the roots and development of the master's before our discussion of the MLS.

At the earliest universities—e.g., Bologna and Paris—the original degree was the Licentia docendi, or license to teach. This evolved into the Magister Artium, or one qualified to teach the liberal arts, and the Doctor of Laws, a teacher of law. For most of the middle ages Master and Doctor were "absolutely synonymous."¹

As the early universities evolved on the continent the term M.A. was gradually abandoned in favor of the doctorate. In England the reverse was true, and the M.A. was the highest earned degree. In consequence, when higher education came to the English colonies in America, it was the M.A. that was recognized as the highest educational attainment, and the doctor's degree was largely unused (and honorary) until the latter part of the nineteenth century.²

¹ Jane Robbins-Carter is Director and Professor, School of Library and Information Studies, University of Wisconsin—Madison; and Charles A. Seavey is Doctoral Candidate, School of Library and Information Studies, University of Wisconsin—Madison.
Harvard and the other early centers of higher education in America preserved, for a time, the notion that while the M.A. was awarded in cursu (as a matter of course) it came as the result of some recognizable achievement beyond the bachelor's degree: the "Scholar that giveth up in writing...and is ready to defend his Thesis...is fit to be dignified with his 2nd Degree" (Laws of Harvard College, 1642). By the end of the eighteenth century, however, the degree was referred to as "of course" and the requirements consisted of "keeping out of jail for three years and paying the five dollar fee." This almost automatic award of the M.A. continued for most of the nineteenth century. Even after the educational reforms discussed below, as late as the Wilson presidency at Princeton, a graduate could "earn" an M.A. with a thesis fifteen to twenty pages long.

Starting as early as the 1850s higher education in America underwent a major transformation. The master's degree was reformed along with virtually every other aspect of university-level education. In the 1850s Michigan and North Carolina both attempted to institute M.A. degree requirements not dissimilar from those of today. Georgia adopted new requirements in the late 1860s, although the first degree was not awarded until 1871. By that time the great reform of American higher education was well underway.

The trend toward the pro Meritibus (for merit, usually demonstrated by course work, exams, and a thesis) degree gained significant momentum when Charles W. Eliot assumed the presidency of Harvard in 1869. He immediately scrapped the in cursu degree and instituted a pro Meritibus program. Other universities followed suit, and by the end of the century the modern M.A. requiring significant (with some variation in the definition of "significant," as noted above) work at the graduate level was the accepted model in higher education.

The M.A. was joined by the Master of Science degree as early as 1858. Since then the master's degree has been "qualified" or fragmented by a variety of terms that define the area of expertise the degree represents. Most of the new terminology has been added in the twentieth century. By 1960 the U.S. Office of Education (USOE) could report that there were no less than 121 varieties of M.A.s and 272 kinds of M.S. degrees. Simply listing them (including our favorite, the M.A.C.E. or Master in Air Conditioning Engineering) requires twenty-two pages (248-70) in the USOE report.

The MLS, therefore, is part of the mainstream of the academic degree structure as it evolved in this country. It has not always been part of library education but has developed and changed over the course of
The Master's Degree

our 100 years. The broad outlines of the development of library education have been well documented elsewhere.\(^8\) We can, however, note the specific events which relate directly to the MLS. In general there are three periods of time in which different versions of the MLS have been awarded. The "Albany" period, from 1889-1926; the "sixth-year" period, from 1927-1960; and the current, "fifth-year" period.

The Albany Period, 1889-1926

Like so many other things in librarianship, the MLS was the idea of the late Mr. Dewey. Mr. Dewey's School of Library Economy was moved from Columbia to the New York State Library in Albany in 1889. Upon activation in Albany the school was authorized by the Regents of the University to award the degrees of BLS, MLS, and DLS. White notes that the honorary DLS was apparently never awarded.\(^9\)

The MLS, however, was awarded to eleven individuals prior to 1926. As near as can be determined, Albany was the only school awarding the degree during those years. Receipt of the MLS was limited to those who possessed the BLS and, "not less than five years in professional library work and who submitted in print a satisfactory contribution to library service or library history...this work (must) show independent thought and research..."\(^10\)

Although the degree had been authorized in 1889, and presumably could have been awarded as early as 1895, the MLS was first conferred upon James Ingersoll Wyer in 1905.\(^11\) Ten more MLS degrees were awarded under the rules of the Albany School.\(^12\)

The Sixth-Year MLS Degrees, 1927-1960

The "Carnegie Impulse" triggered a major restructuring of library education in the 1920s. C.C. Williamson's *Report*\(^13\) provided the catalyst. ALA created the Temporary Library Training Board, which begat the Board of Education for Librarianship (BEL), which wrote new standards for library education in 1925,\(^14\) and revised them in 1933.\(^15\) The standards allowed an "Advanced Graduate Library School" to award the "M.A. or M.S. for the satisfactory completion of one year of professional study strictly graduate in character."\(^16\) The MLS would therefore be awarded only after a year's study beyond the BLS which already required a year beyond the baccalaureate degree, hence the term sixth-year master's.

Initially five schools offered the sixth-year degree: Illinois, starting in 1927; California, starting in 1928; the reestablished school at Colum-
bia (1928); Michigan (1927); and Chicago (1932). Six more schools—Peabody, Toronto, Western Reserve, Drexel, Louisiana, and McGill—awarded the sixth-year degree at various times before the last one given in 1960. Drexel, Louisiana, and McGill awarded one degree each; Peabody awarded seventeen, Toronto sixteen, and Western Reserve, nine. Tables 1 and 2 present a statistical breakdown of the MLS degrees awarded during the Albany and sixth-year periods.

### TABLE 1
**Master's Degrees, 1905-1960, by School**

<table>
<thead>
<tr>
<th>School</th>
<th>1905-1926</th>
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<th>1931-40</th>
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<th>1951-60</th>
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<td>0</td>
<td>33</td>
<td>79</td>
<td>26</td>
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<td>171</td>
<td>136</td>
<td>72</td>
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<tr>
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<td>10</td>
<td>2</td>
<td>82</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
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<td>97</td>
<td>548</td>
<td>546</td>
<td>305</td>
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N = 1507¹ Data for 1948, except for California, are missing.
² Includes the Albany MLS degrees.


### TABLE 2
**Master's Degrees, Total and Percentage, by School, 1905-1960**

<table>
<thead>
<tr>
<th>School</th>
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<th>Percentage</th>
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</table>

The Master's Degree

The Fifth-Year MLS, 1947-

The sixth-year MLS was awarded as late as 1960, although there was a sharp decline in the number of degrees awarded after the new standards of 1951, and only nine were awarded after 1956. The MLS, starting in 1947, underwent a transformation as fundamental as the restructuring of the 1920s. The old BLS degree, which had always been something of an anomaly, was sharply upgraded at most schools, and replaced with the current fifth-year MLS degree.

The 1940s was an era of some discontent with library education. Despite the war a number of critical studies were completed and published, and it was clear that an adjustment in the structure of library education was due. The faculty at Columbia were moving toward establishing a fifth-year MLS, although the actual catalyst was Harriet Howe, director at Denver.

The first post-war ALA meeting at Buffalo, New York in 1946 was the start of the move into the fifth-year degree. The Columbia faculty held a meeting with its alumni to discuss their still unfinished plans for the transition. The news spread rapidly as other schools showed an interest in the move. "No one went into the matter more thoughtfully than Harriet Howe, of Denver..." The following year, Howe announced that Denver would inaugurate a fifth-year program. The first two fifth-year degrees were awarded by Denver in 1947.

Denver's move proved to be the catalyst that precipitated a general shift toward the five-year MLS in library education. In 1945, 720 fifth-year MLS degrees were awarded, and 664 fifth-year BLS degrees; in 1951 the ratio was 985 to 485, and by 1956—the last year of the fifth-year BLS—only 52 were awarded, opposed to 1185 fifth-year MLSs. As we have seen, the sixth-year MLS rapidly disappeared after 1956, the last being awarded in 1960. The change to a completely graduate education where the first professional degree is the MLS was complete. Having established the ancestry of the current MLS we can turn to a consideration of debates about the nature of the degree.

Debating Basic Questions

The basic questions the literature of library and information science education seems to be organized around are two:

1. Should master's-level education be more disciplinary than instrumental?
2. Should master's-level education be more theoretical than practical?
A further debate can be added here—i.e., are these really two questions or simply a single question?

Assuming for our purposes here that these are two profoundly different questions, let us further discuss the first—i.e., the disciplinary versus instrumental question. The debate here is over whether there is a distinct, identifiable, theoretical base called library science or information science (whichever is preferred; and this, too, is debatable); or whether there is instead an applied (or instrumental) theoretical base derived from established disciplinary fields such as sociology, psychology, linguistics, and philosophy. This debate can be embellished to include an argument about whether it would ever be possible for a discipline of information (or library) science to evolve; or whether applied fields must devolve their concepts and propositions from “true” disciplines. When a colleague says “theory” does he or she mean instrumental or applied theory—i.e., does the colleague mean a distinct or unique theoretical base or the “creative application of theory from other disciplines to the task of solving practical problems in some area of social life.”

Does it make any difference for the educational enterprise if colleagues do mean different things? Buckland points out that there seems to be an assumption that there “ought” to be a unique body of theory in library and/or information science, but states that being too concerned about the uniqueness of our theory appears “to be counterproductive for practical purposes of getting on with the development of the theory and the practice of library service.” So, taking Buckland’s point to heart, the instrumental versus disciplinary theoretical debate may be put to rest.

The second question—i.e., the theory versus practice question—would be the debate over whether master’s-level education should include larger components of theory (whether disciplinary or instrumental) or larger components of practice. There seems to be little debate over whether there should be both. The essential debate is often generated by a confusion about just what the debaters mean by practice. When a colleague says “practice,” does he or she mean case-method instruction; laboratory work in conjunction with individual courses; field work as a curriculum component—either as an individual course or as components in these courses; master’s-degree study combined with relevant paid work, as post-master’s internships; or as some combination of these practice methods? The literature on field work within library education is quite extensive and will be dealt with in somewhat more detail elsewhere in this paper. Suffice it to say here that there is little argument
that professional education includes a significant component of skills education and that experiential education contributes to the learning of skills; however, the skills must be firmly rooted in a knowledge base which is internalized by the professional practitioner so that he or she can apply principles and concepts to solving problems or meeting situations encountered on the job.

So why do we debate? In part because we are not clear about the fundamental nature of the debatable questions; however, when the debate literature is read as a whole, it all appears rather tiresome and quite diversionary.

From what then are we diverting ourselves? Well, for one thing, the celebration of diversity in our curricula—i.e., diversity of courses, diversity of faculty, even diversity of goals for educational programs including the master's-degree program. The cross-currents generated by the far-reaching, extensive technological, societal, and bibliographical developments of the past twenty years have been embraced into curricular components in our schools, but there are so many developments and so much variation in information practice, that curricula vary widely.

Professional Identification of Librarianship

It would seem from the literature that librarians struggle excessively to create the outward signs of professional identification. Librarians spend more time debating about what a theoretical base ought to be composed of rather than in doing work which would contribute to the development of a theoretical base for the field. Pierce Butler stated in 1933: "Unlike his colleagues in other fields of social activity, the librarian is strangely uninterested in the theoretical aspects of his profession." This is certainly no longer the case within the community of educators; many are obsessed with at least questions related to whether or not there is theory!

Professional(?) Education

One of the field's most relished debates stems from the question: Is librarianship a profession? The debaters consider the characteristics of professions and examine them one by one measuring aspects of librarianship against the characteristics identified; or a single characteristic is selected from the list of characteristics and an array of work areas including librarianship is measured against it. One characteristic which is included in all efforts to delineate the criteria of professions is the educational requirement for entry at the first professional level—its
length, content, location in the educational hierarchy, and other aspects.

Kathleen Heim has investigated the educational requirement for librarianship compared with medicine, law, social work, teaching, and nursing and has found, "librarianship has exhibited an evolution that parallels, and at times even anticipates, the other professions." Using a framework developed by McGlothlin, Heim compares these fields noting first the relative recency of the professional education model which is approximately only 100 years old.

**Location and Length of Program**

Most scholars of the sociology of professions agree that professional education is located principally at the graduate level. Librarianship was a leader field on the basis of this criteria. By 1951 education for librarianship at the professional level required a full four years of undergraduate preparation. Three years of college was not required for admission to law school until 1951; as recently as 1969, only 89 percent of students seeking admission to medical school had bachelor's degrees; it was not until 1973 that all states required the bachelor's degree in order to obtain a teaching license, and nursing still does not require the baccalaureate. Only social work predates librarianship on the measure of the location of the first professional degree program at the graduate level, as it has required the bachelor's degree for admission since 1939.

The critical criteria is not, however, locus of the program, but rather whether the perceived content of the program is indeed considered, by both scholars and the public, to be professional. The length of the educational period may be an accurate measure of professional content. Medicine has the longest period with three years beyond undergraduate work demanded, with much of the undergraduate work required to be closely related to graduate medical training. Law requires three years of work at the graduate level, social work two, and librarianship, for the most part, one. All three of these fields have relatively few, if any requirements regarding undergraduate preparation. Nursing and teaching have the first professional degree at the undergraduate level. On this criteria alone one can see a clear order of perceived professionalism among the fields with medicine and law being preeminent.

**Content**

The content of education, according to McGlothlin's schema has three aspects which are briefly examined below:

*General v. Professional Content.* Nursing and education control all of the content, general and professional, for training in their fields;
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medicine controls most of the content, while law, social work, and librarianship leave the general content to the students and trust that their general preparation will be sufficient to support their professional training.

Knowledge v. Skills Content. Theoretical knowledge is the critical criteria here. Both medicine and law have close control of the knowledge base related to their professional practice. Nursing is so allied to medicine that it probably cannot develop its own theoretical base. Neither teachers, social workers, nor librarians are believed to have developed a significant theoretical knowledge base sufficient to have achieved professional status.

Specialization Content. All the fields being discussed allow for some specialization, but specialization is a rather limited indicator of professionalism. "It seems that specialization, insofar as it lengthens the period of professional training, is an indicator of professionalization, but that specialization in the basic training period is not." 30

Educational Gestalt

Truly professionalized education accounts for education of the entire field including its allied occupations. Medicine, on this criteria, again is clearly the ideal profession. A whole array of allied health professions which support physicians' work are controlled by the medical profession. Law is developing the ancillary field of paralegals and the occupation of legal secretary is considered a specialization within secretarial "sciences." Social work also provides for several levels of training. Neither nursing nor teaching has a clear continuum of practice levels that are supported by educational programs. While some will argue that librarianship has developed a well-articulated educational continuum through its policy document, "Library Education and Personnel Utilization," 31 in fact there is no educational structure in place to support a continuum. Librarianship officially ignores all educational programs (or lack thereof) with the exception of first professional-degree education. The thousands of untrained librarians practicing throughout the United States are invisible to the profession while highly visible to library users. It is of little wonder then that the populace is surprised to learn that one has to go to school to become a librarian when obviously that is not the case.

On the surface, librarianship has developed a professional education model that compares favorably with most other professions/semi-professions. It falls short of the professional ideal in two areas: the development of a well-articulated and practical occupational continu-
um and the development of a knowledge base. Larson, in her *The Rise of Professionalism*,\(^3\) states:

The structure of the professionalization process binds together two elements which can, and usually did, evolve independently of each other: a body of relatively abstract knowledge, susceptible of practical application, and a market—the structure of which is determined by economic and social development and also by the dominant ideological climate at a given time.

These criteria, the body of abstract knowledge and the market—i.e., in our words the occupational continuum—are the two key criteria in professionalization according to Larson and are the two criteria of professionalism in which we believe librarianship falls far short. A profession must control its market by monopolizing competence and demonstrating that its competence is superior to others. Librarianship has relatively little control over its market as it is not at all sure of what professional competence in librarianship is possessed; and further how best that unknown competence might be acquired. Margaret Myers, director of the American Library Association's Office for Library Personnel Resources, has recently written:\(^3\)

Probably no environmental factor has influenced staffing in the last twenty years as much as the legal and regulatory climate....Questions have arisen over whether certain requirements, including the M.L.S., are job related. Education and experience stated as exclusive entry requirements are sometimes difficult to justify as the only requirements necessary for successful job performance. If the knowledge, skills, abilities (KSA), and other personal attributes obtained in the acquisition of a degree, such as the M.L.S., are substantially correlated with the requirement of the job, there is little probability of being challenged. But, if the use of the M.L.S. as a hiring requirement results from tradition or expediency and not from a thorough analysis of the job requirements, validity may be questioned.

**Aspects of the Master's Curriculum**

Now that the information age is upon us, we are quite certain that there is an important market in our environment, but we fear that other fields such as computer science and management are more clearly defining the nature of competence for the information professions. The most encouraging aspect of education for librarianship today is the amount of experimentation taking place in the schools. Some schools have developed undergraduate curricula (Pittsburgh and Drexel), others are requiring prerequisites (UCLA), and still others are providing
more than one master's degree (Syracuse and Pittsburgh)—i.e., a master's in librarianship and a master's in another information-related field such as information resources management or information science. Such developments bring up the oft-debated question: "Is there a core?"

The Core

The concept of "core" educational components for the information professions is an excellent example of an "ideal" concept; it is difficult to be precise about the components and the components will differ in their manifestations from an educational program to the next, but all of the initiated in the field recognize the core or the lack thereof. The core is simply what each person identifies as the core and believes everyone else should or does agree to.

The American Library Association's Committee on Accreditation (COA) gives the following as the basic content areas that all master's programs must cover: (1) an understanding of the role of the library as an educational and informational agency; (2) an understanding of the theories of collecting, building, and organizing library materials for use; (3) a knowledge of information sources and an ability to assist the user of library materials in locating and interpreting desired items; and (4) knowledge of the principles of administration and organization to provide information services. Translated into curriculum structure in master's programs, these four content areas constitute what has come to be known as the "core." Of fifty-one schools reporting for the ALISE Statistical Report, no school reported fewer than eight hours of course work to be required of all students. One school reported twenty-four required hours. The most typical requirement is from twelve to fifteen hours (twenty-one schools).

Because curriculum revision—especially at the level of the core—is so characteristic of today's schools, it is difficult to describe a typical core curriculum. The required hours seem to be principally devoted to the traditional content area of librarianship that came into acceptance in the 1940s and 1950s—i.e., courses including a combination of reference, materials selection, cataloging and classification, and administration. The addition of courses or course components dealing with the library as a societal institution were introduced in the late 1960s and early 1970s and remain within the typical required course component. The limitations imposed by this largely library institution-focused curriculum have come under careful scrutiny. Integration and expansion of core content by adding course components related to information science appears to be the present direction, even though there is no national
agreement as to the basis for an integrated core in librarianship; still, a significant number of schools are creating and implementing such curricular structures.

The first attempt at offering an integrated core curriculum was undertaken in the 1960s under the leadership of Jesse Shera at Case Western Reserve University. Since then, many schools have introduced and revised variations of an integrated core. Some include a required course in foundations of librarianship coupled with a small number of separate, largely skill-based courses. Another approach is a totally integrated core, usually consisting of nine to twelve credit hours that may be taken either in a block or in a sequence of a primary six hours followed by three to six additional hours. These integrated core curricula subsume substantial parts of the traditional core of reference, cataloging, materials selection, and administration and add significant components dealing with foundations, communications, the research process, media, and, most notably, information science. The emphasis of the integrated core is on the view that there are elements common to all types of library and other information services that include both theoretical and philosophical, as well as skill fundamentals. The central institutional focus remains the library, but other institutional and independent work roles are included.

In those schools with the longest experience with integrated core curricula, notably Drexel University and the universities of North and South Carolina, the integrated core approach has had influence on the entire curriculum, especially in reducing redundancy and providing individual faculty with a shared knowledge base of those students who have completed the core.

An abbreviated, generalized outline for a hypothetical integrated core curriculum is as follows:

I. Libraries and Society
   A. Communications
      Information—its meaning, interpretation, dissemination
   B. Library role in the communication process
      User needs; comparison with other information agencies; library and information science as a profession
   C. Social role of information institutions
      Meeting the needs of clients
   D. Political and economic context of information institutions
      Library in its institutional setting, its administrative structure, means of support, legal base
   E. Freedom of information, intellectual freedom, and copyright
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F. Forms of communication media
   Film, audio tape, telecommunications, maps, other media

II. Library Services and Materials
   A. Information institutions as service systems
   B. Mechanization of library services
      Computer usage; computer languages and programming
   C. Types of materials; types of collections; types of libraries and
      users; technique and principles of selection; selection tools;
      collection maintenance
   D. Collection access
      Bibliographic descriptions; subject analysis and description;
      physical access
   E. Information seeking
      Reference services; materials and automated services; reference
      interview

III. Research (as a means of studying concerns in library and
     information science)
   A. Problem identification, research techniques, design, data
      collection, and treatment
   B. Communication of research results

IV. Management
   A. Planning, organizing, staffing, directing, controlling
   B. Systems analysis
   C. Effectiveness measurement
   D. Interlibrary cooperation and organization

Returning to the traditional core of reference, cataloging and clas-
sification, administration, and selection, it can easily be seen that the
integrated core does indeed subsume these elements, but important
elements emphasizing conceptual and methodological concerns are
added. Especially noteworthy are: (1) the comparison of libraries and
librarians with other institutions, professions, and occupations that
provide information services; (2) identification of information user
needs and behaviors and the roles of information professionals in
identifying and responding to them; (3) introduction of technology and
information science to all who will become professional librarians;
(4) recognition of knowledge of the content and process of research as
essential to all library professionals; and (5) acknowledgment of the
increasing responsibility of all professional librarians in the manage-
ment of library operations.

The emphasis on the core curriculum in library education, espe-
cially the inclusion in the core of the concerns of, and contributions
from, information science and other disciplines is an indication of the strong desire of library educators to maintain the traditional generalist curriculum and to head off a possible breakup of first professional degree education into specializations; however, holding together education for the information professions may well be beyond the capacity of most programs of library education as they are presently structured in relatively autonomous graduate schools. It may be true that mergers of related departments as has been accomplished at Rutgers University in its School of Communications, Information and Library Studies will be necessary to integrate education for the information professions. The 1984 ALISE/ALA initiative to bring together professions interested in accreditation of information-related education programs may provide an indication of whether it will be possible to integrate education for the information professions or whether education for librarianship will remain principally education for those preparing to work in libraries.

The curriculum of librarianship, which through the 1960s had been focused almost exclusively toward the library, in most cases continues to emphasize specialization in the profession by the type of library institution in which the professional might expect to work—i.e., in school, public, academic, or special libraries. There are indications from curricular changes that this emphasis is declining and that specialization in the field could better focus upon type of client served (e.g., student, researcher, recreational user) or information function pursued (e.g., indexer/abstracter, collection developer, information interpreter, information manager), disregarding the institutional setting of the professional. The development of integrated core curricula is one of the key indicators of this shift.

Specialist Areas

So long as the vast majority of master's-degree holders continue to find employment in library institutions, and so long as these institutions require only that their beginning professionals possess the degree without much regard to the courses taken to obtain that degree, true educational specialization will be concentrated in on-the-job experience and post-master's programs. (School/media librarianship is in most schools the only type of clearly developed library specialization offered.) Regardless of the many reasons given for continued reliance on the generalist curriculum, a growing number of library educators and practitioners concur that specialist preparation is needed. They agree that the thirty-six hour master's curriculum is insufficient for the educa-
tion of "real" specialists. However, should a school elect to educate only one or two "types" of information professional with all courses, after the core curriculum, focused upon selected institutional, subject, or functional areas, then specialization may be possible. Even then thirty-six hours may be too limited. Some library educators and employers believe that more library education programs should choose to declare a specialty or perhaps small groups of specialty curricula. For example, a school might state that its single purpose is the education of public librarians including perhaps tracks for urban and rural public librarians. For this specialization, a school might offer a core and the following course distribution:

Required of all students (credit hours)
- Political Environment of the Public Library (3)
- Economics of Public Service (3)
- Systems of Libraries (3)
- Administration of Public Libraries (3)

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<tr>
<th>Rural Track</th>
<th>Urban Track</th>
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<td>Rural Sociology (3)</td>
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<td>Regional Planning (3)</td>
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<td>Rural Economics (3)</td>
<td>Suburban Libraries (3)</td>
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<td>Rural Library Research (3)</td>
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This type of specialist program offered totally within the library school could also be developed for academic librarianship including tracks for university, college, and community college librarians.

Another type of single-purpose curriculum that could be developed within the offerings of a single-purpose school might be the reference specialist. As in the past, many generalist librarians still decide to concentrate in reference service without regard to type of library in which they might find employment. These students take courses in reference totaling at least fifteen semester hours. The fifteen minimum hours would probably include:

- Introduction to Reference Service (3)
- Resources for the Humanities (3)
- Resources for the Social Sciences (3)
- Resources for Science and Technology (3)
- Government Publications (3)
In today's complex information environment, a single-purpose curriculum of some depth for a reference specialist might well include:

- Introduction to Reference (3)
- Resources for the Humanities (3)
- Resources for the Behavioral Sciences (3)
- Resources for the Social Sciences (3)
- Resources for the Sciences (3)
- Resources for Technology (3)
- U.S. Government Publications (3)
- Government Publications (Exclusive of U.S.) (3)
- Serial Publication (3)
- Nonprint Media (3)
- Online Bibliographic Resources and Services (3)
- Information User Studies (3)
- Administration of Reference Services (3)

This hypothetical curriculum represents a total of thirty-nine semester hours of which only three, Introduction to Reference, might be concentrated in the core. Additional single-subject resource courses could well be included, boosting the number of credits to well over forty. In fact, a school that chooses to be a reference specialist school could reasonably develop tracks for social science specialists, humanities specialists, and others.

Another route to specialist preparation is through cooperation with other academic departments. While the specialization program by type of library could be pursued in this manner, for example, having those pursuing academic librarianship taking courses in schools of education and public administration, this path to specialization is especially appropriate for subject specialists. Prospective art librarians might profitably take a variety of courses in art history and fine arts as well as special courses in the library school. While many students might choose a dual master's-degree program, it would be possible to gain appropriate preparation for a specialty with fewer hours than those needed for a dual degree, provided of course that the specialist program is well designed.

The principal reason specializations are not pursued by many students is that library education programs continue to draw their students mainly from their local area. The largest number of students demand education that is generalist in nature so that they can apply for a wide variety of beginning library positions. There is no national recruiting program for the field and no developed consensus on what a
specialization consists of; therefore, there is no clear demand for specialization except that created by state school library/media certification regulation.

While programs of specialization are available in library schools, they are chosen by only a few students and they vary greatly in their structures. In reporting to ALISE, twenty-six schools indicated they offered a total of sixty-four or more specialization programs. Specializations included twelve with history and seven with law or business. Many of these schools reported the availability of multiple specializations.

One area of specialization in the master's curriculum that has been called for especially by library practitioners is a management specialization. It is unclear whether practitioners are calling for an actual specialization or for an extension of the curriculum for all librarians in the area of management. There is considerable evidence—based on research studies, continuing education needs assessments, and programs held at professional meetings—that professional librarians are increasingly being used in management and various supervisory positions. Traditionally, library schools have offered only the core course in general library administration and then planned for additional administrative knowledge to be gained through students' taking type-of-library courses. A number of library schools, responding to the need to provide additional administrative knowledge, have introduced advanced general administration courses. Many schools offer courses in such analytical skills as systems analysis. Courses in the administration of specific library functions such as technical services and public services are also offered at some schools and many courses dealing with library networking or cooperative systems emphasize administrative aspects. The most prevalent means for providing concentration in administrative aspects of librarianship is through cooperation with other academic departments. Master's students may be encouraged to take courses such as personnel management or organizational behavior in schools of business or public administration.

Only the largest schools in number of faculty can hope to provide more than one or two programs of specialization to their students, although many schools are able to offer single specialized courses such as law, map, music, or archival librarianship. The individual specialized course does not amount to specialization in most concerned people's opinions. These courses are typical in most traditional library education curricula because they are offered based on the expertise available from a particular full-time or adjunct faculty member.

The future development of specialization programs within the thirty-six hour master's degree is problematic. Because the COA has
approved the concept of single-purpose programs, there seems to be little compelling argument that it would not be appropriate provided that there was a market for such specialists. Except for some as yet not clearly defined indications from the community of academic librarians, there does not appear to be a market for specialization at the first professional degree level. It is especially difficult for publicly supported library schools to abandon the generalist library education program, as they are expected to educate and train librarians for all types of libraries within their states. Further, the development of specialized library education programs would best be accomplished through a national plan for library education. Although a number of writers have called for such a national plan, none is on the horizon.

It appears that the most likely changes to occur in the education of librarians are that (1) curriculum content will continue to be expanded to emphasize development of competence in the technologically oriented aspects of the information environment; (2) the number of credit hours required for the first professional degree will increase slightly; and (3) undergraduate education for information professionals—including education for library support staff—will be further developed and more closely articulated with first professional degree programs.

Library education curricula are in a period of scrutiny and change, and curricular change will continue to be the most characteristic element of library education through 1989. The inclusion of flexible course structures—such as Issues in Librarianship or Resources in Special Literatures—which will allow library educators to respond rapidly to changes in library and information science, will become essential elements in the curriculum.

Conclusion

The MLS has been part of library education for 81 of our 100 years. It has evolved from the almost total obscurity of very infrequent awards, to the point where it is today the credential for entry into the ranks of professional library practice. As such, it becomes the focal point of the various debates on the nature of librarianship (theory and practice; profession or not?), and library education expends considerable energy on determining the content and form of the various curricula leading to its award.

Given the changing nature of libraries, information, and society it seems inevitable that the MLS will continue to change. Certainly the
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curricula change and we are starting to see variations on the degree itself. The restructuring of 1926/27 was abrupt. The next transitional period—in the 1940s and 1950s—was more protracted. It is possible that we are entering an era of "continuous revision" as library education comes to grips with the new "information age" and that in our future no single degree will dominate as has the MLS in our past.

References

3. Ibid., pp. 75-76.
5. Ibid.
11. Register, p. 31; Carroll, The Professionalization of Education; and Pierce, Helen F. Graduate Study in Librarianship in the United States. Chicago: ALA, 1941. (Both note the first MLS degrees as going to Katharine Lucinda Sharp and William R. Eastman in 1907.)
12. According to the Register, the “Albany Eleven” are: Wyer (1905), Sharp (1907), Eastman (1907), Joseph L. Harrison (1912), Frank K. Walter (1913), John B. Kaiser (1917), Asa Wynkoop (1919), Joseph L. Wheeler (1925), Harriet C. Long (1925), Anne T. Eaton (1926), and Lucy Fay (1926).
18. Ibid., pp. 196-97.
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21. Ibid., p. 252.


23. Ibid.


28. Heim, Kathleen M. "Professional Education: Some Comparisons." In As Much to Learn as to Teach: Essays in Honor of Lester Asheim, edited by Joel M. Lee and Beth A. Hamilton, p. 131. Hamden, Conn.: Linnet, 1979. (Heim's article [on pp. 128-76] is recommended to all who desire a brief overview of the history of the development of education for these six work areas. Further, as her work pulls together widely scattered literature that forms the basis for a comprehensive comparative analysis of professional education in these fields, it is recommended to a scholar who would engage in such analysis.)

29. Ibid., p. 161. (The presentation of the material that follows is all taken from the Heim article.)

30. Ibid., p. 166.


580 LIBRARY TRENDS
The Changing Faculty Mandate

KATHLEEN M. HEIM

Introduction

"To Seek the Truth and Disseminate It"¹

Faculty are the critical component in all educational endeavors. Their worklife and styles of teaching determine the quality of their students' experience, the prestige of their institutions, and the advancement of their academic disciplines. Excellent faculty, working together, through research, curricular development, teaching and mentoring provide the basis for excellent education. In order to determine whether the future of library and information science education will be characterized by improvement and innovation it is necessary to determine the prognosis for the professorate in the field.

In 1986 faculty in schools of library and information science have three major responsibilities: research, public policy development, and teaching. During the century since the first formal educational program in the discipline was established the three responsibilities have had different degrees of primacy. This analysis of the role of faculty in schools of library and information science education will assay the historical record in order to demonstrate the changing faculty mandate.

Research should be the central activity of university faculty. Fifty years ago Robert Maynard Hutchins observed that "a university may be a university without doing any teaching. It cannot be one without doing any research."² By virtue of doctoral level study faculty have consciously

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prepared to conduct rational inquiry. Research advances knowledge and the active researcher naturally imparts new truths about the subject at hand. From a consistent commitment to a research agenda faculty members fulfill their responsibilities to students and public policy.

Effective public policy is the result of research applied. Medical discoveries that prevented smallpox or polio became the basis for public health rules and regulations; urban planning research identified the optimal social context for community involvement in Model Cities programs. The faculty member who develops theories on the economics of information, for instance, should, through published findings, scholarly presentations, and service on professional committees see that these findings influence policy development. Often faculty confuse the role of professional service with public policy development. It is not the role of faculty to sit passively on committees that set guidelines or standards for professional service, rather it is the faculty role to translate research to those committees to ensure that new policies are implemented in light of new facts and evaluated in terms of social impact. Bowen has observed that “the ideals of the academy are mostly radical ideals. Insofar as they are practiced, they are disturbing to superstition, prejudice, provincialism, ignorance, and discrimination—the enemies of change.”³ Activation of policy based on research requires that faculty confront the status quo and vigorously work to change it when the facts so mandate.

Teaching is the ongoing responsibility that provides the opportunity to pass on new knowledge, foster critical thinking, and instill a spirit of intellectual curiosity. Facts, attitudes, and a professional ethos are transmitted best by faculty active both in research and public policy development. However, professional school faculty are beset on one side by demands of students who want neatly packaged lectures and, on the other, by practitioners from the field who want “job-ready” graduates. Historically, the tendency has been for library and information science faculty to place teaching ahead of research and public policy responsibilities.

Today, as library and information science faculty move toward the normative university model, lack of research productivity is the sharpest criticism leveled. Ironically, at the outset of the institutionalization of education for librarianship, it was a tendency to be too theoretical that caused faculty to be criticized.
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The Apprenticeship Period to Williamson

"Trained Librarians Animated by the Modern Library Spirit"  

The apprenticeship was the prevailing mode of training for most professions during the early nineteenth century. University-affiliated programs of education for law and medicine, for example, were developed as parallels to proprietary education for physicians and clerkships for lawyers; social welfare did not offer formal training as an alternative to the apprenticeship until 1898. For each of these professions a combination of educational philosophies and societal needs moved the period of training from the apprenticeship model to formalization through guided study. So too was the case for library education.

Social and educational forces identified by White that laid the groundwork for formal development of education for librarianship include: (1) the growth of "public" libraries of all types during the nineteenth century (49 with 8000 volumes in 1800; 694 with 2,202,632 volumes in 1850; and 5082 with 12,276,964 volumes in 1876); (2) burden on the apprenticeship method due to increased need for skilled librarians to organize and maintain these growing collections; (3) identification of librarianship as a specialized occupation; and (4) the growing national need for education to support technical and scientific development that required diversely stocked libraries.

In her assessment of the training of librarians prior to the establishment of formal programs, Mary Wright Plummer identified trial and error, short visits to well-run libraries, and tuition paid experience under the tutelage of experienced librarians as typical patterns. Sarah K. Vann sums these methods up as "learning by intuition, by imitation, and by tuition," but observes that seeking guidance through inquiry which often led to an apprenticeship was likely the most common method.

From the time of the formation of the American Library Association (ALA) in 1876 to the establishment of the School of Library Economy in 1887 a body of literature was developed that, according to Vann, formed the nucleus of the reading program of formal training for librarianship. This literature included publications from the U.S. Bureau of Education (notably Public Libraries in the United States, which discussed administrative and technical aspects of library work); periodical literature in such publications as Library Journal, Library Notes, and the Library Chronicle (although earlier periodicals such as Norton's Literary and Education Register, the American Journal of Education, and Publishers' Weekly had, from time to time, published
articles on library work); individual library publications such as catalogs and rules; and private publications such as Guild's *The Librarian's Manual or Edwards's Memoirs of Libraries.*

This body of writing by active librarians coupled with informal apprenticeship opportunities they provided new entrants to the field set the standard for the composition of the faculties of the first library schools. Dewey's School of Library Economy as described in its circular of 1886-87 was modeled after practical experience and limited in scope to practical applications. It was designed to use systematic methods to produce the same competencies as an apprenticeship. Outside experts supplemented the practical training provided by library staff with lectures. The first faculties were a combination of working library staff and exemplary experts such as Hewins, Cutter, Poole, and Bowker who initially focused on best practice. However, Biggs has observed that Dewey intended to move from the narrow local orientation of the apprenticeship system to a broader, more progressive perspective.

The deliberations of American Library Association committees charged to monitor the new school reveal that at the outset of the formal library education movement there were diverse opinions on the direction this education should take. The ALA Committee on the School of Library Economy reported at the 1887 conference. Its chair, Samuel S. Green, warned that the school would need to avoid provincialism, exaggeration of the importance of instrumentalities, and the danger of educating graduates who might not recognize that the knowledge they gained in classes must be supplemented by experience. Critical comments by E.C. Richardson at the 1890 ALA conference focused on the school's attention to detail and suggested a broadening from library economy to library science.

At the 1892 conference the committee gave attention to general criticisms "from outsiders" that the school had been engaged in "theoretical teaching rather than practical work." One committee member approved of this approach noting that to an extent "theoretical teaching is the aim of the school, the idea being that, given a right theory, the proper accommodation to circumstances can easily be made." While Dewey asserted a practical approach the school was exhorted by some to take a more theoretical approach and by others to guard against it. From the beginning library school faculty have received strong signals from opposite camps as to the right approach.

Variant programs were established soon after Dewey's school proved successful. These included Pratt Institute (1890), the Los Angeles Public Library Training Classes (1891), Drexel Institute (1892),
The Changing Faculty Mandate

Armour Institute (1893), Syracuse University (1893), Denver Public Library (1893), Maine State College of Agriculture and Mechanic Arts (1894), the University of Chicago (1897), Cleveland Public Library (1898), and summer schools at Amherst and Madison Public Library. These programs were monitored by ALA committees and a central concern of the association's 1898 annual conference at Chautauqua was the education of librarians. Representatives from many of the programs presented reports and membership concerns were expressed.

At the 1900 conference the ALA Committee on Library Schools observed that the instructors were minimally educated. Only two-thirds of the Illinois faculty and 45.5 percent of the Albany faculty were college graduates. Neither Drexel nor Pratt had any graduates as full-time faculty.16

In 1903 the ALA Committee on Library Training reported results of questionnaires sent to library education programs. Programs were categorized as "winter schools," "summer schools," "apprentice classes," and "correspondence courses." The "winter schools" were those programs which employed regular faculty and their data provide some basis for describing the faculty of the time. Of the faculty teaching in schools offering "winter courses" most were judged qualified on the basis of their own education in library schools. Schools were criticized that did not employ faculty with formal library training.17

The 1905 report of the Committee on Library Training suggested standards for training that included suggestions about faculty. For "winter schools" it was recommended that one-third of the faculty be trained in a recognized library school while the other two-thirds have practical experience or wide academic training; that one-third have experience in libraries other than that connected with the school; that one-half or one-third give their entire time to the school; and that instructors keep in close touch with actual library work, possibly through regular library duties.18

In 1906 the Committee on Library Training firmed up standards by a majority vote and accepted five criteria for instructors: (1) one-third to have been trained and graduated from a recognized library school; (2) one-third to have experience in libraries other than those connected with the school; (3) some to have library duties; (4) one instructor to every ten students in laboratory work; and (5) one-sixth of students' time to be practical library work under supervision.19

In 1907 library school faculty first met together at the ALA Asheville conference. This and following meetings resulted in establishment of a "Section on Professional Training for Librarianship" within ALA.
in June 1909. Early records indicate that discussions were on matters relating to school-related topics such as the scope of the curriculum, textbooks, or apprenticeship training rather than on qualifications of faculty.

By 1915 library educators decided that a more permanent and separate organization was required. The new Association of American Library Schools (AALS) held its first meeting in June 1915. Membership was limited to schools requiring high-school graduation for admission, offering a full academic year of general work, employing two full-time instructors, and with at least two faculty members who had at least one year of training in a similar library school. Davis sees the provisions for faculty preparation as indicating a stronger position than the 1906 ALA Committee on Library Training had advocated. However, since adherence to these standards would have meant that charter members formerly represented in the ALA group could not belong, the constitution was amended to allow a more liberal interpretation.

Strong criticism of the schools from the profession emerged after the formation of the AALS engendered, in part, perhaps by the organization of the schools into a separate association. Faculty were cited by library leaders for lack of subject knowledge, lack of interest, lack of organizational skills, and failure to inspire. They were also criticized for poor teaching skills and lack of contact with the field. As the schools began to forge an identity separate from the ALA other forces were at work that would affect faculty role and composition.

Professional education of all types was under examination by the Carnegie Corporation and the Carnegie Foundation for the Advancement of Teaching during 1910 through 1920. Both medical and legal education were carefully scrutinized by designated investigators. In the same spirit library education was targeted by the corporation for scrutiny.

The impetus for the Carnegie-funded study of library education came from Alvin S. Johnson's *A Report to Carnegie Corporation of New York on the Policy of Donations to Free Public Libraries* (1916) in which he observed the poor quality of staffs of libraries funded by Carnegie monies. Two years later the Carnegie Corporation Secretary, James Bertram, appointed Special Libraries Association President, C.C. Williamson, to meet with librarians and to draft suggestions for library training.

After attending the 1918 ALA conference at Saratoga Springs, Williamson reported on the need for improvements in library education in *Library Journal*. During 1920 to 1921 he gathered information and
made site visits to fifteen schools. The result of his analysis was a comprehensive confidential report to the Carnegie Corporation in 1921. A later version, which edited out all recommendations solely for the Carnegie Corporation, was published in 1923. The two reports did not differ substantially vis-à-vis comments on "The Teaching Staff."

Williamson to Wilson

"A Quite Definite Lack of Fitness"§

In his report, Training for Library Service, Williamson observed that an analysis of the staffs of library schools indicated a "quite definite lack of fitness of a large proportion of them for giving instruction of high professional character to students with college or university education." 27 Only slightly more than half of the schools' instructors had degrees. Williamson noted that the bachelor's degree was the minimum essential for teaching above the elementary-school level and that no high school would be considered acceptable if half the teachers were without college degrees.

Williamson reported that 81 percent of the instructors had had library school training but that 42 percent of these were teaching at the school at which they were trained. Such a pattern, in Williamson's eyes, made for "inbreeding and a certain imperviousness to new ideas or methods." 27

The Williamson report provided a plan for change in library education. It advocated placement in universities; establishment of a national certification board; and improvement of faculty, curriculum, and instruction.

Another report prepared for the Carnegie Foundation for the Advancement of Teaching by William S. Learned, The American Public Library and the Diffusion of Knowledge, also focused on the need for the education of librarians to be "associated with comparable professional curricula in the universities." 29 Both the Williamson and Learned reports provided information for the Carnegie Corporation to extend its library commitment to the education of librarians.

In 1925 Frederick P. Keppel, president of the Carnegie Corporation, wrote the ALA Secretary, Carl Milam, of the corporation's intent to support scholarships and a "graduate school of librarianship to be an integral part of an American university." 30 Carnegie funds supported the ALA's Temporary Library Training Board to assist in its development of a response to the Williamson report. The response provided for the Board of Education for Librarianship (BEL) which would accredit schools of library education.
In 1925 the BEL devised minimum standards for four types of schools: junior undergraduate, senior undergraduate, graduate, and advanced graduate. The next year the Carnegie Corporation adopted a "Ten-Year Program in Library Service" with funds allocated to support existing schools, establish a new type of graduate school, and support the ALA.31

It was Carnegie support of the "new type of graduate school" that had the most far-reaching implications for a changing role for faculty. Discussions and plans on the need for a graduate school were generated by such diverse groups as the Chicago Library Club; Washington, D.C.-area librarians; and the New England Librarians' Committee on Graduate Training of College Library Assistants.32

The decision to locate the new-type school at the University of Chicago was not simple, as Richardson has pointed out in his dissertation, "The Spirit of Inquiry in Library Science: The Graduate Library School at Chicago, 1921-1951." When Ernest DeWitt Burton, librarian at the University of Chicago, was appointed acting president of the university in 1923, his assignment of responsibility for designing a graduate library school fell to Edward Henry. Henry, according to Richardson, was the first to address a university model of education for librarianship.33

The first dean of the new Graduate Library School (GLS) at the University of Chicago was George Alan Works whose definition of objectives clearly moved education for librarianship away from the practical mode. He defined the primary purpose of the GLS to be, "to organize and conduct investigations of problems confronting society in general or in particular fields of scholarship when such problems fall within the field of librarianship."34 He also noted in an address to the College and Reference Section of ALA in 1927 that a primary objective of library education should be research.35 As to faculty responsibilities in the new school Works was quite clear, "staff members will have the necessary freedom for research...they will also face the fact that they will be expected to be productive."36 Works's intention was to bring together a group of scholars prepared by interest, experience, and methodological skill to investigate actively in research areas such as adult education, habits of reading, principles of cataloging and classification, or municipal administration.37

However, the faculty of scholars, strong interdisciplinary program, and objective of extending the boundaries of knowledge in the field of librarianship did not sit well with ALA. Carl Milam and Sarah Bogle characterized the new school to the Chairman of the BEL as a "failure."38 Works's defense of the graduate school, as intended to extend
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boundaries of knowledge through research, contrasted sharply with the BEL's conception of the graduate school as a mechanism for passing on useful principles of library practice. Richardson concluded that Works felt the pioneering effort at the GLS was not appreciated by the profession and the ALA headquarters staff wanted immediate practical results. Works's resignation in July 1929 was partly the result of the conflict between his idea of a research school and ALA's desire for a high-level training school.

In response to a letter from Mary E. Ahern, editor of Libraries, Works warned of the danger of associations dictating GLS policies and asserted: "The School can stand only for truth...it had been placed at the University of Chicago and that institution should be free to develop it in accord with its ideals of research." After Works's resignation four individuals served as acting dean at the GLS but Works's goals were upheld. In the first issue of Library Quarterly GLS faculty member Douglas Waples enumerated these as (1) establishing librarianship as a legitimate field for graduate research; (2) clarifying the distinction between valid evidence and conventional assumptions regarding values and methods of library administration to the library profession; (3) training experienced librarians to direct studies in public library administration; (4) increasing the competence of instructors in library schools who are qualified to increase the professional content of the training courses as opposed to present content which is largely clerical; (5) organizing source material pertinent to library problems; and (6) to produce, select, and publish significant investigations.

The profession's attitude toward these goals was made clear at a meeting of the American Library Institute in July 1931. To the question, Do we want a library science? speaker C. Seymour Thompson stated: "No, we do not want librarianship to be a science. Let it be an art; a Fine Art, untouched by science." Thompson's statement was met with thunderous applause by the audience, although Louis R. Wilson, Pierce Butler, and Charles C. Williamson spoke in rebuttal. In a counter-argument that appeared in Library Journal, Waples defended the different roles of the researcher and practitioner and stated that the topic was "perhaps the most significant issue confronting the profession today."

The nature of the fight to gain acceptance of research as the proper concern of graduate library education is an indicator of the slow development of library science faculty along the university model. The Williamson report had asserted the need for library science faculty to be college graduates. Less than a decade later the argument for true
research was forwarded on the basis that faculty desiring to function along the lines of a university model must perform in accordance with the norms of university careers.

Apart from the debate that flourished around the GLS, the BEL was continuing its work in helping to reorganize personnel development for American libraries. However, in his assessment of the board's first five years, White has observed with surprise that the BEL "showed no interest nor inclination toward developing library schools as centers of research."46 Instead the focus was on curriculum issues and standards.

Revised standards for library education programs issued in 1933 focused on a full year of professional study as the attainable minimum. They allowed more discretionary local initiative for the administrators of programs. The inequities of the 1925 standards were corrected, the basis of classification of schools was changed, and a single standard was used for rating purposes. White sees the period following the 1933 standards as a time when library schools came to terms with research and recognized that the problem was not that there weren't questions to be answered but that there was a lack of training in how to conduct research projects.47

Ernest J. Reece's 1936 study, *The Curriculum in Library Schools*, made the distinction between the caretaker/purveyor and the true librarian. The distinction was cut along lines of the ability to use and apply research or not.48 Reece elaborated on this distinction in his chapter, "Variations, Extensions and Abridgments of the Curriculum." By "extensions" Reece meant studies "analogous in a measure to the after-graduation study of the medical specializations."49 His list of matters appropriate as extensions to the basic curriculum included techniques applicable in investigating objectively the reading practices of a clientele, the value and effectiveness of books, the number and location of service points, and analysis of routine operations.50

Reece noted that faculties of library schools were originally practitioners and that familiarity with library processes was their outstanding characteristic but that other qualities now demanded consideration. However, his emphasis was on good teaching rather than good research.61 Nevertheless, Reece's identification of research skills as a requisite for librarians who would be more than caretakers and his argument for a better quality of instruction emphasize the general change of attitude toward library education and the role of faculty that was taking place at the half-century mark of formal library education.
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Wilson to the 1951 Standards

"Further Advance is Necessary\textsuperscript{52}

In 1937 the editors of the Library Quarterly formally recognized the fiftieth anniversary of education for librarianship with a special issue. Louis R. Wilson, dean at the GLS, reviewed changes that had taken place since 1887 and appraised the status of library schools at the half-century mark.

By 1936 all of the schools (twenty-six) accredited by the BEL were connected to teaching institutions. A survey sent to 169 faculty which yielded 140 usable returns found that 92 percent held at least the bachelor’s degree—a sharp contrast to Williamson’s report fifteen years before when only 52 percent of the faculty were college graduates.\textsuperscript{53}

In his remarks on advanced study and research Wilson noted that three developments had made this possible: (1) closer integration with study in other university departments, (2) the growing conviction that experimentation and investigation are essential to the cultivation of understanding in the library field, and (3) publications by the schools or through the supporting institutions on the same terms as other faculties. Wilson stated that such publications marked the beginning of sustained, full-length critical examinations of library situations.\textsuperscript{54}

Wilson’s concluding observation on faculty was that in spite of gains since the Williamson report, “further advance is necessary.”\textsuperscript{55} The beginning that had been made in graduate study, investigation, and publication required support for those aspects of advanced study relating to the library’s governmental and financial relations, its function as an educational force, and its significance as a social institution.\textsuperscript{56}

Leon Carnovsky explored the rationale for graduate study in librarianship with examples of utilitarian aspects of library study.\textsuperscript{57} Carnovsky went on to argue for an approach to library problems that opened the way to stimulating investigation. He concluded his essay:

Librarianship as a field of research is still a relatively untried discipline. The opportunity for implementing it with significant investigations looms large before those who would be pioneers, provided they are willing to cast off too conventional modes of thought and have the courage to break new ground.\textsuperscript{58}

In his analysis, The Shaping of American Library Education, which covered events to 1939, Churchwell described tensions between those who felt enrichment of the first-year book-centered curriculum was endangered by the trend of graduate study to focus on research.\textsuperscript{59} In light of this tension the insistence on research by the University of Chicago
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faculty was critical. Carroll has asserted that the GLS contributed more to the professionalization of the librarian’s education than any other single factor. 60

The focus so far has been on the struggle to create research as a goal of library education. Actual data on faculty have simply quantified educational preparation and found it lacking vis-à-vis the preparation of faculties in other university departments. It does seem safe to assert that at the fifty-year mark little had been done—outside of the University of Chicago—to ensure that faculty had research capability in addition to practical experience.

In 1940 a special meeting of the AALS and BEL was held at the University of Chicago in connection with the university’s fiftieth anniversary celebration. At that meeting Charles H. Compton of the BEL noted that among the contributions of the GLS were application of the techniques and methods of research to the special problems of librarianship; and development in members of the library profession of the ability to analyze problems, evaluate findings objectively, and arrive at solutions. Compton also pointed out the value of these contributions to other library schools insofar as GLS-educated faculty had joined their staffs. He concluded with the observation of the change of the profession’s attitude to the GLS from initial skepticism and indifference to respect and admiration.61

At the same meeting Dean Wilson listed one of GLS’s objectives to be the training of a number of students to teach and carry on investigations in light of guiding principles and a theory of library science.62 That this was so was corroborated by Harriet Howe who reported that by 1942 over half of the (then thirty) accredited library schools had faculty who had studied or graduated from the University of Chicago.63

Dean Wilson also listed “the development within its students of a critical and experimental attitude toward librarianship” as an objective the GLS would continue to emphasize insistentely.64 Clearly the intention that students of the GLS would become familiar with procedures of investigation and experimentation meant that at the GLS (or any school with similar aspirations) the faculty would be required to exhibit strong skills in these areas as well.

Three years later Keyes D. Metcalf, John Dale Russell, and Andrew D. Osborn published The Program of Instruction in Library Schools.65 The report noted that few instructors in library schools had prior experience in teaching and if they did it was at the secondary level.66 Good teaching was seen as lacking. However, the comment that “too often in the selection of instructors the emphasis is placed chiefly on academic preparation and ability to do research,”67 seems ironic in the
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face of the GLS imperative to further the field along investigative lines. Schools were also criticized by Metcalf for excessive inbreeding.

The Metcalf report also stated that if second-year library work was to be successful, faculty had to be engaged in research work. Students at this level had to have the opportunity to work with faculty who were advancing knowledge in their field by research and investigation. No teacher should be assigned to a second-year course who is not actively doing research in the field in which the course lies.68

According to the Metcalf report the measure of the faculty should be determined by their scholarly contributions to their field of research and teaching. A high rate of scholarly productivity was associated with “intellectual alertness, leadership in the subject field, and awareness of current trends.”69

The report compared productivity of public North Central Association faculties of four of the best library schools. Over a five-year period the former produced .87 books and 5.1 articles; the latter only .23 books and 3.4 articles. The low productivity of library school faculties was of concern to the writer of the report who laid the blame on hiring policies that emphasized practical experience over scholarly outlook.70

A 1946 report by Joseph L. Wheeler funded by the Carnegie Corporation stated that a general improvement had taken place in teaching. Wheeler noted that thirty-eight faculty, including nineteen holding the Ph.D., had trained at Chicago.71 He commented that “the Chicago school has been instrumental in improving teaching standards through the fresh, more critical and scholarly viewpoints its graduates have carried into other library schools.”72

Later that year J. Periam Danton issued a short paper, “Education for Librarianship: Criticisms, Dilemmas, and Proposals,” in which he counted among the chief criticisms of library education the fact that faculties (with a few exceptions), by virtue of academic and professional training, were incapable of “envisioning, directing, and carrying out” a program of education that emphasized the professional and intellectual aspects of librarianship.73 Information Danton developed from catalogs showed that fewer than one-fifth of the faculties had earned the Ph.D. in 1945-46. Danton noted that the improvement over the last fifteen years did not invalidate criticism made in the BEL Annual Report of 1929-30 that faculties were not competent to teach research work to students.74 Even harsher was his observation that faculties had not kept pace with the standards of preparation required generally for college and university faculties.

The conference, “Education for Librarianship,” held at the University of Chicago in August 1948 marked the twentieth anniversary of
the GLS and was described by Bernard Berelson as an occasion to review the objectives, methods, and problems of education for librarianship during a period of reorientation.\textsuperscript{75}

In his discussion of the role of the library educator Louis Wilson noted that the profession had reached the point where it needed the theoretician who had not been repressed by the defeatism of the field worker.\textsuperscript{76} Harriet E. Howe continued the discussion of faculty with an analysis of those teaching at the eight schools then offering a master's as a fifth-year degree.\textsuperscript{77} Thirty-two percent of the faculties of the schools she examined held the Ph.D.—a sharp contrast with Danton's 1946 survey of all schools that found only 18.2 percent of the faculty with the doctorate.\textsuperscript{78} The effect of the move toward the master's degree as the standard was clearly affecting faculty preparation. Nearly twice as many faculty at the schools offering the master's had earned the Ph.D.

In his summary remarks at the conference, Danton observed that insufficient attention had been paid to library school faculties. He assessed the tenor of the discussion as implying that higher degrees were not of great importance when compared to inspirational teaching. He went on to assert that this was dangerous, sophistic self-deception. Danton contended that schools that appointed individuals with a bachelor's degree only should be censured and that one of the reasons library schools have not achieved everything hoped for them, including academic acceptance, stemmed from the fact of the inadequate educational preparation of faculties. A great university, in Danton's estimation, above all was made by "the presence of men and women who are at once outstanding teachers, productive scholars, and great personalities."\textsuperscript{80} He concluded that the accomplishments of American libraries would be precisely as great as the quality of students educated at American library schools and the quality of the faculty that taught those students.\textsuperscript{81}

Thus, at the beginning of the 1950s, the most thoughtful proponents of quality education for librarianship had successfully established research and experimentation as the hallmark of faculty at the best schools. This perception meshed well with the BEL's concurrent development of new minimum standards for library schools that took place in 1950-51. It was fitting, given his strong views on the need to improve the faculty, that J. Periam Danton presided over the first open meeting on new standards development at the 1950 Cleveland conference.

The following year at the 1951 Chicago conference new standards plus a "Statement of Interpretation" were adopted. Under these standards the BEL was authorized as the accrediting body for schools of
librarianship. Carroll sees the 1951 standards as bringing library educa-
tion to maturity and placing it on parity with other professional fields. With these standards the master's degree was firmly established as a full year of largely theoretical studies which attempted to generalize and professionalize the traditional techniques.82

However, in spite of the agreed-upon theoretical direction of library education, the standards were vague on faculty requirements. A bachelor's degree and "professional education beyond the basic curriculum offered by an accredited library school" or "equivalent academic and professional preparation and experience" were the only descriptions of faculty preparation included in the standards.83

Insofar as the role of research by faculty was addressed in the standards, the statement included was:

Research capacity as evidenced in active research or contributions meriting professional recognition and participation in professional projects of more than local importance. At least part of the faculty should be so engaged at all times.84

The standards also required that only faculty capable of producing research or contributions meriting professional recognition should direct student research. These statements permitted schools to equate professional service with research. They also equivocated on research capacity as a requirement for all faculty.

However, the fact that the standards alluded to research activity as desirable for faculty indicates a great advance over the early conceptualizations of faculty role. At the point of the 1951 standards, the desired norm was the university model, though the standards hedged on this to some degree in deference to the status quo.

Library and Information Science Faculty at the Graduate Level

"Faculty Will Inevitably be More Active in Research"85

Twenty some years after the 1951 standards had squarely placed education for librarianship at the graduate level, Herbert Goldhor in 1973 optimistically stated: "It is confidently predicted that library school faculty will inevitably be more active in research than they are now."86 From the 1951 standards to 1972, library education had twenty years to function within the university context. A decade after these standards were in place the ALA's Commission on a National Plan for Library Education generated interest in the need to reassess the spectrum of personnel concerns for the field. A $75,000 H.W. Wilson grant to support an enlarged ALA program in library education was awarded
the association in 1965 and the Office for Library Education (OLE) was established.

Among the achievements of the OLE were a refinement of accreditation procedures and revision of the 1951 standards. These standards, adopted in 1972, reaffirmed the principles of the 1951 standards but required each school to have goals and objectives against which it could be measured. They were also more qualitative in order to foster imaginative, individual, and flexible programming.

The 1972 standards stated that faculty should be academically qualified for appointment to the graduate faculty within the institution. Required as a group were diversity; substantial and pertinent library experience; advanced degrees from a variety of institutions; specialized knowledge covering subjects in the school's curriculum; a record of sustained productive scholarship; aptitude for educational planning, administration, and evaluation; and close liaison with the field. Individuals were expected to have an aptitude for research.

Although the 1951 standards took the same approach to faculty requirements as the 1972 standards, Goldhor's statement—made after the 1972 standards were adopted—indicated that progress toward the goal of research productivity had not been satisfactory. In his assessment of the twenty-year period from the 1951 to the 1972 standards, William Summers predicted that the expansion of doctoral programs was the most significant event of the period.

In their analysis of the state of the faculty as it stood in 1974, Houser and Schrader used the low percentage of Ph.D.s in the field as proof that the profession preferred experience to a research orientation among its faculties. On this dimension, however, the faculty has steadily improved. At the time of the 1972 standards under half of the faculties had the Ph.D. degree; by 1985 over three-fourths did so (see table 1).

The steady improvement in the percentage of Ph.D.s in schools of library and information science does not prove, in and of itself, that faculty—in the aggregate—have taken on a research orientation, but it does indicate that the majority have prepared to do research through doctoral study.

In the 1970s several assessments of various dimensions of library and information science faculties were conducted. A dissertation by Ruth Margaret Katz, "Library Education and Research: An Analysis of Institutional and Organizational Context," examined two subsystems of librarianship—library education and library research—at their point of intersection in the university setting in order to determine the extent to which library educators were integrated into the university environment and to assess the effect of library education on the development of
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TABLE 1

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of Programs</th>
<th>Total Faculty Surveyed</th>
<th>Education</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920-21</td>
<td>12</td>
<td>100</td>
<td>Bachelor's 52 (n = 52)</td>
<td>Charles C. Williamson, <em>Training for Library Service</em>, 1923, p. 35</td>
</tr>
<tr>
<td>1936-37</td>
<td>26</td>
<td>140</td>
<td>Bachelor's 92 (n = 129), Master's 46 (n = 64), Ph.D.s 10 (n = 14)</td>
<td>Louis R. Wilson, &quot;The Today,&quot; <em>Library Quarterly</em> 7 (April 1937): 231.</td>
</tr>
<tr>
<td>1945-46</td>
<td>30</td>
<td>148</td>
<td>No degree 1.4 (n = 2), Bachelor's 2.7 (n = 4), Bachelor's &amp; BLS - 29.7 (n = 44)</td>
<td>J. Periam Danton, <em>Education for Bachelor's &amp; Librarianship</em>, New York: Columbia, 1946, p. 10</td>
</tr>
<tr>
<td>1966-67</td>
<td>38</td>
<td>325</td>
<td>Ph.D. 33.2 (n = 108)</td>
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</tr>
<tr>
<td>1972-73</td>
<td>57</td>
<td>640</td>
<td>Ph.D. 46.7 (n = 298)</td>
<td>&quot;</td>
</tr>
<tr>
<td>1978-79</td>
<td>63</td>
<td>689</td>
<td>Ph.D. 65.9 (n = 454)</td>
<td>&quot;</td>
</tr>
</tbody>
</table>
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library research. Katz surveyed faculty at accredited schools in 1972 and social and political science faculty at the same parent institutions in order to measure goal congruence or at least shared criteria among the members of the disciplines. She discovered that library and information science faculty spent far less time in research-related activities than did their colleagues in the social and political sciences. For instance, while 78 percent of the social and political faculties had engaged in nondissertation-related research as a primary activity over the six-month period prior to receiving the questionnaire, only 41 percent of the library and information science faculties with doctoral programs and only 20 percent at those without doctoral programs had done so. While 96 percent of the social and political science faculties were engaged in research at the time of the questionnaire receipt, only 72 percent of library and information science faculty at doctoral granting institutions and 65 percent at nondocoral-granting institutions had done so. Of the social and political science faculties, 68 percent had applied for a research grant but only 51 percent of the library and information science faculties at doctoral-granting schools and 27 percent at nondocoral schools had done so.

Katz's survey took place about the time of the 1972 standards. Her speculations that library and information science faculties could institutionalize their research effort through joint programs, greater concentration on information science, and development of a research agenda (as opposed to episodic and unrelated research) seem to be more likely today than at the time of her study. While a true measure would require replication of Katz's work another piece of evidence—the "Curriculum" reports in the annual statistics gathered by the Association for Library and Information Science—indicates that the joint program aspect she advocated is developing. In 1984, fifty-eight schools offered joint-degree programs in diverse areas such as computer science, history, law, business, biology, chemistry, agriculture, pharmacology, and pharmacy. Presumably, faculty interaction required to establish these cooperative programs points to growing involvement with other academic disciplines.

Joseph Z. Nitecki analyzed subject interests of faculty based on the 1974 Directory of the Association of American Library Schools. He found that the top faculty subject interests at accredited schools included "library organization and administration" (11.2 percent), "special literature and materials" (8.8 percent), "reference" (6.7 percent), and "bibliography" (6.5 percent). Based on the high ranking of "information science" and "research methods" (both 5.1 percent),
Nitecki concluded that the accredited schools were more theoretical and technical in orientation than the associate member schools at which fewer than 4 percent of the faculties claimed these specialties. A similar analysis conducted using the 1984 *Directory of the Association for Library and Information Science Education* shows a great increase in the number of faculty teaching in these "theoretical" areas. In 1984, 22 percent of the faculties listed "information science" as an area of interest and 22.4 percent listed "research methods." While there is no hard evidence that proves that faculties as a whole are more theoretical in outlook in 1984 than in 1974, the trend to list these areas as specialties is up sharply.

For instance, according to curricula data gathered in 1984-85, new courses in information technology continued to lead all other new areas. The implication is, of course, that it is in these areas that new faculty specializations are occurring. For instance, according to curricula data gathered in 1984-85, new courses in information technology continued to lead all other new areas. The implication is, of course, that it is in these areas that new faculty specializations are occurring.

It seems to be safe to predict that this trend will continue. A survey of deans and directors of schools of library and information science conducted in 1985 requested information on subject specialties in which the administration would seek to hire with one, two, and three additional positions. The results do not take into consideration the subject interests of current faculties but demonstrate in what areas administrators would expand their faculty subject strengths. Table 2 lists subject specialties in ranked order as indicated by deans and directors at forty responding schools. Three points were given specialties that ranked highest, two to those ranked second, and one to those ranked third (six points total per respondent). Several schools indicated only one choice for additional faculty so the scores do not add up to 240. Responses are provided for doctoral and nondoctoral programs. Although approximately one-third of the accredited schools did not respond to the survey, the results are still good indicators of the deans' and directors' perceptions of the directions needed for faculty subject concentrations.

Overall, "information science" scored highest followed by "information resources management," "children's services," and "public libraries." When the rankings are separated by doctoral and nondoctoral programs (as in table 3) the results indicate a different set of priorities among those schools that grant the Ph.D. While the doctoral-granting institutions' choice of specialties seems to be more inclined toward the theoretical aspects of the library and information science disciplines, too much ought not to be made of the divergence. Many of the nondoctoral schools have much smaller faculties than the doctoral-granting institutions and it may be conjectured that a cadre of faculty to
TABLE 2
FACULTY SUBJECT SPECIALIZATIONS FOR ADDITIONAL POSITIONS AS IDENTIFIED BY ADMINISTRATORS (weighted 3 for top choice, 2 for second, 1 for third)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Specialty</th>
<th>Ph.D. Granting Schools</th>
<th>Other Accredited</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Information Science</td>
<td>16</td>
<td>36</td>
<td>52</td>
</tr>
<tr>
<td>2</td>
<td>Information Resources Management</td>
<td>8</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>3.5</td>
<td>Children's Services</td>
<td>1</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>3.5</td>
<td>Public Libraries</td>
<td>1</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>5</td>
<td>Information/Communication Technologies/Telecommunications</td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>6.5</td>
<td>Economies of Information</td>
<td>8</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>6.5</td>
<td>Technical Services</td>
<td>3</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>8</td>
<td>Special Libraries</td>
<td>—</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>9.5</td>
<td>Records Management</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>9.5</td>
<td>Database Construction/Online Services</td>
<td>—</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>12.5</td>
<td>Conservation and Preservation</td>
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<td>4</td>
<td>6</td>
</tr>
<tr>
<td>12.5</td>
<td>Cataloging</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>12.5</td>
<td>Management</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>12.5</td>
<td>Natural-Language Processing</td>
<td>6</td>
<td>—</td>
<td>6</td>
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<tr>
<td>15</td>
<td>Health Sciences</td>
<td>2</td>
<td>2</td>
<td>4</td>
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<tr>
<td>18</td>
<td>Academic Libraries</td>
<td>—</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>Information System Theory</td>
<td>—</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>Management Information Systems</td>
<td>3</td>
<td>—</td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>Media Services</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>Information Analysis</td>
<td>—</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>22</td>
<td>Man-Machine Communication</td>
<td>2</td>
<td>—</td>
<td>2</td>
</tr>
<tr>
<td>22</td>
<td>Sociology/Psychology of Information</td>
<td>2</td>
<td>—</td>
<td>2</td>
</tr>
<tr>
<td>22</td>
<td>Communication Theory</td>
<td>—</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>26.5</td>
<td>Collection Management</td>
<td>—</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>26.5</td>
<td>Research Librarianship</td>
<td>1</td>
<td>—</td>
<td>1</td>
</tr>
<tr>
<td>26.5</td>
<td>Archives</td>
<td>—</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>26.5</td>
<td>Reference</td>
<td>1</td>
<td>—</td>
<td>1</td>
</tr>
<tr>
<td>26.5</td>
<td>Serials</td>
<td>—</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>26.5</td>
<td>Information-Seeking Behavior</td>
<td>—</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
cover the basics must be in place before schools can plan for a more theoretical set of specialties.

In spite of a growing percentage of library and information science faculty with the doctorate, a greater emphasis on interdisciplinary programs, and increased faculty specialization in more theoretical rather than practical subject areas, Pauline Wilson contended in 1979 that there was yet insufficient research in library schools because library educators have not yet been fully socialized to their role as the academic segment of a profession and as a university faculty. Wilson proposed that research be undertaken to examine library and information science faculty performance through the use of self-studies and annual reports prepared for the ALA's Committee on Accreditation. Lines of inquiry suggested by Wilson included: (1) the number and kinds of doctorates held by the faculty on the assumption that a school's research environment can be deduced from the percentage of faculty holding the doctorate, (2) quantity and quality of publication, (3) the colleague environment, and (4) the level of faculty goal displacement from the substitution of association activity for publication activity. The ambitious proposal outlined by Wilson would provide baseline data for accountability among faculty in schools of library and information science education. However, while such a comprehensive report has not yet been produced, some of Wilson's proposed lines of inquiry are taking a clearer focus. It has already been shown (in table 1) that the percentage of faculty holding the doctorate is steadily increasing. Monitoring the ALISE report will provide longitudinal data for this variable.

TABLE 3
COMPARISON OF TOP FOUR RANKED DESIRED SPECIALTIES FOR DOCTORAL AND NONDOCTORAL SCHOOLS
(Data taken from Table 2)

<table>
<thead>
<tr>
<th>Doctoral Schools</th>
<th>Nondotalor Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Information Science (16)</td>
<td>1 Information Science (36)</td>
</tr>
<tr>
<td>2.5 Information Resources Management (8)</td>
<td>2.5 Children's Services (15)</td>
</tr>
<tr>
<td>2.5 Economics of Information (8)</td>
<td>2.5 Public Libraries (15)</td>
</tr>
<tr>
<td>4 Information/Communication</td>
<td>4 Special Libraries (11)</td>
</tr>
<tr>
<td>Technologies and Telecommunications (7)</td>
<td></td>
</tr>
</tbody>
</table>
Information on publication quantity and quality are difficult to organize but through citation analysis it is possible to profile a reasonable rate and impact factor as shown by Robert M. Hayes in his article which used citation statistics from *Social Sciences Citation Index* to search 411 tenured library and information science faculty members' names from 1966 through 1970, 1971 through 1974, and 1976 through 1980. After carefully qualifying factors that complicate the use of the data, Hayes reported an average publication rate of 7.85 for professors and 4.18 for associate professors over the fifteen years. Citation rates were 36.32 and 8.56 respectively. Hayes's study, in spite of the cautions he points out, is a valuable example of the availability of such information. It provides data that may be compared to other disciplines. However, cross-disciplinary comparison in order to gauge relative standing vis-à-vis publication rate and citations is fraught with complexity. To take just one example, Kroc analyzed fifty-one schools of education in 1981 to derive mean citation rates for one year only. In his study the mean citation rate was 6.02 for his sample which included 28,000 citations for 4600 faculty while Hayes's fifteen-year sample was for 9264 citations for 411 faculty.

A different cross-disciplinary approach was taken by Wallace who compared the use of statistics in ninety-nine journals from library and information science, education, social work, and business selected for their impact factors. Wallace suggests that a possible indicator of the degree to which a field has embraced the scientific method is the orientation of research methodologies represented in the literature of the future. To analyze this he classified articles in selected journals as to their use of statistics ("no statistics," "descriptive statistics only," and "inferential statistics"). Individual counts were made for articles that used correlation, regression, analysis of variance, chi-square, and t-tests. He found that in 1981 library and information science authors made the least frequent use of inferential statistics among the four fields analyzed. Education was 31 percent, business 26 percent, social work 18 percent, and library and information science 6 percent.

Reasons suggested by Wallace for the small percentage of articles using inferential statistics in the library and information science journals include less emphasis on research and quantitative methods in the master's-level curricula than the other disciplines examined; substantial numbers of faculty in library and information science who are not research-oriented and do not provide research-oriented role models; lack of funding for research; or a different orientation.
The Changing Faculty Mandate

Hayes and Wallace studied aspects of the research endeavor from 1966 through 1980 and 1981 respectively. During the period examined by Hayes the percentage of faculty holding the doctorate increased from 33.2 percent to 70.8 percent; at the time examined by Wallace the percentage holding the Ph.D. was 70.8 percent. Today the faculty holding the Ph.D. degree is 77.9 percent. Since few new faculty positions are being filled by nondoctoral-degree holders it seems safe to assume that the percentage of faculty with the research degree will increase. While holding the doctoral degree cannot be clearly correlated with increased research productivity (or even increased rigor as measured by Wallace) there is little doubt that in the aggregate the increase of Ph.D. faculty will positively affect the total research picture.

Since the 1972 standards were adopted there has been an increase in articles and studies of the role of research among faculties of library and information science programs. These have included raw counts of degrees, citation analyses, methodological analyses, and attitudinal surveys. Taken together these efforts to assess the quality of faculty productivity have underscored the need for library and information science faculties to function in accordance with university norms rather than in response to field-driven priorities.

It is not clear at what point we will be able to say with confidence that library and information science faculty, taken as whole, are functioning at an acceptable level as measured against all of academe. Disciplinary differences in funding patterns and availability of research support will continue to affect the overall picture. However, as library and information science education enters its second century it can be cautiously predicted that by objective measures the preparation of the professorate and the internalization of academic rather than field norms will contribute to the development of a professorate that is more consistently trying to seek and disseminate the truth than it has been inclined to do in the past.

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KATHLEEN HEIM

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39. Ibid., p. 158.

40. Ibid., p. 139.

41. Ibid., p. 147.


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The Changing Faculty Mandate

44. Richardson, "The Spirit of Inquiry," p. 188.
45. Ibid., p. 192.
47. Ibid., p. 215.
49. Ibid., p. 102.
50. Ibid., pp. 104-06.
51. Ibid., pp. 174-75.
53. Ibid., pp. 231-32.
54. Ibid., p. 240-41.
55. Ibid., p. 245.
56. Ibid.
58. Ibid., p. 261.
64. Wilson, "Objectives," p. 21.
66. Ibid., p. 35.
67. Ibid., p. 72.
68. Ibid., p. 91.
69. Ibid., p. 123.
72. Ibid., p. 77.
74. Ibid., p. 11.
80. Ibid., p. 296.
81. Ibid.
83. Ibid., pp. 316-17.
84. Ibid.
86. Ibid.
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93. Ibid., pp. 133-34.
103. Ibid., pp. 407-08.
ALMOST FROM THE TIME that Melvil Dewey opened the doors of his pioneering library school at Columbia University, discussions about the characteristics and qualifications expected of students have been part of library literature. Decisions made at that time about the nature of library education and the type of students who should be admitted have influenced professional education ever since.

Dewey's success in establishing formal training as the appropriate means of producing new librarians was in part due to his realization that the field was growing at too fast a pace to rely on informal apprenticeship training. He saw a need for people who could organize and operate the new public libraries that were opening and who could change the role of existing libraries just as Dewey himself changed the role of the Columbia University Library. The public was willing to pay for the provision of library service in many communities provided the price was not too high. Library educators, or would-be educators, had to find a pool of applicants who would meet the standards of education and attitude required for library work and who would be willing to accept lower pay than that available in commerce or other professions.

Fortunately for librarianship, this demand occurred at the same time that university education was becoming available to women, thus producing a group of well-educated graduates many of whom wanted work but few of whom were dedicated to the idea of making money. By

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insisting that a broad liberal arts background was beneficial to librarians and by stressing the services provided by libraries, Dewey succeeded in making library work attractive to many of these graduates.

Even though Dewey envisioned his library training school as offering practical training in library work, he insisted from the beginning that admission requirements be stringent. Of the 267 students who had matriculated by 1898, a total of 160 had been to college. In 1902, a college degree became a requirement for admission. Entrance examinations that covered history, literature, and general knowledge were also required of applicants. It is unlikely that these standards could have been maintained if Dewey and other early library leaders had not encouraged educated women to enter the schools. Even though a college degree was not established as a universal criterion for library schools until many years later, the early emphasis on a liberal arts background continued. It is remarkable that Dewey would have considered a bachelor's degree as a prerequisite to professional training at a time when the more traditional professions did not require one.

From this beginning, librarianship quickly became one of the first professions in which women outnumbered men. By 1910, 78 percent of library workers in the United States were women. Library school students were also predominantly female in both the United States and Canada, although library administrators usually were male. Many of these administrators did not have formal training for librarianship, and the arguments that defended this arrangement occupied considerable time at library conferences.

Administrators' lack of library training was an occasional embarrassment. At the Portland conference in 1905, the president of the American Library Association introduced a discussion of library education v. practical experience by referring to "some of us who are a little sensitive sometime because we have not had any library school training." Mary Wright Plummer reassured him by saying that

Pooles and Winsors are not and never will be wholly produced by library schools....Such eminent examples are born librarians. The born librarians will not need a school to teach him....But there will never be many of him and there will be thousands of library employees.

While no mention is made in these statements about the gender of the "great librarians" as compared with the library school graduates, the examples used are all men in the one group and predominantly women in the other. Thus, very early in the development of library education, the profession decided that this education was intended to
Students

train employees who would serve in the lower ranks; no formal training was needed for the leaders. This concession placed library education upon a footing far different from that of education for other professions such as medicine and law in which it was expected from the first that even natural geniuses in the field should go through formal training.

A factor which no doubt influenced the effort to appoint men as chief administrators of libraries, generally and of public libraries in particular, is that for the first two decades of the century, women, no matter how well trained, had no vote with which to influence political decisions. Being in charge of an important public institution under the control of elected officials while at the same time being disenfranchised must have been an added strain to those women who achieved administrative positions.

The predominance of women as students during the developing years of library schools no doubt played an important part in determining the expectations of their role in the profession. The service orientation extolled by Dewey and other early library leaders fitted well with nineteenth-century ideas of women's natural role in society. In addition to a good academic background and a willingness to do repetitive, painstaking work, library school students were expected to be willing to dedicate themselves to the ideal of service. Their personal qualities and sense of dedication were among the competencies expected of them upon enrolling in library school. During the course of their training, they were indoctrinated with the "spirit of librarianship" which was felt to be an integral part of what they brought to their profession.

Several recent studies of women in librarianship have discussed the importance of the predominance of women as a factor in determining the status of the profession. Dee Garrison writes that the "feminization of public librarianship did much to shape and stunt the development of an important American cultural institution." In response to this argument, Suzanne Hildenbrand suggests that the marginality of public libraries might account for the large numbers of women in library work. She goes on to suggest that:

Many women would find themselves in work so bureaucratized that it would stifle them...Public libraries, along with other large bureaucracies came to reward conformity and passivity disproportionately.

Whatever the dynamics of cause and effect, it seems clear that the interrelationship of several factors set a pattern for library education. Recruiting well-educated people who would accept low pay in return for the satisfaction of providing service made it natural to draw on the available women in the labor pool. In order to fit into the prevailing
social pattern, these women yielded administrative duties to the few men in the profession. Because of the preference given to untrained male administrators, the library schools did not need to train them but concentrated on the more practical aspects of library work and drew their clientele from the ranks of educated library workers. This in turn led to a practice-based education that was found wanting when social and technological changes led to a need for innovation and experimentation.

The decision to concentrate on practical training led to an early emphasis on library experience as a prerequisite for entrance to the course. Unlike many other professional schools that trained applicants for entry into the field, library schools often demanded that candidates have prior experience. They selected students whose expectations about the nature of library work were formed by the institutions in which they worked rather than by their education. It seems inevitable that a profession recruited in such a way would be conservative in its views of what libraries could and should do and the ways in which they might be operated.

The library schools easily accepted the role of following the profession rather than leading it. This attitude was summed up in 1909 in this way:

> The chief functions of the library schools should be to keep informed of developments in the field and to be highly specialized bureaus of cooperation in disseminating approved library methods.

Once more a pattern was set because of a combination of interlocking decisions—a pattern that was sometimes later regretted by library educators. When we look at the students who attend library schools today, we can see that they are similar in many ways to the students of the past. The question now is whether these are the students who will best serve the profession as it moves into the twenty-first century.

In discussing today's library and information science students, I will concentrate on students enrolled in master's programs at accredited library schools. The entire range of students enrolled in undergraduate courses through doctoral programs is too diverse a group to discuss in one paper.

**What Are Students Like Now?**

Some of the characteristics of library students a century ago appear unchanged today. Chief among these is the predominance of women in the degree programs. Data collected by the Association for Library and
Information Science Education (ALISE) for the 1983/84 academic year indicate that 80.4 percent of the students in the master's-degree programs were women. Since these percentages are similar to those of other years, it seems unlikely that the female/male ratio in the profession is likely to change much in the next twenty years.

The overwhelming majority (90.7 percent) of master's students are white; other ethnic groups are a minority with 4.2 percent black, 2.5 percent Asian Pacific, and 2 percent Hispanic. Efforts to recruit minority library school students have been discussed for twenty years, but these efforts appear to have met with little success. None of the minority groups are represented in percentages equal to their representation in the general population.

In terms of age, as the figures in table 1 show, it appears that many students do not move directly from undergraduate work into library school. Only 37 percent of the male students are under thirty, while 44 percent are between thirty and forty years of age. Women tend to be somewhat younger, with 43 percent of the students under thirty and 32 percent between thirty and forty. Relatively few students are over forty years of age.

Several reasons for a delay in entering the profession have been suggested. One, which is often attributed to women, is a break in a career in order to spend some time raising children. Another reason would be a change in career plans. Since the pattern of delay is similar in men and women, with women in fact tending to be younger than the men, it appears that career-related delays are more important than family-related ones. The phenomenon of the library school student who is pursuing the degree in order to reenter the work force after some time spent as a full-time housewife seems to be declining. Because the age of marriage is rising and because fewer married women now allow motherhood to interrupt either their education or their careers, it is unlikely that this group of reentry people will constitute a significant part of the student population in years to come.

Undergraduate Background

For the past three years ALISE has not compiled information on the undergraduate majors of master's students. The data in table 2 are the most recent available and cover the fall term of 1979. There are few surprises in the table. Almost half of the students of both sexes majored in the humanities. Less than 10 percent held a science degree, despite efforts by the schools to recruit such students. Somewhat more men than
<table>
<thead>
<tr>
<th>Age</th>
<th>20-24</th>
<th>25-29</th>
<th>30-34</th>
<th>35-39</th>
<th>40-44</th>
<th>45-49</th>
<th>50+</th>
<th>N.A.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>101</td>
<td>314</td>
<td>336</td>
<td>157</td>
<td>67</td>
<td>34</td>
<td>22</td>
<td>89</td>
<td>1120</td>
</tr>
<tr>
<td>(n = 1120)</td>
<td>(9)</td>
<td>(28)</td>
<td>(30)</td>
<td>(14)</td>
<td>(6)</td>
<td>(3)</td>
<td>(2)</td>
<td>(8)</td>
<td>100</td>
</tr>
<tr>
<td>Female</td>
<td>716</td>
<td>1209</td>
<td>851</td>
<td>582</td>
<td>358</td>
<td>224</td>
<td>179</td>
<td>358</td>
<td>4477</td>
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<td>(n = 4477)</td>
<td>(16)</td>
<td>(27)</td>
<td>(19)</td>
<td>(13)</td>
<td>(8)</td>
<td>(5)</td>
<td>(4)</td>
<td>(8)</td>
<td>100</td>
</tr>
</tbody>
</table>
Students

women majored in the social sciences, and the excess of women fall into the “Other Professional” category which probably consists mainly of degrees in education. It appears, therefore, that despite efforts to recruit students outside of the traditional humanistic fields, few are being attracted.

Table 2

Master's Students in ALISE Member Schools by Undergraduate Major (Fall 1979)

<table>
<thead>
<tr>
<th>Undergraduate Major</th>
<th>Male (n = 1227)</th>
<th>Female (n = 5091)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number (Percentage)</td>
<td>Number (Percentage)</td>
</tr>
<tr>
<td>Science</td>
<td>128 (10)</td>
<td>305 (6)</td>
</tr>
<tr>
<td>Social Science</td>
<td>380 (31)</td>
<td>1120 (22)</td>
</tr>
<tr>
<td>Humanities</td>
<td>528 (43)</td>
<td>2291 (45)</td>
</tr>
<tr>
<td>Library Science</td>
<td>49 (4)</td>
<td>305 (6)</td>
</tr>
<tr>
<td>Interdisciplinary</td>
<td>37 (3)</td>
<td>154 (3)</td>
</tr>
<tr>
<td>Other Professional</td>
<td>110 (9)</td>
<td>916 (18)</td>
</tr>
<tr>
<td>Total</td>
<td>1227 (100)</td>
<td>5091 (100)</td>
</tr>
</tbody>
</table>

Work Experience in Libraries

Most library school students appear to begin their program of studies after having some experience working in a library. Of the student sample in the Conant report, 70 percent had such experience. Although only one ALISE member school requires library experience as a prerequisite for entering the master's program, many schools encourage such experience. Other schools consider library work experience a desirable factor in considering applicants.

Personality of Library School Students

An interest in the personality of the typical librarian has been apparent in the literature for many years, and systematic studies of personality have been made for almost half a century. Although most of these studies have focused on practicing librarians rather than on students, many of these studies attempt to reveal the underlying personality traits that lead people to choose a particular profession.
Before examining the results of various studies, it is important to note the weaknesses of some of them. A recent article by John Agada points out that many of the older studies used outdated instruments that have been discarded by psychologists or that were designed to study psychopathology and that may not be appropriate for measuring a normal population. Many of them rely on the discovery of ill-defined traits such as "masculinity" and "femininity," and many of the instruments are very subjective. Agada suggests that studies that concentrate on the interrelationship between people and their jobs are needed rather than studies that view the personality as a static construct leading to a particular job choice.

In an article on the relationship between personality and professionalism, Laurent-G. Denis and Florence Mackesy summarize the findings of a number of personality studies. The findings vary widely even for those subjects where the subjects were library school students. In 1957, Douglass found that library school students were orderly, conscientious, conservative, introspective, strong in social interests, and weak in economic and political interests. A 1981 study found students to be outgoing, emotionally stable, venturesome, imaginative, experimenting, self-assured, and tense. It is difficult to draw a profile of a typical student based on such global, subjectively defined adjectives. Several of the studies attempt to differentiate the personalities of male library students from those of their female counterparts, but the sample sizes are often small thus putting the results in doubt.

Samuel Rothstein has suggested that despite questions about the methodology of various studies, it is reasonable to believe that library school students do constitute a distinctive group in terms of personality. He discussed data from a 1969 study that showed that library school students were less conscientious, submissive, deferential, orderly, and responsive than had been thought but were more imaginative, creative, intelligent, independent, suspicious, critical, and anxious than had been believed. He suggested that the data helped to explain some of the reasons why library school students criticize library education.

The conclusions drawn from the studies of library school students vary widely. Both researchers and the commentators on research display biases that lead them to interpret the findings in widely differing ways. Pauline Wilson has summarized many of the findings on the personalities of librarians and has subjected them to careful scrutiny. She sums up some of the characteristics in this way:

The librarian places a high value on self-respect, freedom..., inner harmony, and wisdom....The librarian is well-adjusted, is optimistic,
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and has a positive attitude toward life.... The librarian is responsible
and conscientious, practical and persistent... self-controlled and
orderly... tolerant and non-authoritarian. 19

If we can assume that library school students also have these traits, it
would appear that library education has good material with which to
work.

Recruiting Students

As library schools have expanded and changed, the target groups
that have been recruited have also changed. Almost since the beginning
of library education, there has been an effort to recruit more men into
the profession. During the decades after World War II, there was some
hope that the ratio of males to females in the profession would alter
dramatically. 20 As years go by, however, the fluctuations in sex ratio
appear minor. The overall proportions remain virtually the same as
they have been for more than fifty years.

Another target group during the last twenty years has been minor-
ity students. When federal funding became available to increase minor-
ity recruitment, there was hope that many more blacks and Hispanics
would become librarians. 21 As the 1988 statistics previously quoted
reveal, this effort appears to have failed, and few funds are now available
for minority recruitment.

The paucity of funding for students also makes the recruitment of
economically disadvantaged students difficult. Statistics on the back-
grounds of students are not available, but it would appear that most of
them come from middle-class and professional families. As Nancy Van
House shows in her report on the economic value of a library degree, the
monetary rewards for investing money in an MLS over and above that
needed for an undergraduate degree is not economically warranted. 22
This makes it appear unlikely that students with severely limited finan-
cial resources will consider library school a sensible option.

Other particular groups which have warranted the attention of
recruitment offices have been students with undergraduate back-
grounds in science, mathematics, and engineering. This effort also does
not seem to have changed the composition of library school students.
Although the increasing emphasis on technology in the library school
would seem to make these schools more attractive to science and tech-
nology students, it has not happened. As long as undergraduates with
scientific or technical majors believe that they can find better jobs in
other fields, they are unlikely to be attracted to librarianship.
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The search for outgoing, assertive, and dedicated students has also been a continuing one. Library educators have hoped that they could alter the stereotype of the profession by attracting more dynamic students to the field. There is little hope of discovering whether or not this is happening since personality tests can compare people only with their contemporaries. It is possible that library school students could be more conservative than the general population in 1980 as well as in 1950 but 1980 students might still be more liberal than their 1950 counterparts. Library schools sometimes use personal interviews as a screening process in order to select candidates who appear to have desirable characteristics. How effective this screen is remains a moot question.

The declining number of applicants for library school in recent years has affected the type of recruitment done. Two groups which have been wooed in the last few years are the part-time students and the off-campus practitioner. Courses scheduled in the evening or on weekends encourage the enrollment of part-time students, while the growth of off-campus programs has brought master's courses to practitioners at a distance from a library school.

Another result of the shortage of applicants has been increased flexibility in altering the normal admission requirements. With the traditional reliance on grade point average and Graduate Record Examination (GRE) scores being described as the best predictors of student success (although accounting for “less than 20 percent of the likelihood of successful performance in graduate study”), schools have been moved to place less weight on these indicators. Even a careful analysis of the effect of scores on each subset of the GRE concluded that “less quantifiable factors (e.g., letters of reference, interviews, samples of expository writing, and expression of professional goals) must be included in the admissions process.”

Reactions to flexibility in library school admission standards has varied from deploring the trend to suggesting that it might bring in students who would “breathe new life into the profession.” For years library schools have been trying to encourage new life in the profession, but it remains to be seen whether making admission standards more flexible will have this effect.

Future Outlook and Needs

Making predictions is a dangerous pastime as is abundantly clear in reading past predictions about the future of library and information science education. While it is not possible to predict the future more
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than five or ten years ahead, it may be possible to make some reasonable short-range forecasts.

One suggestion for the future of library education that was vigorously put forth at the 1985 ALISE conference was that an undergraduate preparation in general information studies should be a prerequisite for a master's program. This suggestion goes against the traditional notion that in the words of Jesse Shera, “a general, or liberal, education [is] an essential preliminary to the professional training of the librarian.”

Many library schools have discouraged previous library education, although cognate areas such as computer science are viewed as desirable. Because of the widely varied undergraduate backgrounds from which library school students come, it is difficult to envision specific undergraduate courses being set as prerequisite by many schools. Few schools could afford to limit the available pool of applicants.

There have been some attempts to set prerequisite undergraduate courses. In 1984 the University of Toronto instituted a requirement for a statistics course as a prerequisite for the MLS program. Because many accepted applicants did not have this preparation, a noncredit course in statistics has been given at the library school. It is hoped that this course will become less necessary as more students will take statistics as part of a variety of undergraduate majors. Basic statistics is slowly becoming an accepted component of many humanities programs as well as those in science and social science. It is likely, however, to be eight to ten years before a knowledge of statistics can be assumed from the majority of undergraduates.

The predominance of women in the master's programs in library and information science indicates that changes in women's aspirations will affect trends strongly. As a wider variety of career choices become available to women, library schools will have to compete with many other programs to attract first-rate students. As a new generation of women—most of whom are committed to a lifelong career—enter the labor force, the group of housewives taking up a new career will decline. To attract midlife career changes from other fields, library and information science will probably have to offer greater financial rewards than it does now. Unless the financial rewards become greater, library science may find that its attraction is mainly to students with lower career aspirations—those who chose librarianship instead of secretarial work rather than librarianship instead of law or management studies. Attracting those with lower career aspirations would probably benefit undergraduate programs more than the graduate programs.

The traditional competencies of interpersonal skills, administrative ability, and intellectual ability continue to be desired in library
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school applicants, and other competencies have been added to these. A knowledge of computers has become an important qualification for information work, even though specific delineation of the skills required is hard to find. Bernard Franckowiak has suggested the levels needed by students entering a program:

—familiarity with computer/data processing telecommunications terminology, hardware and software, including strengths and weaknesses, and how the various pieces of technology relate to each other;
— the ability to use standard office automation systems including word processing, text editing and formatting, and to operate printers, terminals, disk drives, and other pieces of equipment;
— acquaintance with the construction of individual databases using database management systems;
— knowledge of one or two computer programming languages, not in order to become a programmer but in order to understand how the program functions and the part it plays in applying technology to processing the information.

These knowledge requirements might have seemed excessive a few years ago, but it appears likely that more and more applicants will have used computers at least for word processing and data manipulation during their undergraduate education. The knowledge of computer programming languages may be more limited, since many of the packages used in high schools and universities require only a minimal knowledge of programming languages. As computer skills become more common in the general educated population, more applicants to the library schools will be prepared for the intensive training needed for modern information processing.

Another kind of competency which has been recommended is the possession of a specialization in a subject area. The encouragement of applicants with a subject master's degree particularly for work in academic libraries has been discussed in recent articles. Many library schools do encourage students with a subject master's or a Ph.D. degree, but holders of these degrees usually come from fields in which jobs are hard to find—particularly the humanities. Specialists in the humanities are not needed by academic libraries nearly so much as are specialists in science or technology. Another way in which library schools encourage specialization is by developing joint programs with other departments in the university.

There are two areas in which library and information science educators should continue to work for change. They might profitably ignore the personality of the applicants to library school programs. The major reason for the great debate during the early years of library
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education about whether librarians are born or made is that administrative skills were not considered something that could be taught. Now after many years in management education it is apparent that administration is a teachable subject. Students with administrative skills do not need to be recruited for library education if they can be taught administration. More recently, psychologists have demonstrated that interpersonal skills also can be taught. Students who are naturally gregarious and assertive do not need to be recruited, either. Techniques of dealing with library users and colleagues in a gracious and effective manner can be taught. Even shy people who prefer solitary to social activities for the most part can learn quite well how to handle a reference query or personnel training. Both as part of the basic curriculum and as continuing education, management and psychological techniques will no doubt become a more important part of library education.

My second suggestion grows out of the rate of change in library education. Recent technological changes that are reflected in library and information science curricula and student placements suggest that library schools will be evolving rapidly over the next fifteen years. One way of ensuring that students leave the library schools with a flexible attitude is to try to attract more recruits directly from undergraduate school or other careers rather than from library workers. Naturally applicants with library experience should not be rejected but library educators could make it clear that a graduate education deals in theory and concepts and that courses are designed to broaden students’ perspectives beyond the operations of a library to the essentials of information transfer in society. Any background knowledge and experience that a student brings to library education is likely to be valuable, but library experience is not superior to other kinds of work experience.

There is no shortage of suggestions on the type of student that should be recruited. In fact after reading a wide variety of articles on the subject, I could generalize to say that what we want is a personable male member of a disadvantaged minority group with a master’s degree in physics, an in-depth knowledge of computers, and a burning ambition to administer a service organization while at the same time contributing to the research literature. What we have as a typical student is a personable, middle-class, white female with an undergraduate degree in English, a curiosity about computers and a muted ambition to operate as part of a service organization, while at the same time leading a reasonably happy personal life. Well, that’s not bad. Despite the lack of large financial rewards and the unflattering stereotype, library schools have managed to attract a group of intelligent, dedicated, and lively students.
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who are able to work well both within libraries and outside of them. Library and information science educators need to define the objectives and strengthen the curricula in ways that will ensure that students receive the most appropriate education.

References

The Library/Information School in Context: The Place of Library/Information Science Education Within Higher Education

EVELYN H. DANIEL

Introduction

The "PLACE IN SPACE" of any organizational unit is dynamic and changes over time. Not only is the unit's position fluid vis-à-vis its institutional parent, but the organizational structure of both unit and parent is also dynamic. Because of the dynamism, it would seem important that each library/information school continually monitor its standing within its own institution and in comparison to other library/information schools.

The task of this paper is to assess the extent to which library/information schools as a group have carved out an organizational niche. To accomplish this a framework for analyzing the institutional setting needs to be established. This constitutes the first section of the paper. The second part describes the current status and some of the organizational transformations that have occurred within the units that hold the responsibility for the education of librarians and other information specialists. The third section of this paper identifies some of the ways an individual unit can measure its status. The final section discusses changes—real and potential—in the shape and direction of the library/information field and raises three questions on institutional perceptions of what library/information schools are becoming.

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Organizationally the university is, in fact, one of the most complex structures in modern society; it is also increasingly archaic—J.A. Perkins.¹

Perkins underlines the dilemma of organization theorists trying to understand the university as an organization. One reaches for the blind men and the elephant cliché as a way to begin, in part because it vividly captures the "eye of the beholder" perceptions in accounting for diverse descriptions of phenomena. Organizational research takes place within a number of different disciplines, and theorists' descriptions of organizations differ depending upon whether they touch upon authority, structure, and rationality; or on politics, communication, and human nature; or on the environment, the task group, and design elements; or on some other combination. As the task of this paper is to discuss the place of library/information education within higher education institutions—while not discounting the importance of other conceptualizations—writings that stress the importance of the environment in understanding the university as an organization are selected as most helpful for an analytic framework.

The environment is "the total of circumstances surrounding an organism or groups of organisms."² When applied to organizations this concept is elusive. Pfeiffer and other researchers assert that organizational environments are created through a process of attention and interpretation, thus, it is the perception of the environment that is important. Pfeiffer terms this the enacted environment.³ This approach singles out formal and informal information systems as filters for perception. However, perceptions are slippery and this paper will eschew the perceived and approach the topic more directly.

Four dimensions of the environment are singled out for research and comment with each being treated as a continuum. The first is the stable-to-dynamic dimension. The more unpredictably changeable the environment is, the more uncertainty is introduced into the organization. Library schools were established, grew, and flourished in a period of growth in the educational level of the general population and a concomitant growth in the use of books and other library resources. New forms of information packaging, information use, and methods of disseminating have shifted the environment of the schools to a more dynamic one. The shift is also manifest in the higher education environments that surround the school making this aspect doubly dynamic.

The second dimension is that of simple-to-complex. An organization is complex to the extent that much sophisticated knowledge is
required. It becomes simple when the knowledge can be broken into easily comprehended components. In general the structure of the small autonomous library/information school is relatively simple to understand. As some schools begin to develop new degree programs (especially at the undergraduate level) and to extend their conceptual domain, there is some movement toward a greater level of complexity but, in comparison to other larger professional schools, the library/information school's structure is still relatively simple. Universities, however, are becoming increasingly complex. In part this is a function of growth, but it also is a function of the differing growth rates of disciplines, the emergence of new fields, interdisciplinary study, innovative institutes, and other devices established as creative funding exercises and/or as ways for diverse groups to mingle productively. New techniques for corporation and university collaboration and new arrangements for interinstitutional networking constitute other organizational complexities.

Market diversity is a third dimension. It concerns the relative integration or diversity of the market for an organization's products or services. If all the graduates of one school accept positions in libraries and all those of another enter the work world as database administrators, systems analysts, information brokers, administrative assistants, consultants, or information resource managers, the market diversity of that school will be much greater and will have an effect on the diversity of courses offered, the background of professors hired, and the organizational structure of the school. In addition to placement, market diversity results from geographic differences (national v. regional v. international student body and faculty), level of education offered (undergraduate, master's, doctoral, continuing education for professionals), and perhaps the size of the student body. Market diversity is increasing for the library/information schools, probably at a much greater rate than that of their parent organizations.

The last dimension relates to wealth v. competitiveness, sometimes characterized as munificent v. hostile environment. When the parent institution is satisfied with the flow of resources, performance pressures are few and the constituent units can take a passive stance vis-à-vis recruitment, enrollment, and the initiation of proposals for sponsored research. When resources are perceived to be scarce and are garnered competitively in a hostile arena the units must become more proactive and responsive. Some of the library schools that have closed have been trapped by a sudden downward shift in the parent organization's receipt of resources, sometimes real and sometimes perceived. Tight resources
and a competitive climate—while often co-occurring—are not necessarily correlated. An entrepreneurial spirit can sweep an organization and create a highly competitive climate while the organization enjoys an ample flow of resources. A business-emulating shift in the educational philosophy of leaders of higher education appears to be taking place and has resulted in the recent wave of alliances between universities and the corporate community. This phenomenon has implications for professional schools within universities. Some strategies previously viewed as incompatible with library/information school traditions may need to be reexamined to ensure survival in a new environment.

Market diversity leads to reorganizing the larger unit into divisions. As Thompson notes: "Organizations facing heterogeneous task environments seek to identify homogeneous segments and establish structured units to deal with each."4 Within universities the rise in importance of the professional schools may be a response to market diversity.

The degree of hostility appears to cause or at least co-occur with a tendency toward greater centralization. An external threat is often the impetus for unifying a country, an organization, or a group of any kind. Complex organizations, like universities, function best in a decentralized mode. When driven to centralize because of threats from the environment, decisions may be less than optimal. Hostile environments also force short-term decision-making that may be out of sync with the manifestations of a long-term cyclic trend.

Other forces within the university push for centralization. Some are technological. The magnitude and indivisibility of the "wired campus" decision, the apparent importance of the charismatic leader in the decision to become a computer-intensive campus, decisions to invest in high technology research that requires elaborate and expensive laboratory setups, all may call for more centralized decision-making. The technology itself, however, may assist in moves toward distributed decision-making that is closely coordinated but neither centralized nor decentralized. If distributed decision-making can be developed and accepted, present descriptions of the university as "loosely coupled"5 may no longer pertain. Nor may universities continue to be characterized as "organized anarchies" where decisions, energy, and solutions seeking problems are all tossed randomly into a "garbage can" for accidental action.6

Mintzberg classes the university as a professional bureaucracy (along with hospitals, schools, social work agencies, and craft production firms),7 as opposed to a machine bureaucracy or adhocracy (for the organic organization). He notes that the university's work is "highly
specialized in the horizontal dimension, but enlarged in the vertical one. Within any particular discipline or profession, the practitioners' expertise is judged by the special community that exists independently of the organization within which the practitioner works. Within a professional bureaucracy, knowledge and skill are standardized to a high degree, but their complexity requires discretion in application. Simon says the professional handles problems that are "comprehensible in their deep structure, but unfamiliar in their detail."

The university-as-professional-bureaucracy can uncouple its main operating tasks and assign them to groups of individuals who act as relatively autonomous professionals. This allows the structure to be functionally based and market based at the same time. Students in the graduate and professional schools can categorize themselves in terms of the functional knowledge desired or the occupational world to which they aspire. The library/information school is functional because its faculty are grouped according to their special knowledge and skills. It is market based because it deals with its own unique group of students—those seeking to become librarians or information specialists. Lowering the specialization barriers among schools and departments on campus to allow interdisciplinary work is a move away from market-based differentiation. Conversely, hiring faculty from diverse disciplines to enlarge and redefine the knowledge base of a school shifts away from function-based differentiation. Were all units on the campus to foster interdisciplinary studies, the nature of the university might become more organic and adhocrative. It is also possible that schools and departments might lose the uniqueness of their specialized knowledge, and the university might shift to a machine bureaucracy. In any event, the library/information school entertains risk in changing its mission and its knowledge base. Given the turbulent external environment and the more competitive milieu within the university, there may be equal risk to the library/information school in not changing.

A life-cycle theory of organizations that uses biological metaphors of birth, growth, and death is gaining popularity. Aldrich uses a population ecology approach to explain organizational changes. Kimberley, et al. use the title *The Organizational Life Cycle* to group writings on the creation, transformation, and decline of organizations. Organizations grow and as a result they undergo predictable structural transitions. Mintzberg, synthesizing others' work, described a five-stage development sequence: (1) craft, (2) entrepreneurial, (3) bureaucratic, (4) divisionalized, and (5) matrix. The matrix structure is one where managers operate within dual- or multiple-reporting relationships. The grid structure that develops permits more open communication.
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Some suggest that the matrix structure may be a move to an organic organization, albeit by a more sophisticated process. Matrix structure may be a means to solve the problem of competing bases for grouping units—geographic, product, functional, market.

Alpert poses a matrix model designed "to portray the organizational structure and practices of the university and to locate organizational problems in a problem solving space."13 It begins with a set of autonomous academic departments and professional schools. Next is added the connections relating the schools and departments to external stakeholders and parallel schools and departments in other universities.

To work out Alpert's matrix model with the library/information professional school as the center, we note that each school has special relationships with other departments and schools on its campus. In this horizontal dimension it shares the same institutional name, geographic location, board of trustees, and overall organizational identity. Each school also relates to all the other library/information schools on a vertical dimension in a professional/disciplinary community. Alpert notes that the horizontal campus community typically addresses itself primarily to the undergraduate community and the teaching function of the university while the vertical disciplinary community addresses itself primarily to graduate or professional education and research.

The number of departments among research universities varies from about fifty to more than a hundred. The greatest variation among institutions is in the number and identity of the professional schools. More and more the disciplinary and professional communities have assumed responsibility for setting goals, generating research agenda and marketing them to federal sponsors, establishing standards for faculty performance, and for managing societies and refereed journals. The national community may be more meaningful to individual faculty members in terms of culture and even day-to-day contact than are faculty members in other departments on the same campus.

Alpert extends the vertical dimension of professional disciplinary communities as he adds federal agencies and private research foundations, accrediting committees, national professional societies, associations for practicing professionals, and the like. The horizontal campus community is also extended beyond the universities' boundaries through state government support, student tuition, private donors, the alumni association, university foundations, and other educational councils. Many of the latter, however, are strongly linked to the undergraduate educational mission.

The consequence of the matrix structure is that the quality rating of the department or school often depends on externals such as peer
rankings and research support. External ranking has a powerful effect on the internal allocation of resources. The various departmental/professional school ratings taken together comprise an informal institutional rating that represents the university's comparative standing among its peers. Clearly some disciplines are more prestigious than others and their overall ranking is to be weighted accordingly. Alpert notes a strong similarity between the status accorded the discipline on the "macro" level and its departmental status on campus.

Some of the consequences of the enormous and increasing importance attached to external arbiters of quality within the university are (1) an unwillingness of the intellectual leaders on campus to take on the administrative chores of committee work and day-to-day participation in the campus governance process, and (2) the pressure for conformity to disciplinary conventions and fashions particularly at the less distinguished universities. The pressure extends to the individual faculty member who must follow the rules for research productivity in the field or lose out in tenure and promotion.

The integration of the research, education, and public services mission of the university takes place at the level of the individual department or professional school and often at the level of the individual professor. As Bass points out:15

There are many who argue that the integrity of the university is preserved by the interplay among the [research, education and public service] missions. What in fact takes place, however, is that instead of integration of the mission through organizational structure, the "multiple-function" professional faculty member is expected personally to make the necessary connections.

Interdisciplinary and cross-disciplinary programs like women's studies, gerontology, and similar mission-based areas often are in a double bind. In order to survive, departmental status may be essential, but becoming another junior department competing for resources can be a barrier to collaboration across disciplines. That collaboration and collegiality may have negative consequences is a point made by Weick:16

The basic organizational structure of the university which is characterized as high differentiation and low integration can be understood as a structure that incorporates ambiguity towards cohesion and accuracy. A preference for cohesion is reflected in the mythology of a collegial community; a preference for accuracy is reflected in the mythology of the independent scholar. To be a community is, simultaneously, a good thing and a bad thing.

Alpert asserts that the matrix model reveals the basic dilemma of university presidents. "They are expected to carry the burden of leader-
ship for institutions that are separately accountable to individual legislatures and boards of trustees but governed as part of an inseparable and interdependent nationwide system of institutions." Bass also stresses the prominence of the department as the dominant unit on campus with research the dominant activity within the department that shapes its structure. "The technology of research, consisting mostly of individualized isolated work, tends to dominate the departmental form directly and the university form indirectly."  

Two major problems are exacerbated by the matrix model. First, there is a growing public awareness of the need for an interdisciplinary, interprofessional, and interdepartmental education for literate and aware citizens. Boyer and Hechinger advocate that universities and colleges perform an integrative function for society. Harlan Cleveland argues for students "who can relate 'hard' technologies to other soft impacts and their implications." This concern is perhaps most strongly aimed at undergraduate education and the teaching function. The current structure militates against the goal of truly integrated learning and conflicts with the goal of advancement of knowledge through research.

A second problem is that decisions on the quality and importance of a particular academic unit are made by a national system of priorities and peer assessment based on research achievement. External review causes departments and schools in the universities of the second tier (and below) to become more alike. The rush to conformity under retrenchment means a sameness in priorities and in the array of high-status disciplines and results in less innovation from one university to the other. In the library/information field the closing of one school precipitated a domino effect—i.e., a rash of closings around the country. In the national system of priorities, library/information schools were perceived to be weak and less able to defend themselves than other more prestigious disciplines and professions.

Within the current system, so aptly described by Alpert, the schools of library/information continue to be threatened. When enrollment within the university overall is up and resources flow, there is little problem. When hard times hit the universities—either collectively or individually—the library/information schools may face closings unless the prestige of the profession climbs vis-à-vis other professions. Increased status can happen in a number of different ways. For one, the disciplinary base in information science may be strengthened, so that the level of research in the field advances with greater recognition attached to its importance. Or, libraries as institutions may encompass a larger information resources management mission and so return to the
central position on campus that they once enjoyed. As the prestige of the university library waxes and wanes, so too does that of the professional library/information school which is bonded to the library in the perception of the university community.

It is difficult but not impossible for an individual school to buck the negative trends we now seek. It may succeed, however, given strong leadership, a determined faculty, and innovative programming. We see evidence of this taking place in several of our leader schools. The individual strength and higher status of one strong school can have a positive influence on all the other library/information schools despite the impact of powerful external and uncontrollable forces.

The Organizational Status of Library/Information Schools

This section uses empirical data to describe the reality of the library/information schools, how they are institutionally located, and where they exist relative to their parent institution. The analysis is based on the sixty-three schools accredited by COA (ALA’s Committee on Accreditation) as identified in the October 1985 listing of graduate library education. Comparative analyses might yield interesting data but they must await another paper and perhaps another author.

This section includes a description of the name variations with which schools identify themselves. The reporting levels and the chief administrative officer’s satisfaction with that level comes next. The dispersion of U.S. schools relative to the Carnegie classification of their parent institution and the possible patterns of doctoral-offering schools relative to this classification follows. Data on other dimensions of interest—number of students, number of faculty, size of budget, stability or stagnation of leadership, number of other professional schools on campus, date of founding, etc.—could be examined but are omitted here.

The simple question of who and what we are can be answered in part by how we choose to be called. From the twenty-eight varieties of school, college, division, department, and faculty names for the individual unit and the twelve varieties of degree names bestowed by them, apparently there is significance attached to subtle variations in how library/information schools choose to be known.

Thirty-three schools use the “Science” designator; three see their field pluralistically and use the term “Sciences.” Fifteen schools use “Studies”; four say “Service” and “Services”; three are “Management”; two use “Science and Technology”; and two simply invert their titles to obviate the need for a designator and style themselves simply as
"Schools." The decision to include both terms, "Library and Information," in the school's name is the overwhelming favorite chosen by forty-five schools, and one chooses "Informational." Thirteen use only the term "Library"; and two select "Library and Education/Instructional Technology." Only two schools use "Information" alone in their titles. One school has "Archival" in its name and one has "Communication."

The degree names, as might be expected, also show diversity. Although twenty-six schools offer the Master of Library Science, ten provide the Master of Arts, and nine offer the Master of Science in Library Science. Other degree names follow: Master of Library and Information Science—includes a translation of Montreal's degree (4 schools); Master of Science (7); Master of Library Services (3); Master of Librarianship (3); Master of Arts in Library Science (1); Master of Arts in Library and Information Science (1); Master of Library Studies (1); Master of Library and Information Studies (2). Four schools offer two master's degrees, so the total equals sixty-seven rather than sixty-three.

In a recent issue of the *Journal of Education for Library and Information Science*, Voos surveyed the number of schools, divisions, departments, and other designations for library information units at five-year intervals from 1960 to 1980 and added 1983 as the most recent year available. His results show a decreasing proportion of department designations and an increase in the number of schools and colleges. Selecting only the 1960, 1970, and 1980 points from Voos's table and updating it with the October 1985 data we observe that the "other" category includes five colleges and two faculties (the Canadian designation roughly equivalent to college). Two of the 1985 group are listed as "admitting no new students"; both are schools (see table 1).

**TABLE 1**

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Schools</th>
<th>Dept., Designation</th>
<th>Division, School Designation</th>
<th>Other Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>32</td>
<td>6</td>
<td>(18.8) 26 (81.3)</td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>50</td>
<td>10</td>
<td>(20.0) 40 (80.0)</td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>68</td>
<td>10</td>
<td>(14.6) 52 (76.5) 6 (8.8)</td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>63</td>
<td>6</td>
<td>(9.6) 50 (79.3) 7 (11.1)</td>
<td></td>
</tr>
</tbody>
</table>
From a tally of reporting levels, the overwhelming majority of deans and directors report to a chief academic officer designated as vice-president or vice-chancellor of academic affairs, provost, or executive vice-chancellor. Three deans report directly to the president. Of the remainder, six deans report to the dean of arts and sciences, letters and sciences, humanities, or faculty of arts. Five report to the dean of the graduate school (many others indicated an additional reporting/approval role for the dean of the graduate school for admission, curriculum, and degree matters). Three report to the dean of education and one each reports to the dean of the faculty of management and the dean of professional schools. There is a tendency for deans and directors with relatively more faculty to report to the chief academic officer and for those deans and directors with relatively fewer faculty to report to the dean of another school.

The heads of the schools were surveyed to ascertain if they found their reporting level satisfactory. Forty-four replies were received—thirty from those who report to the chief academic officer or the president and fourteen who report to the dean of the graduate school or another academic unit. In general, everyone expressed satisfaction with the reporting level. Some concerns surfaced relative to size and isolation. One said, “We are equal in name but not in fact.” Several noted they were the “smallest independent unit on campus.” The disadvantages become apparent when top university officials begin carefully monitoring enrollment figures by school. (It may be helpful to the independent school to normalize the enrollment data dividing each total by the size of faculty after first separating graduate from undergraduate. This creates a fairer comparison figure that can be analyzed further by looking at cost per student across all other graduate schools and colleges.)

Although most found independence a very important benefit, one commented, “Disadvantages arise because of the isolation autonomy can produce.” There is a real boundary that surrounds an independent school that is often difficult to penetrate. Typically the large and successful schools—for example, management—often are reluctant to enroll students from another school in their classes. Another department may have such a tightly structured curriculum that a desired course may have more prerequisite hours than a student from a different degree program can afford. Autonomy for the small school at the graduate level often makes it difficult to engage in university dialogue much of which deals with the sheer numbers of undergraduates and with questions about the baccalaureate degree and that are of interest to trustees and state legislators. Collaborative research is also more difficult across school lines. Greater effort is needed to seek out and maintain
communication on common research interests across departments. In addition, it may be more difficult to socialize faculty to norms of research in the more isolated professionally based unit. On the positive side, the small size and autonomy allow the school flexibility in responding to change and speed in initiating new programs. It is also easier to develop a spirit of collegiality among a smaller, more cohesive group.

Nobody commented on what may be one of the most significant factors—that of identity. When the library/information unit is enclosed within a school of education, for example, there is a tendency to view the library/information field as a subset of the discipline of education. There also appeared to be some budgetary disadvantages to the departmental level as compared to the school, although the evidence for this is less clear when size of faculty is taken into account.

The major factor in assessing status for any one school is, of course, a comparison with the way other professional schools are structured on the particular campus. There is more variety in the place and number of professional schools on university campuses than there is for academic disciplines. A typical pattern treats the larger professional schools as independent units—e.g., engineering, law, and the business school. Medical schools have assumed almost a separate existence within health science clusters. The smaller schools—e.g., journalism, social work, architecture, urban studies, and library/information—are often treated as structural parallels.

The importance of the classification of the parent institution cannot be ignored. To compare library/information schools according to their parent institutions' rank, the Carnegie classification of colleges and universities was used.23

The Carnegie classification is divided into six primary classes as follows:

I. Doctoral Granting Institutions—those characterized by a significant level and breadth of activity in the commitment to a doctoral-level education.

II. Comprehensive Universities and Colleges—those characterized by diverse post-baccalaureate programs (including first professional), but that do not engage in significant doctoral-level education.

III. Liberal Arts Colleges—may have modest occupational programs but a strong liberal arts tradition.

IV. Two Year Colleges and Institutions—self-explanatory.

V. Professional Schools and other Specialized Institutions—includes theological seminaries, separate medical, management, engineer-
The Library/Information School in Context

...ing or law schools, teachers' colleges, military institutes, and the like.

VI. Institutions for Nontraditional Study—do not have a campus in the conventional sense.

Each main class is further subdivided into separate subclasses relative to complexity. The latest published edition of the classification is 1976 so that designations may not be completely accurate for those institutions which have changed significantly in the past nine years—e.g., Drexel University.

Accredited library/information schools are found in only four of these categories. Of these, only one school (Rosary) lies within the liberal arts college group and only one in category six (Atlanta) for other specialized institutions.

Table 2 summarizes the distribution of accredited schools within the first two categories. The Canadian schools are excluded, although the pattern exhibited by those seven schools would perhaps be quite similar. The October 1985 list of accredited schools includes sixty-three schools with two noted as "admitting no new students." Table 2 excludes those two plus the seven Canadian schools and the two schools that do not fall into Carnegie classifications I and II.

Library/information schools tend to be represented in the more prestigious institutions. The ratio of institutions in Carnegie class I to class II is 24:76, while the ratio of library/information schools in those same two classes is reversed—82:18. The ratio of public to private universities in the combined Carnegie classes I and II is 61:39. The ratio of library/information schools in public institutions and those in private is one even more strongly biased toward the public—79:21.

Of twenty-one U.S. library/information schools that currently offer the doctorate, nineteen are in Carnegie class I institutions and only two in class II. As table 3 demonstrates, the doctoral programs are also unevenly distributed among the total library/information school population and are biased to those within larger, more prestigious parent institutions.

The larger institutions are more apt to have many different professional programs including library/information studies. Second, it is no doubt easier for the school located in a class A-1 institution to develop a doctoral program. Third, the atmosphere of the research university will incline toward research activities. The extent to which the library/information school can demonstrate productivity in this regard may affect its status on the campus.
<table>
<thead>
<tr>
<th>PU*</th>
<th>PU (Percentage)</th>
<th>SCDF (Percentage)</th>
<th>PR§ (Percentage)</th>
<th>SCDF (Percentage)</th>
<th>Total (Percentage)</th>
<th>SCDF (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>29 (3.7)</td>
<td>14 (26.9)</td>
<td>22 (2.8)</td>
<td>2 (3.85)</td>
<td>51 (6.6)</td>
<td>16 (30.75)</td>
</tr>
<tr>
<td>A2</td>
<td>33 (4.2)</td>
<td>9 (17.3)</td>
<td>14 (1.8)</td>
<td>3 (5.8)</td>
<td>47 (6.0)</td>
<td>12 (23.1)</td>
</tr>
<tr>
<td>A3</td>
<td>38 (4.9)</td>
<td>9 (17.3)</td>
<td>18 (2.3)</td>
<td>2 (3.85)</td>
<td>56 (7.2)</td>
<td>11 (21.15)</td>
</tr>
<tr>
<td>A4</td>
<td>19 (2.4)</td>
<td>3 (5.8)</td>
<td>11 (1.4)</td>
<td>0 (0)</td>
<td>50 (3.9)</td>
<td>3 (5.8)</td>
</tr>
<tr>
<td>Total I</td>
<td>119 (15.2)</td>
<td>35 (67.3)</td>
<td>65 (8.3)</td>
<td>7 (13.5)</td>
<td>184 (23.6)</td>
<td>42 (80.8)</td>
</tr>
<tr>
<td>B1</td>
<td>250 (32.2)</td>
<td>6 (11.5)</td>
<td>131 (16.8)</td>
<td>4 (7.7)</td>
<td>381 (49.0)</td>
<td>10 (19.2)</td>
</tr>
<tr>
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<td>104 (13.4)</td>
<td>0 (0)</td>
<td>109 (14.0)</td>
<td>0 (0)</td>
<td>213 (27.4)</td>
<td>0 (0)</td>
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<tr>
<td>Total II</td>
<td>354 (45.5)</td>
<td>6 (11.5)</td>
<td>240 (30.8)</td>
<td>4 (7.7)</td>
<td>594 (76.4)</td>
<td>10 (19.2)</td>
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<tr>
<td>Total I &amp; II</td>
<td>473 (60.8)</td>
<td>41 (78.8)</td>
<td>305 (39.2)</td>
<td>11 (21.2)</td>
<td>778 (100.0)</td>
<td>52 (100.0)</td>
</tr>
</tbody>
</table>

* Public Institutions
† Schools, Colleges, Departments of Information
§ Private Schools
### TABLE 3
**Distribution of Library/Information Schools Offering Doctoral Programs**

<table>
<thead>
<tr>
<th></th>
<th>PU (%)</th>
<th>Ph.D. (%)</th>
<th>PR (%)</th>
<th>Ph.D. (%)</th>
<th>Total (%)</th>
<th>Ph.D. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCDI (%)</td>
<td>SCDI (%)</td>
<td>SCDI (%)</td>
<td>SCDI (%)</td>
<td>SCDI (%)</td>
<td>SCDI (%)</td>
<td>SCDI (%)</td>
</tr>
<tr>
<td>A1</td>
<td>14 (26.9)</td>
<td>9 (42.9)</td>
<td>2 (3.85)</td>
<td>2 (9.5)</td>
<td>16 (30.75)</td>
<td>11 (52.4)</td>
</tr>
<tr>
<td>A2</td>
<td>9 (17.3)</td>
<td>4 (19.0)</td>
<td>3 (5.8)</td>
<td>2 (9.5)</td>
<td>12 (23.1)</td>
<td>6 (28.5)</td>
</tr>
<tr>
<td>A3</td>
<td>9 (17.3)</td>
<td>1 (4.85)</td>
<td>2 (3.85)</td>
<td>0 -</td>
<td>11 (21.15)</td>
<td>1 (4.85)</td>
</tr>
<tr>
<td>A4</td>
<td>3 (5.8)</td>
<td>1 (4.85)</td>
<td>0 -</td>
<td>0 -</td>
<td>3 (5.8)</td>
<td>1 (4.85)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35 (67.3)</td>
<td>15 (71.5)</td>
<td>7 (13.5)</td>
<td>4 (19.5)</td>
<td>42 (80.8)</td>
<td>19 (90.5)</td>
</tr>
<tr>
<td>B1</td>
<td>6 (11.5)</td>
<td>0 -</td>
<td>4 (7.7)</td>
<td>2 (9.5)</td>
<td>10</td>
<td>19.2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>41 (78.8)</td>
<td>15 (71.5)</td>
<td>11 (21.2)</td>
<td>6 (28.5)</td>
<td>52</td>
<td>100.0</td>
</tr>
</tbody>
</table>

1. Row B2 omitted from analysis as there were no SCDI in this category
2. Public Institutions
3. Schools, Colleges, Departments of Information

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The Library Information School in Context
It is tempting to argue that schools within the more prestigious institutions—especially if they are public—are more protected from threats of closing than are those of second level institutions or even lower subclasses of class I. The two schools in the October 1985 list identified as “accepting no new students” plus the five schools that closed earlier show no discernible pattern. Half are public schools (3), half are private; half are high-status (A-1) universities and half are lower status.

When enrollments and employment opportunities shrunk in the mid-1970s, library/information science schools suffered a drop in status within their parent institutions. Although little change occurred in the organizational position of most schools, the drop in enrollment, following a realization that the so-called shortage of librarians was a paper shortage, combined with other factors to cause problems. This was a less favorable period for higher education generally. Research efforts and grant support tilted toward the hard sciences. The growing importance of the computer vied with the academic library for a central position on campus. All of these factors have contributed to diminishing the status of the library/information schools. Several schools closed. The remaining ones have begun to explore newer and more glamorous markets for graduates, particularly in computer-related fields. The impact of these shifts in orientation has yet to be fully realized.

Changes in the importance of one professional school or department on the university campus can usually be associated with the importance ascribed to the profession or discipline in the larger arena. Astute administrative officers of library/information schools are employing a number of strategies to improve the organizational position of their unit on their home campuses by examining the school’s standing within the institution.

**Measures of Standing Within Institutions**

It is probably true that one cannot—or at least should not—divorce the management of any human enterprise from the reality of politics. Resources are always scarce and, to greater or lesser degree, distributed according to the politics of the situation. Those of higher status gain more resources relative to their needs and desires than do those of lower status. One barometer of status is the amount of personnel, financial and space resources the unit receives relative to others on the campus. Even though it is not always easy to determine relative success in resource allocations on many campuses, they are a measure of status and should be monitored. Monitoring the organization’s status within its...
The Library/Information School in Context

environment will bring other important insights about how the particular institution works.

Four places where the comparative standing of the unit should be assessed are (1) the autonomy of the school's chief administrator, (2) the level of financial support, (3) the condition of the school's equipment and physical facilities, and (4) its relationships with other schools and departments. Each of these is discussed briefly with suggestions for data elements to collect and examine on a cyclic basis.

The autonomy of the school's chief administrator is a different measure than the school's success in garnering resources described earlier. This measure is chiefly concerned with the process by which decisions get made. In personnel decisions, for example, where is the real decision made? If the decision effectively rests within the school despite pro forma approvals at higher levels, it scores high on the autonomy issue. In these parlous times, however, what were once pro forma approvals have a way of becoming more substantive. The autonomy given a school in personnel decisions derives from the expectation that the school will be alert to changing philosophy and changing needs in the larger institution in the way it carries out this primary responsibility.

Reallocation of budgeted money to unanticipated opportunities or problem areas must occur frequently in a dynamic environment. The degree to which the dean or director has the power to effect such changes and the extent to which changes are possible is another important indicator of autonomy. Reallocation of space is a comparable decision but significantly less important and generally much more easily accomplished internally without prior approvals. Changes in curriculum and degree programs are another place where the university often grants pro forma approval up to the initiation of a new degree program where the board of trustees and the state legislators usually wish to exercise reviewing and veto rights. A small study of the variations in process by which schools have changed their names would be interesting when relating it to power and autonomy issues.

Financial support is the second area where objective measures of standing can be gathered. The unit's proportion of the overall institutional budget and of the budget for instructional programs is a data point to be examined for changes from year to year. Another is the change in the number of faculty and staff lines and in the rank at which rehiring is permitted. As external funding support for research and for scholarship aid continues to rise in importance within the institution, the proportions of external funding must be analyzed. Examining the annual budget of dollars per full-time equivalent (FTE) student and the
scholarship aid per FTE student provides information for assessing how strong a case can be made to justify additional support for the school. Scholarship aid as a percent of the total tuition and standardized living costs for all students per year is another useful measure. Sponsored research dollars per FTE faculty member is another powerful figure—especially when viewed comparatively with other schools and departments.

Similar measures for looking at changes in equipment and physical facilities can be developed. Change in the number of assignable square feet, in the total square feet per FTE faculty member, in the acquisition of additional space for research projects, and special development activities are ways of monitoring this aspect. As the library/information schools seek additional outside resources to support their increasingly technology-based programs, it will be important to collect data on the market value of all instructional equipment, especially microcomputers, terminals, peripherals, and possibly software. Realistic depreciation schedules by age and condition (with maintenance costs factored in) also need to be tracked to ascertain if the school is advancing in developing its capitalized base. The number of telephone lines per faculty member is another quick and useful data element.

The fourth area to measure to determine relative standing within the university is the level and kinds of relationships the unit has with other units. How many joint programs are on the books and how many students enroll in them each year as a percent of the total number of students in the school? Are there joint faculty appointments and, if so, what percentage of the total? Is the school a net importer or exporter of students? That is, how many library/information students take courses in other schools and departments compared to the number of students from other areas who take courses in the library/information school? Are there any special collaborative projects ongoing involving at least one other school? If so, at what level is the project being carried out and how visible is the project to the rest of the campus? What kind of representation does the faculty have on university-wide committees of importance? Is the dean/director regularly named to important policy-making groups?

The days of happy isolation are behind us. In a recent interview, Kathleen Heim, dean of the School of Library and Information Science at Louisiana State, spoke candidly of her fear of leaving the campus while across-the-board cuts were taking place, "knowing that other directors had found out [while away that] their schools were being taken away from them."24 Heim goes on to point out that her school survived relatively intact, a result she attributes to the increased visibility of the
school on campus. Heim also mentions Louisiana's joint master's degree program with computer science as an example of the responsiveness needed by a school in reaching out for relationships with other important and powerful units on campus.

Before leaving the measurement aspect, it would be well to focus briefly on the relationship of the dean or director to the chief academic officer of the institution. The individual who holds this office wields an enormous amount of power. His or her philosophy and style can affect deeply the individual standing of any unit within the university. It is important to study the academic background of this officer, his/her length of tenure, and the activism with which he/she pursues particular goals. The frequency with which the library/information school's chief administrative officer (CAO) meets with the chief academic officer of the university relative to the frequency of such meetings with other academic administrators is an indicator that bears watching. What is the CAO's intuitive ranking of schools within the institution and, more importantly, what criteria are used to develop that ranking? How open is the individual to changing his/her perceptions of the school? What are the levers of importance?

Within this section of the article, the primary focus has been on understanding the school's position as a dynamic phenomenon. Status is not static. A second underlying theme is the importance of developing a long-range strategy to arrive at a place in the sun. The collection and analysis of clues within the environment that imply how well the school is succeeding in its goal is an important corollary.

The Future Outlook

What will the future bring for library/information schools? Will they continue to exist as autonomous units? Will their standing within the universities rise or fall in the coming decades? These questions are virtually impossible to answer. The information arena is exploding. For a time it seemed as though libraries and library schools would be sidelined and that new more aggressive units would emerge from outside the field to meet the voracious demands of the information society. However, change is taking place within the field. Witness the most visible change in the names of the schools. Curriculum changes sometimes precede name changes but more often follow it. The library/information graduates, often chided by educators and practitioners alike for their lack of assertiveness, seem to be, despite all, moving confidently into new positions in the larger information arena. Libraries are quietly transforming themselves. There is an overall acceptance (certainly not
universal, however) of the need for change in order for this profession to
continue to serve well the changing information needs of society.

One might become almost optimistic about the possibilities were it
not for several other factors. The realization of the need to reposition our
schools and library/information centers comes rather late. The band-
wagon is already gathering speed. Other professional fields have discov-
ered the opportunities emanating from the management of
information. As the library/information schools struggle to defend and
expand their domain through logical extension of their curricula into
the areas of database management, economics of information, telecom-
munications policy, and the like, there are questions of territory to be
resolved. We face competing institutional claims to ownership within
the information disciplines. Cognate fields like archives, records man-
agement, indexing, and documentation have found independent life
and are reluctant to be taken into the bosom of library/information
schools. Even within our field, there are many questions about our
boundaries and whether the pursuit of certain elements of the game are
worth the risk.

Organizations, like human beings, seek homeostasis. That is, they
seek to achieve a dynamic equilibrium. The growth of any one sub-
system within the organization disturbs that equilibrium so that forces
arise to contain the disturbance and to return the institution to its
former equilibrium point. It takes enormous energy and will to move
the organization beyond to a new equilibrium point. Can this be
accomplished by the library/information field?

My own perception is that if we do not grow, we will probably die
although it may be a slow and lingering death. There is a spirit of
change in our field. Is it strong enough to carry us through all the
disruptions and turmoil that change brings? To survive and to increase
our standing we must accept growth of an order of magnitude that we
have never faced before. Can we find tolerance for the growth and
change that confront us? It is these questions that make the issue of
standing within the institution crucially important.

References

1. Perkins, James A., ed. The University as an Organization (a report for the
   "Environment."
3. Pheiffer, Jeffrey. Organizations and Organization Theory (Pitman Series in

5. Weick, Karl E. "Educational Organizations as Loosely Coupled Systems." *Administrative Science Quarterly* 21(March 1976):1. (This phrase refers to systems in which the actions of one part need not be tightly integrated with the others.)


8. Ibid., p. 349.


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The Job Market For Librarians

MARGARET MYERS

Introduction

Information on the general job market as well as for specific occupations and professions is of interest to a wide variety of persons, such as prospective students, new graduates, career changers, employers, educators, government agency personnel, the media, and others. Many factors affect the labor market. Demographic, economic, social, and technological changes all have an impact on the supply and demand of workers. Job openings usually occur through growth or through replacement needs due to retirements, deaths, transfers from other occupations, or other reasons.

The library labor market is influenced by both external and internal factors. The supply and demand in any profession or occupation often is cyclical in nature and the library field is no exception. As White has pointed out, probably no question has had more discussion among library professionals than that of the supply and demand of library school graduates. The questions asked are: Is there a shortage? Is there going to be a shortage? Is there presently an oversupply? If so, can or should anything be done about it?

Historical Overview

While this article will not address the hundred years that formal library education has been in existence, it might be useful to review...
MARGARET MYERS

highlights from the last few decades. In the 1960s, there was a so-called manpower crisis in the library profession. Increased federal funding brought an expansion of services and building programs along with the creation of new positions. In addition, there were a number of new library education programs. From 1960 to 1970, the average annual growth rate in librarian positions ranged from 4.1 percent in public libraries to 6.5 percent in academic libraries.\

The supposed shortage of 100,000 librarians, however, turned out to be the personnel that would be needed if all standards were met. There were not 100,000 unfilled positions. The 1970 Library Journal summary on placements and salaries of library school graduates reported for the first time in the history of its nineteen-year-old series a marked reduction in the number of openings available for beginning librarians. Carlyle Frarey pointed out that there were still more jobs than people to fill them, but the picture began to alter in 1969 and this change had implications for library school recruitment efforts and practices.\

The economic reversal, reduction of federal funds, and increasing number of library school graduates led to a very competitive job market in the early 1970s. An American Library Association (ALA) survey in 1971 uncovered a number of library budget cuts, hiring freezes, and reductions in hiring. There were cries that library schools should limit enrollment and that ALA should declare a moratorium on the accreditation of new library education programs. This resulted in a statement in 1976 by the ALA Committee on Accreditation (COA) that said such suggestions were based on a misunderstanding of the functions that accreditation could appropriately serve. COA said it was not a proper function of an accrediting agency to attempt to control entry into a given profession by denying accreditation to programs that met established standards. This action would in effect be a restriction of trade since any institution had a right to apply for accreditation of a program. It also was not a proper function of accreditation to attempt to dictate to institutions on the basis of the current job market in a particular profession the number of students to be admitted to a program. However, the statement declared that prospective and current students should be apprised of the current job market and be given complete information to enable them to make their own decisions about the choice of profession or educational programs.\

In an article on “Library Education and Placement Problems,” Hickey wrote that the “irony of the library job situation is that there is no shortage of work to be done...but there are, from time to time, shortages of funds with which to support the services.” She warned that
a later lack of qualified librarians might emerge and that it would be "tragic if good prospects were turned away from library education because today's librarians...had not been able to anticipate economic change."6

The 1980s have brought a more even balance between supply and demand as a result of a decline in the number of graduates from master's-degree programs, some economic improvement, and the movement of librarians into other information-related positions. There are even some indications of shortages in certain specialties and a concern that an overall shortage of librarians in the near future will occur.

**Trends**


The number of graduates reported ranges from 6336 in 1973 to a decline to 3494 in 1983. The 1984 graduates constituted a slight upswing to 3529. One indication of the job market picture can be gleaned from the percentage of graduates that were unemployed for more than six months after graduation. In the 1970s, this ranged from a high of 16 percent in 1977 to a low of 8 percent in 1979. There was a sharp drop beginning in 1980. Since that time, only 2 to 4 percent of the graduates have been unemployed for more than six months after graduation. The percentage of graduates going into nonprofessional jobs is also revealing. In the 1970s, this was anywhere from 6 to 11 percent. Since 1980 it has held at a steady 4 percent. Another interesting figure that has been reported since 1981 is the percentage of graduates who have gone back to their previous work. This generally ranged from 19 to 23 percent. An unknown variable in the placement picture are those graduates who fail to report their whereabouts after graduation. This usually ranges from 25 to 30 percent of the graduates. One wonders if a complete report
might alter the placement statistics. Trends in library placement of graduates by type of library are presented in table 1.

**TABLE 1**

**Percentage of Placements of MLS Graduates by Type of Library**

<table>
<thead>
<tr>
<th>Year(s)</th>
<th>Public</th>
<th>School</th>
<th>College/Universities</th>
<th>Other Library Agencies</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951-55</td>
<td>33.0</td>
<td>23.0</td>
<td>28.0</td>
<td>16.0</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1961-65</td>
<td>30.0</td>
<td>20.0</td>
<td>28.0</td>
<td>17.0</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1971</td>
<td>29.0</td>
<td>26.0</td>
<td>30.0</td>
<td>15.0</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1976</td>
<td>27.1</td>
<td>23.2</td>
<td>26.5</td>
<td>23.2</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td>27.4</td>
<td>17.9</td>
<td>25.3</td>
<td>29.4</td>
<td>100</td>
<td></td>
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<tr>
<td>1980</td>
<td>27.1</td>
<td>19.5</td>
<td>25.1</td>
<td>28.3</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>27.3</td>
<td>19.2</td>
<td>25.6</td>
<td>29.9</td>
<td>100</td>
<td></td>
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<tr>
<td>1982</td>
<td>28.5</td>
<td>17.4</td>
<td>24.5</td>
<td>29.6</td>
<td>100</td>
<td></td>
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<tr>
<td>1983</td>
<td>28.0</td>
<td>17.3</td>
<td>23.8</td>
<td>30.9</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>27.9</td>
<td>14.4</td>
<td>28.0</td>
<td>29.7</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>


Little other data exist that trace the job market through the years. Rayman studied academic position vacancies in *Library Journal* from 1970 to 1979. It was a decade of fluctuating levels with job opportunities falling to critically low levels at the decade's end. Morris charted the number of help-wanted ads in *American Libraries* and *Library Journal* from 1961 through 1980 and compared this with the number of MLS degrees granted from accredited and nonaccredited programs. The number of degrees rose steadily from 1931 in 1961 to 8091 in 1979 but started declining after that date to 5374 in 1980. The number of help-wanted ads increased along with the degrees until 1967 when the number of ads began to fall, but the numbers of degrees continued to climb until 1979.

Although the ALA placement center represents only one part of the job market, the annual conference placement center statistics show a similar rise and fall of library jobs by comparing the ratio of library job listings with job seeker registrations each year. One can see the shortage of librarians relative to position vacancies in the 1960s followed by an increase in the number of job seekers compared to the job openings in the 1970s. The 1980s have showed a narrowing of the gap as the number
The Job Market for Librarians

of job seekers has come closer to the number of positions available. In 1984, for the first time in many years, there were more jobs than job seekers (see table 2).\(^\text{10}\)

**TABLE 2**

**Numbers of Applicants and Job Openings at ALA Annual Conferences Placement Center, 1965-1985**

<table>
<thead>
<tr>
<th>Annual Conference</th>
<th>Applicants</th>
<th>Job Openings</th>
<th>Applicants/Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965 (Detroit)</td>
<td>203</td>
<td>909</td>
<td>0.22</td>
</tr>
<tr>
<td>1966 (New York)</td>
<td>632</td>
<td>1603</td>
<td>0.39</td>
</tr>
<tr>
<td>1969 (Atlantic City)</td>
<td>629</td>
<td>1352</td>
<td>0.46</td>
</tr>
<tr>
<td>1970 (Detroit)</td>
<td>923</td>
<td>892</td>
<td>1.03</td>
</tr>
<tr>
<td>1971 (Dallas)</td>
<td>1133</td>
<td>521</td>
<td>2.17</td>
</tr>
<tr>
<td>1972 (Chicago)</td>
<td>1416</td>
<td>572</td>
<td>2.48</td>
</tr>
<tr>
<td>1973 (Las Vegas)</td>
<td>1193</td>
<td>525</td>
<td>2.27</td>
</tr>
<tr>
<td>1974 (New York)</td>
<td>1899</td>
<td>401</td>
<td>4.74</td>
</tr>
<tr>
<td>1975 (San Francisco)</td>
<td>1569</td>
<td>521</td>
<td>3.01</td>
</tr>
<tr>
<td>1976 (Chicago)</td>
<td>1995</td>
<td>530</td>
<td>3.76</td>
</tr>
<tr>
<td>1977 (Detroit)</td>
<td>1515</td>
<td>455</td>
<td>3.33</td>
</tr>
<tr>
<td>1978 (Chicago)</td>
<td>1373</td>
<td>507</td>
<td>2.71</td>
</tr>
<tr>
<td>1979 (Dallas)</td>
<td>745</td>
<td>554</td>
<td>1.34</td>
</tr>
<tr>
<td>1980 (New York)</td>
<td>1184</td>
<td>586</td>
<td>2.02</td>
</tr>
<tr>
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<tr>
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<td>1077</td>
<td>557</td>
<td>2.12</td>
</tr>
<tr>
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<td>715</td>
<td>509</td>
<td>1.40</td>
</tr>
<tr>
<td>1984 (Dallas)</td>
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</tr>
<tr>
<td>1985 (Chicago)</td>
<td>940</td>
<td>834</td>
<td>1.13</td>
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</table>

Source: ALA Office for Library Personnel Resources. *Placement Center Reports.*
Note: Data for 1967 and 1968 not available.

**Current Job Market**

When asked about the job market for librarians, many people will answer “It depends.” In essence, there is not just one market but many—depending on the type of library, geographical interests, or other interests of a person. Altman claimed there are at least three markets for librarians. The “major” library market is easy to track nationally because of advertisements in the national journals for positions in large academic and public libraries and some school and special libraries.
Filling these positions tend to be the MLS graduates, mostly from accredited programs. In 1981-82, the Library Compensation Review found 2500 positions advertised in major libraries. (Note: Unfortunately, this Review ceased publication in 1983 but for a two-year period offered interesting analyses of position vacancies.) Another market, according to Altman, is the "smaller" library market which is more difficult to survey because these positions are advertised only in local and diffuse sources, if at all. This market includes many of the small-town public libraries; some school libraries; and small, special libraries where the professionals come from a variety of backgrounds and where the MLS is often not required or expected. The third market, "information professionals," is emerging in a variety of settings—mostly profit-making organizations—and is difficult to track because the job titles are diverse and unstandardized.

The King Research study on Library Human Resources published in 1983 replaced the 1975 Bureau of Labor Statistics (BLS) report as the most comprehensive study of supply and demand for the library profession. The BLS study had reported 115,000 librarians employed in 1970 with 45 percent in schools, 23 percent in public libraries, 17 percent in academic libraries, and 15 percent in special libraries. BLS had projected 168,000 librarians employed by 1985. In 1982, BLS reported employment of 151,000 librarians. This is slightly higher than the King Research survey data of the same year which reported that 139,000 librarians were employed in 1982 with 48 percent in school libraries, 23 percent in public libraries, 15 percent in academic libraries, and 14 percent in special libraries.

The King Research team found that approximately 23,000 librarians were hired and 17,000 left their jobs in 1981. These figures represent people who both entered the profession, left the field, or moved from one job to another within it. Of those hired, 34 percent were new graduates, 44 percent were transfers from other libraries, and 22 percent came from other types of employment or were previously unemployed. Six percent had been nonprofessionals in the same library. Of the librarians leaving their jobs in 1981, 15 percent left libraries for other employment; and 49 percent retired, died, returned to school, became unemployed, or left the workforce for other reasons. The King Research report found that 13,000 librarians would be needed each year to replace those that left library institutions.

In reviewing the supply side, King reported that in 1981, 5000 MLS degrees (accredited and nonaccredited), 300 bachelor's in library science and 1700 school library certificates were awarded. The 1981 MLS graduates were distributed almost equally across types of libraries, but the
majority of school library certificate and bachelor's degree holders went to work in school libraries. Over half the recent graduates hired by school libraries were from other than MLS programs. Heim has analyzed the school library media workforce and in it also discusses the decline of school library placements from accredited programs.

Additional information about the job market for persons coming from the undergraduate library science programs is found in a survey by Schmidt, who solicited information on 1980 graduates of these programs. A total number of 791 graduates were reported from 130 programs, the majority of whom indicated the degree was a library science minor (82.3 percent). The minor degrees tended to be awarded in tandem with teaching diplomas as part of a general curriculum in education or media. Of the 682 placements reported, 550 (81 percent) were in professional positions and the remainder in paraprofessional jobs. Sixty percent of the professional positions and 32 percent of the paraprofessional jobs filled by the graduates were in school-library media centers. The remainder were spread across other types of libraries.

Movement by librarians from jobs in one type of library to another does not appear to be as prevalent as in the 1960s during the shortage of librarians. As the market became more competitive, employers found they could get very specific kinds of expertise and experience. Unfortunately, some may have escalated qualification requirements without reviewing if these were truly job-related. The King Research report warns that if employers and librarians perceive that librarian skills are not transferable across library types and librarians cannot move easily from one type of library to another, imbalances within the profession may occur. The survey found that of librarians changing jobs in 1981, 27 percent moved from one type of library to another while 73 percent went to another job in the same type of library.

Koenig and Safford point to the vertical stratification in the library field, particularly in academic librarianship, where it becomes difficult to move up to a senior position in a large academic library without having been in a large academic library environment early in one's career. They make the case for horizontal mobility and indicate academic research libraries are being crippled by early delimiting of the field from which they recruit managerial personnel. Koenig and Safford advocate that academic research libraries consider hiring managerial-level personnel from outside the academic-research library ranks, with demonstrated managerial competence in other areas such as industrial research or large public libraries.
Geographical Data

The King Research report included minimal information on the employment situation by geographical area. From 1978 to 1982 employment increased in each region but only very slightly in the Great Lakes. Average annual increases for the North Atlantic and Southeast regions were just under 2 percent during this time period, while the West and Southwest’s employment of librarians grew at a rate equivalent to 4 percent per year.¹⁹

The author contacted library telephone joblines within the various states asking for statistics on the number of job openings but many do not collect this data. The ALA Association of College and Research Libraries jobline announced 117 openings in the first eight months of 1985. In 1984, ACRL listed 120 jobs. The Pacific Northwest Library Association (PNLA) listed 335 jobs in a one-year period from July 1984 to June 1985. This represented a 15 percent increase in job listings over the 287 recorded in 1983-84. The majority of these were from the state of Washington. From 1978 to 1982, the PNLA jobline averaged between 100 and 200 jobs a year. The Oregon/Library Media Jobline announced 107 openings in 1984 and 113 in 1985 (through August). The British Columbia Library Association jobline reported 110 openings during 1984-85 and 178 during 1983-84.

In Illinois, 243 jobs were listed during 1984-85 with 40 percent in public libraries, 39 percent in special libraries, 18 percent in academic, 1 percent in school, and 2 percent in other. The number of calls was up 36.5 percent over 1983-84. Oklahoma’s jobline reported twelve to fifteen jobs each week, mostly in public and academic libraries. The Texas State Library jobline reported a total of 1846 listings in 1981-82, 697 in 1982-83, 732 in 1983-84, and 796 in 1984-85. Of the total 4051 jobs during this four year period, 2088 were in public libraries, 1448 in academic, 397 in special, and 118 in school libraries. The Texas Library Association Job Hotline listed ninety-three openings from January through August 1985, with approximately twelve new positions each month. The Pennsylvania Job Hotline announced 284 jobs from January through August 1985. The New England jobline does not keep statistics, but Matarazzo estimated that approximately 10 percent of the New England jobs posted at the Simmons College Graduate School of Library and Information Science are listed on the jobline. The number of New England postings at Simmons climbed steadily from 440 openings in 1981 to 762 in 1984.²⁰

A survey, done by Ashford, of New England positions during 1980-83 uncovered 2040 position vacancies. In 1981 there was an 18.5
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percent drop because of the recession and property rollback efforts in Massachusetts but in 1983 there was a 13.4 percent increase over 1982 openings.\textsuperscript{21}

In a 1985 survey of sixty university teacher-placement officials, library science was listed as a teaching field with a slight teacher shortage, particularly in Alaska, Hawaii, South Central states, Great Plains/Midwest states and Southeast states.\textsuperscript{22}

**Type of Function**

Ashford's study and the Simmons data showed a consistently high number of openings in cataloging, children's services, information and reference, school media, and technical services. The *Library Journal* placements and salaries articles for the last several years have been reporting a shortage of persons in children's librarianship and technical services and persons with science, language, business, and engineering backgrounds. At its 1985 Midwinter meeting, the ALA Resources and Technical Services Division's Heads of Cataloging Departments Discussion Group explored the reasons for the lack of applicants for entry-level cataloging positions. In addition to the declining enrollments (which affect all types of jobs) the cataloging administrators surmised that the prestige of the professional cataloger has suffered due to the redefinition of traditional librarian tasks as a result of automation and the blurring of distinctions between the original, independent, intellectual tasks of the professional and those that have been taken over by the paraprofessionals. There is also concern that library schools may be conveying the impression that cataloging is an undesirable occupation and a career dead end, rather than an intellectually challenging aspect of librarianship.\textsuperscript{23}

Fitzgibbons reviewed advertisements for children and young adult librarian positions in *American Libraries* for 1982 and the first half of 1983. She found a total of fifty-eight positions advertised during this time period; thirty-four required some experience although no positions required more than five year's experience. Children's librarians were most sought after in the midwest, south, and southwest.\textsuperscript{24} A number of articles in the literature have pointed to the difficulties in recruiting children's librarians and there has been pressure on library schools to not drop courses in this area. The lack of career ladders and low salaries have been cited as difficulties in attracting people to this area of specialization.\textsuperscript{25}

The shortages of applicants described earlier have also been reflected in the ALA conference placement centers in the last few years.
The numbers of job openings in the technical services and youth services areas have been greater than the number of applicants interested in these types of positions.

Altman has discussed how librarians have not been especially "clairvoyant prognosticators." Many had predicted that cooperative cataloging systems would reduce the need for in-house catalogers but this does not appear to have happened. In 1981, the *Library Compensation Review* reported that 14 percent of all advertised position openings were for catalogers. These were evidently not necessarily for persons to deal with foreign-language materials uncataloged by the major utilities because only 40 percent of the position vacancies listed a requirement for reading knowledge of another language. Only reference and general administration positions had more openings than cataloging. These three types accounted for 60 percent of all advertised openings in 1981. Of the reference positions, 60 percent were for persons with special subject competence. Altman also indicated the literature of the 1970s had predicted an increase in audiovisual, bibliographic instruction, personnel, and systems specialists. However, in 1982 these constituted only 1 to 2 percent of the jobs.26

**Outside Libraries**

The job market for librarians in the broader information-related field outside the traditional library setting has attracted a great deal of interest in the last several years. Some data are beginning to emerge, although the field is still fluid. Until 1980, placements in other information specialties were lumped with special libraries in the annual *Library Journal* report on MLS graduates. Of the 2035 known placements for the 1984 graduates, 89 were reported in "other information specialties."27 The report indicated that employers in information-related organizations are beginning to look to library schools for people to fill nontraditional positions.

The King Research report found that approximately 4 percent of the graduates were finding information jobs outside libraries, although 9 percent of the librarians changing jobs in 1981 transferred to non-library information positions.28

Sellen and Vaughn report on questionnaire responses from 487 librarians who have moved into alternative work places. Of the respondents, 80 percent listed their primary source of income from business, government, or other organizations. Fifty-four owned their own businesses and forty-three were self-employed free-lance workers. Over 60 percent worked for the private, for-profit sector. A wide variety of job
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titles was given. The most prevalent titles included director; president; owner; sales, marketing or program director; librarian; executive director; deputy director; and information specialist. Respondents were asked to describe their principal area of work. The highest number checked administrative/management (30 percent), followed by consultant (22 percent), researcher (19 percent), marketing/promotion (18 percent), editor (17 percent), information manager and writer (17 percent), customer service (15 percent), indexer (11 percent), teacher/trainer (11 percent), systems analyst (10 percent), and information broker (10 percent).

Because these jobs are not found in the traditional library-placement sources, it is necessary to look to other methods. Sellen and Vaughn reported that 42 percent in their survey acquired their present jobs through personal contacts and 20 percent created the position themselves. Published sources, library school placement services, and employment agencies contributed less than 10 percent of the job announcements. Only 31 percent were advised of such career opportunities in library school. Seventy-one percent would advise people to get a library degree to obtain similar types of jobs, although 29 percent would not. Most often mentioned as a different subject degree that would be helpful were the MBA and training in computer science. Other course work that would help included management, public administration, communication, education, and journalism. The majority of responses showed that a library science degree was of value to them, whether or not they recommended it for others.

The information marketplace still is in the process of being defined. Slater comments that the librarian/information worker functions have various shadings and gradations and exist on a continuum with fluid boundaries. Summit and Meadow assert that employment in the information industry is difficult to measure since the industry itself is not easy to define. They conclude that the computer/communications aspect of librarianship is growing faster than the traditional service side. In particular, the boundaries between special librarianship and the other information-related positions need clearer definition. Koenig and Kochoff outlined the emerging roles for librarians in data administration and think that special librarians in particular are in a good position of knowing the business organization and would be able to move into these positions. The image of librarians, however, is a stumbling block. Librarians must sell their expertise to senior data administrators and stake out their territory. It is necessary to move swiftly to get into this area.
The *Online* series of articles on career opportunities in the online industry should be especially helpful to those who are seeking the nontraditional information positions. Often these are advertised in data processing sources but are difficult to find because of continually changing job titles and the creation of new functions. There is a need for market-research, quality-control, and project-management personnel and technical writers. Opportunities exist for database publishers, vendors, computer manufacturers, records managers, and many other types of positions in such high-tech fields as microcomputing, videodiscs, teletext, and videotext.

Strauch points to the need for marketing professionals who understand both marketing practice and the nature of information. Also needed are computer professionals and specialists in ergonomics. She lists a wide variety of sample job titles likely to be found in an information retailing firm, such as online search specialist, document delivery manager, researcher, systems designer, order fulfillment manager, abstracter/indexer, records manager, and others.

Chen’s study of information professional positions found that library school graduates are not properly recognized as being capable of carrying out these tasks or being viable candidates for position openings. The majority of information jobs identified in her study called for only a BA or BS degree. If the library profession wants to move from the narrow definition of its profession and become visible in the information environment, Chen recommends carefully evaluating the current situation, developing strategies, and making a public relations campaign. Chen’s study estimated that 68 percent of the national workforce is in information-related positions.

Debon’s study estimated that there are 1.64 million information professionals, the majority of which are found in industry (71 percent). State and local governments account for 22 percent of information professionals, with 7 percent in the federal government and 2 percent employed in colleges and universities. The computer field accounts for the largest segment of information workers (42 percent), while librarians and management support personnel comprise the next largest categories with 10 percent each. Some 1500 different job titles are used by these information workers. It is difficult to know how easily librarians could move into the other information areas, as many positions call for specific subject knowledge beyond information skills.

In speaking about the invisible information marketplace, Cronin suggests that subject degrees or commercial experience might be more highly regarded by employers than a specifically information orienta-
The Job Market for Librarians

tion. Because it is a "sprawling, fragmented and dynamic environment," the information industry calls for multidisciplinary skills and technical expertise, personal motivation and management capability. These might be more desirable than a professional qualification in library or information science.87

Future Outlook

Although the Bureau of Labor Statistics (BLS) regularly forecasts labor market trends, it admits that developing projections is not a precise statistical process despite the use of economic models. There are too many factors that can alter economic activity. Nevertheless, there are a variety of factors that can be analyzed to look at the supply and demand in the future in general and in the library field specifically. The number and kinds of jobs needed in tomorrow's economy will depend on the interplay of demographic, economic, social, and technological factors. Generally, a growth in the economy is predicted, particularly in the high-tech industries. BLS predicts the large growth areas will be in the fields of health, engineering, and computer sciences.

There has been considerable discussion in the personnel literature about the implications of the aging population in the United States and its impact on the future workforce. Over the next twenty years, the growth of middle-aged to older workers probably is the most important in terms of labor market influences. As the "baby boom" generation gets older, there will be a large increase in the number and proportion of older persons in the workforce. Currently the 18 to 34 age group comprises 48 percent of the workforce but this will decline to 37 percent in the year 2000. The 35 to 54 age group will go from 35 to 49 percent. Women's participation in the workforce will continue to increase, and three-fifths of women are expected to be in the workforce by 2000.88 Early retirements may continue but the extension of work-life opportunities may become a national policy goal. Many industries are encouraging early retirement through lucrative benefits, but some workers are choosing to remain working, although sometimes in more flexible, part-time, or temporary positions after formal retirement.

The National Planning Association predicts that the five Sunbelt states of California, Florida, Texas, Arizona, and North Carolina will account for more than half of the national population in the year 2000. Up to now, the nation's population gains have been in the South and West, although the predicted population declines in the northeast and Midwest have not materialized.88 The West will continue to be the fastest growing region, increasing about 45 percent between 1980 and 2000,
and the South will grow about 31 percent. Geographic shifts usually increase the demand for services but could also increase competition for jobs.  

A teacher shortage has been predicted, which may have an impact on school librarians. Experts predict the impending shortage may be the most severe the nation has experienced. Several demographic trends account for this, namely, a decline in the number of college students majoring in education, an expansion of the precollegiate age group, and the fact that 30 to 40 percent of the current teaching force will retire in the next five years. Recent enrollment surges in the Sunbelt states (particularly California, Florida, and Texas) may create more need for school librarians as well as teachers. Another problem area for educators is that rural and inner-city school districts are experiencing difficulty in attracting and retaining teachers. Some school systems are hiring provisionally certified teachers or are hiring teachers with no teacher training on an emergency basis.

As for librarians, BLS has projected a slower than average change in librarian employment from 1982 to 1995. Using low-, moderate-, and high-trend projections of employment, BLS estimated that by 1995 librarian employment would be 167,000; 170,000; or 174,000. This represents an estimated change anywhere from 10.7 to 15.3 percent. The annual replacement rate is estimated at 13.9 percent. In an effort to obtain more specific data by geographical area, the author wrote to the state departments of labor for projections of librarian employment. While not all states responded and data were not always comparable, the summary data in table 3 are of interest. The projected average number of annual openings shows that openings will occur because of replacement needs (due to retirements, deaths, and people leaving the field for other reasons) rather than from growth in the numbers of positions.

The King Research study stated that the number of librarians employed was found to be primarily a function of the population served. Therefore, the number of librarians employed in public libraries is closely tied to the total population, and school and academic librarian employment is closely tied to school enrollments. A 1 percent per year increase is predicted in public librarian employment, a 1 percent per year decline in public school employment, and a slight but steady decline in academic librarian employment. According to the King report, special librarian employment is expected to increase by 4 percent after 1988. Their forecast predicts a slight excess in supply of new graduates over demand but this will not be as great as in the late 1970s.
TABLE 3
LIBRARIAN EMPLOYMENT FOR SELECTED STATES

<table>
<thead>
<tr>
<th>State</th>
<th>Estimated Employment (Year)</th>
<th>Projected Employment (Year)</th>
<th>Estimated Average Number of Annual Openings</th>
<th>Due to Growth</th>
<th>Due to Replacement</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Estimated Number of Employed Librarians (Year)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Alabama</td>
<td>2560 ('82)</td>
<td>2770 ('95)</td>
<td>15</td>
<td>95</td>
<td>110</td>
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<td>303 ('84)</td>
<td>347 ('89)</td>
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<td>11</td>
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<td>2535 ('95)</td>
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<td>Georgia</td>
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<td>5461 ('90)</td>
<td>93</td>
<td>217</td>
<td>310</td>
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</table>

Source: Data from occupational outlook reports issued by state departments of labor or employment service.

Cooper and Van House expanded on the data from the King Research report with further analyses. Cooper used mathematical models to develop projections and background data on past trends affecting librarian employment. Public librarian employment was viewed in relationship to personal income, property tax revenue, and adult and school-age populations. School librarian employment is affected by school expenditures, number of teachers, and enrollment. Academic library employment variables include total enrollment in higher education, expenditures on higher education, and the number of teachers in colleges and universities. Employment in special libraries is more closely tied to the general health of the economy than to other types of
libraries and varies depending on conditions in particular industries. Cooper thinks that research and development expenditures and employment levels are an important variable in the changes related to special librarian employment. Since the health services industry is a major employer of health science librarians, national health expenditures are also important to track.

During the eight-year projection period used by Cooper (1983-1990), the primary source of new jobs is through replacement demand rather than expansion. Replacement rates were found to average 6.8 percent annually for all libraries. The highest expansion percentage projected is in the special librarian category (27 percent).  

Van House used an economic model to forecast the number of accredited MLS graduates and their starting salaries. Variables include library expenditures, professional women's salaries, and past graduates. Because an increase in graduates can cause a decrease in salaries and, in turn, a decrease in graduates, the market will experience alternating periods of surplus and shortage if this relationship is strong. Van House predicts a slight increase in graduates from accredited library education programs and continued competition for the jobs available. Because the library labor market has undergone prolonged disequilibrium for the last three decades, Van House calls for more research into the dynamics of the library labor market and the causes for the shortages and surpluses to forestall and correct for future imbalances in supply and demand.

Related Issues

Although it is difficult to accurately predict the librarian job market in the future, it becomes even more difficult to predict what will happen with the broader information-related field. The place of libraries and librarians in the future "information world" remains uncertain. Debates in the library literature have focused on whether the librarian's role will be enhanced with the increased visibility and accountability of such duties as online searching or whether the librarian's intermediary role will be removed as more users perform their own searches. Some predict the librarian's role will be enhanced to the extent that the librarian can get out of the library and become part of a research team.

Cronin states that structural and technological changes will force the library profession to reassess its position in the information marketplace. Although librarians feel they have a key part to play, they will face commercial competition from a variety of groups. The general public is becoming more computer literate and information self-reliant while at the same time the information function has become more
specialized and complex. This has opened up career opportunities for technical specialists from other disciplines and has not necessarily strengthened the librarian's role. In fact, Cronin writes that the "maturation of the information industry has effectively 'exploded' a professional domain and devolved control from society's institutionalized information retailers (i.e., librarians) to a much wider population of technocrats."\(^{(47)}\)

Slater raises the possibility that artificial intelligence (AI) can be applied to the intellectual activities of librarians and information workers and thus have ramifications for personnel planning and forecasting. If it is found that much or most of the intellectual work is susceptible to applied AI, then workers might be displaced not only from the more traditional jobs but from alternative ones as well.\(^{(48)}\)

The extent to which librarians will move into the broader information arena in the future is an unknown. Also unknown is the extent to which graduate library schools will offer more undergraduate information-related studies or other types of graduate information science/management degrees. If the movement outside libraries is seen as one toward more challenging, exciting, or flexible positions and better salaries, then libraries may face serious competition for new graduates and practitioners who are interested in changing jobs. The shortages mentioned previously may increase.

There are a number of challenges for researchers who might want to explore aspects of the employment picture in greater depth. The King Research report points to areas for which they only had tentative data and could benefit from further insight. For example, there is little data on transfers from other occupations and reentrants. It is difficult to estimate how many former librarians might reenter the library workforce, especially if the market improves. In a survey of reentry women librarians, the ALA Committee on the Status of Women in Librarianship found that approximately 17 percent of the sample were persons who had left the profession for a period of two to twenty years and then attempted to reenter. Two-thirds were successful in finding reemployment. Many would have not left the field or would have come back sooner if part-time work had been available.\(^{(49)}\)

An area needing more data is replacement demand and the rate at which people leave the library labor force. This often depends in part on their age and sex. Little is known about the average age of librarians. The 1975 BLS study indicated librarians had a higher percentage of older workers than in most other professional occupations.\(^{(50)}\)

An area for exploration is the relationship between professional and nonprofessional staff and the effect this has on employment pat-
terns. The King Research report found little change in the relative numbers of librarians and nonprofessionals employed over the five years of the survey. There are, however, some indications that automation in libraries has resulted in fewer professionals and more paraprofessionals; but more research is needed on shifting patterns of professional/support staff responsibilities.

The King Research study also did not look in depth at distinctions in employment between different functional areas within librarianship and geographical mobility patterns. A number of studies have identified competencies needed for librarians in different types of libraries and positions, but more needs to be done in identifying how these competencies relate to different career paths and which ones are transferable to other areas, including the broader information-related positions.

A survey on career development needs of a sampling of ALA members pointed to additional issues for the profession to address. The major barriers to career development identified by the respondents were lack of available jobs and relocation concerns. Those groups more frequently troubled by career concerns and obstacles were entry-level persons, those with three to ten years of experience, nonmanagement people, and public and school librarians. While 51 percent of the sample felt they would achieve their desired career goals, 41 percent felt they would not; and 8 percent said they would leave librarianship. A substantial number of librarians probably will need to seek satisfaction in their current positions because of limited opportunities for advancement. This means that senior managers may need to find new ways to motivate staff who do not have access to traditional rewards such as promotion. Developmental opportunities through such avenues as job exchange, job rotation, job enrichment, team building, and quality control circles should be considered.

The various job market issues discussed previously relate closely to recruitment issues that must be faced by library education and the profession-at-large. Are we getting the "brightest and the best?" Or are they not coming into librarianship because they have heard it is a competitive market, because the salaries are low in relation to other professions and occupations, because persons who traditionally have come into predominately female professions now have many more options, or some other factors?

In addition to a shortage of persons in areas such as children's librarianship, technical services, or in science and business librarianship, there is a real need to address the problem of minority recruitment. Minority representation in professional library positions is far below minority representation in the population at large. Minority librarians...
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in the four major minority groups in the United States—(1) black; (2) Hispanic; (3) Asian and Pacific Islander; and (4) American Indian, Eskimo, and Aleut—consist of slightly over 10 percent of the librarian workforce. These minority groups, however, make up one-fifth of the nation's population and by 2000 these minorities are projected as 29 percent. In 1982-83 only 5.7 percent of all master's-degree graduates were minorities; in fall 1984, 9 percent of the students enrolled in library education master's programs were minorities. The competition of other more rewarding occupations (in terms of status and salaries) is perceived by some to present difficulties in recruiting minority group members to librarianship.54

There also needs to be more effort by the profession to make visible the librarian's role in providing quality library service. In particular, it is necessary to increase efforts to educate officials who have control over librarian classifications and salaries on the duties, responsibilities, and qualifications of librarians. The recent challenges to use of the MLS as a hiring requirement and the continued low salaries point to others' lack of understanding of the complexities of professional library work. Pay equity initiatives—which compare librarian salaries with other professions and occupations with comparable skills, effort, responsibilities, and working conditions—are on the increase. These represent one positive approach to improving the status of librarians. Other public awareness and legislative efforts to promote library services should have a ripple effect in increasing the visibility of the librarian but perhaps a greater effort needs to be made to link promotion of library services and promotion of the librarian's role.

References


The Job Market for Librarians


MARGARET MYERS

Role of the Association for Library and Information Science Education in Library and Information Science Education

F. WILLIAM SUMMERS

Historical Perspectives

ON BALANCE, EVEN A glance at the history of the Association for Library and Information Science Education (ALISE) makes clear that the organization consistently has sought to be a force in education for librarianship and more recently for information science. Such a review also makes clear that ALISE has not been consistent in pursuing its goals nor has it been clear on what these goals were. Donald Davis has documented the history of the organization from its founding in 1915 until 1968. That history shows that ALISE has pursued several themes that have not been consistent with one another and that inconsistencies and contradictions in message have resulted in a certain cognitive dissonance in ALISE's statements over the years. These themes have been the following: (1) meeting place for persons engaged in library and information science education, (2) seeking involvement in accreditation, (3) association of schools v. association of members, (4) dealing with nonaccredited library schools, and (5) relating library science and information science.

Meeting Place for Library and Information Science Educators

From its beginnings ALISE has sought to provide a place where persons engaged in library and information science education could come together to share ideas and viewpoints, and it largely has addressed itself to the everyday concerns of the classroom teacher. Many of the

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articles in the ALISE journal concern methods and procedures for teaching various classes in library schools. Much of its conference program has been devoted to providing opportunities for teachers to share experiences and ideas about content and methods for teaching. This classroom focus has caused many to see ALISE as somewhat of a "marching and chowder society" that devoted greater attention to social and self-congratulatory kinds of concerns than to matters of national policy or substance. For much of its history the organization operated without a fixed secretariat and issued only a newsletter. In 1959 it established its journal, the *Journal of Education for Librarianship*.

Throughout its history ALISE has sought to differentiate itself from the larger and more generally purposed American Library Association, and at the same time ALISE has recognized that it needs some degree of association with the larger organization. ALISE usually has held its meetings just prior to ALA to reduce travel costs for ALISE members and to assure a good attendance. Persons active in ALISE also are active in ALA, and many people have held leadership positions in both organizations. This dual existence has been most clear with regard to ALA's interests in library education that are made manifest in its Committee on Accreditation and its Standing Committee on Library Education (SCOLE, formerly the Library Education Division). Because ALA and its member units include many people who are not directly involved in library education—e.g., library staff members, directors, and trustees—some ALISE members have felt that ALA affiliation would dilute education issues and would make it difficult to focus on the particular problems and concerns of the library schools. Over the years ALISE has flirted with closer affiliation with ALA, even to the point of considering direct affiliation. At best ALISE has had a love-hate relationship with the larger organization.

**Seeking Involvement in Accreditation**

The ambivalence of ALISE toward ALA is probably most evident in the subject of accreditation of library schools than in any other arena. For much of its history, accreditation by ALA was the principal criterion for ALISE membership, and ALA accreditation was a matter of importance to all ALISE members. Davis indicates that in an earlier period ALA appeared to be urging ALISE to assume responsibility for setting standards for library education programs, but by 1925 ALA had moved forward with its own program of accreditation. Regardless of its inability or unwillingness to act, ALISE did not abandon its interest in accreditation and over the years there have been calls for the association to play a greater role or to assume complete responsibility for accredita-
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tion. These calls apparently have ignored the fact that ALISE does not have the financial resources to sustain an accreditation program. ALA currently spends in excess of $100,000 to staff its accreditation effort at what can only be considered a minimum level when compared to other fields. The current total income for all ALISE activities is approximately $70,000. To derive the entire cost of accreditation from the existing schools would require each school to pay approximately $2000 annually in addition to its ALISE dues. We may assume that a similar cost and revenue differential existed in earlier years.

Economics notwithstanding, ALISE long has felt that accreditation is a central point in determining the quality of library schools and that as the association representing the library schools it should have a louder voice in the process. ALISE’s concerns tended to be raised in response to the concerns of individual members or officers who raised the question. For example, in the mid-1950s, as president of ALISE, Harold Lancour proposed that the organization take over the accreditation responsibilities due to what he saw as the downgrading of the Board of Education for Librarianship to the present Committee on Accreditation. No action was taken on Lancour’s proposal beyond authorization to appoint a committee that apparently was never activated.

ALISE has used opportunities afforded it by ALA to make recommendations for the revision of the accreditation standards and it did so in the 1951 and 1972 revisions. Members of ALISE were active in the various committees that produced the standards.

While it could set its own membership rules, ALISE has never set any criteria for membership other than ALA accreditation of programs, which are, by definition, a minimum level of quality. ALISE, for example, could have sought to admit only the “stronger” schools and thereby could have established a hierarchy, or, perhaps more accurately, it could have legitimized the hierarchy that always has been assumed to exist. Over the years there have been numerous calls for ALISE to limit membership despite the fact that it would have made ALISE a much smaller but perhaps more effective organization. ALISE could have constituted itself as an organization composed of “quality” library schools and set standards beyond ALA’s to define that quality. ALISE has chosen the alternative that produces the larger organization and recently it has abandoned even the ALA-accreditation standard for full membership. It is interesting to speculate what the effect might have been had ALISE chosen the more elitist route to define its membership. Obviously it would have become possible to make meaningful statements about some of the differences in the accredited schools. Also some
of the concerns recently articulated by Herbert White and others about the adequacy of the size of library school faculties could have been addressed in a more hospitable forum. Nevertheless, for library education the development of an organization of elite library schools represents the road not taken.

Association of Schools v. Association of Members

For much of its history ALISE chose to define itself as an association of schools as contrasted with an association of members. This distinction was of significance in its early history and dictated to a great extent the roles it could play in library education. One immediate consequence was to exaggerate the importance of the spokesperson for the school—usually the dean—in the organization.

For the first thirty-two years of its history (1915-1947) ALISE was solely an organization of schools. After 1947 personal members were admitted and could vote, but only the school representatives could vote to change the constitution. Now the association functions principally as an association of personal members. It is clear that the organization's program and its influence have increased markedly since individuals as opposed to institutions were given the major voice in its direction and policy. Had ALISE functioned from the beginning as a membership association it might have reached the place it now holds at a time when it could have had a major impact upon the structure and direction of library education in the country.

Dealing with the Nonaccredited Library Schools

Throughout its history ALISE has demonstrated a certain ambivalence toward the programs of library education that did not have ALA accreditation. For most of the association's history these schools were not eligible for membership and played no role in the association's affairs. In the 1970s they were afforded membership as associate members along with their faculties, and in 1984 all membership classes were dropped and persons from nonaccredited schools could be full members of the organization. It probably is safe to observe that the nonaccredited schools that have affiliated with ALISE are those that have some interest in accreditation and eventually hope to achieve it. Those programs that have no interest in ALA accreditation—principally school media programs and more recently some programs in information science—have not sought affiliation with ALISE nor do they appear to be interested in it as an organization. ALA has long been hospitable to these programs and has actively sought and encouraged their participation in its library education programs and units. Now
that ALISE has provided for full membership for nonaccredited programs it remains to be seen if it will change its programs and concerns to make membership attractive to these schools.

Relating Library Science and Information Science

A more recent concern of ALISE and of the schools that belong to it has been the relationship between library science and information science. There have been long and extensive arguments about whether these are two disciplines or one and how education for information science could be integrated into library schools and whether it should. At the same time there have been a few schools of information science that saw themselves and their graduates as having little or nothing to do with libraries and that have neither sought nor wanted affiliation with a library organization. In some cases the library and information science programs have been within the same school. There is no point in repeating the arguments here except to note that it has been a major issue in ALISE and within library education, one that appears unresolved, and one to which the association continues to devote considerable time and attention.

Recent Initiatives

In recent years the association has undertaken three initiatives that are indicative of its desire to increase its impact on library education and to reflect the directions which the field is taking. Each of these initiatives has some portent for the future of ALISE and its effort to influence the field.

Change in the Organization's Name

In 1983, by vote of the membership, the name was changed from the Association of American Library Schools (AALS) to the Association for Library and Information Science Education. Subsequently the name of its official journal was changed from the Journal of Education for Librarianship to the Journal of Education for Library and Information Science. The discussions of the name change and the reasons put forward for it reflect a great deal about the present direction and concerns of the organization. First, it was argued that the designation "American" was inaccurate in that the association had, and wished to have, international memberships from non-American schools. Second, the designation as an association of "schools" was inaccurate because the association had for some time been an association of individual members. Third, more than half of the schools that were members and
in which the members were employed were named schools of library and information science or something similar. Fourth, the association was principally concerned with education in these disciplines and this fact should be reflected in its name. Apparently the membership was in agreement with these arguments because the name change was endorsed overwhelmingly. The change was too recent to permit an assessment of whether it will also be reflected in the programs ALISE mounts and in the membership it attracts. One of the hopes of the Board of Directors in changing the name was that ALISE might become an attractive home for those educators who saw themselves as information scientists but not as librarians and that it might attract institutional memberships from programs of information science.

Change in Membership Requirements

Shortly after its name change ALISE also submitted to its membership a constitutional change that created one and only one category of membership for personal members. The change reflected a need for the association to reach out to many individuals who were not in accredited library schools but who might be or could become interested in the association. It was also recognized that library schools might have programs that were not accredited by ALA and in which it was unlikely that the graduates would work in libraries—e.g., programs in information management. As in the name change, it remains to be seen if the membership will change. If ALISE begins to conduct programs designed to appeal to wider and less library-oriented audiences and to provide professional services to these members it may become a more broadly oriented organization that will address professional and education issues from an enlarged perspective.

Future Developments

There are a number of probable future directions for ALISE that have the potential of drastically changing the organization and its impact upon education for library and information science education. How these developments take place can increase the strength and stature of the organization, or if poorly handled they can erode the progress made in the last twelve to fifteen years.

A Change in Secretariat

Since about 1968 ALISE has maintained a permanent secretariat. A single person has functioned as both executive secretary of the organization and assistant editor of the journal with principal responsibility for
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production, printing, and distribution of the publication. The association has been very fortunate in having such a position because it has significantly increased the visibility and the effectiveness of the organization. The history of ALISE is filled with reports of decisions made but never implemented, of committees authorized but never appointed. With the creation of a permanent secretariat, albeit part-time, the association has gained some consistency in its actions and a permanent mailing address. This assistance has been provided on terms that were favorable to both the association and the person filling the position.

In the present secretariat, the emphasis probably has been on the secretarial rather than on the executive. Some ALISE officers and board members have thought that this was appropriate. Others have felt that the association needed more executive leadership than could be provided by elected officers who have full-time positions elsewhere and that the association really needed an executive director who could represent the group in national conclaves, address and raise issues for the board, and be an effective spokesperson in Washington and Chicago. At the same time, the current financial structure of ALISE probably precludes it from seeking a full-time person at any level and certainly it precludes seeking one with executive abilities. ALISE also has a great deal of secretarial work that must be done. It is doubtful that an arrangement as advantageous to the association as the present one can be found. How ALISE handles the future of its secretariat is a crucial question for the association to resolve.

New Directions for JELIS

The association's journal has developed a reputation as a scholarly publication, principally through the selection of a series of able editors. The journal attracts enough paid subscriptions to operate at a near break-even position with relatively little subsidy from the association. It is indexed in a number of major indexing services and is well received by the membership and by the field.

It would seem likely that as the association becomes more broadly purposed there would be similar expectations for its journal. There has always been some tension between the journal's balance as a scholarly publication and as a house organ. The journal has also tended to reflect the association's teaching orientation. Thus one finds many articles about teaching methods, student recruitment and retention, and concerns of library school faculty. The journal faces the difficult problem of addressing the newer and broader concerns of the association while at the same time retaining the loyalty and interest of its present readers and contributors.
International Efforts

ALISE has long been interested in increasing its international affiliations and memberships. To further this goal it created the membership category of "International Affiliate Institutional Member" and has sought affiliations from foreign library schools and library school instructors. International visitors are always welcomed and recognized at ALISE meetings, and the association publishes a list of faculty members qualified to teach in foreign languages. By fall 1984 the association had attracted five foreign associate member institutions—three from the United Kingdom and one each from Nigeria and Pakistan.

If ALISE continues to attract foreign institutional and individual members it certainly will increase its visibility and its influence. ALISE could attract grants to support international projects and to facilitate exchanges of American and international library and information science educators. Such ventures would provide opportunities for the association to increase its impact upon library education.

Relationships with Other Organizations

Even though ALISE's principal external organizational relationships have been with ALA, ALISE has maintained useful relationships with a variety of organizations and these relationships have increased in recent years. ALISE was an early member of the Council of National Library Associations and for a brief time an associate member of the American Council of Learned Societies.

More recently, in keeping with its international interests, ALISE has been a member of the International Federation of Library Associations (IFLA) and has sponsored a representative to the Library Schools Section and had a representative on the U.S. committee for the IFLA conference in Chicago in 1985. In the international arena, ALISE has a representative to the Organization of American States (OAS) and to the International Relations Committee of the American Library Association. For several years ALISE maintained membership in the Council of Communication Societies but dues increases and limited gains for ALISE caused it to drop the membership.

ALISE had for many years and has now resumed a membership in the American National Standards Institute/National Information Standards Organization committee on library and information industry standards. Within the American Library Association, ALISE has a representative on the Standing Committee On Library Education (SCOLE) who regularly reports to the ALISE board and seeks advice on ALISE's
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position on various matters. ALISE also has a standing committee on liaison with the Society of American Archivists that has not been very active but that might become important as library schools increase their course offerings in archives. In recent years ALISE has devoted attention to its affiliation with the American Society for Information Science (ASIS), particularly to the ASIS committee and interest groups on education for information science. Many ALISE members also belong to ASIS and several ALISE members have served as ASIS president.

It is difficult to assess the effectiveness of these various liaisons, representatives, and memberships. Some would appear to be of more symbolic than actual importance but even symbolism can have significance. The IFLA association is one to which ALISE attaches great importance as measured by its willingness to contribute increasing sums to maintain the relationship. The relationship with SCOLE also appears important, based on the time the ALISE Board of Directors devotes to hearing and discussing its representative's reports. Other relationships that are less actively pursued are dependent upon the interest and enthusiasm of the ALISE representative and frequently upon the availability of external support to provide whatever travel and communication costs may be involved in maintaining the relationship.

For the past five years or so ALISE has served as a convenor for heads of other information organizations who have met to discuss their common concerns. One product of these discussions has been the development of "Guidelines for Practices and Principles in the Design, Operation and Evaluation of Student Field Experiences in Library and Information Science" that were developed through discussion within this group, approved by the parent organizations, and published by ALISE. Plans for the accreditation conference were also discussed within the group. It is doubtful that these discussions will take on formal structure and the group has decided to keep them on an as-needed basis, but they have the potential to address problems and concerns of several of these agencies.

In 1984—with the support of a grant from the H.W. Wilson Foundation—ALISE convened a conference on accreditation that included representatives of seventeen organizations and concerned the structure, scope, and finance of accreditation in library and information science. The conference focused on whether a new structure could be evolved that would represent the interests of all of the relevant groups, provide a mechanism for governing accreditation, and produce a financial structure to support it. The conference met for three days and its proceedings have been published. At its close it was announced that the ALA Committee on Accreditation also had received a grant from the
U.S. Department of Education to consider ways of implementing the concerns identified in the conference. Since the ALA/COA project is still underway and involves a multiplicity of organizations in the field it remains to be seen whether the ideas germinated at the ALISE conference will bear fruit. Certainly the accreditation conference is one of ALISE's major efforts in working with other organizations in many years. It also represents the ongoing interest of ALISE and other organizations in having an increased voice in accrediting programs in library and information science education. As a relatively small organization with limited financial resources, ALISE may well find the cost of maintaining liaison with other associations beyond its means and it may be forced to become much more selective in those relationships it maintains.

Summary

One must conclude, as did Davis, that ALISE has had an impact upon library and information science education although that impact was less significant than it might have been because of a lack of organizational identity and leadership. The major contribution for much of ALISE's history has been providing a forum for dialogue about education among leaders and instructors in accredited programs and in associated programs. ALISE has contributed to improvements in teaching by maintaining its interest groups and publications which have allowed teachers to share ideas on an ongoing basis.

In the 1970s and 1980s ALISE appears to have heeded Davis's advice, to have broadened its activities, and to have increased its impact on the field as a whole. Indicators of this new more activist stance may be seen in policy statements on member concerns and an increased publications program.

Policy Statements on Member Concerns

Policy statements have been issued on: "The Accreditation Process," "Standards for the Development of Sixth Year Programs," "Position Statement on the Role of Graduate Programs in Library and Information Science and Higher Education," and "Elements of a Federal Legislative Program for Library Education." These policy statements have been widely distributed and the statement on the role of graduate programs was adopted in large part by ALA. These policies have extended ALISE's influence and recognition beyond its members and have been a healthy exercise for the association members who served on the task forces.
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Increased Publications Program

In addition to its journal, ALISE has increased its publications program. In addition to publishing the policy statements its most significant publication has been an annual compilation of statistics on library education that has been issued since 1980. These statistics are the only ones available since ALA/COA ceased a similar publication in the 1970s. The ALISE statistical compilation has been valuable to the schools for comparative purposes and has been cited frequently in publications describing library education programs. The organization has also prepared a task force report on the implications of the White House Conference on Library and Information Services for library education and another on the accreditation process. The heightened publications activity has increased the organization's visibility and extended its influence beyond the membership.

Overall it can be concluded that ALISE has recognized that continuing to function as a small closed society, regardless of the interest and devotion of its members, would inevitably cause it to have limited impact and influence. As a result the organization now seeks to achieve influence through contacts developed and maintained with other professional associations and through the development, adoption, and promulgation of policies and publications on issues falling within its broader scope of concern. At the same time the organization has sought to broaden its membership by liberalizing its membership policies to attract new domestic audiences and international members. If these strategies continue to be pursued, and the secretariat is strengthened, it would be reasonable to predict that early in the 1990s ALISE would be a stronger and more effective organization than at any time in its history.

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Library Schools and Continuing Professional Education: The De Facto Role and Factors That Influence It

JOAN C. DURRANCE

Introduction

WIDESPREAD INTEREST IN continuing education (CE) within the profession is a phenomenon of the 1970s. Samuel Rothstein characterized continuing education in the library profession in the mid-1960s as "nobody's baby."¹ Since that time, due to the rapid changes that have come to the profession, continuing education has changed its status from orphan to a child of many providers, admittedly still of uncertain parentage. The proliferation of continuing education opportunities has not served to assist the profession in determining appropriate roles for its multiple providers. Provision of CE opportunities is one of several factors that describe the provider's role.

The discussion of the role which library schools should play in continuing education was initially shaped by Elizabeth Stone and drawn from the context of comparable roles of selected professions.² Stone recommended a role forged from the assumption of a group of responsibilities which included "creating and funding faculty positions specializing in continuing education" and "appointing a faculty member or administrator to be in charge of coordinating continuing library and information science programming."³ This role also included allocating faculty time for CE, instructing on CE techniques and values, providing CE in a variety of formats, increasing interaction between library schools and other CE providers, and alerting master's students to the necessity of lifelong learning.

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Under Stone’s influence, the Association of American Library Schools (AALS), now the Association for Library and Information Science Education (ALISE), adopted in 1973 “one of the first statements on continuing education approved by any library association.” That statement, however, “addressed the general continuing education concerns of the profession.” The 1980/81 continuing education committee of the association developed a revised statement that was approved by the AALS board in 1981 and is still in effect. This statement develops parameters both for ALISE and for schools and departments of library and information science. The “Programs and Policies” section suggests the following general rule for member library education programs: “provide continuing education programs and activities for the field, encourage evaluation of continuing education programming, and foster faculty development.” In order to carry out this role, the policy statement recommends that schools:

- Clarify the continuing education role of the school, develop a strong continuing education policy and include it in the goal statement of the school.
- Develop a total continuing education program; offer both regular courses and special short term CE offerings at times and places which are convenient to the needs of the continuing education audience.
- Assign responsibility for coordination of CE activities.
- Provide sufficient human and fiscal resources to assure high quality.
- Set priorities to the needs of the CE audience in the service area.

The statement further suggests that schools identify and communicate with the program’s CE audience, evaluate programming, and that schools encourage “continued participation in learning opportunities” by faculty.

In years since Stone sketched the ideal role of library schools in continuing education and ALISE adopted and revised its “Policy Statement on Continuing Library and Information Science Education,” library schools have developed a de facto rather than an ideal role. This article examines that role; it discusses the factors which influence its development, including those which influence improvisation of continuing library education by all providers, and, more specifically, those that are germane to library schools. It analyzes present patterns of delivery of continuing education in library schools and compares these patterns with those of other providers of continuing library and information science education. It concludes with a discussion of the implications of the present situation. The history of library school continuing education is outside the scope of this article; however, Stone’s pioneering
Influences on Provision of Continuing Professional Education

Librarians and information scientists find, organize, store, retrieve, and disseminate knowledge or information in a variety of environments. The field is influenced by a set of global factors responsible for shaping the way that libraries and other information providers deliver their products. Since knowledge in this profession grows primarily from practice, the factors that shape the direction of the field are those that influence the content of the continuing education. Understanding the functions of the profession and the forces that tend to shape it gives the CE provider the basis for planning effective continuing education opportunities.

The factors that shape the field can be grouped into several major categories: (1) the nature of the field of library and information science and the way knowledge grows in it, (2) the nature of library education and the characteristics of those who enter it, (3) the influence of the technology that the field has adopted, (4) available resources, (5) the environments in which libraries and information services are found and the clientele that use libraries, (6) management factors, and (7) the ability to provide competency-based continuing education.

The Nature and Growth of Knowledge in the Field

A basic problem faced by the profession—and therefore by those who seek to develop continuing education for it—is librarianship’s inability to develop a body of theory upon which to base practice. This problem was identified by Pierce Butler in 1933: “The librarian is strangely uninterested in the theoretical aspects of his profession.”

Fifty years after Butler expressed his concern, Michael Winter noted that “the lack of an adequate theoretical body of knowledge is...a serious obstacle to the professional development of an occupation.” The problems associated with “the knowledge base, combined as they are with low public recognition and complicated by structural constraint, are probably more serious in librarianship than the same problems are in other disciplines.”

In addition, knowledge in the library and information management profession grows primarily from practice as new methods of information delivery or new services are created or adopted. An innovation like bibliographic instruction or the development of community...
information service begins in a few libraries, spreads to other libraries, becomes a topic for articles and continuing education programs, and then finds its way into the library school curriculum. Although some research is conducted in the profession (primarily in schools of library and information science), seldom does it have the impact on the changing face of the profession that innovative library services have had.

Most librarians became aware of the entry of new knowledge into the field through journal articles and through continuing education programs offered at national meetings of professional associations. The way that knowledge enters the field creates a barrier that library educators must overcome; in addition, it serves to isolate library education from practice and is a primary reason for the regular call for increased communication between library educators and the field.

The Nature of Library Education

Library education, as primarily a one-year professional degree which has most often attracted English, history, and education majors, has a negative effect on the nature of continuing education. Those who have pioneered in developing the two-year master's degree have pointed out the problems that face this profession whose knowledge base is growing, but whose educators are unwilling or unable to alter the time-honored one-year professional degree. The increased knowledge base has already resulted in the addition of a variety of advanced courses to the already bursting preprofessional curriculum, but most schools of library science still attempt to produce a professional in thirty-six credit hours.

When one adds to the limitations of the one-year degree the fact that most who enter the field lack reasonable quantitative skills, the result is that, often, continuing education is provided at the least common denominator level. This is particularly true of continuing education in such areas as evaluation of library services. Sophisticated evaluation techniques are beyond the capability of many librarians and library educators. Those who attempt to meet the continuing education needs of the profession must recognize that the relative lack of quantitative skills will not be resolved until library education has begun to cope with its curriculum problem.

The location of schools and departments of library science in universities affects the assumption that there is a continuing education role. The powerful influence that this assumption exerts on library school continuing education has been discussed by Stone. She quotes Frederick Mosher's report on professional education which makes it clear that library schools are not in a unique situation.
The De Facto Role

The professional schools are like Janus: they face on one side their professions and the organizations which hire their graduates; on the other, they face the rest of the university, its standards, aspirations, regulations and personnel (including students). They are at the university but not completely in it or of it.14

The Influence of Technology

The most visible factor shaping the field is technology. In the past several years changing computer technology has had an enormous influence on the field. Technology-based CE programs, developed as a response to this stimulus, are of five major types: (1) those that give librarians the desire to embrace a particular technological innovation—even if it is not quite ready (e.g., two-way cable applications for libraries or the potential for optical storage technology), (2) programs that provide the knowledge or information necessary to become involved or to purchase the technology (e.g., writing the RFP [Request for Proposal] for an online circulation or integrated library system), (3) those programs that transmit the skills necessary to manipulate the technology (e.g., the use of microcomputer spreadsheet programs for libraries), (4) CE offerings that provide specialized or advanced skills, and (5) programs that focus on the management skills necessary to oversee the technology.

Librarianship can only be changed by the technology that it has begun to use. Although library computer applications were clear to some librarians as early as the 1950s, the technology was not truly embraced by the field until the 1970s. A number of factors, including the capability of computer technology to provide cost-effective library applications, delayed widespread computer applications in libraries for several decades. Optical storage and retrieval technology is an excellent example of a technology that shows great promise for the field. Its dense storage capabilities make it one of the most promising new information retrieval technologies in recent years. In combination with computer technology, optical media will change the nature of future research libraries, but so far optical media have had little impact on local libraries.

The Resource Base as a Factor

The resource base available to libraries and information centers has often hampered change in the field. The financial situation for libraries reached a crisis in the late 1970s and continuing education programs designed to assist libraries through a tight budget era were frequent. Tight budgets likewise influenced the movement in the field toward
developing mechanisms for greater accountability, including creation and increased use of evaluation techniques and methods of improved budgeting. The 1980s have seen several evaluation tools created by associations—Public Library Association’s (PLA’s) *Output Measures for Public Libraries*, its new *Cost Finding for Public Libraries: A Manager’s Handbook*, and the Association of Research Libraries’ (ARL’s) *Objective Performance for Academic and Research Libraries* as well as continuing education programs designed to facilitate the use of these manuals. Continuing education programs on such topics as ways to increase accountability, alternative sources of funding, and fee-based services will be offered to respond to cost-cutting and accountability needs for the next several years.

*The Influence of Library Environments and Clientele*

The several environments in which library and information centers are found have a direct impact on the delivery of library and information services; and as they change, they influence continuing education needs. Thus, type-of-library programming is actually type-of-library-environment programming. There has been a trend in all types of libraries to examine more carefully the relationships between libraries and their parent institutions (which most often serve as funding agencies). The growth of the information sector has resulted in an explosion of jobs with positions for librarians and information specialists outside of libraries and information centers.

In the future, as more information specialists work outside the library environment, there will be an increase in programs designed to increase the skill of those working in extra-library information environments. Programs on information management and on work in information environments have increased. This trend will continue and expand, resulting not only in continuing education programs but in changes in the library school curriculum as well.

During the 1970s librarians discovered their clientele in its myriad incarnations. Interest in the characteristics of library users (and nonusers) has been a major contribution both by researchers and by creators of library services. The late 1960s and 1970s brought better understanding of the aged, adult learners, those who live in rural areas, ethnic minorities, and citizen activists and their unique needs as library users. Knowledge of specific client groups and their special needs has prepared libraries to serve them better.

The resurgence in the late 1970s of interest in community analysis (in its varied forms for all types of libraries), together with new methods of analyzing the needs of specific groups, has resulted in a greater
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awareness by librarians of the differentiated clientele of libraries and has produced continuing education programs as well as additions to the library school curriculum. Programs based on response to the clientele are particularly difficult for library schools to provide because—unlike continuing education programs produced as a result of most of the factors just discussed—such programs do not appear as urgent. The professional obsolescence that may occur if the staff member does not acquire this new knowledge is not obvious. Since continuing education programs in library schools must be self-supporting, these may be neglected if they are not subsidized.

Social, Economic, and Political Pressures

Libraries, like other social institutions, are subject to the social and political pressures that are aimed at shaping society. Pressures in the 1980s often have been exerted by the conservative movement and most often have been felt by public and school librarians. The conservative movement has espoused, among other things, more censorship and less government. Both of these factors have directly affected libraries. Actions taken by the Reagan administration to limit the amount and type of government information provided to depository libraries have affected libraries of all types. Continuing education programs that assist libraries in appropriately responding to book challenges, those that suggest appropriate roles for libraries in maintaining and increasing access to government information, and programs that discuss libraries and the political process have been created to assist librarians in shaping appropriate responses.

The Management Factor

Students learn the basics of finding, organizing, storing, and retrieving knowledge and, increasingly, the techniques to manage these operations during library school. There has been an extensive debate in library literature about the appropriateness of extensive management education at the master's level, but there is no debate about the need for management continuing education. Managing library functions requires personnel and financial management skills that the compact master's-degree curriculum does not provide. Once in the field, many, if not most, librarians, eventually move primarily from practice to management. The need for management education is recognized by most continuing education providers. Librarians' demands for continuing education programs in management are second only to demands for CE programs in areas of technology. Some library schools have used the
specialist certificate to meet the needs of those who seek in-depth management training.

**Competency-Based Continuing Education**

Until recently, with the exception of the school media area, the field had had little enthusiasm for using competencies as the basis for developing library education programs—either at the master's level or in continuing education. Failure to consider competencies is due in large measure to the difficulty researchers have had in isolating appropriate competencies and matching them to need. More recently, the field has begun to use competencies in designing CE. For example, the research done by Suzanne Mahmoodi on competencies was used as the basis for a series of self-assessment guides initially issued in the Minnesota Office of Public Libraries and Interlibrary Cooperation and republished by the Association of Specialized and Cooperative Library Agencies (ASCLA) in 1986. Although it is too early to comment, the extensive King Research Inc. study of competencies—funded by the U.S. Department of Education and using as its scope the entire information profession—may make it possible for library and information science educators to plan continuing education programs around selected groups of competencies.

In sum, although competencies may not be consciously used by all planners, they are the major influences of CE content. The specifics will change—for example, new information technologies will be adopted by libraries, new social pressures will be felt, and new evaluation tools will be created—but the general factors are likely to remain. Information technologies, social pressures, and evaluation tools are primary influences on members of the profession for gaining additional knowledge and new skills. Where the professional turns who requires continuing education is based on a number of factors including the nature, availability, and cost of the opportunity and the extent to which the sponsor is trusted.

**Library Schools as Continuing Education Providers**

Continuing education in library schools moved from a barely noticed activity to a flashy golden age during the late 1960s and early 1970s. With the ready availability of federal funds for education, including continuing education, library schools were able to provide many subsidized continuing education opportunities before most schools had examined the roles they might appropriately play in professional development. This activity waned with the lack of federal funding, but a new
The De Facto Role

Wave of expanded library school continuing education activity emerged in the 1980s. White notes "a substantial increase in continuing education programs offered through post-master's degree or certificate programs, through workshops, conferences, and in conjunction with professional associations and their programs."18

This growth spurt is likely to have a more lasting effect than the earlier one primed by federal funds. The recent activity is the result of several factors, not the least of which has been declining enrollment in the bread-and-butter program of library schools. Library school enrollments fell steadily from the mid-1970s through the early 1980s in most library schools; White noted a 38 percent decline between 1976 and 1981.19 That decline was influenced, among other things, by the increased costs of professional education and by tight job markets for library school graduates. Enrollments continued to decline through 1983, showing an additional 12 percent decline; although the statistics show a small increase from 1983 to 1984, library schools that do not seek wider audiences can expect a smaller pool of students in the next several years because most of the baby boom generation have graduated from college. The combined factors just discussed put pressure on library schools to maintain a reasonable enrollment to avoid being closed. McCrossan recommended in 1982 that library schools "redeploy their resources from training beginning librarians to other activities, such as continuing education of those who already have professional positions."20

Another factor that has influenced the increased library school continuing education activity, particularly that which is credit-related, had been the addition of a greater number of advanced and specialized courses to the master's curriculum as the result of technological changes in libraries. Such credit courses often serve two or three library school constituencies: the master's degree student, the returning professional, and, at institutions that offer the Ph.D., the doctoral student. Factors that militate against provision of CE have been discussed in detail by Stone.21

The Post-Master's Certificate Role in Continuing Education

Based on an examination of the models provided by other professions, Stone proposed that library schools and all other providers consider adopting appropriate roles designed to facilitate the delivery of continuing library education. For library schools Stone recommended that "the library school based post-master's program should be recognized as the primary method for upgrading the profession," pointing out that academic credentials like the specialist certificate, unlike the
Ph.D., which is research-oriented, "are usually functionally oriented toward the participant's professional objectives."\(^{22}\) As Stone, McCrosan, and others have said, library educators have not begun to exploit the full potential of the specialist certificate.\(^{23}\)

Although the specialist certificate provides a unique opportunity for library schools to assist professionals in a planned program of focused professional growth, it has not become the primary method of delivery, comprising less than 1 percent of the degrees and less than 2 percent of the total library school enrollment.\(^{24}\) The role played by library schools in continuing education rests on a broader, although uneven, base.

### The De Facto Role Examined

Researchers and observers over the years have attempted to present the role that library schools play in CE. Their findings have been influenced to a certain extent by the approach they used. Given the continued lack of a clear library school CE role, I have chosen to construct a de facto role for library schools based on several indicators that were developed from an examination of (1) patterns in the presence of an assigned CE coordinator, (2) ALISE CE and related statistics for patterns, (3) relevant CE announcements appearing in the "Datebook" column in *American Libraries*, and (4) the CE content of the most recent issues of library school newsletters. Because each component presents evidence that is relatively independent of the other, when examined together they present less biased data than a study based on one method alone, such as a survey, a literature review, or an examination of the ALISE CE statistics.

**The ALISE-Designated CE Coordinator as an Indicator of Role**

Shortly after the 1981 ALISE policy statement was adopted by the ALISE board, the association's continuing education committee conducted a survey of ALISE-affiliate schools to determine the extent to which library schools had followed the policy statement recommendation to "assign responsibility for coordination of CE activities."\(^{25}\) The committee found that 78 percent of all ALISE-affiliate schools had designated a CE coordinator. The results of their study showed that:

Typically continuing education coordination is carried out "as needed" as one of a number of other responsibilities usually without a reduction in load. If continuing education is a regularly assigned responsibility, the CE coordinator is more likely to hold a title reflecting administrative assignments. If continuing education is assigned
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on an annual basis the CE coordinator's title is likely to indicate a faculty rank. Since this initial survey of the nature of coordination, each school has been asked to designate a CE contact person for inclusion in the annual ALISE directory. For this paper, entries in the most recent ALISE directory were examined to determine the extent to which library education programs have continued to designate a CE coordinator as well as the type of individual who had been chosen by the dean or director to fill that position.

The ALISE directory shows that two-thirds of accredited schools (i.e., forty-three) have designated a CE contact. The remaining twenty-two schools do not list one. The figures are reversed for affiliate schools. Only one-third (nine) list a CE contact. Most of the accredited schools (49 percent of the forty-three, or twenty-one schools) designated an administrator, either the dean or director or associate/assistant dean or associate/assistant director as CE contact. Five schools assigned the responsibility to a dean's assistant. The most revealing finding was that only three schools had assigned this responsibility to someone with an administrative title like director of continuing education. The remaining sixteen schools (37 percent) assigned it to a faculty member. This study did not address the extent to which placement of this responsibility affected the assumption of the role, although intuitively one might assume that placement in the administrative structure would be the preferable location.

If a school has designated an ALISE CE contact, it is only one indicator of CE activity, but the fact that one-third of the schools and departments list no CE contact is also an indicator that this activity may be relatively unimportant at those schools. Several of the schools that list no CE contact have active CE programs when the American Libraries "Datebook" listing of upcoming CE opportunities are used as an indicator. Additional research should be done on the relationship between the presence of a coordinator and CE programming.

Statistics as an Indicator

The 1985 issue of the ALISE Library and Information Science Education Statistical Report shows that sixty-seven students were awarded a post-master's certificate in the most recent year for which data are collected. The small number of specialist certificates indicates that the specialist certificate has not become the primary methods that library schools use to deliver continuing education in spite of its potential value. The certificate represents approximately 1 percent of all
degrees awarded by library schools. The master's degree, on the other hand, comprises 96 percent of the degrees awarded by library schools. The ALISE statistics indicate that library schools can most effectively distribute CE among the master's program, the advanced (i.e., post-master's) programs, and separate continuing education offerings (e.g., workshops, lectures, conferences).

The ALISE statistics show that library schools have chosen to deliver CE in a variety of formats, one indicator of the type of role schools play in CE. The current ALISE statistical compendium shows that 1697 individuals attended library school short courses, 4815 were present at lectures, 691 attended seminars, 5637 participated in workshops, and 5410 attended institutes at ALISE member schools.  

ALISE adhered to a conservative definition of continuing education the first four years for which CE statistics were provided, reporting only data on conferences/institutes, workshops, seminars, lectures, short courses, and tutorials. These statistics did not fully reflect the role that schools have assumed in continuing education. The 1982/83 statistics and subsequent reports have included credit courses that had been "designed and taught specifically for practitioners who were not enrolled in any degree program." The initial year of data shows that 38 percent of the reporting schools provided such courses in 1982/83. It is likely that some library schools also have included courses that entered the curriculum due to changes in the field and that therefore serve multiple audiences. Since the purpose of providing these statistics is to present a clear picture of what is going on in the library schools, this information will clarify the role that schools play in continuing education.

Content As An Indicator of Role

The content a provider chooses to deliver is another indicator of the role the provider has chosen to fill. To determine the extent to which library schools differ in their assumption of a role, this writer analyzed all complete entries in "Datebook," from October 1984 through September 1985. This monthly column in American Libraries contains the most complete listing of upcoming workshops, conferences, and short courses in the professional literature, containing between thirty and fifty entries per month. It accepts information from a range of providers and in a variety of formats, thus making it convenient for continuing education providers to submit information about upcoming events.

The column entries provide an opportunity to compare continuing education programs offered by schools and departments of library science, library associations, library consortia, companies, and state
The De Facto Role

library and other governmental library agencies. The purpose of this
examination was to determine (1) how library schools differ from other
sponsors of continuing education programs in content, in pricing, and
in format; and (2) patterns that distinguish library schools from other
providers of continuing education.

Entries that lacked complete data (most often cost information)
were eliminated. In order to focus only on continuing education work-
shops and programs, conferences that did not have a specific theme were
also eliminated. Of the entries, 195 met the criteria. Four variables—
sponsor, cost, length, and topic—were examined for each entry. They
are valuable as measures of typical short-term CE programming: two-
thirds of the entries described programs that were two days or less in
length.

Using these entries as the bases for making statements about CE
offerings has its limitations: (1) it includes only those continuing educa-
tion opportunities that actually were submitted to “Datebook,” and
(2) it assumes that the “Datebook” entries are representative of those of-
fered by CE providers. In spite of these limitations, this approach intro-
duces less bias and a greater likelihood of obtaining a representative
sample of current continuing education topics presented by all types of
providers than most other methods due to the highly decentralized na-
ture of continuing education in this field.

Analysis of the “Datebook” entries shows that continuing educa-
tion opportunities during 1984/85 could be broken into the following
major categories (the number of offerings in each category are in
brackets): (1) computer technology [69], (2) other technology [14], (3)
the communication aspects of management [24], (4) other aspects of man-
agement [17], (5) materials for children or young adults [15], (6) refer-
ence/information sources (types of materials) [18], (7) improving li-
brary services [10], (8) collection development or preservation [10],
(9) improving specific skills such as bibliographic instruction or story-
telling, and (10) general professional knowledge [8]. Schools and de-
partments of library and information science were very well represented
in “Datebook.” Over one-third (37 percent) of all the continuing educa-
tion programs were sponsored by library schools, more than any other
category of provider. National, regional, and state associations provided
almost one-quarter (25 percent) of the CE programs. The corporate
sector provided 11 percent of the CE programs.

Examination of the types of topics offered by the various sponsor
categories shows that the twenty-five library schools that submitted
entries to “Datebook” (40 percent of accredited schools and departments
of library and information science not slated for closure) have taken the
lead in providing continuing education programs in computer technology (including such topics as online database searching or the selection of an integrated library system). Of all the programs, 40 percent of those offered on some aspect of computer technology were sponsored by library schools. Library associations have taken the lead in providing management continuing education. Half of the programs on communication aspects of management were offered by library associations, but over one-third (38 percent) were offered by library schools. Library associations and library schools provided 88 percent of the CE in communication. Library schools provided the most opportunities for CE in general management (35 percent)—a topic encompassing budgeting, fund-raising, buildings, and governance—while consortia (including organizations like the Association of Research Libraries) and library associations each provided about a quarter of the opportunities. In addition, schools and departments of library and information science provided more opportunities than any other providers on the following other topics: materials for children and young adults (53 percent), services (40 percent), sources (39 percent), and on professional topics (75 percent).

The "Datebook" entries show that library schools are major contributors to continuing education among all providers and thus have assumed a leadership role in continuing library education—not only in technology topics but across the board. Library school leadership in providing continuing education on computer technology topics should send a strong signal to the profession that library and information science education is attempting to keep abreast in the area of most critical change in the field.

Cost as a Role Indicator

The cost of continuing education by all providers ranged from no charge or a token fee for a one-day program to over $1600 for an intensive library-school-sponsored management seminar. By and large, library schools—when compared with other providers—have chosen to provide continuing education programs at reasonably moderate cost. Over one-third (39 percent) were priced at less than $60; this compares with 33 percent of those sponsored by library associations and only 9 percent of CE programs offered by the private sector. Of the CE programs offered, 58 percent of the library school programs cost less than $100, while 42 percent of library association programs and 22 percent of corporate CE programs cost less than $100. Finally 92 percent of library-school-sponsored programs cost less than $200, compared with 86.6
percent of those provided by library associations and 59 percent of company-offered programs.

The Role Implied by Library School Bulletins and Newsletters

Marilyn Miller examined the bulletins of schools of library and information science to decide the extent to which she could determine the role of continuing education from the official bulletin, the major information vehicle of most schools. Although she does not indicate the size or nature of the sample, Miller found that “most catalogs include reference to continuing education in the written statements of general goals and objectives” and “a few schools provide a comprehensive description of their continuing education programs.”

Due to the content restrictions that may be imposed on official bulletins, newsletters are more likely to reflect actual CE programming by library schools than bulletins. The newsletter is a major tool used by professional schools to communicate with alumni, prospective students, selected librarians, and others. As part of this study, current newsletters were requested from library education programs. The newsletters were examined to determine to what extent they sketched the continuing education role of the school or department. Responses included newsletters from forty-two accredited library schools and four schools that responded that they had no newsletters, resulting in a 75 percent response rate.

All newsletters were examined for (1) descriptions of future continuing education programs, (2) discussion of recently completed CE programs, (3) announcements of courses in the regular curriculum that would be appropriate for practicing librarians, (4) descriptions of new courses in the curriculum, and (5) the inclusion of a course list. The presence of these elements sends a message to newsletter readers about how active the school is in offering to assist graduates as they continue their education. The findings indicate that many of the schools and departments do attempt to communicate a CE capability to their audiences.

Two-thirds of the newsletters announced upcoming continuing education programs while one-third reported on recently completed CE programs and 19 percent included an entire upcoming-term course list. However, only 10 percent took the opportunity to describe new courses and only 5 percent described courses appropriate for practicing librarians. Half of the library schools had included one of the five types of CE information in their newsletter, most frequently a short article describing an upcoming workshop or lecture. A little over one-quarter used an additional category; 10 percent included three of the five possible cate-
JOAN DURRANCE

gories; only 4 percent of the library school newsletters included four of the five categories.

Summary and Conclusions

In spite of efforts by library education leadership, library schools have not yet assumed a clear role in continuing library education. In order to present that role more clearly, I examined a variety of sources of data that provided information about portions of it. These were considered as indicators of aspects of the role. The indicators, when examined together, can be used as the basis from which a de facto role can be constructed.

The nature of the field—including the lack of theory and the fact that knowledge grows from changes in the field rather than from research conducted by library educators—has affected the type of continuing education opportunities that can be offered. Several general factors influence the content of continuing education. The most obvious one is changing technology. The need for the maturing professional to obtain additional management knowledge and skill is another powerful influence on content which is strongly affected by other factors: (1) the resource base; (2) library environments and clientele; and (3) social, economic, and political pressures. These factors set the parameters for the assumption of the CE role.

The indicators that I selected as the basis for the discussion of the de facto role—i.e., assignment of the responsibility for coordinating continuing education, the actual provision of needed CE opportunities, and their promotion to appropriate audiences—sketch a picture of the role which library schools as a group play in continuing education. As in most studies, a proportion of the population deviates from the norm at both ends of the curve.

Two-thirds of the library schools have chosen to designate a CE contact person who is most often a part of the library school administration. This study showed that the 40 percent of all library schools who submitted information about forthcoming CE offerings displayed leadership in the provision of content responsive to the major factors which influence CE need. Other CE providers did not match this leadership. The extent to which the 60 percent of library schools that did not submit programs to American Libraries’ “Datebook” column display the same leadership is not known.

The ALISE continuing education policy statement, adopted in 1981, urges schools to clarify their role vis-à-vis continuing education and to develop a policy to indicate that CE role. The 1986 ALISE CE
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committee is surveying deans and directors of library schools and departments to determine the extent to which schools have undertaken this responsibility. This exercise will encourage deans to rethink the role and may actually result in a clarification for some. Because schools may deviate from stated policy, the actual role will be determined by the CE activities that the schools engage in—including designating someone as CE coordinator, providing CE opportunities that meet the need, and promoting CE to the appropriate audiences.

References

5. Ibid.
6. Ibid.
7. Ibid.
8. Ibid., p. 352.


19. Ibid., pp. 251-60.


22. Ibid., p. 296.


26. Ibid., p. 205.


Doctoral Programs in Library and Information Science in the United States and Canada

GEORGE S. BOBINSKI

The objectives of this paper are threefold. First, the development of doctoral study in library/information science is traced. Second, the current status of doctoral programs is examined. This includes an overview of enrollment, degrees awarded, costs, financial aid, admission and degree requirements, and coursework. It also includes reactions to the current status of doctoral programs from deans of doctoral as well as nondoctoral programs. Finally, an attempt is made to provide some insight into possible future developments as well as a personal assessment.

There have been only two similar studies done in the past. The first was in 1959 by J. Periam Danton and the second by Guy Marco in 1965 though the latter was not published until 1967. Since twenty years have gone by it seemed appropriate to make an updated survey.

The two most important sources of information about doctoral programs are found in the school catalogs and in the ALISE annual statistical reports. However, the school catalogs are sometimes vague and incomplete in their descriptions of doctoral programs. In some cases special publications are available on doctoral programs which supplement the catalog. These tend to be more detailed and complete. Additional important information sources include: the two volumes listing dissertations from 1925 to 1981 by Gail A. Schlachter and Dennis Thomison, the library science dissertation bibliography by Charles H. Davis, and an article about library science dissertations by Lloyd J.

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Houser which includes a good bibliographical essay about doctoral programs.  

Table 1 shows twenty-four graduate library/information schools offering doctoral programs with an indication of the kind of degree and with the date of the establishment of doctoral study.

<table>
<thead>
<tr>
<th>Year Established</th>
<th>School</th>
<th>Type of Degree(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 1926</td>
<td>University of Chicago</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>2. 1948</td>
<td>University of Illinois</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>3. 1948</td>
<td>University of Michigan</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>4. 1952</td>
<td>Columbia University</td>
<td>D.L.S.</td>
</tr>
<tr>
<td>5. 1954</td>
<td>Case Western Reserve University</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>6. 1955</td>
<td>University of California—Berkeley</td>
<td>Ph.D., D.L.I.S.</td>
</tr>
<tr>
<td>7. 1960</td>
<td>Rutgers University</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>9. 1964</td>
<td>Indiana University</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>10. 1964</td>
<td>University of Pittsburgh</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>11. 1968</td>
<td>Florida State University</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>12. 1969</td>
<td>University of Maryland</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>13. 1969</td>
<td>University of Minnesota</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>14. 1969</td>
<td>Syracuse University</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>15. 1969</td>
<td>University of Texas</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>16. 1970</td>
<td>North Texas State University</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>17. 1970</td>
<td>Texas Woman's University</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>18. 1971</td>
<td>University of Wisconsin—Madison</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>19. 1971</td>
<td>University of Toronto</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>20. 1973</td>
<td>Simmons College</td>
<td>D.A.</td>
</tr>
<tr>
<td>21. 1973</td>
<td>University of Western Ontario</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>22. 1974</td>
<td>Drexel University</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>23. 1976</td>
<td>University of California—Los Angeles</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>24. 1976</td>
<td>University of North Carolina—Chapel Hill</td>
<td>Ph.D.</td>
</tr>
</tbody>
</table>

Sources: Catalogs of individual schools. The Encyclopedia of Library and Information Science. New York: Marcel Dekker, 1968, was used for year of establishment when not supplied in catalog.
Doctoral Programs

It should be noted that the number of doctoral-granting institutions in library and information science will decrease from twenty-four to twenty-one, since three schools are closing: (1) Case Western Reserve University, (2) University of Minnesota, and (3) the University of Southern California. The University of Pittsburgh established a separate interdisciplinary doctoral program in Information Science in 1968. In this paper only the Ph.D. in Library Science at Pittsburgh is discussed. The doctoral program at Syracuse University is a Ph.D. in Information Transfer. The Columbia DLS is a research degree much like the Ph.D. programs at other institutions. By contrast, the Doctor of Arts degree at Simmons prepares students who have entered with substantial library experience for administrative positions in libraries. At Berkeley the Doctor of Library and Information Studies is considered a professional degree while the Ph.D. is an academic degree.

From an examination of table 1 it is evident that at first the growth of doctoral programs was quite slow with only six programs in operation by 1955. There were four established in the period of 1960-1964 and then fourteen established during 1968-1976. The number of doctoral programs in library and information science is relatively small in comparison to other disciplines. There are 220 doctoral programs in chemistry, 161 in English, 48 in social work, and 45 in accounting, in comparison to 21 in library and information science. Enrollments in library and information science programs also are relatively small (see table 2).

An in-depth look at the fall 1984 data on the individual school listings shows that full-time enrollments ranged from one in one school to a high of twenty-two in another. The average full-time enrollment was 7.25. Individual schools' part-time enrollments ranged from one to forty-six with 13.6 as the average. The full-time equivalent (FTE) for part-time enrollment ranged from .33 to 14.95, with 4.8 FTE being average. Among the 502 doctoral students enrolled were 91 from foreign countries. Minority enrollment included twenty-six blacks, eleven Asian/Pacific, six Hispanic, and three American Indian. The number of doctoral degrees awarded grew steadily, particularly during the period 1969-79. Since then there has been a steady decline.

The first doctorate in library science was awarded by the University of Chicago in 1930. For the next twenty years up through 1950 Chicago was the sole awarder of the doctorate—at least one and as many as six per year during this period for a total of sixty-five degrees.

The period 1951-1959 saw the following breakdown by school of degrees awarded:
### TABLE 2

**ENROLLMENTS IN DOCTORAL PROGRAMS**

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Full-Time Students</th>
<th>Part-Time Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Programs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Fall 1979</td>
<td>25</td>
<td>93</td>
</tr>
<tr>
<td>Fall 1980</td>
<td>25</td>
<td>83</td>
</tr>
<tr>
<td>Fall 1981</td>
<td>24</td>
<td>84</td>
</tr>
<tr>
<td>Fall 1982</td>
<td>23</td>
<td>80</td>
</tr>
<tr>
<td>Fall 1983</td>
<td>23</td>
<td>71</td>
</tr>
<tr>
<td>Fall 1984</td>
<td>24</td>
<td>73</td>
</tr>
</tbody>
</table>

Source: *Library and Information Science Education Statistical Reports*, compiled and published by ALISE annually since 1980.
Doctoral Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago</td>
<td>21</td>
</tr>
<tr>
<td>Illinois</td>
<td>12</td>
</tr>
<tr>
<td>Michigan</td>
<td>19</td>
</tr>
<tr>
<td>Columbia</td>
<td>6</td>
</tr>
<tr>
<td>Case Western Reserve</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
</tr>
</tbody>
</table>

In 1960 twenty doctoral degrees were awarded, the largest number in one year up to this period. Of this number, nine were from Michigan, seven from Illinois, two from Columbia, and one each from Chicago and Case Western Reserve University.

This was the beginning of a steady—and at times rapid—increase as seen in the number of doctoral degrees awarded per year.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Number of Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>19</td>
</tr>
<tr>
<td>1962</td>
<td>11</td>
</tr>
<tr>
<td>1963</td>
<td>20</td>
</tr>
<tr>
<td>1964</td>
<td>19</td>
</tr>
<tr>
<td>1965</td>
<td>26</td>
</tr>
<tr>
<td>1966</td>
<td>22</td>
</tr>
<tr>
<td>1967</td>
<td>25</td>
</tr>
<tr>
<td>1968</td>
<td>34</td>
</tr>
<tr>
<td>1969</td>
<td>40</td>
</tr>
<tr>
<td>1970</td>
<td>64</td>
</tr>
<tr>
<td>1971</td>
<td>64</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Number of Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>86</td>
</tr>
<tr>
<td>1973</td>
<td>114</td>
</tr>
<tr>
<td>1974</td>
<td>102</td>
</tr>
<tr>
<td>1975</td>
<td>123</td>
</tr>
<tr>
<td>1976</td>
<td>98</td>
</tr>
<tr>
<td>1977</td>
<td>135</td>
</tr>
<tr>
<td>1978</td>
<td>120</td>
</tr>
<tr>
<td>1979</td>
<td>121</td>
</tr>
<tr>
<td>1980</td>
<td>97</td>
</tr>
<tr>
<td>1981</td>
<td>86</td>
</tr>
</tbody>
</table>

It should be noted that the data include doctorates in fields outside of library science as long as the dissertation was on a library science topic.

Schlachter and Thomison report that during the period covered by their first study (to 1972), four institutions produced over 50 percent of the dissertations: Chicago (16 percent), Michigan (12 percent), Columbia (12 percent), and Illinois (10 percent). During the 1973-81 period, the top-producing schools were: Pittsburgh (11 percent), Case Western Reserve (7 percent), Indiana (7 percent), and Florida State (6 percent).

Table 4 shows data from annual ALISE statistics for the period 1979/80 through 1983/84. Out of the 349 doctorates awarded, 119 were awarded by three schools: Pittsburgh, Columbia, and Florida State. Unlike the dissertations recorded by Schlachter and Thomison as well as by Davis, the ALISE data are only for doctorates in library/information science and do not include library-related dissertations from other disciplines.
<table>
<thead>
<tr>
<th>School</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>California—Berkeley</td>
<td>34</td>
</tr>
<tr>
<td>California—Los Angeles</td>
<td>0</td>
</tr>
<tr>
<td>Case Western Reserve</td>
<td>60</td>
</tr>
<tr>
<td>Chicago</td>
<td>127</td>
</tr>
<tr>
<td>Columbia</td>
<td>96</td>
</tr>
<tr>
<td>Drexel</td>
<td>5</td>
</tr>
<tr>
<td>Florida State</td>
<td>47</td>
</tr>
<tr>
<td>Illinois</td>
<td>85</td>
</tr>
<tr>
<td>Indiana</td>
<td>62</td>
</tr>
<tr>
<td>Maryland</td>
<td>10</td>
</tr>
<tr>
<td>Michigan</td>
<td>99</td>
</tr>
<tr>
<td>Minnesota</td>
<td>10</td>
</tr>
<tr>
<td>North Carolina</td>
<td>0</td>
</tr>
<tr>
<td>North Texas State</td>
<td>4</td>
</tr>
<tr>
<td>Pittsburgh</td>
<td>108</td>
</tr>
<tr>
<td>Rutgers</td>
<td>44</td>
</tr>
<tr>
<td>Simmons</td>
<td>22</td>
</tr>
<tr>
<td>Southern California</td>
<td>25</td>
</tr>
<tr>
<td>Syracuse</td>
<td>16</td>
</tr>
<tr>
<td>Texas</td>
<td>7</td>
</tr>
<tr>
<td>Texas Woman’s</td>
<td>8</td>
</tr>
<tr>
<td>Toronto</td>
<td>1</td>
</tr>
<tr>
<td>Western Ontario</td>
<td>0</td>
</tr>
<tr>
<td>Wisconsin—Madison</td>
<td>24</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>894</strong></td>
</tr>
</tbody>
</table>

Source: Davis, Charles H. *Library Science: A Dissertation Bibliography*. Ann Arbor, Mich.: University Microfilms International, 1980. (Note: The Introduction states that the years 1930-1980 are included. I have included listings only for the twenty-four doctoral programs being examined in this study.)
### TABLE 4

**Doctoral Degrees Awarded, 1979-1984**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>California—Berkeley</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>California—Los Angeles</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Case Western Reserve</td>
<td>3</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>24</td>
</tr>
<tr>
<td>Chicago</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Columbia</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>5</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>Drexel</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>-</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Florida State</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>31</td>
</tr>
<tr>
<td>Illinois</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Indiana</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Maryland</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Michigan</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>18</td>
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<td>Minnesota</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>North Carolina</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>North Texas State</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Pittsburgh</td>
<td>12</td>
<td>11</td>
<td>16</td>
<td>7</td>
<td>10</td>
<td>56</td>
</tr>
<tr>
<td>Rutgers</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>Simmons</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Southern California</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Syracuse</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Texas</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Texas Woman’s</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Toronto</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Western Ontario</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Wisconsin—Madison</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>66</strong></td>
<td><strong>67</strong></td>
<td><strong>70</strong></td>
<td><strong>61</strong></td>
<td><strong>81</strong></td>
<td><strong>345</strong></td>
</tr>
</tbody>
</table>

Source: *Library and Information Science Education Statistical Reports* compiled and published by ALISE annually since 1980.
As in the case of the number of doctoral programs, the number of doctoral degrees awarded in library and information science also is small in comparison with other fields as shown in table 5. Schlachter and Thomison provide some valuable analyses of library science dissertations in their two publications. Among their findings is an increase in doctorates earned by females from 29 percent in the period from 1926 through 1972 to 45 percent in the period from 1973 to 1981. Schlachter and Thomison have surveyed the methodology used in library and information science with the results displayed in table 6.

<table>
<thead>
<tr>
<th>Field of Study</th>
<th>Number of Doctorates Awarded-1982</th>
<th>(Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture and Environmental Design</td>
<td>80</td>
<td>(0.53)</td>
</tr>
<tr>
<td>Business/Management</td>
<td>857</td>
<td>(5.62)</td>
</tr>
<tr>
<td>Computer and Information Science</td>
<td>251</td>
<td>(1.65)</td>
</tr>
<tr>
<td>Education</td>
<td>7676</td>
<td>(50.34)</td>
</tr>
<tr>
<td>Engineering</td>
<td>2636</td>
<td>(17.29)</td>
</tr>
<tr>
<td>History</td>
<td>636</td>
<td>(4.17)</td>
</tr>
<tr>
<td>Home Economics</td>
<td>247</td>
<td>(1.62)</td>
</tr>
<tr>
<td>Library Science</td>
<td>84</td>
<td>(0.55)</td>
</tr>
<tr>
<td>Psychology</td>
<td>2780</td>
<td>(18.23)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>15,247</td>
<td>100%</td>
</tr>
</tbody>
</table>

In response to a letter from the author, deans and directors of library schools reported on a number of cooperative doctoral programs offered by their institutions. SUNY—Buffalo's School of Information and Library Studies (SILS) and the Faculty of Educational Studies offer a Ph.D. in Higher Education with a specialization in academic librarianship. At least fifteen credit hours are completed at SILS and the dissertation is in the area of academic librarianship with cochairs from Higher Education and SILS. Dalhousie University recently established a new Interdisciplinary Doctoral Program enabling two or more departments to participate, including Dalhousie's School of Library Service.

The Graduate School of Library Studies at the University of Hawaii at Manoa reported on a newly established interdisciplinary Ph.D. in Information and Communication Sciences sponsored by the
Doctoral Programs

departments of computer science, communication, decision science, and library studies. The focus of the degree is information and communication, but all graduates will be expected to be grounded in information and communication technologies. There are seven areas of specialization: communication/information theories; computer systems design; data communications information storage and retrieval; management information systems; organizational communications, policy and planning; quantitative modeling methods; and communication/information research. All students choose two primary and two secondary areas. All students admitted must have a master's degree in one of the four sponsoring units.

TABLE 6

<table>
<thead>
<tr>
<th>Research Method</th>
<th>Years Surveyed:</th>
<th>Years Surveyed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey</td>
<td>44.2%</td>
<td>56.1%</td>
</tr>
<tr>
<td>Historical</td>
<td>30.0%</td>
<td>15.4%</td>
</tr>
<tr>
<td>Operations research</td>
<td>8.7%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Citation/content analysis</td>
<td>9.1%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Experimental</td>
<td>4.0%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Theoretical</td>
<td>1.9%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Other</td>
<td>2.1%</td>
<td>3.2%</td>
</tr>
<tr>
<td>TOTAL/Years Surveyed</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>


The Department of Library and Information Science at Peabody College of Vanderbilt University has a cooperative doctoral program with higher education/administration. The Graduate School of Library and Information Science at the University of Washington has a cooperative arrangement with a number of schools—including computer science, education, communications, business administration, public health, and public affairs—and MLS students may be admitted to their doctoral programs. Library and information science students in this cooperative program take advanced courses in the library school...
and write their dissertations by doing research in an area of librarianship or information science. In addition library and information science faculty serve on the dissertation committee.

The School of Library and Information Science at the University of Wisconsin—Milwaukee is cooperating with two other doctoral programs on campus—the School of Education (which grants a Ph.D. degree in Urban Education) and the College of Arts and Letters (which grants an interdisciplinary degree in Urban Social Institutions). A minor in Library and Information Science is provided in both of these programs.

Tuition and fees vary greatly for doctoral study. ALISE data for fall 1984 reveal that in-state tuition per credit hour for twelve reporting programs ranged from a low of $22.67 per credit hour to a high of $309 per credit hour, and the average was $139. Out-of-state tuition per credit hour for fourteen reporting programs ranged from $40 per credit hour to $401, and the average was $177 per credit hour. For private institutions there were of course no differences between the two categories.

As reported by twenty institutions, the total estimated tuition and fee payments for the entire doctoral program ranged from $990 to $18,204 for in-state students and from $2710 to $18,204 for out-of-state students. The average total cost was $5857 for in-state students and $9914 for out-of-state students. Living costs, books, etc. would of course be additional.

ALISE statistics for 1983-84 revealed that there were 116 scholarships or fellowships awarded to doctoral students (33 to men and 83 to women) among eighteen reporting programs. Scholarship aid ranged from a low of $200 to a high of $15,557 with $3364 being the average. In the lead in number of awards were Illinois (11), Indiana (11), and Michigan (13).

The same 1983/84 ALISE statistics showed that there were eighty-nine assistantships awarded to doctoral students by eighteen reporting schools. They averaged $4023 for the thirty male recipients and $5123 for the fifty-nine female assistantship holders. The assistants worked an average of 13.7 hours per week, ranging from 3.5 to 20 hours per week. In total, $279,199 in scholarship funds and $423,498 for assistantships was available in reporting schools. What was not reported was the availability of tuition waivers to accompany this financial aid.

One powerful impact on the number of doctoral programs as well as on the number of graduates has been the availability of federal fellowships under Title II-B of the Higher Education Act (HEA). These doctoral fellowships helped educate future faculty members for library
Doctoral Programs

Schools, including faculty from minority groups. Table 8 shows doctoral fellowships awarded by year while table 7 shows awards by school/program.

**TABLE 7**
HEA II-B DOCTORAL FELLOWSHIP AWARDS
BY PROGRAM, 1966-1985

<table>
<thead>
<tr>
<th>School</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Columbia</td>
<td>108</td>
</tr>
<tr>
<td>2. Michigan</td>
<td>99</td>
</tr>
<tr>
<td>3. Indiana</td>
<td>94</td>
</tr>
<tr>
<td>4. University of California—Berkeley</td>
<td>90</td>
</tr>
<tr>
<td>5. Illinois</td>
<td>76</td>
</tr>
<tr>
<td>6. Rutgers</td>
<td>76</td>
</tr>
<tr>
<td>7. Pittsburgh</td>
<td>74</td>
</tr>
<tr>
<td>8. Case Western Reserve</td>
<td>73</td>
</tr>
<tr>
<td>9. Wisconsin</td>
<td>56</td>
</tr>
<tr>
<td>10. Chicago</td>
<td>55</td>
</tr>
<tr>
<td>11. University of Southern California</td>
<td>51</td>
</tr>
<tr>
<td>12. Florida State University</td>
<td>35</td>
</tr>
<tr>
<td>13. Minnesota</td>
<td>20</td>
</tr>
<tr>
<td>14. Simmons</td>
<td>13</td>
</tr>
<tr>
<td>15. Maryland</td>
<td>12</td>
</tr>
<tr>
<td>16. University of Texas</td>
<td>12</td>
</tr>
<tr>
<td>17. Texas Woman's University</td>
<td>11</td>
</tr>
<tr>
<td>18. Syracuse</td>
<td>6</td>
</tr>
<tr>
<td>19. North Texas State</td>
<td>5</td>
</tr>
<tr>
<td>20. University of North Carolina—Chapel Hill</td>
<td>3</td>
</tr>
<tr>
<td>21. University of California—Los Angeles</td>
<td>1</td>
</tr>
<tr>
<td>22. Drexel</td>
<td>0</td>
</tr>
<tr>
<td>23. University of Toronto</td>
<td>Not eligible</td>
</tr>
<tr>
<td>24. Western Ontario</td>
<td>Not eligible</td>
</tr>
<tr>
<td>Committee on Institutional Cooperation</td>
<td>54</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td>1019</td>
</tr>
</tbody>
</table>

**Award at Schools without Formal Doctoral Programs**

<table>
<thead>
<tr>
<th>School</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. University of Washington</td>
<td>15</td>
</tr>
<tr>
<td>2. University of Oklahoma</td>
<td>12</td>
</tr>
<tr>
<td>3. SUNY—Buffalo</td>
<td>6</td>
</tr>
<tr>
<td>4. Ohio State University</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>89</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>1058</td>
</tr>
</tbody>
</table>

Table 8 shows that 764 out of 1047 HEA fellowships were awarded during 1967/68 to 1971/72. The peak years in terms of doctoral degrees awarded were 1973 to 1979. The beginning of HEA II-B Doctoral Fellowships marked the beginning of the greatest growth of library/information science doctoral programs which occurred between 1968 and 1976 when fourteen new doctoral programs were established, eleven of them between 1968 and 1971.

A number of explanatory comments need to be made about Table 7. A comparison with Table 1 will show that the schools with the largest number of fellowship grants were those which had established their doctoral programs before the advent of the federal fellowships.

The Committee on Institutional Cooperation (CIC)—the consortium of the Big Ten universities and the University of Chicago—was...
awarded HEA fellowships for minority and/or disadvantaged librarians who were employed in low- or middle-level positions. Admissible candidates had a choice beginning in 1973 of attending one of six CIC universities with library science doctoral programs: Chicago, Illinois, Indiana, Michigan, Minnesota, and Wisconsin. This three-year program also provided a Traveling Scholar Program that permitted students to use the academic resources within all CIC universities.\textsuperscript{13}

The catalogs of twenty-one ongoing doctoral programs were examined for descriptions of admission and program requirements as well as course listings. In some cases, supplementary printed information on doctoral programs was also available. Most of the publications were dated between 1983 and 1985. Not all schools provided information on every topic examined. Details on each topic were presented in almost as many different ways as there are doctoral programs. Some of the following data are also available in the annual ALISE statistical report under the “Curriculum” section. In some cases the data are more precise than reported in the catalogs. My purpose however was to use a more public document as the primary source of information.

Statements of admission requirements ranged from the very general to the very specific. The following were types of admission requirements mentioned:

<table>
<thead>
<tr>
<th>Admission Requirements</th>
<th>Number of Schools Requiring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accredited bachelor's degree</td>
<td>3</td>
</tr>
<tr>
<td>Accredited MLS or equivalent</td>
<td>14</td>
</tr>
<tr>
<td>Two-Year MLS</td>
<td>1</td>
</tr>
<tr>
<td>Second master's or equivalent</td>
<td>1</td>
</tr>
<tr>
<td>Satisfactory prior academic record (usually B average or better)</td>
<td>11</td>
</tr>
<tr>
<td>GRE Aptitude or MAT</td>
<td>13</td>
</tr>
<tr>
<td>Specific minimum score cited by six, ranging between 1000-1200 for GRE Aptitude</td>
<td>13</td>
</tr>
<tr>
<td>Letters of recommendation</td>
<td>12</td>
</tr>
<tr>
<td>Personal statement</td>
<td>9</td>
</tr>
<tr>
<td>Prior work experience (required or recommended)</td>
<td>11</td>
</tr>
<tr>
<td>Interview</td>
<td>11</td>
</tr>
<tr>
<td>Specific skills (e.g., foreign language, statistics, computer knowledge)</td>
<td>3</td>
</tr>
</tbody>
</table>
Many of the twenty-one schools listed no specific course requirements, either in terms of areas or number of credit hours. The remaining schools listed such an extreme variety of requirements that it is difficult to make generalizations about them.

Even the number of credit hours required was not always stated in the catalog. Four schools indicated thirty to forty credit hours beyond the MLS. Another four indicated fifty to sixty credit hours beyond the MLS. One each stated that seventy-eight and ninety credit hours were required beyond the BA.

Many schools list no substantive courses specifically identified as doctoral courses. All schools did list one or more types of nonsubstantive courses such as independent study credits, examination credits, and of course dissertation credits.

Where there were substantive doctoral courses the following were the topics covered listed in order of frequency: (1) research methods/statistics, (2) information science/systems, (3) communications/social bases, (4) general (overview) seminars, (5) administration/management, (6) bibliography/bibliographic control, (7) bibliometrics, (8) indexing/classification, (9) library education, (10) academic libraries, (11) public libraries, (12) school libraries, (13) history of libraries/books, (14) technical services, (15) teaching assistant practicum/supervision, (16) special libraries, (17) children's and young adults, (18) resources and services to users, and (19) nonprint media.

Twelve programs required courses in research methods and/or statistics. Four programs required coursework outside the library school. Other specific courses required (by at least one school) included: linguistics, information science or systems, management, social foundations, communications, bibliography, and library functions. Fifteen programs had specific residency requirements, usually a minimum of one year. Two programs specifically indicated the doctorate could be completed on a full- or part-time basis. Only a few schools commented on the normal length of the program. Six indicated that three years of full-time study were normal while one each indicated two years and three to five years of full-time study, respectively.

Eleven schools mentioned specific time limitations for doctoral study but there was no consensus. As an example, the years allowed from initial registration to completion of degree ranged from four to nine. Still others gave limitations of either four or five years from the time of advancement of candidacy to the completion of the degree.

All programs seemed to require some variation of the preliminary/comprehensive/qualifying exam, but very few mentioned specific grade point average requirements for remaining in good standing.
in the doctoral program. Four indicated a B average was needed while two asked for better than a B average. A dozen schools listed specializations or areas of concentration available in the doctoral program. The topics include the following:

<table>
<thead>
<tr>
<th>Specialization</th>
<th>Schools</th>
</tr>
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<tbody>
<tr>
<td>Administration/management</td>
<td>8</td>
</tr>
<tr>
<td>Information systems, storage and retrieval, information technology, etc.</td>
<td>6</td>
</tr>
<tr>
<td>Communications</td>
<td>5</td>
</tr>
<tr>
<td>Behavioral or social environment</td>
<td>2</td>
</tr>
<tr>
<td>Education for library science</td>
<td>1</td>
</tr>
<tr>
<td>History of libraries</td>
<td>1</td>
</tr>
<tr>
<td>Comparative librarianship</td>
<td>1</td>
</tr>
<tr>
<td>Service to youth</td>
<td>1</td>
</tr>
<tr>
<td>Technical services</td>
<td>1</td>
</tr>
<tr>
<td>Library resources</td>
<td>1</td>
</tr>
<tr>
<td>Measurement and evaluation</td>
<td>1</td>
</tr>
<tr>
<td>Information transfer</td>
<td>1</td>
</tr>
<tr>
<td>Bibliographic control</td>
<td>1</td>
</tr>
<tr>
<td>Nonbook media</td>
<td>1</td>
</tr>
<tr>
<td>Foundations</td>
<td>1</td>
</tr>
<tr>
<td>Indexing and classification</td>
<td>1</td>
</tr>
<tr>
<td>Bibliometrics and modeling of information systems</td>
<td>1</td>
</tr>
<tr>
<td>User services</td>
<td>1</td>
</tr>
<tr>
<td>Research Methods and Design</td>
<td>1</td>
</tr>
<tr>
<td>Management of information resources</td>
<td>1</td>
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</tbody>
</table>

Language and other special requirements were determined by the dissertation proposal topic at nine programs. There was a foreign language requirement at nine schools. Four programs had a statistics requirement, two a requirement in computer science, and one each had requirements in linguistics and mathematics. All schools indicated that a dissertation is required and almost all indicated that some type of oral defense on the dissertation was also a requirement.

Thirteen responses were received from deans of doctoral-granting programs to a letter asking four specific questions. The first question dealt with the status of the doctoral program within each school and its impact on the MLS. "Healthy" was the most frequent response, followed by "well established," and "well regarded." Others indicated that the doctoral program enjoyed a preferred status within the school and that it had a positive impact. Still another termed the Ph.D. a necessity since without it the program would be a small, marginal professional school on campus.

Still others gave a variety of reasons for the importance of the doctorate: it was the stimulus and source of qualified personnel for many research projects; the vitality of the school was enhanced by the
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doctoral program; it enhanced the prestige and visibility of the school on campus; it pushed faculty to do more research; and it attracted good faculty to the school.

The most frequent impact on the MLS program was the interaction of doctoral and MLS students as well as interaction of teaching assistants (TAs). This was especially true in the program that had relatively few separate doctoral courses and where TAs were used to teach MLS core courses. A number of the deans highlighted the “practitioner” experience of the TAs as being a positive factor.

The next question dealt with personal views of the quality of each doctoral program as well as the perceived campus view. The personal views ranged from “not high” and “still building,” to “good,” “rigorous and high regard,” and “often rated as one of the best in the country.” There were many more responses on the perceived campus view and almost all were very positive. The general feeling was that the library/information science doctoral program was well regarded on campus. The most frequently cited reasons were: recent internal and external reviews that were positive and the willingness of outside faculty to serve on dissertation committees. One dean wrote of his program not being understood on campus and not being perceived as having an intellectual and research component qualifying for doctoral study. But this was countered by bright students doing well in outside courses and by one library science student being selected as the top doctoral student at the university.

The question regarding the quality of students elicited generally favorable responses. Doctoral students were usually described as bright, capable, and highly motivated. Some described their student recruitment activities while others implied that there was no active recruitment. Retention seems to be a problem for some schools but not for others. All, however, agreed that placement was no problem and that the job market was very good for doctoral graduates.

The final question dealt with any recent or projected changes as well as any other comments. Some programs were being reviewed for possible changes but no new trends or developments could be detected.

Deans of nondoctoral schools were also contacted to verify their nondoctoral status, to ask if a doctorate had ever been or currently was being planned and to receive any general comments about the status of the doctorate in library and information science. There were twenty-eight responses.

Most of the schools had never seriously considered a doctorate because they were too small, were not in a doctoral-granting institution, or just lacked the resources—especially faculty. Some wanted to
emphasize only the MLS while others felt there were already nearby schools offering the doctorate which satisfied the geographic demand. Three schools (Southern Connecticut, Pratt, and Rosary) reported that they had formally proposed doctoral programs in the past but without success.

Three schools had current proposals in process or pending for the establishment of doctorates. These were the University of Alabama, the University of Arizona, and SUNY—Buffalo.

Comments on doctoral programs were few from this group of deans. Those comments that were made were generally of the opinion that the quality of doctoral programs were wide ranging from inadequate and lukewarm to good and even high quality.

Doctoral study in library and information science seems to be in a state of transition. No new doctoral programs have been established for ten years. Three have been recently phased out with the closing of the parent school. Three new doctoral programs are in various stages of planning or approval. The number of doctoral students as well as degrees have fallen from the mid-1970s and have been on a plateau for five years. And yet the job market seems to be currently very good for graduates. There seems to be some activity in the establishment of cooperative doctoral programs.

There is some imbalance geographically in terms of program locations. There are three programs in the Northeast, three in the Middle Atlantic states, two in the Southeast, six in the Midwest, three in the Southwest (all in Texas), and two in the Far West (both in California). There are no programs in the Pacific Northwest or in the Rocky Mountain states. The two Canadian programs are within a relatively short distance of one another in southeastern Ontario.

Library schools need to do a better job in publicizing their doctoral programs. Catalog entries tend to be brief, vague, and uninspiring. Not only are programs not fully described, but there is usually little information about financial aid or opportunities after attaining the doctorate. At times there may be a follow-up publication that does provide more information. Some schools publish eye-catching brochures targeted at potential MLS students. With a few exceptions, the schools do not seem to publish brochures to attract doctoral students.

When beginning this study some two years ago I had a surrogate request information as a potential doctorate student. Not only was the information sent often incomplete but there were usually long delays in response and in some cases the information was never sent—even after
repeated reminders. In a personal follow-up last year I was not totally successful in receiving responses to a request for up-to-date information about each doctoral program.

References


Education for Information Management: Competition or Cooperation?

MICHAEL E.D. KOENIG

Introduction

Education for information management falls logically into the domains of education for library and information science and of education for business and management. This introduces problems and opportunities, the potential both for competition and for symbiosis and cooperation. It is logical then that the two communities plan the development of this educational process, if not jointly, at least with an awareness of what the other is doing and planning. This article is directed primarily to the library and information science education community in an attempt to report on and analyze the development of programs of education specifically for information management in graduate schools of business and management. The central questions that drove the creation of this article are:

1. What lessons can be learned from examining information management programs in graduate schools of business?
2. What opportunities for cooperation are there?
3. What likely scenario may unfold?

Now is perhaps a particularly appropriate time to examine the development of information management education in graduate schools of business and management (GSB). For a number of reasons, GSB education for information management is at a transition point,
about to embark on a path that will direct it squarely into the domain that graduate schools of library and information science (GSI) have regarded as their own.

**External Information**

Until relatively recently information management in the GSB context meant the processing of data generated by the organization—typically the generation of reports based on the aggregation, summation, and analysis of transaction data. The term *MIS* (*Management Information System*) was coined to describe such operations. Viewing early MIS systems in retrospect, one is reminded of the description of the Holy Roman Empire as neither holy, nor Roman, nor an empire. For a number of reasons, MIS systems were perceived as having been oversold. What has come to be recognized as chief among these reasons was the failure to recognize that aggregated internal data are of only minor importance in the decisions made by senior management. In the higher organizational reaches, decisions become strategic rather than tactical. The importance of external information—i.e., environmental or contextual information—becomes greater, and the importance of data generated by or captured with the organization's own routine operations lessens. Interestingly, this most basic failing of the MIS concept was the last to be recognized. It is, for example, conspicuous by its absence in Ackoff's classic 1971 litany of MIS misperceptions and shortcomings, "Management Misinformation Systems." Although elucidating the failings of MIS systems and the MIS concept has been fair sport for a decade and a half, it is only in the last few years that the perception of the failure of MISs to incorporate external data has been perceived as a major failing, indeed as the major failing.

However, that perception of the centrality of external information has now, at least in some circles, arrived with a vengeance. Perhaps the most dramatic bellweather of the new perception is IBM's articulation of "Enterprise Analysis," which is indeed sometimes referred to as "Information Enterprise Analysis." For some years, IBM has been promoting a methodology called *Business Systems Planning (BSP)* to help corporate data processing managers forecast and plan their needs more adequately. IBM's interest in better planning is not entirely altruistic—if managers plan better and anticipate needs sooner they will budget more accurately and more generously and IBM can sell its products sooner. In 1982, IBM totally reworked its BSP methodology, and gave it a new name and a new conceptual structure. The new name
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was Enterprise Analysis, and the new structure was elegantly simple, and it elegantly bespoke the centrality of information in the management of an organization. The structure of the newly defined Enterprise Analysis consisted of three steps:

1. Decide what the enterprise is (What is it that the organization does, is it a railroad company, or is it a transportation company?).
2. Decide what decisions have to be made correctly to be successful in that enterprise.
3. Decide what information is needed to make those decisions correctly.

The structure of Enterprise Analysis owes much to the "critical success factors" approach to management of Rockart and others. Indeed, Enterprise Analysis is in effect a statement that a very critical success factor in management is the access to appropriate information, and by linking that critical information not to routine operations but to the organization's critical strategic decisions, the appropriate information is inevitably primarily external.

This recognition of the centrality of information—external information in particular—to successful management inevitably leads GSB education into what has been the domain of GSI. Heretofore, MIS programs concerned themselves only with the organization's internal information. External information, at least as it was handled in any systematic sense, was the domain of the library. New Decision Support Systems (DSSs), as modern MISs are dubbed (a major marketing precept being that if a product bombs, give it a new name and rerelease it), are increasingly focusing upon the inclusion of and access to external information.

In addition to a not untypical lag between practice and professional education, there is also a pedagogical reason for the persistence in GSBs of the MIS emphasis upon internal rather than external information. That reason lies in the dynamics of academic prestige and the preference for publishable work of a quantitative nature. The output data generated by a conventional MIS system typically are quantifiable, and the numerous transaction data can be aggregated and manipulated, thus providing the basis for a suitably mathematics- or operations-research-oriented paper. Whether that paper is likely to be of any real utility is another question. The information used in real-world managerial decisions is apt to be external data of a primarily qualitative nature; or at best it is quantitative data used in a situation of such complexity and interleaved with so much qualitative information that no operations research style or mathematical analysis is feasible, and relatively little academic credit can be derived from working with the information. As
corporations pay more explicit attention to external data, however, GSB faculty will have to follow suit, despite the greater accessibility and manipulability of internal data.

**Competitive Advantage**

Another major theme that has appeared in business literature and in business thinking is that information technology and information services can be much more than just better and more efficient ways of conducting "back room" operations. Information technology can be a mechanism by which to obtain a significant competitive advantage. The competitive advantage of information technology has been the theme of several recent articles in such bellweather journals as the *Harvard Business Review* and the Sloan Management Review.⁸

Information technology, the thesis goes, changes how companies compete. Information technology allows differentiation by product configuration, by customer service, and by the elimination of transaction and friction costs. Any or all of those effects change the nature of competition and tend to bind purchasers to the supplier offering them. Needless to say, when a technology changes the nature of competition, that technology is rapidly perceived to warrant strategic top-level attention.

**Stage III of Information Systems Development**

Another theme that is emerging is that information technology itself is undergoing a major change. The idea is that information technology is capable of transforming the very structure of organizations. Perhaps the most compelling variant of this theme is that an examination of the structural components of information systems, computation, storage, and communication, leads to three distinct phases in the growth of computer-based information systems. In stage I, prior to 1917 operational information systems technology was characterized by Moore's Law of exponential growth (doubling periods of one to two years) of computational capabilities. In Stage II, from approximately 1971 to the 1980s or 1990s, operational information system technology has been characterized by Moore's Law growth of computational and storage capacity. In Stage III, beginning in the late 1980s or early 1990s, operational information systems technology will be characterized by Moore's Law of growth in all three components—computation, storage, and communication. The ramifications of this process of development, it is argued, are that while Stage I and Stage II information
systems technology have changed intracompany and on-site applications, Stage III technology will change the structure of both intracompany operations and intercompany operations—changing, among other things, where operations are conducted. These changes will require top management's attention to information systems in a fashion quite unlike that required before.6

Convergence and the Archipelago

The convergence phenomenon of information technology is another theme that has captured the attention of the business community. What have been organizationally distinct functions increasingly are perceived as needing integrated management. The “islands” in the “archipelago” report to distinct parts of the organization—e.g., data processing to finance, telecommunications to administrative services, the library to research and development. The integration of those islands therefore will require either major organizational change or complex cross-organization managerial structures. In either case, the solutions—as McFarlan and company have pointed out—will demand top-management attention.7

A final and little-enunciated point is that information services are becoming too large a component of an organization's operations to be regarded as minor overhead operations. As information functions become a larger slice of the pie, they may demand more management attention. What these themes have in common is that information or information systems management will increasingly become a strategic-level concern of top management. Business schools will react and indeed are reacting to these trends.

Study Methodology

As background to this article, the author conducted a telephone survey among GSB faculty members whose specialty was in the information systems area (typically referred to as Management Information Systems in GSBs). The survey was not intended to reflect a representative population of GSBs. Rather it was conducted among GSB faculty at institutions which seem to be trendsetters and opinion leaders for education relating to information systems and information management in particular and for graduate business and management education in general.
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The survey discussions addressed these principal questions: What was being done at present at that GSB in the way of education for information management? What developments or scenarios for the development of education for information management did the respondent perceive as likely? What relationships with GSIs were there, and what relationships were likely to develop?

Findings

What emerges from the survey of GSB information management faculty is that GSBs have not arrived at a consensus of what GSB education for information management should consist of and how it should be implemented. Virtually every GSB has an area of concentration in information management, usually still referred to as MIS. In individual course titles, however, MIS is being supplanted by DSS. One can characterize decision support systems as being enhanced management information systems that: (1) allow interactive manipulation of the data, (2) provide “what if” and modeling capabilities, and (3) provide contextual (external) data as well as internal data. GSB education on decision support systems appears to have focused primarily on points one and two and to have given little attention to point three.

The GSB response to the increasing scope of information management less often has been broadening the scope of information management offerings and concentrations in MIS, and more often has been initiating some new program separate and distinct from the MIS area of concentration. The new programs seem to be of two types—broad, exploratory programs and communications-specific (i.e., technology-specific) programs.

New programs at MIT, Harvard, and the University of South Carolina are perhaps the most visible examples of the broad exploratory approach. At the Sloan School of Management at MIT a research program to examine the current and potential impact of information technology on organizations and upon management practices has been launched with the support of ten institutional sponsors—primarily large Fortune 500 American corporations, but also ICL (International Computer Ltd.) from Great Britain and the Internal Revenue Service. The sponsors not only provide funding but also provide research sites and data. At the Harvard Business School a program funded with IBM support has been announced and its goal is providing GSBs with faculty members with expertise in information systems and information technology. The program will support doctoral fellowships in information
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systems, and—a greater innovation—it will support a year-long study program at Harvard to prepare experienced professionals—typically engineers—for a second career teaching information management in GSBs. An important by-product of the program will be the research conducted by doctoral students and by the second-career teachers who will be expected to build upon their career experiences and their studies to produce a publishable research article during their year in residence. At the Graduate School of Business at the University of South Carolina, Don Marchand has established an Institute of Information Management which has been very successful in obtaining grants to analyze and undertake research on information management—especially research on state and federal government activities.

In other schools, more narrowly focused programs center on telecommunications and the communications industry. The Graduate School of Business at Columbia, for example, is developing a concentration in information management, but it is clearly perceiving the target, at least for the moment, to be media and the telecommunications industry. At NYU, which has a technology-oriented MIS program, the GSB has supported the development of a certificate program in telecommunications management offered by the School of Continuing Education. The program emphasis is on technology and regulatory issues.

Most of the programs just described are to a large extent the result of the initiative of one or a handful of faculty members at the respective institutions. Michael Scott-Morton at MIT, Warren McFarland and James McKenney at Harvard, Don Marchand at South Carolina, and Eli Noam at Columbia are examples. Another factor that the GSB programs—both the MIS programs and the newer more innovative programs—tend to share is an emphasis on the technology and the carrier rather than on the information carried. Generally, the GSB community fails to recognize that the heart of an information system is the information itself, not the mechanism by which it is conveyed. In short, the information industry is perceived by GSB faculty to consist primarily of the media and the telecommunications industry. The role of information creators and the role of those who add value to information—e.g., the online vendors—is as yet only very incompletely recognized.

Although the GSBs lag behind industry in developing a strategy for incorporating information management in their programs, the realities of the marketplace will impel GSBs to offer management information programs. Using Rogers and Shoemaker's typology of innovation, GSB education for information management seems to be moving from having been championed by the early adaptors to being accepted by the
early majority. What are now special programs in information management will become more common, more heavily supported, more institutionalized, and these programs will subsume, merge with, or be subsumed within an enlarged and renamed MIS area of concentration.

**Existing Links in Information Management Education**

Cooperative programs between GSBs and GSIs can be viewed two ways. One can regard librarianship as a distinct profession which needs a core of managers who are also members of the profession. The logical model for this view is the dual degree—e.g., MBA and LLB/JD. This model is in fact relatively uncommon. The University of Chicago has such a program, but it has not been very popular in terms of enrollment. The far more common situation is for a GSB to have dual-degree programs with other professional schools, particularly law, medicine, and engineering, and, conspicuous by its absence, a dual-degree program with the GSI. The absence of dual MBA and MLS programs does not appear to have been a result of any overt discrimination per se, but more a result of subtle discrimination and inertia. GSBs have sought dual degree programs with professional schools they perceived to have status equal or superior to their own—e.g., law and medicine—and have been quite content to be sought out by schools or departments they perceived as being of lower status, such as librarianship or education. GSIs for their part seem to have been reluctant to make the overture. One of the major reasons has been the perception that the expected earnings in the library field do not warrant the student's additional investment in the two-year MBA and the conclusion that students are not likely to choose the option and well may be advised not to. Experience of the University of Chicago with its joint program may lend some support to the former argument. Another reason has been financial and self-preservation. If the MBA is promoted as being of importance and if the student perceives finances dictating an either/or option, it may well be the more generally applicable MBA that leaves more options open that is chosen—to the loss of the GSI. Another facet of that financial concern is that GSIs have been fearful that under a "balance of payments system" (an accounting system whereby if a student registering in and paying tuition to school or department A takes a course in school or department B, then funds or accounting credits flow from A to B), they have more to lose than to gain by such an arrangement. This concern is certainly not without merit. It is perhaps not entirely coincidental that the University of Chicago is one university that eschews a balance of payments policy. A related concern—seldom mentioned but nonetheless real—is that
dual-degree programs may reduce the MLS degree to a journeyman degree—the low road—with the MBA, either in combination or even worse, alone, emerging as the high road.

The second light is to view GSBs and GSIs as educating for what are increasingly overlapping and converging domains. Here the logical models are either competition with an attempt to preempt the domain, or cooperation, ranging from cross-listing courses to jointly administered and jointly awarded degrees. Overt competition at least is relatively uncommon. Robert Taylor, dean emeritus of the Syracuse University School of Information Studies, remarked in 1983 that if the school had not previously done so and were in 1983 to attempt a degree program in Information Resource Management, it would have to be done over the dead body of the business school. Almost equally rare, however, are such basic measures of cooperation as the cross-listing of courses. Where cross-listing is done, it tends to be in the state-supported institutions where tuition income and therefore balance of payments concerns are less important, such as at UCLA and the University of California at Berkeley. More integrated mechanisms of cooperation such as joint appointments and jointly administered degree programs seem not to have evolved as yet.

Graduate and Undergraduate Education—A Parallel?

Business and management education can provide a parallel to library and information management at this particular time in GSI development. After struggling for decades to install library education as a graduate program only, and after a decade and a half of reduced enrollment following the high-water mark in the late 1960s, GSI educators now perceive undergraduate education for information management as an opportunity to be plucked. For many years, business education has been offered at both the undergraduate and graduate levels. Like GSI education, business professional education suffers from the problem that unlike disciplines such as chemistry or electrical engineering—there may not be enough content to offer an incremental bachelor's, master's, and doctoral sequence. The business and management education solution to avoiding duplication between undergraduate and graduate education is generally to discourage students from pursuing both degrees. Business education—without any centralized planning process—has evolved what is essentially a two-track solution. A student either pursues an undergraduate degree in business, or a graduate degree, but seldom both. Many of the prestigious MBA programs are housed in universities, typically private, that deliberately do
not offer an undergraduate degree in business. Many such MBA programs discourage applicants who have pursued an undergraduate degree in business, though many find economics quite an acceptable undergraduate major. Students who pursue an undergraduate degree in business do so knowing that if they have not actually forfeited their chances for an MBA, they have substantially diminished their chances of admission to a prestigious MBA program. The two-tier structure avoids the problem of teaching the same students the same material twice at two different levels.

The ramification of the GSB solution is that the more highly ranked the GSB is, the less likely it is to be interested in undergraduate business education. The more highly rated GSBS can afford—academically and financially—such a posture. A not unrelated point is that the more highly rated GSBS tend to look askance at undergraduate education that smacks of the vocational. Involvement in undergraduate professional education at those institutions would either carry a penalty or it would have to be very carefully and delicately constructed, implemented very gingerly, and offered on a very limited scale.

GSIs by contrast, are approaching the issue of undergraduate education more from fiscal adversity rather than financial success. There is a legitimate question whether librarianship and information management are professions and GSIs are professional schools, or whether information science is an academic discipline. The real question of course is, What is the mix and interrelationship between profession and discipline? The field has been wrestling with the question since the last century and probably will be in the next. The more disciplinary and less professional the mix, the less relevant is the model of the development of business education; the more professional the mix, the more relevant is the model.

A second distinction is the question of scale. The business education solution is in effect one of specialization. Undergraduate business education programs teach journeymen and GSBS teach those who will be the more senior managers. Ten years after graduation from either program the distinction may be blurred. Specialization is feasible and practical when the enterprise is large, as in the case of business education. In “traditional” GSI education, the domain has been much smaller, and at least partially as a consequence, the approach has been that “one size fits all.” The one-size approach inevitably entails a compromise between education for the journeyman and education for the manager. In the GSI literature, discussion of how this compromise has failed has usually been couched in two related and overlapping issues, that of education for entry-level positions v. education applic-
able to the span of one's career; and the dichotomy between training v. education. The 1970s reduction in the number of GSI students and the consequent reduction in faculty in each institution, was amplified in the 1980s by the closing of several GSI programs. The events of those two decades have focused and sharpened this debate, and the issue of specialization is beginning to receive extensive attention. Specialization has been discussed and proposed primarily in terms of a vertical market segmentation with some GSIs focusing on academic and research (primarily special) libraries and others focusing on public and school libraries. The Council on Library Resources has begun funding programs at several GSIs whose intent is to accomplish a certain measure of specialization in the education of academic librarians. Such an intent is controversial enough that great care has been taken to phrase those intentions in very circumspect fashion. Only in even more circumspect fashion have GSIs begun to address the possibility of horizontal-tier specialization. Certain GSIs such as Columbia and Chicago have seen themselves as playing a special role in educating future leaders, but an examination of their curricula over the years would show no discernible differences between the curricula of so-called future-leaders schools and others. A university-initiated curriculum review at the School of Library Service at Columbia has at least pointed the school in the direction of horizontal specialization. How it might be implemented, however, is only beginning to be addressed.

In any case, the development of business education at the undergraduate and graduate levels is a model that the library and information management community should consider carefully. With trends toward convergence in the information world, GSBS and GSIs are increasingly addressing the same domain and the same needs. The constraints that have helped produce the educational structure for business and management education are to a large degree present in the environment of education for information management in the GSI context. GSIs share the same problem of the sequencing and repetition of the basic components of a professional education, and GSIs are disproportionately located at more highly ranked at institutions where undergraduate professional education would be an issue.

One scenario suggested by the comparison with business education is that the uniformity and similarity of GSI programs may become a thing of the past. To the degree that education for information management remains a distinct specialty—as opposed to a concentration within GSBS—it is not unlikely that just as in business education a hierarchical three-tier system may evolve. The "top" tier would consist of GSIs at highly rated institutions offering graduate education only. The middle
tier would offer both undergraduate and graduate education, and the third tier would offer undergraduate education only.

Ramifications

Two questions were proffered by Stephen Muller, president of Johns Hopkins University at the fall Educom Conference in Baltimore in 1982. They were: Will the library become the museum of the book? and, Can the library transcend its name?

These two questions strike at the heart of the issue facing GSI education. If the answers to the questions are yes and no respectively, GSIs can continue as before but face the possibility that they will merely educate or train the journeymen while GSBs will educate the leaders and managers. If GSIs wish to address a world where the answers are no and yes, then it is clear that both GSIs and GSBs will be educating for information management.

Assuming that GSBs and GSIs will both be educating for information management, the possibilities are for cooperation, competition, or a mixture of both. For GSIs outright competition would not seem to be a viable option, despite the greater legitimacy of GSIs in information management, as opposed to the noninformation-driven, technology-focused MIS thinking that is the historical basis of GSB interest in information management. The financial resources, the academic prestige, the organizational leverage, and the attractiveness in the marketplace of GSBs in comparison to GSIs leaves little doubt which would emerge victorious.

The opportunities for cooperation, however, are considerable. There is now a window of opportunity for establishing cooperative relationships. Those persons within GSB faculties who are attempting to introduce information management as a broad topic, as opposed to MIS, are still in the position of the early innovators, looking for support and allies. In an academic context where loyalty to the formal reorganization is weak compared to more conventional bureaucracies, and where horizontal, peer group, invisible college ties are stronger, support and allies from outside the GSB proper are quite welcome. As education for information management in the broad sense becomes more established within GSBs, that need for support diminishes and the window of opportunity will close.

GSIs have an opportunity that extends over the next few years at most to establish cooperative endeavors with GSBs, before GSBs claim the turf for good. How fleeting this window of opportunity may be is perhaps indicated by the fact that in 1985 AT&T gave its corporate goal
as: "Being a world leader in the delivery and management of information." This is a rather different statement of mission than being a world leader in telecommunications. Not only have the traditional data processing and telecommunications components of the information industry restated their missions in terms of information and information management, but virtually all of the major players in the aerospace/defense industry—including Boeing, Lockheed, McDonnell-Douglas, and Martin-Marietta—have cast information-related functions and information management as major corporate missions. With such major corporate interest, GSBs cannot be far behind and competition between GSBs will shorten that lag.

What might cooperative relations look like? The most likely scenario for cooperation is creating joint programs leading to joint degrees and joint faculty appointments. Cooperation could start with smaller projects and functions such as joint workshops and conferences on information management topics—e.g., a workshop on transborder data flow and how it affects industry and the information services of industry. The actual details of such a scenario must be worked out locally.

Cooperative relationships, however, will be established only on the initiative of the GSIs. One fact that becomes very clear from the survey is that information-management-oriented faculty in GSBs are unaware of the potential interest of and overlap with GSIs. One token of that lack of awareness is the trilogy of "Archipelago of Information Science" articles by McFarland et al. in the Harvard Business Review. Mentioned as islands in the archipelago are: data processing, telecommunications, records management, word processing, and office automation. Never is the library mentioned as an island in the archipelago. We have not transcended our names and the perception of libraries and library schools is such that it will never spontaneously occur to GSBs to regard GSIs as partners or stakeholders in information management.

In summary, the key to a viable and dynamic future for graduate schools of library and information science is likely to be a dynamic GSI-initiated program of joint development with graduate schools of business. The window of opportunity for affecting such a cooperative program is open now and will be closing soon.

References


The Symbol and its Referent: An Issue for Library Education

H. CURTIS WRIGHT

The great need of the library profession today is to formulate a professional philosophy that will meet the rapidly changing needs of society for recorded knowledge. We must re-define our role in society...[and] make of the library the agency it should be in the total communications process....

We must put our intellectual house in order or we will lose control of many functions relating to the communication of the written word that are properly our own....This need lies at the base of every other problem of librarianship....I am deeply disturbed by the malaise that has so long gripped our profession, its shallowness, its sterility, its intellectual immaturity, and I see no remedy but to probe deeply, however great the pain.—Jesse Shera'

Psychophysical Interactionism

The future of librarianship and library education is intimately bound up with the complex interrelationships of the physical symbol and its symbolic referent. But the physical symbol is always a sensible datum functioning as the means of communication to or from the intellect; thus, it belongs to a different order of being than the symbolic referent, which always constitutes an ideative reality. This has definite implications. It means, first of all, that the relationship of symbol to referent is inherently dualistic and psychophysical, because human communication cannot occur unless physical realities (ta physika, which exist as atomic bodies in motion) are used as symbols and wired

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up to formal realities (ta psychika, which subsist as ideas in the mind). It means, secondly, that the psychophysical existents and subsistents which constitute the symbols and referents of human communication must be capable of interaction: they cannot be creatures from completely different orders of reality which constitute parallel universes that are something alike but mutually exclusive and forever incapable of influencing one another. The separate worlds of form and matter do come together in man; and it is in man, if anywhere, that the problems of human communication must be resolved. Finally—and most importantly—it means that librarianship, which is intimately involved with the communication of knowledge, is thereby deeply involved with the mind-body problem of philosophy, since (1) knowledge is composed of formal subsistents in the world of mind, whereas (2) all expressions of knowledge consist of physical existents in the world of atoms in motion. The mind-body problem implies, furthermore, that the librarians and their educators have identical requirements and similar functions, both must be able to discern the system implicit in librarianship, the latter in order to explain it and the former in order to implement it; but neither can do either unless the interordinal relationship of physical symbols and ideative referents is understood. This relationship constitutes the major philosophical issue of the library profession in the twentieth century. Library education, surely, must ultimately rest on a sound philosophy of librarianship. That philosophy clearly must be dualistic, psychophysical, and interactive. Since all of the elements for constructing such a philosophy are available in the writings of formphilosophers like Abraham Kaplan, George Herbert Mead, and Karl Popper, this paper presents the dualistic philosophy of psychophysical interactionism as something for library education to consider—but not as something for immediate implementation in its curricula.

The Two Worlds of Philosophy and the Mind-Body Problem

All philosophies struggle to understand the meaning of the differences between (1) the physical world man lives in, and (2) the formal world of the spirit that lives in man. The world man lives in constitutes the temporal mode of objective becoming, the natural order of the material universe whose physical existents include everything that exists in a physical way. The formal order of the noetic universe, on the other hand, is the permanent mode of subjective being, the world within man whose metaphysical subsistents and their derivatives lie completely beyond the material universe and include everything that exists
in a nonphysical way. These differences, which are implicit in Greek thought from the very earliest times, became fully explicit in Plato and have persisted throughout the Western intellectual tradition.

Greek philosophy is based on one metaphysical assumption, two philosophical systems, and three basic questions. The first philosophers of science were the Ionian materialists, monists who avoided the dualism of mind-body metaphysics by assuming the perfect unity of life and matter. Thus, they accepted the monistic version of hylozoism, the belief that matter was alive; and they tried to answer the most basic cosmological question implied by that belief, the question of ultimate substance: "What is the living \( \phi \text{hy\v{s}is} \) made out of?"

In Southern Italy, however, the second wave of matter-philosophers developed leanings toward a twofold reality. The Pythagoreans of Croton, whose problem was also to understand the material \( \phi \text{hy\v{s}is} \), created a scientific formalism based on a definity-indefinity dualism derived from number mysticism: they argued that (1) all existents are defined space or time, because space-time, though undefined, is infinitely definable as physical objects (space materialized) or physical processes (time materializing); (2) the elements of objective reality are mathematically determined, since definity is quantifiable and numbers constitute the defined forms, primary patterns, or mathematical models of observables; and (3) observables are material realizations of their forms. Philosophers at Elea discovered the dualism implicit in hylozoism, which suggested that matter (\( \phi \text{hy\v{lo}s} \)) was somehow different than life (\( \phi \text{zo\v{e}} \)), or at least different from the noetic structure (logos) underlying the sensory patternment of change. Matter, they argued, could not be both a constant (because it was always there, forever like itself) and a variant (because it was alive—and therefore embroiled in ceaseless change). This discovery shattered the monistic unity of Ionian materialism and split Italian materialism into opposing camps of extreme monists, who polarized over the postulates of permanence (\( \phi \text{stasis} \)) and impermanence (\( \phi \text{kinesis} \)) and joined battle over the second cosmological question of scientific matter-philosophy, the question of motion: "Do things exist in a permanent state of Being, or in a temporal process of Becoming?" Parmenides and the Eleatics took the extreme rationalist position: they were skeptics as to sense data, who, by accepting the postulate of permanence completely (and completely rejecting the postulate of impermanence), became so "addicted" to Being that change could not exist at all and everything but permanence (\( \phi \text{stasis} \)) was unreal. Heraclitus, the mirror obverse of Parmenides and a wet blanket if there ever was one, took the extreme sensualist position: he was wholly committed to Becoming, a total skeptic as to intellection, who reversed
Eleatic procedure (by accepting impermanence completely and rejecting permanence the same way), formulated his infamous doctrine of the flux (*panta rei*: all things flow, motion is all there is, everything but change is an illusion, and so on), and concluded that impermanence ruled the cosmos because process (*kinesis*) was the only reality.

The result was an either-or controversy of extreme monistic views (in which everything stood perfectly still or moved frantically about), a standoff of permanence *v.* impermanence that opened an unbridgable gulf between the Parmenidean philosophy of Being and the Heraclitan philosophy of Becoming. This controversy was seen as ridiculous by the common man; but it became a challenge to the new breed of “reconcilers” in philosophy, the Aegean followers of Leucippus and Democritus, who succeeded marvelously well in bridging the unbridgable gulf between Parmenides and Heraclitus by combining the ideas of Being and Becoming in the atomic model of matter. The *atomoi* were physical permanents moving freely in space: they were qualitatively alike, because they were always the same; but their patterned combinations were never the same, because they were quantitatively distinct. Atoms, that is to say, varied only in their arrangements; and this enabled the matter-philosophers to account for everything that is—at least in the materialistic view of reality.

The significance of pre-Socratic materialism for the history of Western philosophy is difficult to overestimate. It rescued the Greeks from their fascination with Oriental mysticism by directing their interests to the cosmos and opening the way for the spiritual life of Greece to become intellectual, scientific, and cultural (rather than mystic and theological). It is the source, moreover, of the most fundamental contributions ever made to Western science. These include (1) making logical and ontological distinctions between order (in the intelligible world of mind) and disorder (in the sensible world of matter), and (2) reasoning from observed disorder in the *physis* to an ordering principle in the *metaphysis*. These two contributions are virtually sufficient to account for the modern scientific belief that natural phenomena can be explained by natural law: the matter-philosophers of Archaic Greece believed that the physical variants of Becoming were incomprehensible unless they were secured to the rational constants of Being; and we therefore believe that there is order in a phenomenal world governed by law. That is their most basic cosmological legacy to Western civilization—the powerful materialistic faith that natural law is real, that it does explain phenomena, and that it can be understood.
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The world known to science was thus constructed as a mechanics of swirling atoms before philosophy was confronted by Athenian immaterialism, which constructed another model of a very different world. The third question of Greek philosophy, therefore, was the humanistic question posed by Socrates: "What is man?" Socrates marks an important turning point in the history of philosophy, for he was the foremost exponent of the "anthropocentric attitude to life," which "pervades everything felt, made, or thought by the Greeks." He was not enamored with the physical world, to say the least: he was deeply interested, however, in the world within man; and that interest emerged from him as the potent philosophical tendency of humanism, which derailed scientific materialism at Athens and focused the attention of philosophers on "the study of man himself..., his nature and place in the world, his relations with his fellows." He urged the Athenians to care for their souls because the soul was the man, whereas the body only belonged to the man: the human body was the physical technology of the soul, something the man found necessary and useful for interacting with the world around him; but it was not the man, because man was a formal thinking subject—not an objective mechanics of action. He personified the gnothi seauton, a proverbial Greek maxim meaning "know thyself," which he also urged upon the Athenians: if you want to understand the human Geistesleben, he argued, you must begin with an introspective examination of the formal patterns in your own intellectual and spiritual life (to which alone you have personal and immediate access), learn to recognize the presence of similar forms in the expressions of other people, and end with the subjective ability to understand the formal meanings of human expression both generally and in the arts, literature, and philosophy. This recognitive approach to the study of immaterial form was the furthest thing imaginable from the analytical study of physical substance and content (which dissolved everything into atoms), because the subjective recognition of form and its intersubjective communication cannot be equated with the objective analysis and description of matter and energy. Thus Socrates constructed another world for philosophy—the new world of the human spirit—and opposed it to the physical world. The very different ways of thinking about these two worlds were then systematized in the form-philosophy of Plato and the matter-philosophy of Democritus and worked into a comprehensive philosophical synthesis by Aristotle, who gathered together all the threads of Greek philosophy clear back to Thales. Between them, Democritus and Plato constitute an ontological
dualism of scientific and humanistic outlooks which has dichotomized the entire history of philosophy, because “this division of philosophers into materialists and teleologists—matter-philosophers and form-philosophers—is perhaps the most fundamental that can be made in any age, our own included.”

The resolute persistence of these two worlds, once constructed in antiquity, has been astonishing. Nothing in Western thought has escaped their influence, for the Greek disjunction of reason and the senses which supports it, though shot up often enough, has never been shot down. It has been observed, for example, by William James—whose natural realism and anti-intellectual pragmatism identify him with matter-philosophy—that philosophers tend to be “sentimental” humanists (like his enemies) or “hard-hearted” scientists (like himself). This is his “celebrated dichotomy” of philosophical temperaments, “the tender-minded being Rationalistic (going by ‘principles’),” the tough-minded “being Empiricist (going by ‘facts’).” James was referring to the defensive religionists and arrogant scientists of his own day, to be sure. But “even so,” says Ayer, “he does succeed in characterizing two broadly opposing tendencies which can be distinguished throughout the history of philosophy.” This grouping, or something like it, is ultimately inevitable, because to this day philosophy has only two main problems, of which all its other problems are subsets: the nature of the physical world, which includes all of the phenomenal objects of scientific inquiry, and the spiritual nature of man, which constitutes the noumenal basis of humanistic study. This fundamental dichotomy has permanently polarized philosophers over the irreconcilable contradictions of physical monism and psychophysical dualism in the West. Zeller has explained how this happened when the monistic assumption of unity in Greek philosophy was confronted by the dualism of its major systems.

Greek philosophy shows us the formative conditions of critical thought, in which an obstinate distinction between its two elements and their disruptive separation develop from the supposed serenity of their unified existence and original equipoise without realizing their latent promise of unity.... The original premise of Greek philosophy, the starting point from which it proceeds, is the harmonious relationship of mind with nature which is the distinguishing characteristic of classical culture generally; and it is only step by step, and virtually against her will, that philosophy sees a most basic distinction forced upon her.... Thus, the ultimate result of Greek philosophy is a dualism, which, for all of her critical efforts to resist it, she can no longer overcome; and the development of this dualism can be fully documented, even in the days of her greatest efflorescence.
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Nevertheless,...since the original presupposition of [unity in] Greek thought is progressively validated by the distinctive features which determine its character, the inability of Greek philosophy to reconcile its contradictions satisfactorily must also be explained by that selfsame presupposition, from which it never frees itself: the unity of mind and nature, which it requires and presupposes. is clearly the unbroken unity of the classical world view; and when this view of reality breaks down, there remains to philosophy no means of closing the gap which, from its own point of view, has no right to be there in the first place.9

The mind-body problem, which is derived from the explicit dualism of Plato's form-philosophy and Democritean matter-philosophy, is without question the most persistent problem of Western thought, because the rational communication of intellectual order, structure, and form is logically distinct and ontologically separate from the empirical description of physical objects, processes, and forces. One might think, therefore, that 2600 years of failure to bridge the gap between formalism and materialism might justify the inference that it cannot be bridged; but that is precisely the inference one cannot make in the West, because it demolishes the foundation on which philosophy was built—its monistic presumptions of unity between form and matter. This presumption is based, as Zeller indicates, on the “unwritten philosophy” of classical antiquity, the unverifiable postulate of ultimate rationality which assumes that man and the universe are somehow alike, that the universe is indeed orderly and intelligible, and that the human mind is capable of constructing a complete system of truth.10 That is the magnificent pipe dream of ancient Greece: it is hopelessly idealistic and unrealizable; but the Greeks really believed in the possibility of creating one superscience for explaining everything; and the modern monists have followed them in trying to construct a scientific system so comprehensive and so airtight that, starting from any particular in the system, it could induce an all-inclusive premise from which the whole of reality could be deduced. This ambitious vision of reality, however, remains patently absurd (as it was anciently), for it still requires its seers to assume one of the two extreme monist positions first taken in antiquity: everything must be ultimately reducible to intellectual patterns, as in the form-monism of Parmenides, or to physical motions, as in the matter-monism of Heraclitus. Either of those positions, of course, annihilates the mind-body problem, which becomes a nonproblem if there is no such thing as mind and everything is matter or vice versa; but every other philosophical position faces the realities of mind and matter and wrestles with the problem of determining, if possible, how they relate to one another.
The modern philosophers, even though scientifically minded and monistically inclined, have not been able to avoid the mind-body problem. They learned, as their predecessors had already discovered, that the world of matter and energy is a temporal domain of physical Becoming perceived by the senses, whereas the world of form is an eternal realm of permanent Being whose patterned abstractions are discerned solely by thought. Each of these worlds has attracted adherents since the beginning of time, as described by Bertrand Russell.

The world of [formal] being is unchangeable, rigid, exact, delightful to the mathematician, the logician, the builder of metaphysical systems.... The world of [physical] existence is fleeting, vague, without sharp boundaries, without any clear plan or arrangement.... According to our temperaments, we shall prefer... the one or the other. The one we do not prefer will probably seem to us a pale shadow of the one we prefer.... But the truth is that both have the same claim on our impartial attention, both are real and both are important. But how are these worlds related? That question has thus far defied adequate solution, although partial answers have been provided by the modern philosophers. Impatient with the metaphysical theories of their predecessors, they abandoned traditional philosophy and joined, almost to a man, in a massive effort to find a valid method for obtaining reliable information, regardless of the world it came from, because they were determined to get at the truth. "They were successful in the search for a sound method"; but once discovered, "it became the method of science," not a universal method for disclosing the truth about everything.

The difficulty was that philosophers continued to disagree on everything except the method of science.... To possess a method is to have a way of deciding what questions may sensibly be raised, and how to progress toward definite answers. Scientists obviously have such a way [of deciding scientific questions].... As a result of the concentration on method, a few principles of sound inductive inquiry became firmly established; [and] from that time on they have commanded respect from every seeker for truth in the realm of observable fact.

Thus, the methods of science have become effective and appropriate for obtaining information about the physical world of bodies in motion, which constitutes the subject matter of science. But all other aspects of the mind-body problem remain unresolved. The trouble is that modern science, far from realizing its self-defeating ambition to include all truth and encompass all reality, suffers (as science has always suffered) from "an intrinsic, built-in limitation upon the growth of scientific understanding"—an epistemological limitation of human logic that
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rests on a metaphysical "Law of [the] Conservation of Information," which corresponds to the physical laws of the conservation of matter and energy. This law has been stated by Medawar as follows: "No process of logical reasoning—no mere act of mind or computer-programmable operation—can enlarge the information content of the axioms and premises or observation statements from which it proceeds." This law, which determines the limits of scientific knowledge, governs such things as (1) mathematical theorems, which "are merely a spelling out, a bringing into the open, of information already contained in the axioms and postulates"; (2) deductive conclusions, because deduction "merely makes explicit information that is already there" and "is not a procedure by which new information can be brought into being"; and (3) inductive generalizations, since no generalization "can contain more information than the sum of its known instances." "Thus Law of [the] Conservation of Information makes it clear that from observation statements or descriptive laws having only empirical furniture there is no process of reasoning by which we may derive theorems having to do with first and last things." To summarize the whole matter, that is to say, the scientist, specifically qua scientist, can say absolutely nothing—whether positive, neutral, or negative—about the metaphysical problems of philosophy or theology because "the propositions and observation statements of science have empirical furniture only." If the implications of this law had been understood and respected, the methodological imperialism of modern thought could never have developed, for the physical methods of science would not have been transferred, in strict simian fashion, from physics, to chemistry, to biology, to physiology, to psychology, to sociology, and thence to the rest of the social sciences and even to the humanities; and mathematics, the intellectual technology of materialism, would not be applied to everything today. It has taken a long time, but the modern philosophers have finally come to realize that "knowledge is not the simple affair it had previously been taken to be," and that they must distinguish "between truth as confirmable by scientific techniques and truth that can only be won in other ways." Considerations like these have tremendous implications for the scientizing of librarianship and its repercussions in library education.

Librarianship and the Two Worlds of Philosophy

From chaos to Kaplan. The library profession, according to Shera, should adopt the philosophy of library education expressed in Abraham Kaplan's "The Age of the Symbol." That philosophy, how-
ever, implies three things about librarians and their educators: (1) they have never isolated, much less resolved, the fundamental problem of librarianship; (2) they have forsaken the humanistic foundations of their profession in the name of science; and (3) they do not understand the occupational alignment of librarianship with the metasciences. Correcting these deficiencies is the key to cleaning up the mess librarianship is in; and its only alternative is learning how best to live with the mess.

The fundamental problem of librarianship is the unprecedented and ever-deepening involvement of the modern age with symbolism. Symbols clearly “occupy a larger part in our lives today than ever before”; and “the size of that part,” as Kaplan indicates, “is growing exponentially”23 because the knowledge explosion, which has transformed the modern era into an age of the symbol, is overwhelming everybody with its veritable oceans of information. “Theories about information,” by which Kaplan specifically means “theories about symbol processes,”24 constitute one of the basic cultural realities of the twentieth century, which has become increasingly immersed in this whole problem of symbolism and is currently struggling to stay afloat in it. According to Kaplan, therefore, it is the symbolic nature of our cultural environment which explains why “enormous changes at every level of modern society can be associated with the concept of information [emphasis in original].”25 The growth of symbolism has caused, first of all, “the sheer volume of information,” which makes it virtually impossible for anyone to keep abreast of developments in any field; it has also caused the “fantastic growth in the technology by [means of] which information is produced, processed, and transmitted” in the physical world; and it has created the “many intellectual disciplines” which have recently “come into being around processes of symbolization or have begun to focus...[on] the nature of language and symbolism.”26 Thus, the information problem and its technologies are merely the expressions of a deep-seated cultural anxiety caused by the unruly growth of knowledge in a symbolic environment that seems completely out of control. “From the standpoint of the theory of ideas,” which is Kaplan’s standpoint throughout, everything suggests that “ours is the age of the symbol [emphasis in original].”27 He concludes that, given the context of relentless cultural change, it is “altogether understandable” that librarianship, which is “occupied centrally with precisely what underlies all these changes,” should be “engaged in a search for some fixities in this flux, and concerned with re-examining the means...for the achievement of its purposes”; and he adds that “the problem of the profession is indeed a genuine problem and is a piece with a com-
parable problem... faced by many other professions... [and by] society as a whole."

Comment is necessary at this point, lest Kaplan's remarks be interpreted without reference to the mind-body problem or the two worlds of philosophy. He distinguishes sharply, for example, between (1) the formal abstractions of information, or the ideas that exist outside of the individual consciousness in an objective but nonphysical way as the intellectual products of countless human minds, and (2) the physical manifestations of information, or the symbolic data by means of which ideas are expressed and communicated in the physical world. When Kaplan discusses "the sheer volume of information," therefore, he is talking about ideas. When he speaks of "the technology by which information is produced, processed, and transmitted," however, he is discussing the means by which symbolic data, or the physical manifestations of ideas, are produced in the social order and used by human beings as instruments of communication. This ontological difference between the metaphysical nature of ideas (ta psychika) and their physical manifestations (ta physika) is absolutely essential to understanding Kaplan's thought; and that raises important informational questions about the psychophysical nature of the human involvement with symbolism. Does information reduce to something physical in the empirical world of matter and energy as in science? Or does it reduce to metaphysical patterns in the intellectual spirit world of ideas as in philosophy? Is information the machinery of communication? Or is it distinct from the communicative machinery? Our answer to these questions will disclose the presuppositions that dominate our thinking about information. If we think information is physical data (such as visual characters or speech sounds), we consign it to matter-philosophy; and that consigns us to the scientific study of information conceived as nonsymbolic realities in the physical environment. If we think of information as ideas, on the other hand, it belongs to form-philosophy; and that commits us to the humanistic study of information conceived as symbolic realities in the cultural environment.

These two assumptions and the studies they imply are not antithetical. They are very different, however, because science analyzes the physical behavior of symbols, whereas humanism recognizes the formal meanings of symbolic referents. Scientific theories of the physical symbol are paralleled today by humanistic theories of the symbolic referent. But the progressive librarians, who invariably think of themselves as "scientific," have always preferred the former to the latter; and that underscores Kaplan's point: what is needed is a truly comprehensive theory of communication that integrates the realities at both ends of a
wire connecting human beings to their physical and cultural environments—a psychophysical theory that explains all of their complex interactions with both of those environments. And finally, Kaplan's remark about "intellectual disciplines," which explore the symbolic environment, cannot be understood without reference to "empirical disciplines, " which investigate the physical environment. "Empirical" means "observational"—an important point, since the empirical disciplines always produce knowledge of empirical realities that can be observed, no matter how theoretical such knowledge may become, whereas the intellectual disciplines can only create knowledge of intellectual realities that cannot be observed, although they can be thought and communicated as thought. This important distinction between two orders of knowledge has been overlooked by the information professionals. They have confused first-order knowledge about empirical phenomena, or the intellectual knowledge of physical realities required by science, with second-order knowledge about knowledge, or the knowledge of intellectual realities required by librarians. That clearly reveals the nonscientific character of librarianship: it is not concerned with realities; it is concerned with knowledge, which always consists of human subjective reports about realities. "Human knowledge," as Kaplan reminds us, "is something which is known to very, very few human beings," although it is used by everybody [emphasis added].

Humanism, according to Kaplan, provides the basic foundation of librarianship. It has also given birth to symbolism, which not only creates the central problem of librarianship but sounds "the keynote of all humanistic problems," whose function is to clarify subjective questions "instead of obscuring them as traditional scientific methods have done." The human use of symbols during the Golden Age, as a matter of fact, was responsible for introducing the new outlook of form-philosophy into the Western intellect—an outlook derived from humane concern for the symbolic forms of Athenian immaterialism, not from scientific interest in the cosmos. Western thought began as matter-philosophy in Ionia and continued as matter-philosophy in southern Italy and the Aegean. At Athens, however, it boarded a teeter-totter balanced on the shoulders of Socrates, where it has teetered and tottered ever since. Before Socrates, all philosophers were materialists; with Socrates, however, the materialists were confronted by the genius of a superb form-philosopher; and after Socrates, it has been two for the seesaw all the way. The formalists initially dominated the teeter-totter and controlled its use for over 2000 years. The materialists overpowered
the formalists in the scientific revolution of the seventeenth century A.D., however, and have since controlled the business end of the teeter-totter. The tremendous success of this scientific revolution in thought has made things difficult for humanism in the Western civilizations, where materialistic ways of thinking have invaded all aspects of modern life. There are signs of modern discontent with materialism, however, as Socrates has made it forever impossible for the people of any Western culture to maintain an exclusive scientific interest in the outside world, without wondering about the world within. This discontent is inevitable, necessary, and desirable in librarianship, which is an intellectual discipline based on rational form, because one cannot fight realities: one can only find out what one's realities are and go along with them. Kaplan argues that librarianship and library education must eventually come to grips with the form-philosophy of critical humanism. "The humanistic basis is there, and [it] will and must remain as a basis." This explains the knowledge orientation of librarians: their need to know about the actual uses human beings make of information "must always remain fundamental" to librarianship because it is fundamental to humanism itself. That need cannot be met by scientific knowledge about external nature. It calls for knowledge of human nature, and that, says Kaplan, "is nothing other than knowledge of people," or more specifically, knowledge "of the various ways in which...[people] generate and transmit and interpret ideas or information." These remarks carry two important implications. They imply, first of all, that librarians require an instrumental knowledge of behavior as the human means of dealing with information; but they do not require scientific knowledge of human behavior per se. And secondly, Kaplan is clearly not talking about information-as-data in the form of graphemes (visible squiggles on paper), phonemes (audible wrinkles in the atmosphere), or electrochemical impulses (the circuitry of our nervous systems and computers); he is thinking of information-as-ideas and struggling to understand (1) how human beings bring ideas into existence, (2) how human beings communicate the ideas they bring into existence, and (3) how human beings interpret the ideas they bring into existence and communicate.

From this repeated emphasis on information-as-ideas, Kaplan concludes that students of librarianship should be grounded in knowledge about knowledge by getting to know ideas. He therefore supposes that, "sometime in the course of training," the student will have studied (1) the sociology of knowledge, (2) the history of ideas, and (3) the structure of inquiry, "not merely in some area...of special interest to him but in broad historical and cultural terms." And he further supposes that
library education not only contains humanistic "beliefs about what men are like...and how they make use of ideas" but also inculcates such humanistic values as the love of learning, the love of ideas, the love of truth, "and even...the love of books." But Kaplan is overly optimistic here, and it must be noted that the library educators have seldom included intellectual studies of this sort in their curricula. Most of them have not been interested in Karl Mannheim, for example, who created the sociology of knowledge in order to study the impact of social organization on ideas; nor have they ever taken seriously the social epistemology proposed by Jesse Shera (the mirror image of Mannheim), who urged the library profession to study the impact of ideas on social organization.

Philosophy and intellectual history, furthermore, have never been compatible with the ultrapragmatic interests of librarians and their educators, who have always managed to avoid the history of ideas as though it were the plague. And the continuing addiction of library educators to the scientific models of "research" is tragically interesting: they see no difference between the intellectual structure of inquiry and the operational procedures of research because their interests are overwhelmingly utilitarian; and they have therefore opted for the researcher's view of critical inquiry by training their students to concentrate on the functions and outcomes of research. But Kaplan's emphasis on "the structure of inquiry" is slanted toward the observer's view of research precisely because librarians are not researchers: they are the philosophers of research whose function is to attend the research interests of other people. They cannot do that properly, however, unless they know which of the many intellectual strategies of research are and are not compatible with the specific research interests of their patrons. Thus, Kaplan's emphasis is squarely on the thinking that underlies all forms of research, not on the operational procedures and functional apparatus that grind the specific content of "scientific" research into practical results and conclusions. The intellectual loves of ideas, learning, and truth, moreover, are indeed appropriate values for librarians. But, says Shera, "Kaplan weakens this admirable list by adding...the love of books." Shera's point is that librarians should think in terms of their intellectual functions, not in terms of their communicative tooling: when they swoon with ecstasy over a monograph they are like emotional mechanics who go into raptures at the sight of ratchets and wrenches. The library profession, finally, has not followed Kaplan's humanistic recommendations. It has followed the advice of information science, which stems from an empirical commitment to the modern version of ancient matter-philosophy. The result has been the scientiz-
Kaplan has consistently argued that librarianship is an intellectual discipline based on the philosophical study of ideas, not an empirical discipline based on the scientific study of facts. Its foundation, therefore, is intellectual as in the humanities, not observational as in the sciences. “This intellectual foundation,” he now says, “can be provided by nothing other than the...metasciences,” specifically because the metasciences are disciplines that study the intellectual structure of knowledge—not disciplines that use knowledge to study something else. This argument means that librarianship cannot line up and salute with the analytical disciplines which study scientific phainomena (sensibles that cannot be thought) because it owes allegiance to the cognitive disciplines which study humanistic noumena (thinkables that cannot be sensed). When Kaplan refers to “the mathematical sciences as a basis for library education,” therefore, he is not saying that librarianship is some sort of geometry or algebra: he is saying that the students of librarianship have much in common with the students of mathematical and verbal logic (who study formal relationships) and little in common with the students of physics and chemistry (who study physical objects and processes, and magnetic, electrical, and nuclear forces). Lest we misinterpret Kaplan on this point, however, we should read very carefully the following important statement about the metasciences.

These are sciences not about subject matters provided by man and nature, but about subject matters provided fundamentally by our ideas about man and nature, or by our language, or by our ways of transmitting and processing...information....I mean disciplines like mathematics, logic, linguistics, semantics, and, in the narrower sense, theory of information, and maybe cybernetics [emphasis added].

Editorial emphasis on the third occurrence of the word “about” in this statement has misled everybody as to its meaning. But this emphasis is better placed if the italics are transferred to “ideas,” since Kaplan’s whole point is that the metasciences are form-oriented disciplines that study human thought, not matter-oriented disciplines that study the objects of sensation. No one can distinguish between (1) “sciences...about subject matters provided by man and nature” and (2) sciences “about subject matters...about man and nature,” because the former is ultimately the same thing as the latter. Thus, the contrast he makes is the classical distinction of Western philosophy, the fundamen-
tal distinction between (1) physical "subject matters provided by man and nature" and (2) formal "subject matters provided by our ideas about man and nature"—or about anything else. That is a distinction we can live with and must accept, or the whole concept of the metasciences becomes meaningless.

The metasciences, which study thinkables, include many disciplines that are closely related to science. But these disciplines, according to Kaplan, "then range off into other related metasciences" which, if extended far enough, would ultimately include the studies of linguistics and semantics and the subject matters of art, literature, philosophy, and history. It is important to understand this broadening of the metasciences, which originally included only the formal disciplines of science. The term metascience, was originally coined "as a name for the study of scientific inference" by John O. Wisdom in order to make a clear distinction between science and the philosophy of science. The study of scientific procedure, according to Wisdom, is really two studies: (1) the study of scientific practice, which includes methodology or the study of scientific methods; and (2) the study of scientific inference, or metascience as the philosophical study of scientific propositions. The philosophical study of scientific knowledge, in other words, must be carefully distinguished from the scientific study of phenomena. This distinction is basic because "knowing about knowledge," which includes knowing about scientific knowledge, "is not the regular business of scientists," although it is precisely the business of specialists in the psychology, sociology, history, philosophy, or librarianship of science. Metascience, that is to say, "is concerned with the logical, epistemological, and ontological aspects of science, not with the individual or social behavior of scientists" or with phenomena: it does not add, therefore, to our knowledge of the world; but it does inform the intellectual faculties of abstract understanding and practical judgment by ordering (and thus by deepening) the knowledge we already have. Thus, the phenomena observed by scientists belong to the factual order of science, which they study by observational methods; but the formal order of science, which can only be studied through the utterances communicated by scientists, includes all of the thinking scientists do about the phenomena they observe, and all of the information they communicate about observed phenomena—whether they communicate it orally, by writing, or otherwise. This means that the formal order of scientific inference, which was originally the sole concern of metascience, is distinct and separate from the factual order of science. Does it also mean that scientific inference is a microcosm, a model of the larger
concern for human inference generally? It does indeed. Kaplan's extension of the metasciences to include all of the formal disciplines, with even philosophy among them, is fundamentally sound; and his alignment of librarianship with the metasciences is also sound because he correctly identifies its realities as formal and classifies them with the similar realities of its fellow disciplines, which are all derived from form-philosophy. Collectively, they constitute the only defensible basis for the knowledge business of librarianship, because turning away from the formal structure of knowledge means turning toward its empirical content. If the librarians go for content, however, they must either become encyclopedists who go for all of it, or specialists who go for some of it. But Kaplan rejects both of these options, because encyclopedism "is a possibility that has forever vanished," whereas "a narrow specialization...would fail dismally" to perform the broad knowledge functions of librarianship. The library profession, he insists, must be classed with the metasciences.

They have this centrality...for an intellectual reason, because there is central to them the concept of structure, of order, of form, which seems...to be the central concern also of library science. I am unable to conceptualize any alternative. Either you are [humanists] interested in order, structure, form, or you are [scientists] interested in substance and content; and in the latter case, you must resign yourself to mastering some increasingly narrow subject area and to doing whatever you can...as little assistants or magic helpers...to the people working in the area.49

The close affinity of the metasciences with librarianship is thoroughly appropriate in the broadened sense of metascience as the inclusive study of human inference generally, though not in the narrow sense of exclusively scientific inference. This broadening of the metasciences is important, for otherwise they do not qualify as the occupational peers of librarianship. When properly understood, however, librarianship and the metasciences are plainly meant for each other. But the postwar librarians have identified librarianship with information science, and the information scientists are "aligning themselves with the natural sciences, which deal with physical phenomena."50 The librarians, meanwhile, must "deal with ideas and knowledge and their communication; hence librarianship is much closer to the humanities than to the 'hard' sciences."51 This contradiction between the humanistic realities of librarianship and the scientific outlook of the postwar librarians is tearing the profession apart. The excessive pragmatism of the librarians and their educators has thus far prevented them from formulating a defensible philosophy of librarianship. Nor have they been able to

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recognize the intrinsic merit of Kaplan's recommendations. The Ameri-
can system of librarianship is therefore short-circuited at the battery—
which explains why there is currently no juice in the system, and why
the physical methods of science are inappropriate for studying the
formal realities of librarianship.

From Kaplan to Mead. From Kaplan's "philosophy of library
education, fragmentary and ill-defined though it may be," says Jesse
Shera, "must be derived the objectives of the library school." That
strong endorsement of Kaplan's symbolic views is closely related to the
last recommendation offered by Shera to the library profession. "I
submit that librarians must look to 'symbolic interactionism' for the
proper foundation of a theory of librarianship." Symbolic interaction-
ism, which "refers to the [psychophysical] process by which people
relate to their own minds and the minds of others," was created by
George Herbert Mead, who rejected the study of social phenomena by
mechanistic methods devised for the study of natural phenomena and
imported into the social sciences from physics. Mead has thus become
the nemesis of those social scientists who follow the physicists in assum-
ing the identity of natural and social phenomena. The natural order is a
monistic unity that includes everything physical and nothing else: it
does not resent being studied (because matter has no mind and cannot
think), nor has it ever punched a scientist in the nose for writing
something in his notes. But the social order, unlike the natural order, is
an ontological dualism constituted by (1) an empirical social order,
which consists of people as behaving who do things, and (2) an ideative
social order, which consists of people as thinkers who know things.
Humanists regard the empirical social order as secondary and instru-
mental because it functions as the only means of access to the ideative
social order; but scientists treat the ideative social order as nonexistent
and regard the empirical social order as a subset of the natural order.
Science, that is to say, studies the behavior of human beings without
reference to their minds, whereas humanism studies their behavior
instrumentally—as the symbolic means of access to their minds. Thus,
by rejecting the monistic reduction of social orders to their physical
manifestations and by accepting Cooley's "theory of the mental nature
of human society" (which regards human organizations "as existing in
the minds of...individuals"), symbolic interactionists argue that "the
essential nature of society is found in the social bonds that exist between
human beings through ideas and feelings." It therefore investigates
the psychophysical interaction of the empirical social order and the
ideative social order by studying the relationship between the physical
symbol and its symbolic referent. Accordingly, it regards human interaction as social and symbolic, for "nearly every movement, sound, odor, or touch of another human being acts as a symbol which we learn to interpret." This instrumental use of sensible symbols is fundamental in human communication, since most of what we know can be expressed as stimuli to be interpreted by others. Thus, "we can move our bodies in ways that can be seen," we can control sounds that can be heard, and "the [physical] environment can be manipulated to create sensory information for others to perceive." The consequence of all this is the ability to communicate, for "any of these humanly produced stimuli can be employed as symbols which represent what we know," provided only that interacting communicants employ the same rules for attaching meanings to stimuli. This clarifies the communicative function of physical symbols. We create symbolism by attaching subjective meanings to various kinds of physical data and using them as instruments of communication, and communication is impossible unless these data are made to function instrumentally (and invisibly) as symbolic signs: they must arouse ideas in the mind without getting in the way.

If some [physical] object [or process] is to act as a sign, the interpreter must shift attention from...[itself] to its referent. Every stimulus...provides us with information about itself. [But] a sign...results in two types of knowledge—that which is intrinsic (knowledge about the sign) and that which is not (knowledge about the referent). ...This shift of attention is produced unconsciously...Our attention is so thoroughly focused on the referent that signs are [wrongly] said to take on the meaning of that which they refer to [emphasis added].

The dual nature of the social phenomenon determines the methodologies of symbolic interactionism, which are essentially subjective because the meaning of things to the conscious self is basic and primary in human communication, whereas phenomena are instrumental and derived. But meaning belongs to the formal realities of the ideative social order, which can only be reached by going through the physical realities of the empirical social order. One does not simply react to the behavior of other people, that is to say: one evaluates it subjectively (by interpreting it as it occurs) and acts in accordance with the subjective meanings one attaches to it. One cannot do this, however, without making inferences from others' behavior about their intentions, which must be communicated by means of their behavior because intentions cannot be observed. There is no other way of dealing with the ideative social order: it can only be accessed symbolically by means of the empirical social order because human communication is an intersub-
155. Ibid.
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which he shares with the other animals." Their researches, therefore, "make no reference to man's distinctive characteristics," which set his rational forms of behavior apart from the behavior of nonhuman animals.

A notable example is the reinforcement theorists, who emphasize operant conditioning and behavior modification. Their focus is on observables, the overt responses of organisms. From the study of rats, chickens, and other animals, they have shown the efficacy of rewards, or positive reinforcers, in shaping behavior. Aiming at "objective" knowledge, operant-oriented researchers contend that...thinking, or mind, are subjective, and therefore inappropriate for science. They insist that the behavior of the human animal can be studied with the same concepts, the same techniques, and the same...success as in the study of other animals.

The reinforcement...[or analytical] approach to human behavior is based upon a positivistic conception of science. A basic premise of the positivist viewpoint...is...the [monistic] contention that the behavior of all organisms is essentially similar and that conclusions obtained from the study of animal behavior can also explain human conduct....Closely related [to this approach] is...determinism, which views...animal and human action as sequential and invariable.

The symbolic interactionist view of human behavior is the polar opposite of this. It distinguishes all forms of instinctive behavior from the rational conduct of man, which constitutes a distinctively human kind of behavior controlled by symbolic processes implicit in thinking subjects who are constantly involved in the communication of knowledge. Distinctively human behavior, in other words, "is considered to be qualitatively different from nonhuman behavior, and therefore requires its own specialized concepts, theories, and research methods." Symbolic interactionism, accordingly, is "grounded on [formal] assumptions about man's distinctive characteristics and on researches dealing with man himself" as an active thinker who knows things and guides his behavior by what he knows; it cannot be grounded on the physical assumptions of scientific materialists about the commonalities of human and nonhuman animal behavior because man is the only animal who communicates with his fellows through the sophisticated use of symbols.

Communication by means of significant symbols...involves words or gestures intended to convey [subjective] meaning....It is not the [physical] noise of the words or the physical movement of the gesture...which communicates, but the meaning for which the noise or...movement stands as a symbol. Both the communicator and the observer have...to learn the meaning of...words or gestures in order to communicate symbolically,...[although] communication by natural
It is therefore the peculiar nature of human subjectivity which explains the unique ability of human beings to communicate symbolically, since the meaningful manipulation of significant symbols requires specifically human conceptual and linguistic skills that are lacking in the rest of the animals.

The focus of symbolic interactionism on the study of distinctively human behavior also accounts for its rejection of analytical methods, which stress the observer's objectivity and impersonal detachment from the empirical social order as in science, and its acceptance of recognitive methods, which require the observer's intimate and personal involvement with the empirical social order as in the humanities. Most of the social scientists, "impressed with the dramatic achievements of the natural sciences, have sought to apply similar concepts and techniques to the study of human beings." This is a mistake, according to the interactionist perspective, because "human conduct is guided by interpretation and intention" as it emerges under the intelligent control of an active conscious self; it is not triggered by "mechanical, automatic reactions to stimuli." Insofar as "human action and interaction are voluntaristic or intentional, they are...emergent and unpredictable." Symbolic interactionism thus requires researchers to investigate the covert processes of subjective interpretation and volition by which rational behavior is constructed and controlled; and they cannot do this, since those processes occur only within the intelligent consciousness of human beings, without thinking themselves into the skins of the people they study and viewing things from the inside out. This requirement always baffles the detached impartial observer, for human subjectivity is the one thing science cannot study objectively: you cannot hover aloof and distant over the people whose subjective processes you are studying by refusing to experience the roles and functions they perform in the social order. The subjective processes which generate rational behavior in a human being must be communicated to observers through intimate familiarity with the empirical lives of the people they observe. There is no other way to do it. Yet, the analytical procedures of science constitute the dominant mode of inquiry in all of the behavioral disciplines, where researchers shun immediate experience with and direct examination of the empirical social order. But "no amount of simply observing behavior from the outside will provide an understanding of actors' views...and hence...of their conduct," in spite of the overwhelming preference for
such things as ambitious theories, intricate research designs, elaborate models, and servile adherence to the canons of scientific inquiry.

What is needed is a return to the empirical social world. No theorizing, however ingenious, and no observance of scientific protocols, however meticulous, can substitute for developing a direct familiarity with what is actually going on in human group life. Symbolic interactionists encourage first-hand acquaintance with the sphere of life under study. Thus, their preferred research techniques tend to be sensitive participation and direct observation, rather than experimentation under artificially controlled conditions. This demands intimate contact with what is going on, free exploration in an area of concern, getting close to the people involved in it, seeing action in a variety of situations, noting problems and observing how they are handled, being party to conversations, watching life as it flows along. The nature of the empirical social world must be experienced, discovered, dug out by a direct careful and probing examination of that world.73

The symbolic interactionist imperative, in other words, is to respect the instrumental nature of the empirical social order as the means by which the ideative social order is communicated, and to "organize a methodological stance to reflect that respect."74

The following assumptions about symbolic interactionism are derived from the requirements of cognitive consistency in the study of formal objects. They are necessarily different from the physical assumptions of science, which aligns ratiocination with factual observation.75

The formal realities of mind cannot be known empirically because they cannot be observed: they can only be recognized and evaluated philosophically through communication by means of observable symbols. The two general theories of knowledge are rationalism, which goes by the coherence theory of truth and utilizes the referential capabilities of natural language, and empiricism, which follows the correspondence theory of truth and exploits the descriptive capacities of mathematics. Symbolic interactionism belongs to the former because it studies formal objects which are communicated by natural language but cannot be described mathematically, and rationality is its only criterion of truth. Factual propositions, on the other hand, are evaluated by the dual criteria of rationality and observability, because the correspondence theory of truth combines the necessary condition of rational consistency with the sufficient condition of empirical observability: one explains something provisionally, looks carefully at what the explanation is, and adjusts the explanation to fit the facts of observation. Factual statements are therefore "safer" than formal statements, because formal objects are immune to experimental testing: they cannot be put
under a microscope or heated with a bunsen burner to see how they "behave." With formal propositions, however, "the round will be won if logical consistency [alone] is respected"—that is to say, if the rules of rationality within their ideative system are not breached. 76

*Human beings are intelligent subjects living in two environments:* (1) the physical environment, which ultimately includes all the matter and energy of the cosmos, and (2) the cultural environment, which includes all ideative realities available for study outside of the subjective consciousness of individuals. If man lives within the physical landscape of the universe, so to speak, he also lives in the cultural "weather" of his fellow human beings. Thus, the physical environment is shared by all of the animals; but only "man can have a culture—an elaborate set of meanings and values—shared by members of a society, which guides much of his behavior." 77

*Intelligent subjects select, interpret, reject, accept, and transform their environments* by determining the purposes and directions of their rational behavior and controlling its construction; they are not passive organisms responding mechanically to internal or external conditions. This proposition constitutes "an important tenet of most humanistic views of conduct," which assumes that "human beings are...participants in creating their own destinies." 78 They construct their environments, for "whatever may actually be 'out there,' individuals will structure their worlds...by what they perceive and conceive them to be." 79

Man is not a passive organism buffeted by organic drives and environmental forces, such as sexual impulses or organizational structures. He is an active agent, who constructs his behavior in the process of social interaction. He selects and interprets his environment, and thus in some sense creates it. Man's behavior, therefore, is not wholly determined by antecedent conditions, because rational conduct is constructed in a process he controls as it emerges from him. 80

This constructive process depends on the interpretation and communication of meanings, because "human beings normally intercept what others are doing, or intend to do, and construct their behavior in terms of what they take into account." 81 Thus people define their situations and "indicate their definitions to one another in order to interpret each other's meanings within the situations in which they are acting." 82 The meaning of social interaction is therefore determined by a subjective process of self-indication: it is not the result of antecedent conditions but "depends on what is taken into account and assessed in the situation in which behavior is actually formed."
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An individual makes indications to himself of things in his surroundings, and thus guides his actions by what he knows. Instead of being passive, therefore, he selectively participates in his environment. It is how he interprets things in the action he is constructing that determines his behavior, which is not caused by internal drives or external stimuli. The process of self-indication exists in its own right, and must be accepted and studied as such.

Access to the human cultural environment is provided only through symbols. "Man has a distinctive capacity for symbolic communication" which enables him to think and to encode ideas in objective reports that go into the world for others to utilize and, in some cases, to store for retrieval and reuse. This is accomplished by symbolism through the objectification of thought. Since "thinking is strictly a symbolic process," however, and since the physical symbol is the only objective means of communication, the cultural store of objectified ideas is accessible only through symbolism.

All aspects of specifically rational behavior are symbolic. Distinctively human interaction with one's self and others is always carried out by means of symbols and their interpretations. Rational behavior cannot be explained, therefore, unless thinking and language are understood because human beings attach meanings to symbolic stimuli and act on the basis of those meanings, which "are socially derived through interaction with others rather than inherent in the stimuli themselves."

The subjective meanings of symbols can be learned by human beings only through communication. Rational conduct is "specifically learned in symbolic communication," where the self selectively constructs its social objects from its interactions with the symbolic environment. Thus, "all social objects, including the self as a social object, become meaningful definitions of situations because they are interpreted as such by the individual self." But subjective meanings and interpretations, even though learned by a self, cannot be observed: they must be communicated to others or remain forever with the self. This makes communication indispensable to the exploration of subjective questions. It also means that understanding rational behavior requires observers to account for the meanings of things to an interpreting self—something they cannot do unless those meanings are communicated to them through symbols.

Natural language can refer to the subjective realities of mind; but human subjectivity can neither be described by applied mathematics nor explored by pure mathematics. "Man is distinctive in having language," which is the natural consequence of his unique ability to
think. The natural languages are referential, however, whereas mathematics is descriptive. This means that natural language can refer the mind to ideas about anything. But mathematics is securely tied to the natural universe: it can only describe physical actualities or explore physical possibilities. Mathematics is thus "an instrument for application to physical problems." It was invented as a way of accounting for physical objects and processes in the world of matter and energy, which cannot be adequately described in words. "The axioms of arithmetic and geometry are based on the physical processes of counting objects and measuring distances"; and the differential calculus "is a direct attempt to put physical notions of velocity and acceleration into precise terms." Mathematics is thus the intellectual technology of materialism, an artificial language whose "utmost abstractions are the true weapons with which to control our thought of concrete fact"—which explains why mathematics cannot control our thinking about abstract form. Natural language, on the other hand, "is the primary mechanism leading to the individual's mind and self"; its verbal abstractions, therefore, function as our best means of intersubjective communication.

It is obvious that symbolic interactionism has great significance for communication theory. The mind, by using the human body as its technology of interaction, can review information from the world and program its voluntary movements to act in or upon the world. Thus, we can utilize physical data—either as objects of analytical study for the realization of technical ends, or as the symbolic instruments of subjective communication. But the objective study of physical data-as-phenomena, in which knowing is instrumental to sensing truly, is virtually never distinguished from the subjective study of ideas, in which sensation is instrumental to knowing and to communicating what is known. This distinction is basic, however, for we can neither think nor communicate thought without utilizing common nouns, formal abstractions representing nothing real except the concrete instances which exemplify them. The physical datum is therefore indispensable to the human study of anything outside one's own consciousness. It performs two informational functions, however, which are constantly confused by materialists: it functions in hard science as the primary id quod, that physical entity which is studied; but in the human sciences it becomes the instrumental id quod, that physical entity by means of which subjective realities are studied and communicated. Hence, the factual datum is essential in creating and communicating the concepts and images of both science and the human arts. The only issue here "is the nature of the relevance," since facts "are as relevant to metaphysics as to experimental science, but not in the same way": they
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are "instrumental to the discovery of metaphysical truth," but "constitutive as evidence...[in] experimental science." That issue comes down to an essential difference between the analytical and recognitive methodologies; it must be clearly understood, therefore, because "sense knowledge is either instrumental [to the recognition of subjective realities] or it is not." This fact often escapes the materialist, who may believe, for example, that he is studying music when he is actually studying musical acoustics. "If sense knowledge is instrumental, then it is a means by which we know [subjective] things. If it is not instrumental, then the sense object is that which is known." But "one kind of knowledge cannot be partly instrumental to...other kinds of knowledge....It is wholly so, or not at all [emphasis added]." The ability to detect physical data by means of the senses is thus the necessary condition of human communication, the indispensable means of recognizing all subjective realities except one's own; but the sufficient condition can be met only in the mind's ability to recognize the subjective realities symbolized by sensation. It is the common failure of materialists to distinguish the two informational functions of physical data in human communication that underlies the recurring crises of communications theory, for the difference between the objective study of factual data and the subjective use of factual data for studying ideas is absolute: what you are studying is one thing; but learning from your study, and communicating what you have learned from it, are entirely different matters.

Symbolic interactionism thus constitutes a very real alternative to the analytical methodologies of scientific matter-philosophy in the study of human behavior. It originates with attempts by social psychologists to steer a middle course between the Scylla of psychology, with its kinds-of-people theories, and the Charybdis of sociology, with its kinds-of-situation theories. The battle over these two perspectives began in 1908, when the cases for psychological and sociological determinism were presented by Edward A. Ross, who argued that a child raised without social interaction under the influence of psychologists who minimized the importance of social forces could only become an idiot, and by William McDougall, who argued that human behavior was caused by instincts, powerful impulses, and innate predispositions to act: take them away, he said, and a person would be paralyzed and unable to function—"like a wonderful clockwork whose mainspring has been removed." These arguments, which have "persisted in subtle but significant ways right down to the present time," have created dissatisfaction "with the fact that there are two social psychologies thriving in the land." The psychological version "comes perilously close to being a social psychology without people" because it treats
human interaction "as though the important differences between the human and nonhuman environments could be ignored." The sociological version, on the other hand, makes "different but no less serious errors" by assuming that people are like "empty receptacles into which culture is simply poured," that they are more or less equivalent as receptacles, and that "the process by which they are filled can be taken for granted." Thus, psychology continues to push its kinds-of-people theories, which imply that inherent characteristics determine human behavior, while sociology clings to its kinds-of-situation theories, which portray people as mindless organisms responding mechanically to impersonal forces expressed through their environmentally induced behavior. Small wonder that symbolic interactionism calls for a plague on both their houses!

The basic weakness of either perspective is its determinism, "the tendency to treat human behavior as the product of antecedent conditions, and to see people as surrounded by internal or external forces that play upon them and determine their behavior." These approaches, which are derived from the physical presuppositions of science, deny the possibility of voluntarily creating indeterminate behavior because they deny the existence of active subjects who intentionally orchestrate the rational forms of their behavior in an intelligent process of interaction with the world and with other intelligent subjects. But symbolic interactionists tend to reject the natural, biological, social, and psychological variants of hard determinism, and to accept only the softer forms of cultural determinism which give people a significant amount of control over their actions. They assert, therefore, the undetermined quality of much human behavior, which they see as a rational but unpredictable performance conducted by an active but unpredictable intelligence. Thus, symbolic interactionism becomes a mediating perspective, an alternative view which focuses on realities that are neither in people nor in their environments, but in the cultural process of interaction itself. These realities, which are largely but not wholly interpersonal, require observers to pay as much attention to the behavior of others as they give to the behavers they study or to their social system and its organizational structures. And because of this, interactionists also tend to reject physical explanations of behavior, which are derived from such things as the formulation and testing of hypotheses, organizational theories, structural-functional analysis, systems theory, survey research, historical and comparative studies, and operations research. Instruments like these, according to symbolic interaction theory, are not able to cope with the critical study of human subjectivity because they cannot deal
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with the tricky interface between the physical symbol and its metaphysical referent.

From Mead to Popper. The philosophies of George Herbert Mead and Karl Popper are similar in some ways, though not in every respect. Popper is far more systematic and comprehensive than Mead. But both accept the existence of highly active selves, who interpret and modify their environments by directing their attention and diverting their energies to whatever interests them; both believe that the self "emerges in interaction with...other selves and with the artefacts and other objects of his environment"; and both allege, while believing that predispositions to perceive the world and to learn language are unique biological potentials of man, that the self must actively construct its own perceptual and linguistic realities. Thus Popper regards "the view that our perceptions are 'given' to us as a mistake," arguing that we must learn to "see," for example, because vision is not passive "but consists in an active interpretation of coded inputs"; and he concludes that we are able to learn the complex symbols and meanings of language and to interact with our natural, social, and cultural environments because "we have a genetically based innate curiosity and an exploring instinct which makes us active." Mead could only concur wholeheartedly with this; but he was a pragmatist who disliked Plato, and he may have had serious reservations about the blatant dualism of Popper's revised platonism.

Popper follows Plato, "who transcended the duality of body and mind by proposing a third world of forms or ideas," in dividing the intellectual pattern-world of traditional form-philosophy into its subjective and objective components. This division sorts all reality into three logically distinct and separate worlds, which Popper calls Worlds 1, 2, and 3. "The whole material world (the entire cosmos, with all its matter and energy, including human brains), is World 1," which contains everything that exists in a physical way. Thus World 1 circumscribes all physical objects, processes, forces (and force fields), and conditions, which include all biological and inorganic organizations of matter and energy and all artifacts created by human beings (e.g., tools, machines, documents, works of art, music) for the achievement of rational ends. In studying the natural realities of World 1, therefore, the mode of communication and the learning process are natural. Everything in the personal psyche of an individual, on the other hand, is World 2, "the world of your subjective experiences, which includes all of your thoughts, memories, ideas, imaginings, creativities, and so on. It is the world of your inner spiritual life, the world you know and live in all the time you are conscious, from the moment you wake up until you
go to sleep. That's World 2,"\textsuperscript{108} the world of the human mind with all of its predispositions, desires, and intentions. It is an active, critical world, which includes all of the subjective processes of knowing; it therefore constitutes the private world of your subjective conscious intelligence, which creates all of the ideas you are capable of thinking; and it can only be "known in others by inference from symbolic communications."\textsuperscript{109} World 3, finally, contains all of the objective products of knowing, which include all ideas of any kind whatever that are available for study outside of the individual conscious intelligence. In studying the formal realities of World 3, however, the mode of communication and the learning process are "not natural," as in the study of physical phenomena, "but cultural and social,"\textsuperscript{110} since they exist outside of the mind in an objective but nonphysical way and cannot be sensed. Nevertheless, "they are powerful tools for changing World 1," although they can affect physical realities "only through human intervention",\textsuperscript{111} the objective ideas of World 3, that is to say, can interact with the subjective mind in World 2; and the subjective mind in World 2 can act in turn upon the phenomena of World 1. World 3 thus constitutes the whole domain of civilized culture constructed by human creativity. "The music you hear all around you...is from World 3. We live in the cultural environment of World 3," which is just as objective and "every bit as real as the physical environment of World 1."\textsuperscript{112} What you are doing whenever you express yourself in any way constitutes World 3 behavior, because "the whole of culture and civilization, and particularly of language, is World 3."\textsuperscript{113}

World 3 is the world of knowledge in the objective sense....It comprises the expressions of scientific, literary and artistic ideas...preserved in codified form in libraries, in museums and in all records of human culture. In their material composition of paper and ink, books are in World 1, but the knowledge encoded in the print is in World 3, and...[the situation is similar] for pictures and all other artefacts. [Some] most important components of World 3 are the theoretical systems comprising scientific problems and the critical arguments generated by discussion of these problems....World 3 comprises the records of the intellectual efforts of all mankind through all ages up to the present—[it is] what we may call the cultural heritage [of the human race].\textsuperscript{114}

Separating the objective component of the formal order from its subjective component does not prevent either of those components from interacting with each other or with the natural order. But it does oppose the modern philosophies of psychophysical parallelism,\textsuperscript{115} which not only separate the natural and formal orders but seal them off completely and prevent them from influencing one other in any meaningful way;
and it accepts the Greek disjunction of human reason and the senses, which creates the traditional philosophy of psychophysical interactionism, also known as dualist interactionism, or "the commonsense view that people are composed of two distinct and separate entities." Therefore, "the nonmaterial entity from World 2, the world of the spirit, is the self-conscious mind—the soul or psyche which constitutes the self"; and "the material entity from World 1, the world of physical realities, is the human brain and the body it controls." This effectively demolishes the foundation of scientific identity theory, the parallelist belief that the mind and the brain are the same thing or different views of the same thing, because it identifies thinking with the human mind in World 2 and implies that the brain, which constitutes an extremely important part of the human body in World 1, is not a thinking organ: it is a behavioral control center used by thinking. "Anything the body does to, with, or for us," according to Eccles, "is done through the brain, by means of the brain." The natural activities of the human body, therefore—whether voluntary, involuntary, internal and covert, external and overt, or whatever—are all controlled by the brain; but there is no evidence that the brain does any thinking: that notion results from wishful thinking in the minds of monistic materialists who deny the existence of minds and define thinking in physical terms.

Dualistic interactionism holds that the self-conscious mind and the nonconscious brain interact with each other in both directions. Popper and I believe, as dualist interactionists, that the subtlety of our whole existence lies in these two entities. That's dualism: the spiritual or mental side of human existence is rooted in the mind; the material side is rooted in the brain; and there is interaction between them. This interaction should be conceived as a flow of information, but not as a flow of energy. Whenever I say anything or write something, for example, there is an intense flow of information between my mind and my brain, in which my thoughts alter and control my brain. Whenever we think or express what we are thinking, there are very fast, intensive interactions both forwards and backwards across the frontier between our thoughts and what we are saying. And we do that all the time, in every aspect of our waking lives.

This ties the human aspect of the traditional mind-body problem to Popper's "brain-mind liaison," the frontier of interaction between the mind and that part of the brain which enables the mind to interact with the rest of its brain and thereby with the rest of its body. Thus, the mind "is intimately associated with its brain...and is not...directly associated with the remainder of the body." That simplification should be avoided because it creates false problems; and "the body-mind problem
of the philosophers is just such a simplification." The real problem, according to Eccles, "is a brain-mind problem and nothing else."

The neocortex is a great folded sheet in our skulls, about 20 inches square by 1/8 of an inch thick, which contains everything directly associated with the mind.... There are more than ten thousand million nerve cells in this sheet, and all of them are connected to one another. These individual neurons are arranged in small ensembles, or modules. This arrangement in modules, with about 4,000 nerve cells per module, reduces the number of functional units... to something like 3 or 4 million.... The individual neurons are thus... in perpetual communication... over the whole surface of the brain.... Its 4 million modules are interconnected, too.... These modules are always lighting up, as it were, with patterned excitations.... If you could look at this patterning, if you could take off the top of my skull and observe my brain with the right scientific equipment for recording simultaneous electrical events, you would see that my brain is in a scintillating state... when I am thinking deeply, with countless electrical patterns occurring on it.... The brain with its 4 million modules, as a matter of fact, resembles a great TV screen—except that TV patterns are generated from only about a million modules. These neocortical modules... constitute the basis of our whole brain action in relation to the mind.

The TV screen, however, displays spatial patterns exclusively, whereas the neocortex creates both spatial and temporal patterns. In terms of spatial patterns, therefore, the cortical modules indeed resemble a TV screen, which "has an infinite capacity for displaying still or moving pictures of all kinds—by generating patterns from only a million modules." This says a lot about the tremendous patterning capacity of the liaison brain, because "our neocortical modules outnumber those of the TV screen by 4 to 1!" But the temporal patterns of the neocortex are even more revealing. Take the sound spectrum, for example: the eighty-eight keys of a piano do not amount to much when compared with the 4 million modules of the liaison brain; and yet the piano, "which has the same four parameters as the brain, creates the whole vast richness of piano music." Just think of what that means: the marvelous performances of brilliant compositions by geniuses like Beethoven and Mozart "are produced with only 88 modules, whereas the human brain has 4 million. The brain, in other words, is like a piano with 4 million keys; and the mind is the piano player." Thus, the joy of music, like the very wonder of being human itself, is the result of interaction between the mind and its brain.

This brain-mind liaison suggests the instrument-instrumentalist analogy so repugnant to the monist-materialists, who reduce the whole of reality to mindless machinery for which there are no intelligent
machinists. For Popper, however, who accepts the platonic notion of a
ghost in the machine, the human psyche indeed uses its somatic
machinery as its only means of interacting with its physical and cultural
environments. The mind-body relationship, therefore, is something
like the relationships of driver-to-automobile, viewer-to-TV, pianist-to-
piano, pilot-to-ship, programmer-to-computer, and so on. "Like the
pilot of a ship," says Eccles following Popper who follows Plato, "the
self in each of us observes and takes action at the same time" by
evaluating information from its sensory system and controlling the
behavior of its motor system. This we can do because "we normally have
access to our brains," which are to us as computers are to their
programmers: "the human brain, and the body whose behavior it con-
trols, is the computer; and the conscious self, whether you call it the
psyche or the soul or the spirit, is the computer programmer." This
psychophysical relationship, expressed in Popper's important analogy
of mind/programmer and brain/computer similarities, has been elabo-
rated by Eccles:

It is useful to think of the brain as an instrument, as our personal
computer, if you like....But if the brain is an instrument, we are the
instrumentalists....You are not your brain, in other words; but you are
the programmer of your brain. You are very like the computer pro-
grammer, because you program your brain to do all sorts of things,
[and] you read all kinds of patterns out of it....We are always doing
that to our brains, which are like computers only infinitely more
intricate and marvelous. This is a simple analogy that everyone can
understand. It helps us to see how the thoughts, perceptions, ideas
and memories which make up our experiences can be programmed
into our personal brain-computers so that we can express them to
others, how we can receive back the expressions of others, and thus
how whole new complexes of thoughts and understandings can be
created. All this, of course, is a highly selective process. We choose
whatever we like from the myriad outputs of the brain by focusing...
on this or that....And we do have the ability to concentrate our
attention—to switch our brain, as it were, onto anything we choose.

This explains Popper's brain-mind liaison perfectly; and "the very
latest research on the neocortex suggests that the brain actually has this
ability to function as a sophisticated computer versatile enough to do
everything we have imagined it could do." These are important
considerations, for "we are each given a unique computer, our brain,
which functions as our sole means of interacting with—of receiving
from and giving to—the physical and cultural worlds in which we are
immersed. That is the essential thing about dualistic interactionism."

But that is also an issue which has always separated matter-
philosophy and form-philosophy. It is not surprising, therefore, that
Popper's platonistic rejection of materialism has elicited materialism's democritean rejection of Popper. Descartes really started something when he retained the two worlds of form and matter from traditional philosophy but followed early modern thought in accepting only efficient causes and rejecting all final, formal, and material causes: this effectively eliminates all metaphysical concepts of teleological causation-by-pull, confines all causes to the physical world, resurrects the billiard-ball concept of atomic causation-by-push, and demotes the secondary qualities of matter to near-zero status. It means that nothing in Worlds 2 and 3 can cause anything within themselves, in each other, or in World 1; but it also means that World 1 can "cause" Worlds 2 and 3, which must somehow evolve out of matter and energy. Thus, "materialists don't exactly deny the mind"; but they confine it to a prison of their own making, and "they don't give it any effective action on the brain, or therefore on our performance." If their account of the mind-brain relationship is correct, then we ourselves, as conscious human beings, "would merely be the passive spectators of the performances of our own bodies as dictated by our brains"; and we would be deluded by "our beliefs that we can really make decisions, and that we can have some control over our actions." 

In general, materialistic theories hold that mental events can have no effective action on brain events—that no matter what you think or desire, your brain will go right on performing in its own way whether you like it or not, because there is nothing you can do about it. Thus, the physical world of the brain is closed to any conceivable outside influence, such as the mind's influence on the brain as postulated by dualist interactionism. This closedness of the physical world is what materialists insist upon.

Popper has shown us a way to avoid the paradoxes of psychophysical parallelism by opening the closed system of materialism in the scientific study of social, psychological, and cultural realities. He has done it by creating a humanistic philosophy of science in an age that likes to create scientific philosophies of humanism. This has caused an uproar among materialists; but it should also cause rejoicing in the human sciences, which include librarianship and library education, because "a vast amount of our experience of the most subtle or trivial kinds is explained by this hypothesis [of dualist interactionism]—things which cannot be explained at all by materialist theories of the mind and the brain.

Toward an Alternative Librarianship and Library Education

As librarians and library educators, we have clearly aligned ourselves with the wrong intellectual tradition because we have failed to see
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that librarianship is formal structure, not physical substance. We must somehow get this truth through our heads, because virtually all of our false assumptions and wrong ways of doing everything are derived from the mistaken belief that librarianship is a thing of substance. This is best seen, perhaps, against the background of Shera’s “Chicago philosophy” of librarianship and library education.

Librarianship is rooted in epistemology—knowledge about knowledge itself. Librarianship is the management of human knowledge—which is the most interdisciplinary of all the disciplines... and because it is concerned with the philosophy of knowledge it is potentially the most philosophical of all the professions. It should...[be] a synthesis of the human intellectual adventure.... Therefore, the primary aim of education for librarianship should be the training of the intellect in matters pertaining to human knowledge, and its goal should be the achievement of the highest wisdom in promoting the utilization of knowledge for the benefit of mankind.

Librarianship should therefore be an intellectual profession based on the formal structure of ideas and organized by knowledge theory; but it has become an empirical mechanics based on the material substance of physical data and operated by action theory. Thus, Machlup has observed that “library science is clearly empirical in all its aspects,” and that “every phase of research in this field is practical-empirical.” He was absolutely right, of course, for today’s librarianship is unfortunately that way; but he could not have been more wrong, because he overlooks the all-pervasive anti-intellectualism which has converted library science into the ultrapragmatic perversion he perceives it to be. Shera, who sees this problem clearly, has ended his lifelong involvement in the library profession with a parting swipe at the simplicity and undesirable consequences of its pragmatism.

In the American character, there has [always] been a strong strain of...pragmatism, and this is...clearly evident...in librarianship. The major figures in...American librarianship were doers rather than thinkers; they were concerned with process rather than purpose. [Thus] they devised and taught in their library schools routines and procedures [for handling documents], and with the advent of online networks and access to data banks, they are doing it more than ever today.

This sentiment is familiar to librarians, as Shera has made similar statements before. What may not be familiar to those unfamiliar with philosophy, however, is the fact that pragmatism and anti-intellectualism are more or less synonymous, as are their antonyms, rationalism, and intellectualism. The overly pragmatic outlook of
American librarianship in all things, which merely reflects the all-inclusive nature of the larger American pragmatism, is responsible for the vigorous anti-intellectualism of today's librarians. It was not until his own day, according to William James, that pragmatism “has...generalized itself, become conscious of a universal mission, pretended to a conquering destiny. I believe in that destiny,” he says—and so do the librarians he inspired with that belief. The United States has always been a nation of talented tinkers: there is something to the quip that pragmatism is a philosophy for cowboys and engineers who dislike abstract ideas; but pragmatism is the beloved national philosophy of America, and attacking it can be as dangerous as criticizing baseball or apple pie. Hunt defends it as “plausible reasoning,” for example, which permits us, when faced with a problem, “to make a skilled guess at an answer” without coming “to that answer by formal deductive means”; he even calls it “our natural mode of reasoning,” arguing that “we are pragmatists by nature,” and that “our pragmatism...is not anti-intellectual” because it constitutes the kind of “effective intellectuality” that appeals to practical people everywhere. For all that, however, pragmatism and anti-intellectualism are so similar as to be almost identical. We find “the signs of revolt against intellectualism” in scores of writers; but “in James pragmatism [actually] becomes a revolt against ‘intellectualism’ because he tacitly identified this with rationalism.” And James despised rationalism: it “is far too intellectualistic” for pragmatism, which therefore “turns her back upon the intellectualist point of view altogether.” So, pragmatism suggests anti-intellectualism. Anti-intellectualism, meanwhile, also smacks of pragmatism, for it “suggests the revulsion from ideology and the a priori, from the abstract thought of the century and a half preceding [the 1890s]...It recalls the influence and prestige of William James,” which extends to writers as different as Durkheim and Sorel. Pragmatism, especially when based on the natural realism of James and Dewey, is notorious for exalting action over thought; and anti-intellectualism “is virtually equivalent to Jamesian pragmatism”—although many pragmatists continue to resent that term for describing their tough-minded philosophy. All of the above, furthermore, was acknowledged by William James himself, who placed pragmatism squarely in the mainstream of Western matter-philosophy.

It agrees with [materialistic] nominalism...in always appealing to particulars; with [materialistic] utilitarianism in emphasizing practical aspects; with [materialistic] positivism in its disdain for verbal solutions, useless questions, and metaphysical abstractions. All of
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these [variants of materialism], you see, are anti-intellectualist tendencies. Against rationalism as a pretension and a method, pragmatism [as a pretension and a method] is fully armed and militant. ... It has no dogmas and no doctrines save its [materialistic] method.¹⁴⁹

Despite its widespread acceptance among information professionals, therefore, pragmatism is an indefensible philosophical stance in the librarian for two reasons: (1) it constitutes an experientially biased philosophy of action derived from scientific materialism; and (2) librarians are in the knowledge business, not in the action business. The gut-mistake of the American librarians and their educators is the forlorn attempt to reduce their knowledge problems to action theory in order to solve them scientifically. But action theory cannot resolve the knowledge problems of librarianship because theories of knowledge (epistemology) are not reducible to theories of action (ethics/societology/science) or vice versa; and the net result of their spectacular failure to resolve knowledge problems scientifically is the measure of their anti-intellectualism.

There is a way out of our anti-intellectual pragmatism, however, in the critical philosophies of humanism. We could take a lesson from anthropology, for example, which has found a formula for creating the philosophy of any discipline by spelling out its metaphysics, its epistemology, and its ethics.¹⁵⁰ Here is a way for us to construct our own philosophy of librarianship, because metaphysics, epistemology, and ethics constitute the irreducibles of philosophical analysis—the necessary ingredients in any recipe for cooking up a critical philosophy of anything. We will have to apply this formula to ourselves in order to do it. We should do it in order, too, by formulating our metaphysical beliefs about the realities we actually deal with before considering the derivative problems of thinking (epistemology) or acting (ethics) in relation to those realities. Our metaphysics must come first, though, because metaphysics deals with fundamental Being, with actually being real. We ourselves have to be in order to think, for unless we exist in the first place we can neither think nor do anything at all; and our realities are like unto us: they too, must be, for if they do not exist we can neither know nor do anything about them.

What, then, are the ultimate realities of librarianship? Do they reduce to atomic complexes with electrochemical properties in the physical world of matter and energy? Or do they consist of matterless patterns in the formal world of the spirit? Most would agree, I think, that our ultimate realities are related to information. But information means physical data to the matter-philosophers and ideas to the form-philosophers. We can therefore accept ideas (and reject data) as our
ultimate realities or vice versa; but we cannot have it both ways, for ideas belong to the formal universe whereas data are experiential givens in the physical universe. This means that the implicit ambiguity of "information" must be resolved in order to eliminate the confusion which results "when the same word, information, is used in a dozen different meanings in different areas of inquiry." Since natural realities exist only in physical or nonphysical ways, however, these multiple meanings are all subsets of only two basic meanings: either information reduces to physical data (something in the sensible world) or it reduces to ideative forms (something in the intelligible world). We must make an intelligent choice here, and the choice we make will determine what we think about, how we think about it, our theories of truth, the languages we use, our modes of communication, and so on. The received version of librarianship is inherently problematic because it has clearly opted for the physical concept of information-as-data. But librarians are not scientists descended from the matter-philosophers through Democritus, Bacon, and Einstein. Librarians must grapple with the knowledge aspect of human life, not indirectly and instrumentally as scientists who use knowledge as their means of understanding physical phenomena, but directly and fundamentally as humanists trying to understand ideas because they are concerned with knowledge reports about anything that interests human beings. Thus, their real concern is human subjectivity; and for that, the communication of information-as-ideas is absolutely indispensable. We cannot therefore sacrifice the linguistic concept of information-as-ideas to the mathematical concept of information-as-data. Mathematics can communicate man's physical knowledge of empirical realities; but librarians cannot communicate man's formal knowledge of intellectual realities without natural language. Why then should library educators so overwhelmingly prefer the mathematical communication of physical knowledge to the verbal communication of formal knowledge? The exorcising (by virtually unanimous incantation) of language studies from library education has encouraged "the enthusiastic manipulation of new statistical tools" by librarians, and has literally littered the literature of librarianship with the "meaningless use of mathematical symbols...and homespun 'applications' of information theory and other scientific subject matter—all intellectually embarrassing and professionally unimportant." The magnificent mumbo-jumbo of mathematics, meanwhile, has never helped a librarian orient a patron to the landscape of ideas.

The next question, once we have identified the realities of librarianship, is: What are the best ways of thinking about those realities? Again, there are two alternatives that correspond to the two views of
what those realities are. If our ultimate realities reduce to physical data, the best ways of thinking about them are empirical. A strong commitment to experiential learning by observation and experiment must then follow, because (as implied by words like emPIRical, exPERiment, and exPERience) emPIRicism means that the human mind gets its food for thought through the PORes of the human sensory body. It also follows that the methodology of librarianship and library education will be controlled by the numerate data mongers, mathematical wizards, and statistical button counters of physical science. That, as a matter of fact, is precisely what has happened. By accepting materialistic ways of thinking about our formal realities we have reified information (by reducing ideas to data) in order to study it scientifically. This is a classic instance of the hypostatic fallacy: we have transferred ideas, which belong to the intelligible world of nonphysical order/structure/form, to the material world of physical realities by endowing them with a substance (hypostasis) they do not possess. That is why our information professionals have reduced the study of information to data science, and why we have swallowed the whole scientific package, which includes telecommunications engineering (chasing electrical disturbances through electronic mazes), general system theory (a formal way of thinking for application to empirical studies), cybernetics (controlling physical systems by means of physical feedback), and all the rest. We are out of our skulls if we elect to follow this analytical mode of thinking any further into its blind alley, because librarianship is formal idea science, not physical data science. If our ultimate realities reduce to ideas then the best ways of thinking about them are rational, not empirical. This implies commitment to the recognitive methods of critical humanism, which are essentially introspective and perceptive as in the arts, not observational and reflective as in science. But the study of ideas by the recognitive methods of humanism, in which facts/data/phenomena are used as instruments of communication, has not been (and doubtless cannot be) systematized like the methods of science, in which facts/data/phenomena are analyzed as objects of study. These two functions of data—as objects of study or as instruments of communication—must be disentangled because scientific information about physical data is wholly instrumental to human communication—as are the data themselves.

Finally, we must ask ethical questions derived from action theory. What is the librarian’s job? What is the function we must perform in the best of all possible ways in order to qualify as librarians? It is simply orientation to information, provided only that information is conceived as ideas, not as data. Librarianship is intellectual cartography, the
human art of orienting people to ideas—a knowledge service that constitutes its entire product, the only legitimate contribution it can make to anyone under any circumstances. Action theory is therefore subordinate to knowledge theory in librarianship, for everything the librarian does specifically qua librarian is instrumental to the performance of that intellectual function. But another word of caution is necessary, lest the professional function of librarians (which is derived from knowledge theory) be confused with their administrative function (which is derived from action theory): the professional function is to orient patrons to objective knowledge in the cultural environment, whereas the administrative function is to manage the human and nonhuman physical resources of specific library operations as a means of performing the professional function. And that brings up the sixty-four dollar question: What is the best way of performing the librarian’s professional function? No one knows the optimal technique for orienting patrons to knowledge. But creating that technique is clearly an intellectual problem in which action is subservient to knowledge. It is not the other way around, for this is not a practical problem that can be resolved by the anti-intellectual “solutions” of an inordinate library pragmatism. In the end, however, we must come up with a best way of orienting patrons to ideas or forfeit all hope of achieving professional status. This means negotiating the psychophysical interface between (1) the intellectual structure of knowledge, and (2) the librarian’s technology of access to knowledge; and that is an intellectual problem to end all intellectual problems. Yet, problems like this “have received almost no attention and certainly no intensive exploration” from the library profession. If we were ever to take this point of view seriously, it would drastically overhaul our current perceptions of librarianship. “There are tides running, and currents moving beneath the surface,” says Shera, “that can dramatically reshape the coastline of librarianship so familiar to us today.” We can ignore these influences “and follow the sabre-toothed tiger to extinction”; or we can “see in them the vision of a new heaven and a new earth” with a virtually unlimited potential for enriching our profession. I am irretrievably committed to Shera’s vision of a neolibrarianship. I see it as a comprehensive synthesis of knowledge in which ideas about anything that is known can be located and correlated with ideas about anything else that is known. I also see it, not as a subculture of information science, but as the larger discipline that includes information science among its ancillary subcultures. Information science can help us with our communicative tooling; but that is all it can do for us—unless it abandons the physical methods of science as a means of solving formal problems—because there is a lot more to our
profession than building bigger and better bulldozers for pushing char-
acters around. Science cannot explain intersubjective communication
because there are no objective explanations of subjectivity; and human
communication cannot occur until the output of some information-as-
data system has been transmuted into information-as-ideas by a self-
conscious mind. Not by a nonconscious brain, mind you, but by a
self-conscious mind. This has definite implications for library educa-
tion. Shera saw them, too, for he offered an interdisciplinary alternative
to the study of information science at Western Reserve. He was trying to
build an exhaustive synthesis of knowledge about the intellectual struc-
ture of the various disciplines in order to familiarize librarians with the
objects and methods of study in all of the subject matters. He was
struggling to put the shattered Humpty Dumpty of knowledge together
again, to rebuild its fragmented analytika into a comprehensive inter-
disciplinary unity for librarians to study as a whole in relation to its
parts. He did not exactly succeed in this, but he was at least pointing in
the right direction. And that prompts the following remarks about the
rigorous interdisciplinarity of librarianship.

All professions are interdisciplinary to some degree because they all
draw freely on their supportive disciplines in the academic colleges:
medicine, for example, is nourished by physics, chemistry, anatomy,
biology, zoology, and so forth. But librarianship is totally interdisci-
plinary. It is not a subject matter: it is a way of relating to subject matter.
It has a direct relationship to every discipline there is, which means that
the supportive disciplines of librarianship include everything in the
liberal arts curriculum as a bare minimum, and much else besides. The
reluctance of library educators to face the truly overwhelming implica-
tions of this comprehensive interdisciplinarity is understandable; but
overwhelming or not, those implications must eventually be faced.
Library educators should therefore oppose the continuing rejection of
difficult intellectual problems by the action theorists, who perpetuate
the supernarrow views of librarianship and research that have plagued
library education from its inception. Their “manageable realism”
shows up in many ways, including (1) its deification of descriptive
studies (which are always dignified as “research”); and (2) its addiction
to the researcher’s view of critical inquiry (and the nearly total exclusion
of other viewpoints, such as the observer’s view of research). As to the
former, the factual account of what is always leads empirical researchers
to consider the physical aspects of library operations: they are thus
derailed onto the behavioral function of the librarian (and of the physi-
cal system he manages qua administrator); they cannot investigate the
librarian’s professional function as the manager of ideas; their studies
have both a pronounced recency-bias and a limited shelf-life (sometimes only a few weeks before going out of date); they cannot make normative judgments (because good realists do not discuss what ought to be); and they cannot produce those larger kinds of scholarly studies which will still interest librarians centuries hence. And as to the latter, the library schools apparently think they are training researchers who become librarians in order to pursue their own research interests. There is nothing wrong, of course, with having librarians who can function as researchers; but our major involvement with research is maieutic: we are intellectual midwives whose job is to assist patrons in giving birth to their researches. In order to do that, however, we must concentrate on the formal structure and intellectual strategies of research. But the library schools, by failing to see that the librarian's patrons are all researchers (varying from superelementary to ultrasophisticated), have emphasized the functional substance, content, results, conclusions, implications, and other outcomes of research. This fundamental error should be corrected forthwith because, as Kaplan reminds us, librarians are not researchers: they are the philosophical observers of research who must function as research counselors to their patrons.

The research potential of librarianship, finally, is truly enormous. It includes applied research into the immediate problems of library practice; but it also includes basic research into librarianship as a field of study, any of its supportive disciplines, the entire geography of knowledge, the role of the sensible symbol in all forms of human communication, and the nature of human critical inquiry into anything. If this research potential could ever be released, it would free the educators of librarianship from their bondage to its practitioners. In the prestigious professions, educational policy is determined by basic research, not by practice—and certainly not by "practical" research into the mechanics of practice. The function of professional education is to reduce the results of basic research to teachable procedures for the skillful application of knowledge. Educators cannot do that, however, if they are always running to the practitioners and technicians to see what should be going on in their classrooms. The application of knowledge always presupposes the existence of knowledge to be applied, because one cannot apply nothing. But practitioners seldom create the knowledge they apply: they get it from their educators, who got it from the researchers who created it. In medicine, for example, most of the basic research is done by the Ph.D.s—by scientists, that is to say, who are nondoctors in the medical schools or in the supportive disciplines. Their research, meanwhile, is continuously evaluated for its medical significance by the educators; and the M.D.s must check constantly with
their educators to see what should be going on in their practices. That's the way it is in professions like medicine, architecture, and engineering. It's not that way, though, in librarianship: it's the other way around, because library education, to say nothing of librarianship itself, has never been oriented to basic research. Ad hoc applications abound, of course, but they do not qualify as research. Our profession "is a vast accumulation of technical details rather than a body of organized abstract principles that can be applied in concrete situations." The skillful application of knowledge by librarians is therefore next to impossible, as knowledge must exist (because it has already been created by basic research) before it can be applied to anything.

The educators and practitioners of librarianship have always done their housework and done it well; but we can never get the what, the why, and the how of our act together unless we do our homework. Our goal is visible if we have the vision to see it. We do not have to settle for managing the physical symbols of knowledge by becoming notation mechanics, for we are fully capable of becoming intellectual cartographers who can create an authentic geography of knowledge and map its objective features. In order to do that, however, we will have to follow something like Shera's five-point program in the snippet at the beginning of this paper: (1) we must "formulate a professional philosophy that will meet the rapidly changing needs of society for recorded knowledge"; (2) "we must re-define our role in society" and "make of the library the agency it should be in the total communications process"; (3) "we must put our intellectual house in order or we will lose control of many functions relating to the communication of the written word that are properly our own"; (4) we must recognize that "this need lies at the base of every other problem of librarianship"; and there is one final necessity, if we intend to do any or all of those things: (5) we must "probe deeply, however great the pain." But the way has been prepared for us: it is currently available in the form-philosophies of critical humanism, and we can follow it if we are not afraid of difficult intellectual work and if we have the will and the stamina to do it.

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Education for Librarianship in the Next Century

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Introduction

THE YEAR 1986 IS A GOOD YEAR TO LOOK BACK ON EDUCATION FOR LIBRARIANSHIP: It is the ninety-ninth anniversary of the founding of the Columbia University School of Library Service and the centenary of academic education for librarianship one year earlier, in 1886, in Germany at the University of Göttingen. This conference has been much concerned with the last century. What of education for librarianship in the next century? We can expect it to be somewhat different—but how much?—and in what ways? In considering these questions the focus of this paper will be primarily on librarianship in the next century and only secondarily on education for librarianship. The substance of librarianship would and should determine the substance—though not necessarily the form—of the curriculum. The issue is not whether there will be change but what will be the nature of the change.

Licklider's Libraries of the Future provides a convenient point of departure. In 1966 Licklider described how the digital computer and associated technology could be used to provide sophisticated access to recorded knowledge. He outlined an online catalog enriched with additional indexing, access to full text, and a good deal of what would now be called “expert systems.” The user and the system engage in dialogue, negotiating heuristically answers that are a compromise between what the user wants and what the system can supply.

In today's jargon one might describe what Licklider called a “pro-cognitive system” as a “smart” information retrieval system. There is an

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explicit description of a user at a console using a typewriter ("quite like a 1964 office typewriter") and asking for information on the topic "computer comprehension of semantic relations."

It is not that this vision is not plausible. It was and still is within limits. But what are the likely limits? What can be said of the completeness or potential distortion that this vision represents? Exploring the answers illustrates some of the difficulties inherent in such forecasting.

*How complete is the forecast in its own terms?* The extent to which the "procognitive system" could work depends on the effectiveness of descriptions or "representations" of recorded knowledge. Consistent, unambiguous representation (e.g., indexing) is more feasible in some fields of discourse than in others, in the "hard sciences" than in the "soft sciences," in descriptions of the physical world than of intellectual and social worlds. The problem does not appear to be a matter of inexpert indexing. The linguistic ambiguities of, for example, some social science literature, appear to be symptoms rather than causes, which seem to lie in the nature of the knowledge itself. Even though the system would be able to draw inferences and to make suggestions, the feasibility of Licklider's vision would vary by subject area as he himself recognized. In this case the vision appears to be applicable to a part rather than to the whole of recorded knowledge.

*Is the vision incomplete, covering only one aspect of the area being forecasted?* Essentially, Licklider was concerned with techniques of retrieval. The vision in *Libraries of the Future* is incomplete—or the title too broad. In projecting what may happen, an author will tend to focus, consciously or otherwise, on an aspect of librarianship that has interesting possibilities and to extrapolate its development. Changing one aspect while keeping others more or less stable is a standard technique in science fiction writing. It can also be used in reverse, to project anachronisms into the past for humorous effect, as in Mark Twain's *A Connecticut Yankee in King Arthur's Court*. In this case, projecting backwards into the past, the incongruity is obvious. With projections into the future, selective and uneven extrapolation can be difficult to detect.

*How complete is the extrapolation in terms of its effects?* In Licklider's case the computer and its associated technologies were seen as a means of easing the problem of access to recorded knowledge by creating a smart information retrieval system. With hindsight we can now see that the computer and its associated technologies are also exacerbating the problem that Licklider's procognitive system was intended to solve because, in other contexts, computers enable a great increase in the
quantity of recorded knowledge through word processing, teleconferencing, and the recording and accumulation of vast stores of data. In other words, they exacerbate the problem in addition to offering a remedy. This extended discussion of Licklider's book is intended not as a criticism of his work but as a means of stressing the problem of completeness in forecasting.

Some Assumptions

At this point it may be convenient to review some assumptions:

1. The intention of this paper is to make forecasts of what seems likely, not to make specific predictions.
2. A major concern is to view the field as a whole and to avoid creating visions based upon the uneven extrapolation of one aspect of the field or another.
3. Although the purpose is to depict the future as it seems likely to be, such prediction is rash and a probable source of embarrassment if, in later years, anyone bothers to review the foolhardy predictions of 1986. There is, however, a more serious motivation: the best basis for a good prediction would be a deeper understanding of the nature of things—and if we can understand better the nature of things then we can hope to be more effective in the present and near future regardless of the merits of our long-range forecasts.
4. Not all options are explored. A nuclear holocaust, for example, could indeed change things a great deal. This paper concentrates, instead, on the development of what we take to be long-term trends.
5. The forecasts are personal ones. Although helpful advice has been received, no attempt has been made to use the Delphi technique whereby several people—none of whom really know—are asked to guess what will happen; and the results are formed into a collective guess. The rationale is that one is less likely to get the wrong answer if, instead of asking one person who doesn't know, one asks many people who don't know. Instead, it is hoped that the evidence and argument adduced can form the basis for some broad brush strokes of a future.

Some Examples of Stability

The approach is to ask the question: What could change? The introduction of computers is good evidence that there has been and is likely to continue to be some change, but how extensive will that change
be? It is impossible to know how extensive change will be, but it is possible to derive some insight by looking backwards and seeing how changeable different aspects of librarianship have been.

I was recently reading a volume of *Library Journal* and encountered discussions of copyright, public access to government documents, education for librarianship, preservation and conservation, reduction of catalog costs through cooperative cataloging arrangements, and improved subject access. I read about each of these topics in the 1886 volume of *Library Journal*, where there is also discussion of women in librarianship and the lack of comparable pay—and a plea that the emphasis on library technology needs to be complemented by more bibliographical instruction. These concerns seem remarkably contemporary. It is clear that not everything has changed in a century, and there can be a reasonable initial presumption of only moderate change in the next century. Should librarian-forecasters of the late twentieth century write down the same topics as their forecast of *Library Journal*’s contents in 2086?

Consider the following comments on the importance of a collection development policy that includes the selection of works by dissident writers who challenge the establishment:

Moreover, all those who have written most successfully against any science, or who have opposed with most learning and force...the books of some of the most famous and renowned authors [should be included]....

Neither may all those who have introduced or modified anything in the sciences be omitted, for it is merely flattering the bondage of man’s feeble wit if the scanty knowledge that we possess of these authors is buried under the disdain to which they are inescapably subject for having set themselves up against the ancients and having learnedly examined what others were accustomed to accept by tradition. For this reason, since of late more than thirty or forty authors of reputation have declared themselves against Aristotle; since Copernicus, Kepler, Galileo, have quite altered astronomy; Paracelsus, Severinus the Dane, Duchesne, and Grallius, medicine; and since many others have introduced strange and unheard-of reasoning, such as had never been foreseen, I affirm that all these authors are requisite to a library....

The examples are, of course, dated and the wording sounds quaint, but the argument is still relevant and cogent in terms of the Western liberal tradition of librarianship. With the substitution of more contemporary examples, this text could still be used in a course or policy statement on collection development. The quotation is from Gabriel Naudé’s *Advice on Establishing a Library*, first published in 1627.
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one mere century away but three and a half. This represents an element of stability in librarianship that contrasts markedly with the rapid change that Licklider sketched.

Three Sorts of Change

The stark contrast in degrees of change in the two examples—Naudé on collection development and Licklider on retrieval—suggests a new question: How far are various aspects of librarianship capable of change? If we had some sense of how different aspects of librarianship seemed susceptible to change, then we might hope to consider and forecast different aspects separately and then aggregate the results. The rates of change in the past century provide some basis for assessing the probably rates of change in the future.

Reflecting on the contrasts and similarities between U.S. librarianship in the 1880s and the 1980s suggests that aspects of librarianship can be sorted into three categories with respect to change: (1) library values, (2) library technology, and (3) library science.

Library Values

Library values include social values as they influence library policy and professional issues—e.g., the mission of the library service, the principles of selection, the librarian's attitude toward readers, and the role of the librarian.

It should be stressed that the concern here is with values that underlie day-to-day priorities and decisions: the concern is not with the practical techniques used to implement those decisions. One might well commend Naudé's principles of book selection to students today but not all of his advice on book procurement. His recommendation that one rummage around bookshops looking for printed sheets not yet folded and bound is no longer sound practical advice.

In general, those aspects of librarianship based on values appear to have changed little since the 1880s, at least in mainstream librarianship in the United States. There are variations—e.g., the relative emphasis on outreach appears to have varied from time to time.

Consideration of selection and censorship (both book burning and book burying) helps clarify the issues. The specific titles that a librarian is willing or allowed to include clearly change with time. Where the line is drawn between acceptable and unacceptable—to librarian or to community—will vary with respect to individual titles and categories of material as society's standards and social, political, and religious values change. Yet there will always be a line drawn somewhere and the
arguments made concerning where the line should be appear to vary little over time. In other words, a good discussion of selection and censorship of the 1880s is likely also to be a good and valid discussion in the 1980s and very likely in the 2080s also—even though the specific titles and examples can be expected to change.

This is not to imply that library-related values are universal or unchanging. They are not. What would be acceptable in San Francisco today may not be acceptable in Tehran or Peking. What is acceptable in Massachusetts now might not have been acceptable in colonial times—and vice versa. Although there can be change over time in a given place, such change should be seen as based in cultural forces rather than time.

Library Technology

Library technology as used here means technology available for use in library services. Further, technology is concerned with the handling of physical things: paper, cardboard, microforms, magnetic, optical, or other recording media.

Technology is of particular significance to library services because libraries are concerned with recorded knowledge. Librarians and library users are concerned with ideas and assertions represented in texts and images, but can only do so through text-bearing and image-bearing objects, such as books made of paper, sound recordings made on magnetic tape, pictures on celluloid, numbers on cathode ray screens, and so on. These are the principal text-bearing objects.

Carbon paper, microfilm, and typewriter were available by 1886. In 1876 the university librarian of the University of California proposed using typewritten cards for the catalog. He wrote that "it has been suggested...that the use of the 'typewriter' be made in making the catalogue—if this be practicable, it is needless to recommend it, and to say that no time will be lost on my part in gaining the knowledge and power to handle the instrument." Twenty-six years later the typewriter was used for catalog card production. Twenty years later typing proficiency was a requirement for admission to the Berkeley School of Librarianship. Forty years later the typing proficiency requirement had lapsed. Twenty years after that a computer literacy requirement was imposed.

The telephone, teletype, punched cards, copying machines, and electronic computers have added to the options available. Currently there is interest in optical digital discs to record texts and in radio to transmit them.

While it cannot be known what technology will be available in the year 2086 the trend is clear: additional media for bearing text; more
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powerful technologies for handling text; and, unlike value-related aspects of librarianship, a clear line of progress with time. In this case we can be very confident that the technological tools available to librarianship will be much improved by 2086.

Library Science

There is, however, a third category of aspects of librarianship that is distinguishable from library values and library technology. This third category has to do with our understanding of librarianship. It is labeled here "library science," and it is used in a narrower, stricter sense than is customary in, for example, the use of the terms School of Library Science or Master of Library Science to designate the entire field.

This approach would, in general, exclude library automation as being more properly included in library technology but it would include the following:

1. Information retrieval theory, including the broad areas of the description and representation of the contents of pieces of recorded knowledge: indexing, cataloging, classification.
2. Information gathering behavior: user studies, bibliometrics, social epistemology, and studies of knowledge utilization.
3. Historical studies of books and of communication.
5. The understanding of the nature and workings of libraries and related information services.7

Of these aspects of librarianship it can be said that there has been some progress in the past century but not very much. Because the central issues—i.e., information retrieval theory and information gathering behavior—are, or should be, rooted in truly obscure aspects of human behavior, progress will be slow and difficult and scholarly explanation will tend to lag behind the intuitive understanding of those intimately involved in the activities. Like library technology, there has been progress over the past century and we can expect progress in the next century. Unlike library technology we cannot claim that there has been much progress or that there is likely to be much. Much of the progress of the last century in these areas has been the refinement of earlier progress (e.g., cataloging principles) or concerned with relatively superficial symptoms of deeper phenomena (e.g., bibliometrics and citation analysis).

Assistance may come from related disciplines such as cognitive psychology and artificial intelligence. Librarians have voiced hopes for the interdisciplinary insights available from sociology, psychology,
philosophy, and linguistics, but, over the past century, the contributions of these disciplines to the understanding of librarianship have been modest and more relevant to context and background than to central concerns. One might wish that the intellectual history of librarianship and of library schools—the effects of different disciplines and strands of thought—had had some of the attention devoted to the institutional history of libraries and library schools.

A critical assumption here is that the contribution of artificial intelligence will be modest and/or concentrated on the simpler problems of library service. What follows would be different if one were to assume that artificial intelligence will have a massive effect or that it would solve the more intractable problems in indexing, interpreting, and explaining.

The Extent of Librarianship

In recent years there has been a broadening of the scope and extent of librarianship. The contexts of "library and information studies" are potentially very extensive: libraries of many kinds, obviously, but also online retrieval services; archives; databases; records management; and documentation of many kinds in engineering, litigation, and bureaucracies. Whether or not the activity is labeled librarianship is hardly relevant. Library service should, I believe, be viewed as one member of a family of retrieval-based information services and library schools could and probably will become, by merger or by expansion, colleges of broader scope—with the Master of Library Science (MLS) degree an important specialty within a range of programs. There is currently some movement in that direction, largely fueled by practical considerations of enrollment and placement.

There are plausible theoretical agreements why this trend could be expected with the gradual maturing of the academic side of librarianship and the evolution of schools of librarianship as academic departments. Although library schools are ordinarily viewed in relation to libraries, they need also to be viewed in their own right—as academic departments in an academic setting.

A more conceptual, academic perspective is possible. For example, one can take the view that information science has to do with representations of knowledge both in the abstract sense ("texts") and physical manifestations of these representations ("text-bearing objects"). Within that broad area, a plausible conceptual definition—as contrasted with an institutional definition—of the scope of library schools as they
mature would be that they specialize in the analysis, description, storage, arrangement, retrieval, and use of representations of representations of knowledge. The arrangement, description, and retrieval imply representations of the texts of the representations of knowledge. The library card catalog, composed of brief descriptions of books and journals, is a familiar example of the representation of representations of knowledge. Information retrieval may be regarded as central because it includes principles of indexing, cataloging, classification, content analysis and description, techniques of storage, strategies for retrieval, and similar sorts of activity. Yet retrieval, though central, cannot be the only concern. In order to see retrieval in context, information studies in the broader sense need to be examined. Such studies concern representations of knowledge, knowledge itself, and, indeed, people and their needs insofar as their needs are related—through knowledge and representations of knowledge—to retrieval.

Pragmatic and theoretical views that argue for more broadly based schools are reinforced by considerations both of economies of scope and economies of scale. Hence the forecast is that the presently prevailing pattern of a "library school" with the primary or sole mission of awarding a "library degree" will soon survive only in isolated cases of arrested development.

Curriculum

Any given curricular content can be packaged many different ways, and any particular forecast of the future curriculum is as likely to be criticized for the way it is packaged as well as for its content. The content of the MLS and successor programs is likely to resemble current programs in broad outline. If the mission of library services is to bring information to people, then that mission itself would be unaffected by changes in media used to bring information and people together. Therefore, the curriculum of the future can reasonably be expected to continue to contain a few large basic overlapping elements:

1. the role of information in society and of library services;
2. the needs, information-gathering behavior and institutional contexts of groups to be served—e.g., students, researchers, children, the aged, and so on;
3. the theory and practice of information retrieval—cataloging, classification, indexing, bibliography, etc.; and
4. the managerial, political, and technological means most likely to be useful in developing and providing good library service.

The least amount of change can be expected in those parts of the curriculum that deal with library values. This is not that they could not change, but rather that, in the United States, there is no obvious reason to expect the major cultural and political changes that would move us from the Western liberal tradition of library services. Librarians may well seek to resist such changes.

Librarians can hope for, expect, and actively seek to effect changes in their understanding of the provision and use of library service in library science as narrowly defined in this paper. It is not clear that substantial progress should be forecast, however. Forecasters confidently can predict dramatic changes in information technology, changes that will offer capabilities that currently are unavailable.

The prospect of having catalogs, bibliographies, and texts all online already is beginning to overcome some of the major barriers to good library service imposed by the constraints inherent in the technology of cardboard and the technology of paper. One such barrier is the historic separation between catalogs and bibliographies; another is the physical separation of the catalog from the text; a third is the need for the user to travel to the library or for a "hard copy" to be transported to the user in order for the human eye to see the text. Information technology is beginning to remove these three familiar physical impediments to good service. Currently, there is a fundamental move from providing library services in libraries to providing library services to wherever people happen to be. Online catalogs, online reference, and telephone service from reference desks are steps in that direction.

The schools are likely to be preoccupied with the excitement of changing technology, at least for the next few decades. Yet, paradoxically, if this change is so great, it may in some sense be rather trivial. If storage problems diminish, problems of access become dominant. Yet what information technology contributes best is physical storage and physical access. These are, however, but two aspects of bringing information and people together. There remain the problems of deciding what should be retrieved, of language barriers, of comprehension, and of the politics of access to information. The control of access to any resource is properly viewed as a political matter.

The physical fact that a record has been stored in some place does not mean that you know it exists, that you could find it if you wanted it, that you could understand what it signified, that you should believe it, that it is not contradicted by some other record, or that just those who
should have access to it do have access to it. Therefore, paradoxically, we may expect that the liberating power of the new information technologies will (and should) induce renewed attention to these traditional, nontechnological concerns of librarianship—so long as librarianship is a service profession, concerned with ideas as well as records.¹¹

Education for librarianship in the next century will depend on how librarianship evolves: the excitement of library technology provides a line of rapid change; one may hope for library science—the understanding of library service—to change too; one may hope for library values to change but little. Frederick Kilgour described the purpose of libraries as being "to actively participate in the evolution and production of those profoundly human creations: beauty, faith, justice, and knowledge."¹²

Education for librarianship in the next century will depend on what librarians make of library services in the nearer future.

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*Library Trends* focuses on library and information science topics of interest primarily to practicing librarians and information scientists and secondarily to educators and students. The style and tone of this quarterly are formal rather than journalistic or popular. *Library Trends* issues review the literature, summarize current practice and thinking, and evaluate the directions practice is taking. Papers must represent original work, published for the first time in *Library Trends*. Extensive updates of previously published studies are acceptable, but revisions or adaptations of published work are not sought.

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An issue editor proposes the theme and scope of a new issue, draws up a list of prospective authors and articles, and provides short annotations of the articles' scope or else gives a statement of the philosophy guiding the issue's development. The issue prospectus is examined by the Graduate School of Library and Information Science (GSLIS) Publications Committee and requests for clarification or modification may be made before the prospectus is approved.

Once the prospectus is approved by the GSLIS Publications Committee, the issue will be scheduled for publication and the issue editor begins by inviting authors to write for the issue. The Publications Office will alert the authors to issue deadlines and will send them "Instructions for *Library Trends* Authors." The issue editor also will be sent a copy of the instructions along with "Suggestions for *Library Trends* Issue Editors." The suggestions are culled from our experience in editing and dealing with questions raised by issue editors and authors. Included are the typical stages an issue passes through; responsibilities of the issue editor; the responsibilities of the Publications Office editorial staff; and the typical timing of the writing, editing and production stages. Generally, it takes 1-2 years from proposal to publication.

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Spring 1987, *Online Catalogs*. Editor: Karen Markey, Visiting Professor, Graduate School of Library and Information Science—Los Angeles.