The Library and American Education: The Search for Theory in Academic Librarianship

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THE SEARCH FOR A theoretical structure to explain the phenomena of librarianship has its origin in Pierce Butler's *An Introduction to Library Science,* first published in 1933. He emphasized that such a search must be based on recognition of the library as a social institution and of its primary activities (the accumulation and transmission of recorded knowledge) as social processes: "librarianship takes its place . . . in any system of social science."[1] He makes a case for the interdisciplinary character of librarianship in his discussion of its historical, sociological and psychological problems. He also predicts that as librarianship becomes scientific, "results will be borrowed from the other sciences and the findings in librarianship will be lent in return."[2]

Butler could say in 1933 that "the librarian is strangely uninterested in the theoretical aspects of his profession,"[3] but the demand today seems to be not only for more research but also for the development of theory of a kind that is not possible in the social and behavioral sciences. Scriven argues that: "There is, and always will be, a real shortage of 'two-way' laws (that is, laws that both predict and explain). This has typically been treated by social scientists as a sign of the immaturity of their subject; but in fact it is simply a sign of its nature and is very like the situation in the 'messier' areas of the physical sciences."[4] Ben-David makes much the same point: "There is an assumption that social science theory has to have a very high degree of generality, like, presumably, physics theory. Since to aspire to such generality is completely out of tune with the empirical in-

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quiries of social scientists, what actually happens is that social scientists present empirical approaches as if they were general theories."[5]

Another obstacle to theory at a high level of generality is that many phenomena in librarianship are not amenable to scientific observation, classification and measurement. Butler recognizes the limitations of science, but maintains that "it seems desirable that librarianship no less than education and medicine should profit by becoming scientific without losing anything of its humanistic qualities."[6] Similarly, Kaplan insists on the necessity for a humanistic basis for librarianship, "provided that 'humanistic' is conceived in ways that do not prejudge it as belonging to one of two antithetical cultures."[7] Ben-David's position is that "the social science researcher ought to regard himself as a re-constructor of social structures and processes, working on the borderline of science and literature, as the clinician or engineer works on the borderline of science and art."[8]

If librarianship's scientific manifestation is legitimately classified as a social science, it seems axiomatic that any search for the kind of theory that it may be able to achieve must at some point include analysis of its relationship to the social forces that brought it into being and continue to chart its course. The process is thus by definition interdisciplinary. Rawski has provided a thorough analysis of the interdisciplinary nature of librarianship and of its implications for research. He argues convincingly that the "reasons on which to base an expectation concerning the applicability of subject matter from another discipline" must grow out of the analysis of the problem as a problem in librarianship.[9] Among the most complex problems in librarianship is the institutionalization of its knowledge base into a professional service.

The search in academic librarianship for theory at a realistic level of generalization would seem, therefore, to require a high priority for attention to the socioeconomic factors that are involved. Monat has made a very strong case for an interdisciplinary approach to the evaluation of public library services and impact. He establishes the relevance of the social and behavioral sciences to the process.[10] Most of his conclusions and recommendations are equally valid for the academic library when due allowance is made for the differences in the systems of which they are a part.

The social forces that shaped American higher education in all its variant manifestations have obviously also affected the development of academic libraries. Some examples are self-evident. The rapid growth of research collections between 1876 and World War I, for example, was

possible only in an expanding economy. The even more spectacular expansion after World War II, when higher education became a growth industry, also required a strong economy and was assisted by federal support. During the first half of the nineteenth century, student literary societies developed a counter-curriculum and a library to support it because of institutional inertia in responding to changing social and intellectual patterns. In investigating phenomena of this kind, whether current or retrospective, academic librarianship can benefit by borrowing and adapting appropriate methods from the social and behavioral sciences.

For the most part, the influence of social forces on academic libraries is indirect, transmitted through the larger institutions of which they are a part. The search for the boundaries of a theoretical base for academic librarianship must therefore be directed both to the library's role in fulfilling the goals of its parent institution and to the goals and services it develops for that purpose.

The application of operations research to libraries has raised new questions about purpose and relationship. Churchman points out that, realistically, the operations researcher accepts the system as defined by its managers and has always included social values in his analysis. Idealistically, however, the search may be for solutions to the wrong problems, emphasizing slick and costly solutions rather than real improvement:

> Libraries are not separate systems. They are, indeed, a part of the health-education-research system. . . . Libraries are a part of the educational system in the sense that the libraries of the future in a world of universal education will be totally unlike the libraries of today. The technology of such future libraries is to satisfy the universal need to know and not, as in the case of university libraries, to satisfy a specific clientele such as faculty or the qualified student.[11]

The National Commission on Libraries and Information Science (NCLIS) identifies its goal in similar terms: "To eventually provide every individual in the United States with equal opportunity of access to that part of the total information resource which will satisfy the individual's educational, working, cultural and leisure-time needs and interests, regardless of the individual's location, social or physical condition or level of intellectual achievement." One of its major program objectives to attain that goal is "to join together the library and information facilities in the country . . . to form a nationwide network."[12]

From the beginnings of the colonial college, it has generally been

accepted that the collection and programs of the college or university library must be consonant with the goals of the parent institution. As early as 1740, a Harvard professor made a case that the library's collection and its use supported the official position of the college on the then-paramount issue of religious orthodoxy.[13] The standards adopted by the Association of College and Research Libraries in 1975 begin: "The college library shall develop an explicit statement of its objectives in accord with the goals and purposes of the college."[14]

In his excellent and highly readable study of the development of the curriculum, Rudolph maintains that "the curriculum has been an arena in which the dimensions of American culture have been measured, an environment for certifying an elite at one time and for facilitating the mobility of an emerging middle class at another."[15] He also points out that "the tools for fulfilling... [the colleges'] purposes were the liberal arts and sciences, that whole, inherited, vital body of learning that had a life and purpose of its own."[16]

The record of that body of knowledge, for which the library is responsible, also has a life and purpose of its own. In time, librarianship also developed a life of its own that has had its influence on academic libraries. Any attempt at comprehensive theory for academic librarianship thus becomes tripartite, incorporating institutional goals, the character of the recorded knowledge necessary to attain them, and the state of the art in librarianship, all of which are constantly changing. All can be fully understood only in relation to the social forces that shape them. This triad correlates closely with Rawski's categories of recorded knowledge, librarianship and use.[17] It is also compatible with Shera's diagram of librarianship as administration (knowing how to order means to ends), the boundaries of which are acquisition, organization and interpretation.[18]

During the past fifty years, the literature of academic librarianship has grown substantially and provides the basis for at least a preliminary synthesis of what has been learned about the interrelationship of the academic library, higher education, and the social forces that created them. The series of bicentennial articles first published in *College & Research Libraries* and later collected under the title *Libraries for Teaching, Libraries for Research*[19] constitutes in some ways a state-of-the-art report. The essays deal with America's second century, when the modern academic library began to develop, but many of them summarize developments before that date and emphasize current trends. To a greater or lesser degree, they attempt to establish the relationship of the library to the changing character of higher education. The introductory essay by

Edward G. Holley, for example, is a very thorough review of this relationship for the year 1876.[20]

The complexity of the interaction on the library of social forces, indirectly through the institution of which it is a part, and more directly through the constantly growing and changing record of knowledge and through the increasing professionalization of librarianship, defies precise documentary analysis. Jencks and Riesman came to the conclusion that: "American educators have seldom been able to give coherent explanations for what they were doing. Even when they did have a consistent theory, it often had little or no relationship to the actual results of their actions."[21] Apparently Riesman sees little gain in coherence when today's problems are under study, judging by his observations on the current review of general education at Harvard.[22]

For their study of *The Academic Revolution,* Jencks and Riesman turned to what they term a kind of functional analysis, a method that assumes "that because a given arrangement had a given result, those who instituted the arrangement somehow intended that result."[23] Much of the research on academic libraries seems to utilize the same approach, producing what Rawski apparently means by "after-the-fact adjustment" rather than scientific discourse, because of an inability "to state the fundamental entities and fundamental relations of our field."[24] Among those fundamental relations one must include, as Ben-David establishes for the social sciences generally,[25] the relevant social structures and processes in a given time and place.

Holley concluded in 1876 that: "librarians shared the general optimism of the age, and they expected libraries to become a vital part of the college experience. If they were often confused about the place of the library in the curriculum, their confusion was no more unnatural than that of their parent institutions which were often confused about their role and mission."[26] The elimination of that confusion has been a continuing objective of academic librarianship ever since.

The results of what has been accomplished have been ably summarized for each of the major institutional types in higher education: for the university library first by Wilson and Tauber,[27] and more recently by Rogers and Weber;[28] for the college library by Lyle;[29] and for the community college by Veit.[30] The primary focus of each is administrative practice, but they make extensive use of existing research studies, some of which have gone beyond the pattern described by Jencks and Riesman as looking at what happened and then reasoning backward to find why it happened.[31] Nevertheless, there is still a very limited factual base for

any comprehensive theoretical structure. The limitations and idiosyncracies of the methodology in the description of particulars, which could provide such a base, frequently prevent the kind of synthesis that can lead to valid generalization. Lipetz, for example, reported in connection with his study of catalog use at Yale that "all of the older [catalog use] studies seemed to have flaws in their design which made their reported results suspect or unusable."[32]

Because of the diversity of the institutions that make up American higher education, Lyle is justifiably pessimistic about the possibility of any theory to explain the college library.[33] Govan comes to the same conclusion: "The variety among academic libraries makes any broad discussion of them virtually impossible."[34] Just as Rudolph found that any understanding of the curriculum must begin with the assumption that "maybe there is no such thing as *the* curriculum,"[35] understanding of the academic library must begin with the assumption that perhaps there is no such thing as *the* academic library. The unique characteristics of the institutional setting as well as the inadequacy of data prevent generalization on any broad scale.

There are, however, similarities in purpose, materials and methods, and administrative structure. Investigations in these areas can provide the data for identification of general principles. The unifying theme may well be the socioeconomic implications of those principles. Although it may be self-defeating to search for theory in the strict interpretation of that term, those general principles can, as Ben-David maintains,[36] be of help in understanding and explaining particulars.

Statements of purpose for the academic library vary greatly, not only by type of institution, but in detail and emphasis. They range from Brough's terse "it must preserve recorded knowledge, and it must make this knowledge available for use,"[37] to the comprehensive statement by Wilson and Tauber that includes "integration of the library with community, state, regional, national, and international library resources."[38] The latter seems to anticipate Churchman's insistence that the boundaries of the system which includes the academic library go beyond the institution of which it is a part.

All statements of purpose, however, exhibit some commonality and all state explicitly, or are based on the assumption that, the basic purpose of the academic library is support of any instructional, research or service functions to which the parent institution is committed. They are all concerned with appropriate collections of recorded information, the effective organization and housing of materials for use, and assistance in their use.

Most include some or all of a wide range of supplementary services, such as identification and location of needed materials not locally available, formal and informal instruction in the use of libraries and in the process of information retrieval, the provision of materials for recreational reading and for general information on subjects not necessarily covered by the curriculum.

Integration of library goals with institutional goals depends upon effective communication. The credibility of the librarian is a crucial factor in the process and in turn depends upon the expertise that comes only from that essential of professionalism, mastery of a constantly expanding body of theoretical knowledge. Rogers and Weber emphasize the librarian's responsibility to educate others in the university on library problems,[39] maintaining, as does Lyle for the college library,[40] that the university library's goals grow out of decision-making on those problems.

Lyle presents another aspect of the problem of integration of goals, reminiscent of Jencks and Riesman's observations on the relation between theory and action in higher education. He points out that general statements of purpose are not enough, that the particulars by which they are to be realized must also be identified.[41] His position is reinforced by a recent survey of the opinions of college administrators, including librarians, about the rewards and frustrations of their positions. "A major frustration of librarians is lack of information concerning matters that vitally concern their work. . . . Librarians believe that to keep in touch with what is going on they should participate in the work of faculty curriculum committees and be on the 'administrative council'."[42]

There has undoubtedly been progress in this respect during recent years, closely correlated with the improvement in status of academic librarians, but acceptance as part of the planning team is only the first step. The impact of the librarian's contribution to its work will depend not only on his or her skill in personal relations but also on the scope and character of the specialized knowledge brought to the task.

Rigorous program planning and review with particular attention to goals now constitute a sine qua non of administration in higher education. The general library survey by outside experts that flourished from 1938 to 1950 has for the most part been superseded by more limited studies of special problems usually described as operations research. The self-study, frequently an essential element in the accreditation process, provides the opportunity for a more general survey. Swarthmore's 1967 *Critique of a College,* for example, includes an unusually thorough analysis of the relation of the library's goals and programs to those of the institution.[43]

During a period of uncertainty, created for the most part by forces outside the college or university, of the kind that higher education is currently experiencing and that has produced a major reaction within all its segments, the planning and review process becomes critically important. The library must examine in advance its potential role in proposed modifications, some of which can on occasion be introduced with startling rapidity. Breivik, for example, emphasizes the importance of rapid library planning for appropriate instruction on use of the library to meet the challenge of open admissions. She urges a much more aggressive approach by the library to participation in institutional planning and deplores the paucity of evaluative research on bibliographical instruction to support it.[44]

In all aspects of goal identification and integration and of the decision-making on strategies to attain them, general principles are of first importance. They assist in establishing probable outcomes of various courses of action, but are at best only indicators. Whether they are derived from basic research or grow out of research based on Ben-David's clinical-engineering model, they do not have the force of predictive laws.

During the past forty years, Shera has been the leader, in terms of his own contributions and of his influence, in the search for an understanding of the significance to all librarians of the social nature of recorded knowledge. With the overwhelming growth rate of knowledge and the development of new technology for its preservation and dissemination, the new interdisciplinary field of information science has come into existence and has produced a voluminous literature. Among its concerns, as Leimkuhler points out, is emphasis on the psychic and social consequences of technological change.[45] Fussler has provided a comprehensive analysis of its implications for one type of academic library in his *Research Libraries and Technology*,[46] but the impressive list of general principles that he identifies are applicable to other types as well.

The contributions of professional librarianship to academic librarianship are especially noteworthy in the organization of materials and in the development of tools and services to facilitate access to and use of them. Librarianship possesses a literature and the bibliographical apparatus to facilitate cumulative growth of its knowledge base at all levels, including research. The extensive bibliographies in the standard monographs on the administration of the four major types of academic libraries bear witness to the importance of this literature. Librarianship has also developed a cooperative approach to problem-solving, especially for the most complex and fundamental problems.

Tuttle has documented the importance of cooperative work on technical services,[47] and McElderry does the same for readers' services.[48] Weber summarizes successes and failures of planned cooperation in all areas of library activity as they affect academic libraries.[49]

Perhaps the percentage of failures and partial successes for cooperative effort has been greatest in connection with collection development and resource-sharing. Weber provides various explanations for difficulties, most of which are related to conflict between institutional goals and goals of the cooperative project. Fussler, in the chapter on resource-sharing in his *Research Libraries and Technology* clearly establishes the nature of this relationship.[50] He also gives a very thorough analysis of its economic implications, providing general principles for the guidance of all academic libraries. If academic libraries are to engage in cooperative projects in resource-sharing, they must be able to justify in economic terms commitment to a larger system of the kind that Churchman identifies and NCLIS supports. The problem is the development of a data base to support the general principle.

The preoccupation of librarians with theory can probably be traced to a problem common to the social sciences: "there is usually a gap, and often a very considerable gap, between the theoretical description of what is being done and what is actually being done, and there is widespread feeling that neither is very satisfactory."[51] There is also a semantic problem, the tendency to interpret "theory" in the rigid, restrictive terms of logical positivism, caused perhaps by the relatively low status usually assigned to the social sciences in the hierarchy of the sciences. The most realistic summary of the situation in librarianship is found in Goldhor's chapter on theory in *An Introduction to Scientific Research in Librarianship,* especially his comments on the differences between theories of low and high informative value.[52]

The claim cannot now be made, nor if Scriven is correct, will it ever be possible to achieve theory of high informative value for academic librarianship. There are, as Reynolds maintains for the social sciences generally, too many "problems inherent in the phenomena."[53] Churchman, for example, points to the probable impossibility of classifying users as a basis for evaluating information retrieval systems and for cost-benefit analysis.[54] Examples of the conclusion that it is impossible to evaluate the quality of book collections by quantitative methods are legion. Randall refers to it in his 1932 study of college libraries;[55] in 1967 the Swarthmore report states unequivocally that the book collection cannot be evaluated by any quantitative method;[56] and in 1971 Rogers and Weber maintain

that methods of judging a university library must be based on discriminating subjective evaluation.[57] Rogers and Weber, however, recommend procedures that seem to follow Ben-David's "more or less empirically grounded and partly intuitive explanatory model."[58]

The most promising source in academic librarianship for whatever theory may be attainable would seem to be Ben-David's clinical-engineering model of research. In seeking the explanation for a particular problem, the investigator:

> must start with a more or less empirically grounded and partly intuitive explanatory model and then check it constantly both against empirical evidence and against his improving knowledge of the underlying processes and structural regularities. The social scientist investigating this kind of problem ought to proceed in an eclectic manner, using whatever theories serve him, irrespective of their disciplinary provenance.[59]

Ben-David's emphasis on social structure in a given time and place may provide the matrix for whatever general principles and theories are appropriate for a particular problem. Whether they are drawn from the process of integrating library and institutional goals, from the nature of recorded knowledge or from the processes of librarianship, all are related to societal factors that also contribute to the particular form of an institution of higher learning. Theory then becomes a flexible concept, comprising for each problem a unique or nearly unique combination of general principles with their implications for social structure the unifying factor.

Shaughnessy insists that, although societal factors may be important, preoccupation with the institutional context of libraries diverts attention from the search for theories indigenous to the field.[60] Rawski distinguishes between what he calls "basic research," the view from above whose purpose is knowing, and "ad hoc research," the view from below whose purpose is doing. Both, he says, are essential, for "both determine the purposive continuum of librarianship and, hence, its interdisciplinary concerns."[61] Rawski's position, with one important difference, is very close to that of Ben-David's; the difference comes in Rawski's dichotomy between the methods, purposes and results of the two types of research. Ben-David says that basic research must continue, but that the clinical-engineering model can contribute to it, that it is "appropriate regardless of whether the results are used for social engineering, or for mere enlightenment."[62]

In academic librarianship there are many examples of research concerned with doing, with social engineering in Ben-David's vocabulary, that have contributed significantly to the collection of general principles essential for the explanation of particulars. Fussler's *Research Libraries and Technology* has already been mentioned; his earlier *Patterns in the Use of Books in Large Research Libraries* is equally valuable as a source of general principles.[63] Knapp's *The Monteith College Library Experiment* is a prolific and perhaps still the only source of general principles on bibliographical instruction.[64] There are other studies on a variety of problems, but more examples of this kind of research are needed.

Finally, Ben-David suggests that the only kind of theorizing that is interesting or worthwhile grows out of systematic comparative research which alone can provide the necessary wealth and variety of observations. The outstanding example of this kind of study and the contribution it can make to theory in academic librarianship is Danton's *Book Selection and Collections; A Comparison of German and American University Libraries.*[65] Such comparative research brings into sharp focus the necessity for an understanding of the social structure in a particular time and place, as Danton's companion monograph, *The Dimensions of Comparative Librarianship,*[66] demonstrates very clearly.

It would, therefore, seem clear that the search for theory in academic librarianship must be eclectic and must include analysis of the relationship of library organization and processes to societal factors.

References

1. Butler, Pierce. *An Introduction to Library Science.* Chicago, University of Chicago Press, 1933, p. xi.
2. Ibid., p. 26.
3. Ibid., p. xi.
4. Scriven, Michael. "Science: The Philosophy of Science." *In* David L. Sills, ed. *International Encyclopedia of the Social Sciences.* New York, Macmillan Company and Free Press, 1968, vol. 14, p. 88.
5. Ben-David, Joseph. "How to Organize Research in the Social Sciences," *Daedalus* 102:39, Spring 1973.
6. Butler, op. cit., p. 30.
7. Kaplan, Abraham. "The Age of the Symbol — A Philosophy of Library Education." *In* Don R. Swanson, ed. *The Intellectual Foundations of Library Education.* Chicago, University of Chicago Press, 1965, p. 12.
8. Ben-David, op. cit., pp. 40-41.
9. Rawski, Conrad H. "The Interdisciplinarity of Librarianship." *In* Conrad H. Rawski, ed. *Toward a Theory of Librarianship.* Metuchen, N.J., Scarecrow Press, 1973, p. 135.

10. Monat, William R. "The Role of the Social and Behavioral Sciences in Determining Library Operation and Impact," *Library Trends* 24:583-96, Jan. 1976.

11. Churchman, C. West. "Operations Research Prospects for Libraries: The Realities and Ideals," *Library Quarterly* 42:13, Jan. 1972.

12. National Commission on Libraries and Information Science. *Toward a National Program for Library and Information Services: Goals for Action.* Washington, D.C., USGPO, 1975, p. xi.

13. Pierce, Benjamin. *A History of Harvard University from Its Foundation, in the Year 1636, to the Period of the American Revolution.* Cambridge, Mass., Brown, Shattuck, and Co., 1833, pp. 147-48.

14. ACRL Ad Hoc Committee to Revise the 1959 Standards. "Standards for College Libraries," *College and Research Libraries News* 36:278, Oct. 1975.

15. Rudolph, Frederick. *Curriculum; A History of the American Undergraduate Course of Study* (The Carnegie Council Series). San Francisco, Jossey-Bass, 1977, p. 1.

16. Ibid., p. 28.

17. Rawski, op. cit., p. 129.

18. Shera, Jesse H. "Mechanization, Librarianship, and the Bibliographical Enterprise," *Journal of Documentation* 30:153-69, June 1974.

19. Johnson, Richard D., ed. *Libraries for Teaching, Libraries for Research; Essays for a Century.* Chicago, ALA, 1977.

20. Holley, Edward G. "Academic Libraries in 1876." *In* Johnson, op. cit., pp. 1-33.

21. Jencks, Christopher, and Riesman, David. *The Academic Revolution.* Garden City, N.Y., Doubleday, 1968, pp. xi-xii.

22. Riesman, David. Cited *in* Susan Schiefelbein. "Confusion at Harvard: What Makes an 'Educated Man'?" *Saturday Review* 5:16, April 1, 1978.

23. Jencks and Riesman, op. cit., p. xi.

24. Rawski, op. cit., p. 138.

25. Ben-David, op. cit., p. 40.

26. Holley, op. cit., p. 29.

27. Wilson, Louis R., and Tauber, Maurice F. *The University Library.* 2d ed. New York, Columbia University Press, 1956.

28. Rogers, Rutherford D., and Weber, David C. *University Library Administration.* New York, H.W. Wilson, 1971.

29. Lyle, Guy R. *The Administration of the College Library.* 4th ed. New York, H.W. Wilson, 1974.

30. Veit, Fritz. *The Community College Library.* Westford, Conn., Greenwood Press, 1975.

31. Jencks and Riesman, op. cit., p. xi.

32. Lipetz, Ben-Ami. "Catalog Use in a Large Research Library," *Library Quarterly* 42:130, Jan. 1972.

33. Lyle, op. cit., pp. 8-9.

34. Govan, James F. "Community Analysis in an Academic Environment," *Library Trends* 24:541, Jan. 1976.

35. Rudolph, op. cit., p. 2.

36. Ben-David, op. cit., p. 42.

37. Brough, Kenneth J. *Scholar's Workshop; Evolving Conceptions of Library Service* (Illinois Contributions to Librarianship No. 5). Urbana, Ill., University of Illinois Press, 1953, p. 25.

38. Wilson and Tauber, op. cit., p. 19.

39. Rogers and Weber, op. cit., p. 9.

40. Lyle, op. cit., p. 8.
41. _____. *The President, the Professor and the College Library.* New York, H.W. Wilson, 1963, pp. 40-41.
42. Ingraham, Mark H., and King, Francis P. *The Mirror of Brass; The Compensation and Working Conditions of College and University Administrators.* Madison, University of Wisconsin Press, 1968, p. 200.
43. Commission on Educational Policy. *Critique of a College.* Swarthmore, Penna., Swarthmore College, 1967.
44. Breivik, Patricia Senn. *Open Admissions and the Academic Library.* Chicago, ALA, 1977, p. 84.
45. Leimkuhler, Ferdinand F. "Library Operations Research: A Process of Discovery and Justification," *Library Quarterly* 42:84-96, Jan. 1972.
46. Fussler, Herman H. *Research Libraries and Technology: A Report of the Sloan Foundation* (University of Chicago Studies in Library Science). Chicago, University of Chicago Press, 1973.
47. Tuttle, Helen W. "From Cutter to Computer: Technical Services in Academic and Research Libraries, 1876-1976." *In* Johnson, op. cit., pp. 71-101.
48. McElderry, Stanley. "Readers and Resources: Public Services in Academic and Research Libraries, 1876-1976." *In* Johnson, op. cit., pp. 58-70.
49. Weber, David C. "A Century of Cooperative Programs among Academic Libraries." *In* Johnson, op. cit., pp. 185-201.
50. Fussler, op. cit., pp. 33-50.
51. Ben-David, op. cit., p. 39.
52. Goldhor, Herbert. *An Introduction to Scientific Research in Librarianship* (Monograph No. 12). Urbana, University of Illinois Graduate School of Library Science, 1972, pp. 40-51.
53. Reynolds, Paul Davidson. *A Primer in Theory Construction.* Indianapolis, Bobbs-Merrill, 1971, p. 165.
54. Churchman, op. cit., p. 14.
55. Randall, William M. *The College Library; A Descriptive Study of Libraries in Four-Year Liberal Arts Colleges in the United States.* Chicago, ALA and University of Chicago Press, 1932, pp. 83-84.
56. Commission on Educational Policy, op. cit., p. 361.
57. Rogers and Weber, op. cit., p. 292.
58. Ben-David, op. cit., p. 40.
59. Ibid.
60. Shaughnessy, Thomas W. "Theory Building in Librarianship," *Journal of Library History* 11:167-76, April 1976.
61. Rawski, op. cit., p. 135.
62. Ben-David, op. cit., p. 43.
63. Fussler, Herman H., and Simon, Julian L. *Patterns in the Use of Books in Large Research Libraries.* Chicago, University of Chicago Press, 1969.
64. Knapp, Patricia B. *The Monteith College Library Experiment.* New York, Scarecrow Press, 1966.
65. Danton, J. Periam. *Book Selection and Collections; A Comparison of German and American University Libraries* (Columbia University Studies in Library Service, no. 12). New York, Columbia University Press, 1963.
66. _____. *The Dimensions of Comparative Librarianship.* Chicago, ALA 1973.

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