The purpose of this report was to formulate a definition of health science libraries which would allow them to be objects of study. Four general definitions of health science libraries are presented from the viewpoints of: (1) librarians and managers of libraries as institutions, (2) the institutions or administrative units supporting library operations and service, (3) users of library services, and (4) a suprainstitutional organization or concept, the library network or system. The hypothesis proposed is that a health science library can be identified as an object of study only through the institutional setting in which it operates.
The Health Science Library as an Object of Study

by

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Library administrators and educators are emphasizing the need for more facts and data about library operations and functions. More research in librarianship is needed. This expressed need has arisen because of the pressures placed on the nation's libraries. The response to these pressures from society has been new legislation which has the intention of improving the nation's library resources and services. The inevitable, and certainly important, question arises; is the investment society makes in its library institutions a constructive one? The need to justify libraries has focused attention on the library as an object of study rather than just a necessary social institution. If libraries are to be objects of study, two general conditions must be kept in mind. First, although data and facts can be collected on libraries which increases our knowledge about libraries, libraries as objects of study are more than institutions which need better description and identification. The tradition of Western scholarship has given us the precept that knowledge of itself is always more important than the use of knowledge. It is pointless to depreciate the importance to civilization of increased knowledge and research. On the other hand, it must also be appreciated that just because one engages in research and produces more knowledge, it follows that benefits will automatically result. Second, our society as it grows more complex creates new specialized institutions as well as new specialties in knowledge. Are specialized libraries proper objects of study distinct from libraries in general? One could conclude that our society has recognized several variant library institutions through such legislative actions as the Medical Library Assistance Act of 1965. When is a specialized institution sufficiently manifest to make it a proper object of study?

According to the metaphysics of Alfred Worth Whitehead, the actuality of the universe is a constant becoming of events, actual entities. Man, in his attempt to understand the becomingness, the processes of the actual university, creates eternal objects which identify the actual entities at a point in becoming. The eternal objects produce reality that is removed from and different from actuality. Or, to state
in the words of an advertising agency -- since no one can keep up with the events of the world minute by minute, the daily newspaper stops the world for its readers to examine in their leisure. The separation of the becomingness of nature, or social processes which are merely biological responses in manipulating nature to produce specific biological purposes, into discrete objects or into objects of study for different "sciences" is a human conceit. Nature, and society within it, is a whole. A nuclear test explosion is usually regarded as an experiment in engineering and physics; but it is also a vast, if poorly controlled, experiment in environmental biology; it is also an experiment in political engineering and control. An intrusion of a single event into a balanced system in one place may trigger a huge response elsewhere in the system. The electric power failure in November 1965 is a dramatic example of the effect one event, which by itself may appear insignificant, can have on a complex interrelated system as the U.S.-Canadian power grid.

This introductory metaphysical discussion and argument by analogy is used to emphasize that it is not possible to define a library as an object of study without an appreciation that it is a social institution which functions in an environment that goes beyond the physical space which contains a collection of materials. A library, more specifically a health science library, is part of a process that involves the communication mechanism that supports a human enterprise, the maintenance of "health". The health science library is a tangible response to individuals and groups of individuals who are actively struggling to control their own, and others, environmental life situations. Human behavior in relation to health, or for that matter any other activity, is not fixed and inflexible -- rather it is continuously changing in response to environmental demands and challenges. A library is both a product of human activity and at the same time affects behavior. For the librarian, the library, as an object of study, is created from the activities of others; to the users of libraries, it is an instrument for him to manipulate to aid him in making his everyday circumstances more tolerable and predictable.
The object of this paper is to present a frame of reference, a general perspective, that has relevance to study, judge, evaluate, and solve problems with respect to social objectives of health science libraries. The general perspective must contain a paradox. On the one hand the health science library must be identified as an object of study. Without a "definition" of what it "is", no data can be collected to judge its functional adequacy. On the other hand, the health science library as a social institution is a process which must include an understanding of the relationships that go beyond its definition as an object of study. The paradox can be resolved logically by stating the latter as an assumption: a health science library is a part of an ongoing communication system. Any definition of a health science library must carry with it the purposes or intentions of the person making the definition.

Four general perspectives, or "definitions" of health science libraries are given here that can serve as a basis for collecting quantitative data. These perspectives can be characterized as viewpoints of (1) librarians and managers of libraries as institutions, (2) the institutions or administrative units supporting library operations and services, (3) users of library services, and (4) a suprainstitutional organization or concept, the library network or system.

1. The librarians' viewpoint

   Each profession gains an identity from the literature it produces, but more directly by the rigor and the control of the training and education that is required to be identified by a peer group as earning a professional status. All library schools, albeit in varying degrees of emphasis, must provide its students with at least an opportunity to learn about

   (i) The value and importance of the scholarly record to civilization and more specifically, the function of "libraries" to preserve the scholarly record for the use of society,

   (ii) The techniques involved in collecting the scholarly record,

   (iii) The techniques in organizing specific collections of the scholarly record for storage and retrieval,
(iv) The techniques of retrieving specific documents from organized collections,

(v) The techniques and art of identifying and retrieving information from the scholarly record.

The traditional library "statistics" have been and are collected to demonstrate to librarians themselves, and they hope to the world, that they are accomplishing what they have been taught to do professionally. Translating this perspective into quantitative data has resulted in compilations of an administrative unit under the direction of a "head" librarian which includes

(i) The number of titles and volumes added either as a total "library" unit or in terms of the kinds and the number of volumes of collections within collections;

(ii) The systems and techniques of organizing the collections, and, more recently, the kinds and to what extent electronic data processing and computer equipment is used; in this kind of compilation is also included specialized methods or deviations from the universal systems for organizing specialized collections;

(iii) The quantity and methods of retrieving documents from within and outside the administrative unit;

(iv) The number of times citations and/or information is retrieved rather than just documents;

(v) The number and professional qualification of the staff within the administrative unit;

(vi) The amount of space available to carry out the librarian's role, e.g., space allocated for storage, retrieval functions, processing functions, etc.;

(vii) The amount and allocation of funds to carry out the above functions; recent efforts have been made to identify costs per unit of each of the above operations, but this is yet an ill-defined and undependable library statistic;
Finally, data is collected on the "efficiency" of performance, e.g., how rapid is a specific service provided.

There are three aspects that should be noted with respect to these compilations of "statistics" which attempt to define libraries. First, it is an administrative unit that is defined, not a library. In a very real sense, the health science library is defined by the status and responsibility given to the person identified as the health science librarian. Although the responsibilities are often given to the librarian by the institution supporting the library, the priorities of activity performed within the administrative unit are defined to a large extent by the librarian. Second, these compilations can only be applied to comparing one administrative unit to another and consequently a hierarchy of size is delineated. The resultant interpretation of these compilations is often that the larger the administrative unit, the better the library, the more competent the staff, and the greater the skill and wisdom of the administrative head. In my opinion, this veneration of size and equating professional competence, and hence quality of service, with the complexity of an administrative unit is a dangerous viewpoint for identifying a health science library. The use of the scholarly record to solve individual health problems is not an activity which takes place only in large administrative units. Third, these measures of administrative units are the only ones that have been consistently made in the past. As inadequate as they may be in defining a specific kind of library as a health science library, some of these measures must continue to be used. The very serious question must be asked, are all the measures or statistics that have been traditionally collected necessary? Could fewer be collected and still accomplish the same purpose?

2. The Institutions' viewpoint

Outside of a few notable exceptions, nearly all health science libraries are a department or division of an institution. As noted above, a library cannot be separated from the institution that supports it, no matter how much the head librarian may wish it otherwise. To
define a library in terms of its parent institution is, to say the least, not an easy task. The multiplicity of conflicting and overlapping functions of our institutions make it difficult to define or to state legalistically which institutions carry on health related services. It is not clear from which set of functions one should judge whether an institution performs any health related activity and consequently whether any library it maintains is a health science library.

Simplistically, one could say any institution which maintains facilities to carry out research, to engage in educating, or to deliver health care to groups or to individuals and which supports a library, has a health science library. To those who wish to identify health sciences libraries as an object of study, this only compounds the problem of definition. Can the library of a large industrial organization which has a contract to design or manufacture a small component of the Appolo 8 life system be a health science library? Can a large university which has only a small school of nursing say that its library is a health science library because it stores materials used by the students and faculty of the school of nursing? Does a public library which assists student nurses, physicians, municipal and voluntary health agencies in securing information to be considered to have a health science library? Although for many institutional environments, such as hospitals, medical schools, research agencies can be easily understood as contributing directly to health care, the definition of the purpose of an institution can be made to fit legal or socially accepted requirements. The administrators and governing boards of institutions make such definitions to gain an identity which for practical purposes is to aid them in obtaining financial support.

The library of any health related institution is a service organization for its own staff and students. As a service unit, it produces no direct income. The administrator, therefore, must find some means to justify the existence of this unit, and although the question may not often be phrased precisely as the following, it never-
theless is asked: "What effect will there be to the operation of the total institution if library services are reduced, or stopped?" Much of the data collected by librarians is related directly to this question. The librarian justifies his work to an administrator who in turn justifies the library unit as necessary or unnecessary, as the case may be, to his governing board. The administrator is therefore most interested in two aspects of the library.

(i) **Cost.** How much does it cost the institution to maintain this service? Is the share of the total institution's budget provided for library service adequate; that is, is the institution getting a return on its investment?

(ii) **Need.** Who are the users of library service and how important is it to their work?

Although the first of these two aspects might be defined by relating fiscal data according to some arbitrary standard, the second is much more difficult to identify. Similarly, a library can be judged to be efficient in relation to cost, but whether the efficiency is effective in producing better students or better health care has rarely been demonstrated. Solace for librarians might be found in the fact that measurements in the delivery of health care, the importance of research results, or the adequacy of an educational program have not been reduced to a tangible scale of performance, consequently the effectiveness of library service cannot be measured until these social enterprises can be measured. The one means the administrators have to judge the effectiveness of library service is a negative one: If the professional staff, who are recognized by their peers outside of their institution, have no complaints about the adequacy and efficiency of the library, then the administrator can, and most often does, assume the service meets the needs of the institution.

3. **The users' viewpoint.**

The library user approaches the library with a "selfish" attitude -- what can he get from the library for the least amount of
effort on his part. As every perceptive librarian knows, each new
group of students, and each new professional person added to a
library's primary clientele, test the services offered. A large
share of the time spent on library public relations is explaining
to users the limitations of services rather than the availability of
services. The selfish attitude of users arises from the social
organization of libraries. Librarians and administrators speak of
library privileges, but in fact every library user knows that he has
library rights. The library is maintained for him and is organized
as a facility common to all, even though the access or the right to
the common service may be defined in a limiting fashion and even though
not all groups of users have equal rights. Scholarship has as one of
its basic tenets that knowledge is to be shared and available for all
who want to use it. Libraries are one of the means of institutional-
izing the "freedom of access" to knowledge that is necessary to
scholarship.

Libraries, as institutions, as administrative units, must
be organized to deal with groups of people, yet nearly all user
transactions of the clinician and researcher are unique; that which
motivates him to use library services is unique to himself. Each
clinician works with one patient at a time (group therapy notwithstanding); since his patients are individuals, the resultant health problems
the clinician is to work with are also individual. Similarly, the
researcher is always, at least from his viewpoint, dealing with unique
situations. If the situations were not unique, they would not be
recognized as research. The user, then, comes to a library to "solve"
a unique problem, but the library is organized administratively and
its content organized intellectually to provide the best services for
the greatest number of users. Although librarians must speak of the
general user, no individual user ever fits this generalization. The
user, then, must adjust to the library organization that exists. As
an individual he is powerless to change the library at the time he is
using it. There are administrative recourses, through library committees,
writing letters to administrators and policy makers, to alter the
priorities of service, but there are limits both technically and socially to what can be done to design library service for the individual user. Consequently, the user has the following possibilities which he may use alternatively or simultaneously:

(i) He learns the library organization and system, secures what he can and goes elsewhere for information and data he cannot get through the library.

(ii) He ingratiates himself with the library staff to obtain services beyond and different from those given to the mythical general user.

(iii) Since the user knows he has rights, he asserts himself and secures his full share of service that can be accorded to him: depending upon his personality and his status, he may succeed through an authoritative demeanor to get services beyond those given to the general reader.

(iv) He can proceed through the bureaucratic channels to alter the library organization to fit his needs more precisely.

The user is not interested in the same aspects of library operation as are librarians and institutional administrators. For example, he is not concerned with fiscal matters or the cost of any service except perhaps in the situations where he must make a direct contribution to the support of the library. Certainly the user has no particular desire to identify the professional functions of librarians -- to him all those working in the library are librarians. The usual quantitative measures applied to libraries have no meaning to him: The user is unimpressed with circulation figures and volume count; his interest is what he can get from the library, not what the library may have done for its total primary clientele.

The user applies three measures to library service.

(i) Is it easier to obtain documents, information, and data from the library or is an alternative source more convenient?
(ii) Is the amount of time required to utilize library service worth it, or could the time be spent more profitably elsewhere?

(iii) How dependable is the library in providing the documents, information, and data?

To those who wish to study libraries these user criteria are often considered to be incommensurable. Statistically, it is difficult to measure these incommensurables. Each user has his own criterion of judgment and a system of weighting. Each user arrives at a compromise on how to, and whether to, use a library which is achieved by the weighting of the three variables.

The importance of the user viewpoint has been recognized in making the library an object of study. So many "user studies" have been made that reviews of reviews of these studies are now appearing in the literature. The reality of the library as an object of study cannot be ignored: the user cannot be separated from his intellectual environment in measuring the utility of a library to him; the library cannot be separated from the institutional complex in which it is placed. A library as a social institution cannot be all things to all men. So long as studies are confined to what existing individual libraries do, or how individual users utilize libraries, no actual system of values can be developed which will allow for socially accepted methods of weighting so that the decisions on and about library service can be made on a rational basis. Operationally, the nature and function of libraries will continue to be defined through unexpressed decisions of users and arbitrary decisions of librarians and administrators. This method of laissez-faire natural selection by users will continue to place the library as a social institution in a constant state of administrative crisis.

4. The library system

If the general concept is acceded that a library is a part of the social communication mechanism which aids in the access of knowledge,
then a library cannot be defined spatially; that is, a library is more than the transactions and events that occur in a building. Librarians in the 19th century began lending documents among themselves for their users. Other access services than interlibrary loan has also grown but less dependably. These services, once begun, have come to be recognized as useful and perhaps should be a necessary function of libraries. The administrative organizations to allow sharing of resources, facilities, and technical competences has prevailed all library operations. Interdependence always carries with it responsibilities and limitations which result in the need for value judgments to be made with respect to the placement of responsibilities to accomplish most effectively the advantages possible through inter-institutional cooperation.

In spite of the fact that "library systems" are a part of the scholarly communication mechanism, very little study has been devoted to make explicit the hidden assumptions and technical operations which cause it to function. Rapid progress in promoting (or discouraging) the development of library systems can not occur until we exorcise the bureaucratic tendency to view the solutions of problems as merely either, or both, a matter of (i) the creation of new political agreements which only redistribute existing responsibilities and (ii) applying new technology which requires little or no change in human values or ideas. Because "library systems", although part of our culture for decades, have not been considered as objects of study, their definition is exceedingly vague. Many areas could be delineated which might aid in identifying library systems as objects of study, but only three will be discussed here.

(i) **Redundancy**

One of the arguments used for the promotion of library systems is the ability of individual libraries to reduce not only the duplication of documents, but also the duplication of effort in processing and storing. This argument is like a moral precept -- it is to be practiced only if there is a legal or fiscal sanction applied. Few health science libraries have in any systematic way reduced their storage
problems because they have "joined" a library system. The standard-
ization of cataloging rules and the availability of a national system
of utilizing the intellectual work of resource libraries has, for
health science libraries, hardly been exploited. If the argument is
a correct one, the need is apparent to examine the operation of li-
brary units to see what procedures and practices are required to be
duplicated for the maintenance of the system. To promote a library
system without altering the operation of individual library units merely
creates a new service unit at an added cost. Redundancy is a necessary
element in a library system, for without it, the function of libraries
as a group would disappear -- everything now supplied through library
units could be supplied from one mammoth world library. One can hope
that quantitative measures, or at least a method of evaluating dupli-
cation, could be devised for a library system. Undoubtedly, the
intellectual effort that will have to be invested is not insignificant,
but the problem (in principle, at least) is not insoluble.

(ii) Institutionalization

If a spatially discrete library can be understood
functionally as a social institution, then a library system is a more
abstract, but, nevertheless, in the same sense, a social institution.
Irrespective of the abstractness of library service when stated in
words, the ultimate purpose for its existence is the individual user.
The user is unaware, and in nearly all instances, wishes to continue
to remain unaware, of the interrelatedness of library organization.
His search for assistance through a library, thus, ultimately will be
judged by the user at the place he enters the system -- his library.
The same user satisfaction incommensurables apply both to individual
library units and to library systems. One has to arrive at the same
conclusion as when one discusses the need for redundancy in library
systems: what are the administrative, fiscal, and technical compromises
that can be made to determine what should be performed as a library
system and what should be performed by individual library units.

(iii) Responsibility

As society becomes more interdependent, more rules,
regulations, and laws are needed as well as a new organization to en-
force the rules, regulations, and laws. Every social system has a
limit to its resources. To allow individuals or small groups of
individuals to have complete freedom on the use or deployment of
these resources can result in a breakdown of the social system. Our
nation, our cities, face frequent crises because of individuals and
groups placing their benefits above those of our society, of which
he is a part, even if society as a whole suffers. Any system depends
upon all who are part of that system to work toward its maintenance.
One library unit, because of its unwillingness to maintain an adequate
collection of documents or because it fails to act intellectually
responsible, can falter and reduce the quality of service to the system
as a whole. Responsibility is ultimately attributable to individuals.
Responsibility cannot be given over to technology. Automobiles cannot
be blamed for traffic deaths. Responsibility cannot be given over to
an administrative organization. Bureaucracy is an abstraction and as
a human enterprise is corruptible. Whether one speaks of a unit of,
or the total system, neither is completely open-ended. There is a limit
to the resources and intellectual effort that can be put into the system.
Entropy prevades the universe, and library systems are not immune.
Responsibility, then, can be translated into fiscal values, spatial
units, and above all, into rules and specifications for input and
retrieval (the intellectual aspect) of the system.
SUMMARY
The above discussion has tried to place libraries into a per-
spective to allow them to be objects of study. Much of what was identi-
fied cannot be said to be confined to health science libraries. The
standard library statistics that have been gathered over the years for
health science libraries need to be analyzed and compared with a similar
analysis of other specialized libraries. If these statistics, thus
analyzed, do not reveal that health science libraries do differ, the
reason might be sought in that the measures that are at present used
have not been collected with the purpose of demonstrating such differences.
Certainly the health care and educational institutions do create demands
on library service simply because the priority of decisions and methods of education which prompt people to use libraries are different, at least in degree, from those commonly encountered in other specialized academic science libraries. The hypothesis is proposed that a health science library can be identified as an object of study only through the institutional setting in which it operates. Whether a health science library should become an increasingly specialized institution can be determined only when sufficient information is available from different perspectives to compare with library operations in other environments.