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Access and ARL Membership Criteria

"Data! Data! Data!" he cried impatiently. "I can't make bricks without clay."
 — Sherlock Holmes, in Arthur Conan Doyle, *The Adventures of Sherlock Holmes*

I. Summary

The existing ARL membership criteria are (1) quantitative, and (2) derived from the most typical characteristics of current members. If we look for access measures that are similarly quantitative and reportable by the membership, we find only a modest number of data categories. Those that the members most easily accommodate are categories like interlibrary loans, circulations, reference transactions, with a handful of newer categories such as number of opac records. Though not without interest, these categories do not seem to sum up "access" as fully as the traditional measures such as volumes held and current serials sum up the archive model of research libraries. In statistical analysis, moreover, the few access variables fail to define communalities among ARL members.

A national search has been underway for viable access measures in the NISO library statistics work, in the IPEDS committee, and within ARL itself in its studies leading to its 1992 "Inventory of Library Access." From these efforts some new measures of expenditures for document delivery, hardware and software, and other categories will be tested in this year's ARL supplementary statistics. These measures may not be the holy grail of access data, however.

Starting from the end of a new paradigm for ARL membership and working backwards, imagine what new ARL members may look like. It is suggested that Carnegie-Mellon may be one kind of model of a new research library. But in traditional resources and services, C-M has little in common with current ARL members. How could its contributions to research librarianship be measured? Not through volumes held or current serials or total expenditures; rather through partly quantitative, partly qualitative, data on services such as its gopher services, its links from bibliographical records to digital images, and its Internet contributions.

Since access data are not now available for new membership criteria, it is suggested that ARL should return to the agenda posited by the Statistics Committee in Charleston in 1992. This agenda recommended focusing on the identification of access measures partly through intensive sampling of a subset of ARL members. Carrying out this agenda is not in accord with the timeline of the Membership Committee, but it seems to be a *sine qua non* for defining the access measures needed for new membership criteria.

II. Access Measures

A. Existing Data

The two chief characteristics of the current ARL membership criteria for academic members are (1) that they are quantitative, and (2) that they epitomize the most typical features of current ARL members (that is, in factor analysis terms, the "communalities"). These features—volumes held, added volumes, current serials, total staff, and total expenditures—are the basis for the ARL membership index. In her paper last year on new directions for ARL statistics, Sarah Pritchard pointed out that "access" is hidden in measures such as total expenditures and total staff. Nevertheless, the five variables that contribute to the ARL index are widely viewed as predominantly features of the traditional or archive research library. A task before the Membership Committee is therefore to identify variables that measure "access" more directly.

If we follow the principles that have been in place for ARL membership criteria since the 1960s, we need to search for (1) quantitative data, and (2) data that the ARL members collect or can collect. It doesn't take long to find the little bit of access data currently collected. Several variables are in the ARL statistics, some in the ARL statistics supplement, and some in the 1992 "Inventory of Library Access." For U.S. members the IPEDS surveys add to these one or two items; but the additional categories are probably not of much interest in delineating access—public service hours, for example. From the regular ARL statistics we have interlibrary lending and borrowing. From the supplement there are computer files, opac records, percent of records converted, group presentations, circulation and reserve transactions, reference transactions. The "Inventory of Library Access" has 13 questions on "Automation" or "Access Services Provided"; but 8 of them are yes/no questions (e.g., do you provide on-campus document delivery?), and the other 5 are about numbers of public terminals and ports, that is, mostly about hardware for local users. The Inventory tells us, for example, that in 97 ARL libraries the median number of public opac terminals is 64. It is hard to conceive of this, however, as a very significant measure of access, in the way in which volumes held or current serials measure the traditional library.

The most widely reported numbers that may measure some parts of access are thus the ones from the ARL statistics and supplement: interlibrary loans, computer files, opac records, percent converted, group presentations, circulation/reserve, and reference transactions. Each of these has its problems. Attention has recently been focused on interlibrary loans. But the ratio of borrowing transactions to initial circulations in ARL libraries is under 4%: meaning that over 96% of usage of physical items in ARL libraries comes from on-site materials (if usage is defined in terms of staff-mediated transference of a physical item to a user). The data on computer files are unrelated to any other currently collected data, and it is hard to know how to interpret those numbers. Group presentations, circulations, and reference transactions are all useful measures of on-site activities, but probably fall short of the wished-for access measures. Of the existing data, only opac records reveal some interesting correlations that may begin to

get at access. In multiple regression a good model relates circulation/reserve to volumes held, total students, and numbers of opac records. In ARL libraries in 1992, above a given base, there were 21 circulations for each fulltime student plus 1 for each 11 volumes held plus 1 for every 5 opac records. For a given enrollment and collection size, circulation usage increases by 1 for every 5 opac records added to the database. In the median ARL library in terms of circulation/reserve transactions, each 1,600 records added to the database would increase circulation by about 1%. So in opac records we have a demonstrable link between an access service and usage (if not research). At the same time, someone has said that the 1980s were about retrospective conversion and opac records (or meta-information), while the job of the 1990s is online full texts and images (or the information to which bibliographical records are pointers). From this standpoint opac records are less exciting as a future-orientated ARL membership criterion.

If circulation, reference transactions, opac records, and even interlibrary loans induce a certain amount of the blahs as access measures, statistical analysis makes them even more problematical as tests for membership. They cannot just be plopped down in the ARL index. That is so strongly dominated by the traditional measures of volumes held, current serials, total expenditures, etc.—which in fact do describe the most visible characteristics of ARL libraries very well—that circulations, opac records, ILL, etc. are swamped by the traditional records. They are given so much less weight by the analysis that they add almost nothing to what is already in the index.

An alternative is to form a new index from the variables such as circulations and opac records. When one tries this, it turns out that the new variables, so to speak, won't lie down together. None is very much correlated with the others. The analysis, in short, can't find the *communalities* among them. It is as if the members are following one pattern for opac records, another for circulations, a third for interlibrary borrowing. And none of them seems to have much relation to traditional measures like size in volumes or current serials or expenditures. Each needs to stand by itself. Conceivably we could devise membership criteria like the ones in force before the ARL index, where applicants would have had to exhibit at least 50% of the median opac records or circulations or ILL borrowing of ARL members. These kinds of criteria make somewhat strange bedfellows, however. Within ARL the top 5 libraries in ILL borrowing, as reported, are Illinois at Chicago, Illinois at Urbana, Ohio State, Indiana, and Pennsylvania; the top 5 in circulations are British Columbia, Harvard, Toronto, North Carolina, and Kansas; the top 5 in opac records are Toronto, Harvard, Illinois at Urbana, UCLA, and Stanford. And it is likely that non-members could exceed substantial numbers of ARL members in measures like circulations and ILL. (For example, a few years back I found that libraries like Miami-Dade Community College surpassed many ARL members even in the traditional measures. And public libraries can easily show higher access through activities like circulation.)

In summary, existing data do not offer a persuasive solution to the problem of access measures for ARL membership. As a practical matter, what this means for the Membership Committee is that there isn't a quick fix that is (1) quantitative, and (2) derived from current ARL members.

B. New Data?

It is not inconceivable that efforts underway will identify access measures that could serve as ARL membership criteria. Certainly it is worthwhile to continue regarding this matter as an opportunity rather than merely a problem. Nevertheless, a great deal of effort nationally in the U.S. has so far produced pretty slim pickings. The revised NISO standard on library statistics will presumably be issued this fall. Its "access" measures are the conventional ones of circulations, reference transactions, etc. ARL itself a few years ago had a visiting program officer who surveyed the literature on access measures (including ACRL's then unpublished *Measuring Academic Library Performance*) in order to identify new data that ARL could collect on access. This effort resulted in the Inventory, which is a compromise between what the ARL Statistics Committee really wanted to know (what numbers measure the contributions of research libraries to published research?) and what the committee thought members could reasonably provide. The U.S. IPEDS committee, with ARL representation, has similarly been struggling with might and main to find workable access measures to incorporate into the biennial IPEDS library surveys. The fall 1994 questionnaire is now almost final, and adds to the traditional questions a few new questions in the area of expenditures. These questions in turn will appear in the ARL supplementary questionnaire that is ready to be issued by the ARL office.

The new questions that the ARL supplement will test this fall are for expenditures for (1) computer files and search services, (2) document delivery/interlibrary loans, (3) computer hardware and software, and (4) bibliographic utilities, networks, and consortia. It may be that useful information will come out of these questions delineating at least the levels of funding for automated and delivery services. It is hard to predict yet what the response rate will be to these questions. On non-traditional questions tried by ARL or IPEDS, the initial response rates are often fairly low—sometimes half of ARL members or fewer. It is hard with such rates to draw quantitative conclusions about the membership, much less to try to discriminate between ARL members and non-members.

The results from the supplement will not be ready till spring, however. And the IPEDS results for non-members will not be ready till late 1995 at the earliest. These new data therefore will also not offer quick help in access criteria for ARL membership.

III. An Access Experiment

If an objective of the Membership Committee were merely to increase the membership, that could be done easily by lowering the score needed by prospective members on the traditional index. According to the 1991 ACRL statistics of university libraries, ARL could then offer membership to libraries such as Montreal, Loyola of Chicago, Ohio, Boston College, and Bowling Green State. Duane Webster suggests, however, that a more important point may be to redefine ARL's membership philosophy by looking to contributions to the North American

distributed research collections (where, presumably, "collections" has a wider scope than traditional printed materials).

In grappling with this redefinition, I found it useful to try what Einstein called a "thought experiment." What would be the result for adding members if the ARL philosophy could be redefined? What kind of members would be added? Let me suggest that a new vision of ARL academic members might include libraries like Carnegie-Mellon. Carnegie-Mellon is widely regarded as a leader in library automation and more recently in provision of bit-mapped images of texts and images. In the new world of electronic information, I suspect that Carnegie-Mellon has as much to say to ARL members as the members have to talk about among themselves concerning traditional materials and services. How does Carnegie-Mellon compare with current ARL members in available data categories?

If the ACRL universities are ranked according to the ARL index for 1991, C-M scores -3.6, putting it in the same area as libraries like New Hampshire and New Mexico State. According to ACRL, it had about 800,000 volumes (compared with 1.3 million at the smallest ARL library), 4,000 current serials (compared with 11,000 at the ARL library with fewest serials), 125 total staff (about the same as the smallest ARL library), and \$4.1 million in total expenditures (compared with \$5.5 million at the smallest ARL library). The traditional way of assessing research libraries would reject C-M as different in degree, if not also in kind, from existing ARL members. Having posited C-M as a desirable ARL member in a new ARL paradigm, however, we need to ask how C-M's contributions to the electronic library would be measured.

The answers clearly are to be found not in the traditional measures of volumes held, current serials, total expenditures; maybe not even in the supplementary and IPEDS measures of expenditures for computer files and hardware and document delivery. C-M's contributions to library technology and electronic access are more likely to be measurable in areas such as gopher and other Internet activities, links from bibliographic records to full texts with remote printing, networked CD-ROM carousels, etc. If so, then ARL will need new ways of measuring prospective members.

Note that you do not have to agree that C-M is a probable ARL member in a new paradigm in order to agree that measures not now available will be necessary for a new kind of membership. Pick another example of a library that does not meet current criteria but is noted for cutting-edge electronic services, and you are likely to find that what distinguishes it cannot really be measured by circulations or ILL or numbers of opac records or even expenditures for hardware or document delivery.

IV. Back to the Future

At the Charleston meeting in 1992 the ARL Statistics Committee agreed on what it called the Charleston manifesto. The manifesto was aimed largely at the opportunities or problems of developing new access measures for describing research libraries. The manifesto called for a statistics program officer to lead a concentrated effort in the identification of access measures. One of the identification tools suggested by the committee was statistics gathering among a small sample of ARL members, say, the members represented on the Statistics Committee. How do they measure access in their own libraries? How might they measure access, without an undue reporting burden? For example, which libraries in the sample have library gophers, and what kinds of meta-information and information are available on them, and most importantly, how is usage of the various sections of the gopher measured?

Progress on the Charleston agenda has been unavoidably delayed during the search for a statistics program officer. My guess, however, is that ARL will need to go through the process of assessing the kinds of access information available in a sample of its members before it can come to grips with access criteria for new members. Duane's suggestion of a combination of membership criteria, both traditional archival measures and new access measures, may come out of this further exploration. I would also guess that purely numerical criteria for membership will not be possible. Rather, the criteria will need to mix numbers with qualitative analysis of questions such as: Do you have a library gopher? What categories of information are available on it? What measures do you have of usage by both local users and users not connected with your institution? And so on.

It is always disheartening for a committee to recommend that the answer to its charge lies in another committee. Nevertheless, I believe that the Membership Committee cannot form the bricks of new membership criteria without the clay of access data, which is lacking at present. It therefore seems appropriate for the Membership Committee to ask that the Statistics Committee pursue its agenda of access measures with as much speed as possible. When this process is further along, the Membership Committee (or a membership committee) could return with well-founded vigor to new membership criteria.

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