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## Reinventing Resource Sharing

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## **RE-INVENTING RESOURCE SHARING**

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In the latter half of the 1980's there was a drastic decline in the number of monograph acquisitions in academic libraries in the United States. The overriding cause of this decline was the escalation in serials prices which began in the 1970s and accelerated in the 1980s until serial subscriptions had gobbled up the monographs budget and any other funds that could be diverted from other lines into serial subscription payments. Along with the increase in serial subscription prices there were increases in monograph prices, automation and electronic resources expenditures, and static budgets in many libraries. Statistics from the Association of Research Libraries clearly showed that by 1990 monograph acquisitions by volume count had dropped 16% from 1985 to 1989.<sup>1</sup> Although this fact was known, it was not known how the decline had affected acquisitions by individual subject areas or language groups. In other words what had happened to the collections of academic libraries in the U.S. as a result of this decline? And further what might be the implications of these findings for all types of libraries?

### **Methodology**

The study which is reported in this paper was undertaken as a dissertation topic which received the first LAPT Research Award. The findings have been previously summarized and reported in the author's dissertation<sup>2</sup> and as the 1992 LAPT Research Award article.<sup>3</sup>

The ramifications of the decline in monographs acquisitions were analyzed by using the 1991 OCLC/AMIGOS Collection Analysis CD-ROM product. The CACD contains 1.7 million bibliographic records for monographs published within the 1979-1989 time span. The holdings of over nine hundred academic libraries in four year institutions are in the CD database of bibliographic records. These libraries are grouped into ten predefined groupings of libraries in the CACD product called peer

groups. The determination for including a library is a control parameter for the product which requires that for any library to be included it must have contributed bibliographic records to the OCLC database for at least six of the ten year time span covered by the edition. The holdings for 72 libraries which are members of the Association of Research Libraries make up Peer Group 1. ARL has as its membership the libraries that serve major North American research institutions.

It is important to emphasize that individual library collections were not studied, but that the holdings of the Peer Group 1 group of 72 ARL libraries were analyzed as a pooled resources base. The findings of the study are relevant to the collective holdings of these libraries as they relate to the resource sharing capabilities of that group of libraries.

The methodology of the study was a comparison of the number of new monographic titles acquired in two years, 1985 and 1989, by the Peer Group 1 libraries according to 108 Library of Congress subject categories and seven language groupings. For presentation of findings the 108 LC categories were compressed into the three divisions of humanities, social sciences, and sciences. There were three variables used to measure the changes in acquisitions patterns between the two years 1985 and 1989:

1. Rate of change by absolute numbers for the subject and language categories
2. Difference in percentage share of unique titles
3. Difference in the mean number of holding libraries

## **Findings**

The simplest of the analysis and findings is the sheer percentage rate of change as shown in Table 1.

Table 1

RATE OF CHANGE IN NUMBER OF IMPRINTS ACQUIRED  
BETWEEN 1985 and 1989

All Imprints		-27.76%
	Humanities	-31.98%
	Social Sciences	-28.88%
	Sciences	-15.81%
	English	-12.34%
	Non-English	-43.33%

The overall rate of change was an almost 28 percent decline in newly published monographic acquisitions in 1989 from the total acquired in 1985. Twenty-eight percent is a drastic decline. By broad division of knowledge, the humanities declined by the highest rate, the social sciences had a slightly lower rate, and the sciences had the lowest rate of decline. There was not a great deal of difference in the number of titles in the humanities and social sciences in 1985, but the difference in the rates of decline opened a larger gap between the humanities and social sciences in 1989. The sciences had a much lower total number of titles to begin with in 1985 and the lowest rate of decline as well.

The rate of change for languages divided into two groupings of English and Non-English are also shown in Table 1. The decline in English language imprints is a function of the overall decline in the number of acquisitions. The much steeper decline in all foreign language materials is demonstrated by the 43 percent decline for the category Non-English. The rate of decline varied by individual language groupings from the lowest at 33.56 percent for Spanish to the highest of almost 50 percent for Asian languages.

The same data are analyzed in a slightly different way as a percentage share of all imprints in Table 2.

**Table 2**

SHIFT IN PERCENTAGE SHARE OF ALL IMPRINTS

	1985	1989	Difference
Humanities	40.14%	37.79%	-2.35 %pts.
Social Sciences	41.75%	41.11%	-0.65 %pts.
Sciences	18.11%	21.10%	2.99 %pts.
English	50.25%	60.98%	10.73 %pts.
Non-English	49.75%	39.02%	-10.73%pts.

Again the humanities and social sciences are almost even in 1985 as with the total number of acquisitions shown in Table 1. The sciences also follow the same pattern of being much lower than the other two groups. Then in 1989 the humanities lose as a percentage share of total imprints, the social sciences remain about the same, and the sciences increase proportionately as the humanities decrease.

The languages present a most interesting finding. The percentage share of the two groupings of English and Non-English are almost exactly even at approximately 50 percent each in 1985. By 1989, the decline in foreign language acquisitions was so steep that the percentage shares for the two groupings rose and fell the exact same number of percentage points. The 50/50 ratio in 1985 had shifted to a 60/40 ratio in 1989.

The analysis of findings for rate of change show an overall steep decline in the number of newly published materials acquired in 1989 by the 72 ARL libraries as compared with the numbers of acquisitions in 1985. The sciences fared best of the three divisions of knowledge, declining at the lowest rate and gaining in percentage share of all acquisitions. As the acquisition of foreign language materials declined precipitously, English language materials were acquired to a greater extent as a percentage share of total.

The second variable used to measure the change in acquisitions patterns between 1985 and 1989 was the difference in the percentage of unique titles to total in each category for the two years in the study. Unique titles are one title held by one library or, in other words, a title owned by only one library in the group under study is a unique title. The number of unique titles in each of the three divisions of knowledge is shown in Table 3 for both of the years in the study. Although the sciences have a much smaller number of unique titles, the percentage share those titles make up of the total number of titles in the sciences is very similar to the other two groupings. In this instance, in 1985 the humanities have the lowest share of unique titles, and this share decreases even more in 1989. The percentage share of unique titles increases slightly in the social sciences, but the sciences have a decrease in percentage share to only slightly over one-fifth of total titles in 1989.

**Table 3**

SHIFT IN NUMBER OF UNIQUE TITLES AS  
A PERCENTAGE SHARE OF ALL IMPRINTS

	Unique Titles 1985		Unique Titles 1989		Difference
	Number	Percent Share	Number	Percent Share	Percentage Points
Humanities	14,845	25.53%	9,465	23.93%	-1.60
Social Sciences	16,670	27.56%	12,458	28.96%	1.40
Sciences	7,114	27.12%	4,793	21.70%	-5.62

The percentage share of unique titles is a measure of diversity in the collective resources base of a group of libraries. From the results displayed in Table 3, it can be seen that the pooled resources base of the 72 ARL libraries which make up Peer Group 1 in the OCLC/AMIGOS CACD shrank from 1985 to 1989, not only in the sheer number of newly published titles acquired, but also in the number of unique titles acquired. In this instance all three divisions of knowledge are not far apart in 1985, but the humanities are lowest this time.

What are the implications of this finding? Unique titles are a measure of diversity among a group of library collections. That is, the higher the percentage of unique titles in the library collections under study, the more different resources there are available for the group to share. The more

different titles there are in the collective resources base, the more different resources there are to share. There was less variety in the holdings of the 72 ARL libraries in 1989 than in 1985 and thus, fewer unique holdings to share.

The third measure of the changes in collecting patterns in the acquisitions of the 72 ARL libraries was the difference in the mean number of holding libraries shown in Table 4.

**Table 4**

DIFFERENCE IN MEAN NUMBER OF HOLDING LIBRARIES

		1985	1989	Difference
All Imprints		10.677	11.573	.896
	Humanities	10.030	10.698	.668
	Social Sciences	10.078	10.977	.900
	Sciences	13.493	14.302	.809
	English	16.016	15.560	-.456
	Non-English	5.284	5.344	.060

The mean number of holding libraries is the average number of libraries in a group which own a title. There was almost no variance in this measure between 1985 and 1989, The fact that the number of libraries was held constant for both years in the study contributed to the stability of this measure. Another possible reason for so little change is similar to the factor which is at work in the decrease in the percentage of unique titles, i.e., a concentration down on a core of materials. These data taken together point to a commonality of selection among the group of 72 libraries. Although the sheer rate of acquisition of new imprints declined drastically, the libraries seem to have acquired the same titles to a greater extent in 1989 as compared to 1985. The concentration by the libraries on the same titles is most noticeable in the sciences where there was an

actual increase in the average number of libraries owning a title. With respect to the language groupings, the languages exhibit much the same pattern as that shown by subject. While English language titles have a much larger average number of holding libraries than non-English titles, the number of libraries buying foreign language materials, albeit it small, remained the same. Thus, the indicators are that the same libraries continued to buy foreign language imprints, but the actual number of titles purchased declined drastically.

Of interest to technical librarians is the pattern of rate of change by the 108 Library of Congress subject categories. Every one of the subject categories evidenced a decrease in rate of acquisitions except two. There was a 3 percent increase in QM-QP, anatomy and physiology, while QR-QZ, microbiology was constant. The social/medical topics of AIDS, geriatrics, immunology, and drug abuse are reflected in the strong acquisitions in basic and applied research. Computer science, physics, and civil engineering all experienced less than a one percent rate of decline. In the humanities and social sciences, U.S. history and American literature experienced smaller rates of decline than most other subject categories in those two divisions. The selection choices appear to have been demand driven and focused on current topics in society and research.

The study found that the group of 72 ARL libraries selected more titles in common in 1989 than in 1985 resulting in a greater concentration on a core of titles especially in the sciences which had the lowest rate of decline. While the sciences experienced the lowest rate of decline, the sciences also made up the smallest portion of the total number of titles and increased in proportion to the other two groups between 1985 and 1989.

The humanities showed an opposite pattern from the sciences having the highest rate of decline in both number of titles and as a proportion of the total. The number of unique titles in the humanities also declined contributing to less diversity in the universe of materials available in humanities subject areas.

The social sciences did not decline to as great an extent as did the humanities and even experienced a slight increase in the number of unique titles, and the portion of the total number of imprints remained unchanged. The average number of holding libraries held steady increasing by less than one library on the average per title in 1989. The

social sciences evidenced the least change amidst the overall decline in the total number of acquisitions than the other two subject groupings.

The indications from the data in the study are that the collective resources base not only shrank in 1989 from four years earlier, but it also narrowed in the scope of resources with fewer unique titles meaning a lessening of diversity in pooled resources to share.

### **Implications**

The real question is-Will what a user is seeking be available somewhere? The rhetoric of resource sharing in the 1970's and 1980's held that if libraries purchased for local needs and local emphases, other materials in less demand locally could be obtained by borrowing from another library. It is beginning to become increasingly more evident that for research libraries the implications are that availability of published items is not guaranteed. There is a real danger that many publications will not be owned by any library or that the quantities will be very small. If every library is buying for specific local needs from a smaller budget, and yet the universe of new publications keeps enlarging, there will be many publications which no library will own. For smaller and medium-sized academic libraries the worry is more in that there seems to be a shrinking in the number of copies of peripheral materials and thus fewer sources from which to obtain those materials.

Most small special libraries are heavily dependent upon academic libraries and upon other special libraries for resource sharing because their collections have to be narrowly focused. The news for the sciences that large academic libraries are buying more and more the same core of materials does not bode well for the future in the technical fields. It is true that many technical materials are not monographs, but rather a myriad of formats of mostly uncataloged material. What might be happening to that universe of other formats? Is it also shrinking as costs have escalated? Is the pattern of decline which has been found for large academic libraries mirrored in smaller libraries and information centers? Only further research will provide data to answer these questions.

Resource sharing has changed in the 1990's. All types of libraries are now relying more and more on full text databases and document delivery services instead of in-house subscriptions and resource sharing. Where is this access not ownership going to lead us?

One aspect of this study is that it was conducted on bibliographic records from the OCLC union catalog database. If we are re-inventing government libraries, or all types of libraries for that matter, there should be concern about the amount of materials which are not cataloged into the network databases. This material is practically lost for resource sharing except to a few information specialists who know other collections. The other formats and unique materials held by special libraries tend to be uncataloged materials, or at least not formally cataloged and added to a network database. It is almost as if we have come full circle in interlibrary loan and resource sharing. Before OCLC there were few tools which gave specific locations for materials other than the Union List of Serials and the NUC. A librarian had to be very knowledgeable of the strengths of other library collections. OCLC made ILL a much less intellectually demanding, more clerical function. Are we now going back to the days when only those who "network" with other librarians in similar types of information centers know where to obtain what their clientele need? Cooperation in contributing cataloging for specialized materials to network databases and being willing to share those materials may be ever more important in the future.

"Reinventing resource sharing" may entail new ways of tracking materials which are not core, mainstream materials and a greater willingness to not only share materials, but to also make their existence known. Just as the Internet has become international and torn down communications barriers, resource sharing in the future should follow this global mindset. Resources, both digital and physical formats, should be shared internationally. This is the only alternative for providing researchers with materials only available from a small number of sources.

Anna H. Perrault is associate professor in the School of Library and Information Science at the University of South Florida. Research for the dissertation "The Changing Print Resource Base of Academic Libraries in the United States: A Comparison of Collection Patterns in Seventy-two ARL Academic Libraries of Non-serial imprints for the Years 1985 and 1989" (Florida State University 1994) was supported by the AMIGOS Bibliographic Network, the LAPT Research Award, the Louisiana State University Libraries, and the Florida State University School of Library and Information Studies.

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